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## MARKETING OF MAKHRAN DATES

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## EXECUTIVE SUMMARY

This report examines the marketing and processing of dates throughout Pakistan, with special attention to the market structures and procedures for marketing dates produced in the Makran. These last are shown to be inefficient and very costly to date buyers, in relation to those for dates originating elsewhere in the country. For this reason, dates are purchased from the Makran primarily as a hedge against crop failures elsewhere, and processor-exporters in Pakistan are not motivated to create domestic or overseas markets for these dates, despite their excellent keeping quality, flavor and color and low fiber content.

Among the reasons for the absence of aggressive overseas marketing of these dates are that in the Makran buyers incur:

1. high costs of assembling dates and distributing field boxes;
2. difficulties in arranging transport within the region and from the region to processing facilities;
3. uncertainties concerning price and quality during the harvest period;
4. difficulties in effecting payment to growers;
5. high rates of insect infestation in the dates because of irregular collection times;
6. high personnel costs because of the vagaries of air transport and lodging facilities, unaccustomed costs of surveying scattered collection sites with widely varying amounts of dates, leading to uneven work loads for laborers.

The means of overcoming these difficulties are numerous and interrelated. They range from greater attention to quality control and fumigation requirements by growers to improving drying and storage facilities, in order to accelerate and make

more reliable the process of assembly of high quality dates. Absence of competition among buyers and uncertainty as to prices undermines the undertaking by growers of these and other needed improvements. The establishment of an auction market would mobilize such activities by both growers and buyers and reduce marketing costs.

The operational program for the Makran therefore focuses upon the establishment of auction markets at Turbat and Panjgur. These would be the property of both buyers and sellers, in which professional auctioneers introduce orderly marketing by bringing buyers and sellers together at central sites which provide the necessary overhead for linking dates produced in the Makran with markets throughout Pakistan.

This project, with the necessary facilities, would require external financing of Rs. 4.1 million at each site. Although such a project would be self-financing from service charges and fees received from auctioneers, if external benefits to buyers and growers are taken into account, the project demonstrates extremely high economic rates of return. Of these external benefits, growers would receive 66%, buyers would receive 24% and auctioneers would receive 10%. Even if all of the project investment outlay is financed by buyers and growers by advance cash payments or loans at commercial bank rates (14%), the internal rate of return on the project is shown to be 72% per year.

Recycling of loan amortization would facilitate the financing of on-farm improvements by growers as well as of storage and pre-processing facilities, which would permit the local people to add considerable value to the dates and reduce their loss by spoilage, dehydration, development of off-colors and insect infestation.

We recommend that the BALAD Project promote the establishment of suitably designed auction markets with the Federal and Provincial Governments of Pakistan and with other external donors.

CHAPTER I.  
DATE ROWING IN PAKISTAN

1. Introduction

Dates have been grown in all provinces of Pakistan since pre-historic times. The following areas are currently the major sources:

<u>Province</u>	<u>Districts</u>
BALUCHISTAN	Turbat, Panjgur, Mushka, Nal, Buleda, Mashkel, Zamran, Khuzdar
SIND	Khairpur, Sukkur, Shikarpur, Ranipur, Rohri, Jamper
PUNJAB	Muzaffargarh, Multan, Bahawalpur, Rahimyar Khan, Dera Ghazi Khan
NWFP	Dera Ismail Khan, Bannu

2. Varieties Grown

Hundreds of varieties of dates have been identified in Pakistan. The origins of major varieties domestically consumed are:

<u>Province</u>	<u>Varieties</u>
BALUCHISTAN	Begum Jangi, Deshtiari, Husseni/Hallini, Gogna, Karaba, Janson, Mozawati, Rabbi [Panjgur], Sabzo, Rabbi [Mashkel]
SIND	Assil, Fasil/Tota, Karbalai, Totor, Kubra, Vileti
PUNJAB	Khudrawi, Shamran, Ali Poori, Akhrot, Kuch Shangesti, Zahdi, Zeri, Dorn
NWFP	Dakki

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<sup>1</sup> In 1988, Zidan Abdel-Al surveyed the existing date palm germplasm in Balochistan and gave complete descriptions of the fruits and the vegetative growth of 90 varieties along with colored illustrations and video cassettes. See also A Program for Improvement of Date Palm Cultivation and Processing in Makran Division, A Consultant's Report by Dr. Zidan E. Abdel-Al, USAID/EALAD March 1990.

Of these varieties, only certain ones have been exported in recent years. These include: Assil, Begum Jangi, Karaba, Rabbi [Mashkei] and mixtures of Husseni-Gogna-Deshtiari-Jansor.

Salient characteristics of the major export-quality dates are as follows:

<u>Variety</u>	<u>Color</u>	<u>Skin</u>	<u>Texture</u>	<u>Count</u> (units/lb.)
Assil	dark brown	coarse	fibrous	65
Begum Jangi	brown/black	thin	smooth	85
Karaba	dark brown	thin	fibrous	120
Rabbi [Mcs]	dark brown	coarse	fibrous	65
Mixtures	dark	coarse	fibrous	87

### 3. Procurement Seasons

<u>Province</u>	<u>Variety</u>	<u>Procurement Period</u>
BALOCHISTAN	Gogna	15 July - 7 August
	Deshtiari	15 July - 7 August
	Husseni	15 July - 7 August
	Begum Jangi	20 August - 30 September
	Jansor/Sabzo	20 August - 15 September
	Mozawati	1 September - 30 September
	Karaba Rabbi	1 October - 30 November 15 October - 30 November
SIND	Fasil/Tota	15 July - 7 August
	Karbalai	15 July - 7 August
	Kubra/Tota/ Valeti	15 July - 7 August . .
	Assil	25 July - 31 August
PUNJAB	[Varieties listed ex:]	15 July - 7 August
	Dorn	1 August - 31 August
NWFP	Dakki	7 August - 31 August.

The above procurement periods may vary by as much as ten days due to climatic conditions.

#### 4. Tonnages Produced

Roughly 20% of dates are destroyed in harvesting and handling. The following are our best estimates of the volume of dates which enter into commercial channels as fresh dates:

<u>Province</u>	<u>Variety</u>	<u>1990 Quantity</u> (MT)
BALOCHISTAN	Gogna/Deshtiari/Husseni	1000
	Begum Jangi	4000
	Jansor	500
	Mozawati	200
	Karaba	3000
	Rabbi	2000
SIND	Fasil/Tota	2000
	Karbalai	500
	Kubra/Tota	200
	Assil	15000
PUNJAB	[Varieties listed]	3000
NWFP	Dakki	150.

#### 5. Expansion of Areas and Growth of Production

Official data since 1981 indicate more rapid growth rates in production in Punjab and Sind than in Balochistan. The trend for the latter is shown as almost flat. These official data do not allow for crop loss due to weather and disease (section 7, below). Disease appears to be particularly acute in Punjab Province; and weather, in Sind<sup>2</sup>.

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<sup>2</sup> Official statistics are listed on page 13. Home consumption, spoilage due to weather conditions, disease and improper handling, conversion to choara, etc. account for some of the difference with the above. Only 12000 tons of dates are properly fumigated, cleaned, graded and packed in processing centers for export.

Numerous new plantings are observable around Turbat. Some growers report planting as many 100 new trees of the Begum Jangi variety each year. Many of these new plantings are on arable land which is being reclaimed from the desert. Others have been made possible by installation of tube wells which tap ground water not now accessible to the traditional karez, of which there are now 70- 80 in operation.

There are currently some 1,200 tube wells in the Turbat area, all of them operating from diesel engines. Planned extension of electrification along the Nihing-Ketch river axis will greatly reduce installation and operating costs of operating tube wells and should accelerate the installation of tube wells. This power is sold at very low rates per Kwh but is currently not available to agricultural users.

Since 1985, expansion of area planted to dates near Turbat might have been of the order of 5-7% growth per year. These new trees should begin to come into full production this year. Thus production growth should continue smartly, and perhaps accelerate for some years in the future, if some on-farm cultural techniques and marketing procedures can be improved. The former include improved water management, use of chemical fertilizers, improved pollination and thinning techniques and lowering the bunch-to-frond ratio. The latter are discussed in Chapter VI, below. Competition of date palms for land with other crops in the Turbat area is minimal, with the exception of alfalfa for animal feed.

In the Panjgur area, growers report planting 50 new trees of the Karaba variety each year. Growth in areas planted there may have been as much as 5-7% per year. New possibilities for bringing land into production appear to be more limited in Panjgur, and competition for land use with fruits and vineyards will no doubt attenuate the growth of date production there, in relation to Turbat.

## 6. Harvesting and Drying Techniques

Different varieties require distinct harvest techniques.

Gogna, Deshtiari, Husseni and Begum Jangi are tree-ripened and each date is picked individually. As many as three pickings are required. By contrast, Karaba, Rabbi Jansor and Mozawati are tree-ripened and the entire bunch is removed at one time.

Individually-picked dates are spread in a layer of one date deep and require sun drying on palm mats of up to one week, depending on weather. Bunch-harvested dates are dried for only one or two days. The dates are rotated on alternate days to ensure drying of both sides.

Wastage results from a number of faulty practices. First, during picking, dates may be dropped on the ground or crushed by the picker against the trunk while descending from the tree carrying a woven basket. Second, the dates may be unevenly spread and broken, leaking sugar. Third, the drying area may be improperly fenced for protection from animals and never provided with overhead netting for protection from birds. Finally, covering at night is seldom practiced and dew accumulation can cause mould and color change because of excessively slow drying. Drying is normally conducted on elevated points in order to prevent upward movement of ground water, but this is not always possible.

Assil dates are harvested at two stages of maturity. Entire bunches are cut and stripped at the doka stage, when the dates are hard and yellow. Individual dates are then removed at the dang stage, when they begin to turn brown. (There is an intermediate half-doka-half-dang stage, but this is not common). Doka dates tend to be longer and less fleshy and often are wrinkled and leathery despite their high moisture content. Dang dates are well fleshed and shorter and soft with low moisture content. Only 60% of dang dates are actually sold as fresh-

dried dates. About 40% are not dried but sold instead as fresh dates. Doka dates are often boiled in water for five minutes prior to drying. These are known as choara and not much consumed in Pakistan. In India there is a market for them. All Assil dates are dried on mats for seven days and must be turned over every other day.

In the Sukkur area, the traditional method of drying carries some risk because of untimely rainfall (see section 7, below). In 1991, Lever Brothers, Ltd. began promoting among growers the use of raised wooden platforms and plastic covering in order to reduce rain damage to drying dates, providing some materials for this purpose. Our observation of drying dates in August of this year suggests that whereas this technique is used by some growers, they are employing it on only a small fraction of their crop, and continue for the most part to dry the bulk of the dates on woven palm mats placed directly on the ground. Even fewer drying area appears to have plastic sheeting ready for covering the dates in case of rain.

Most growers in Sukkur have covered areas in which to protect dried dates during field grading and packing them into grower boxes or field boxes.

## 7. Susceptibility to Weather Conditions, Pests and Diseases

Research on date pests and diseases by private firms or public entities in Pakistan is limited. Graphiola leaf spot disease, scales and mites, as well as the date palm weevil, have been reported in the Makran, but although they affect the vigor of trees, they do not affect the quality of harvested dates. Fungus may attack growing dates if rainfall occurs (see below). They are also attacked by such insects as the lesser date moth<sup>3</sup> which

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<sup>3</sup> Zidan E. Abdel-Al, op. cit.

lay eggs in the ripening fruit. Concerning disease and pest control, it is unknown in Pakistan for growers to employ fungicides or pesticides while dates are on the tree or drying on the ground, or to fumigate dates following drying to destroy insects and their eggs.

Assil dates are periodically destroyed by rain, both on the tree and during drying. Since 1979, there has been an upward trend in the rainfall pattern in the Sukkur area (see chart on page 8). The Assil crop was partially or completely destroyed in 1979, 1981, 1983, 1985, 1986, 1988, 1989 and 1990. The precise timing of rainfall is more significant than total rainfall -- note that total rainfall in July-August of 1984 when damage was slight was significantly higher than 1989 when the crop was destroyed. Specifically, damage is highest when rainfall occurs on three consecutive days.

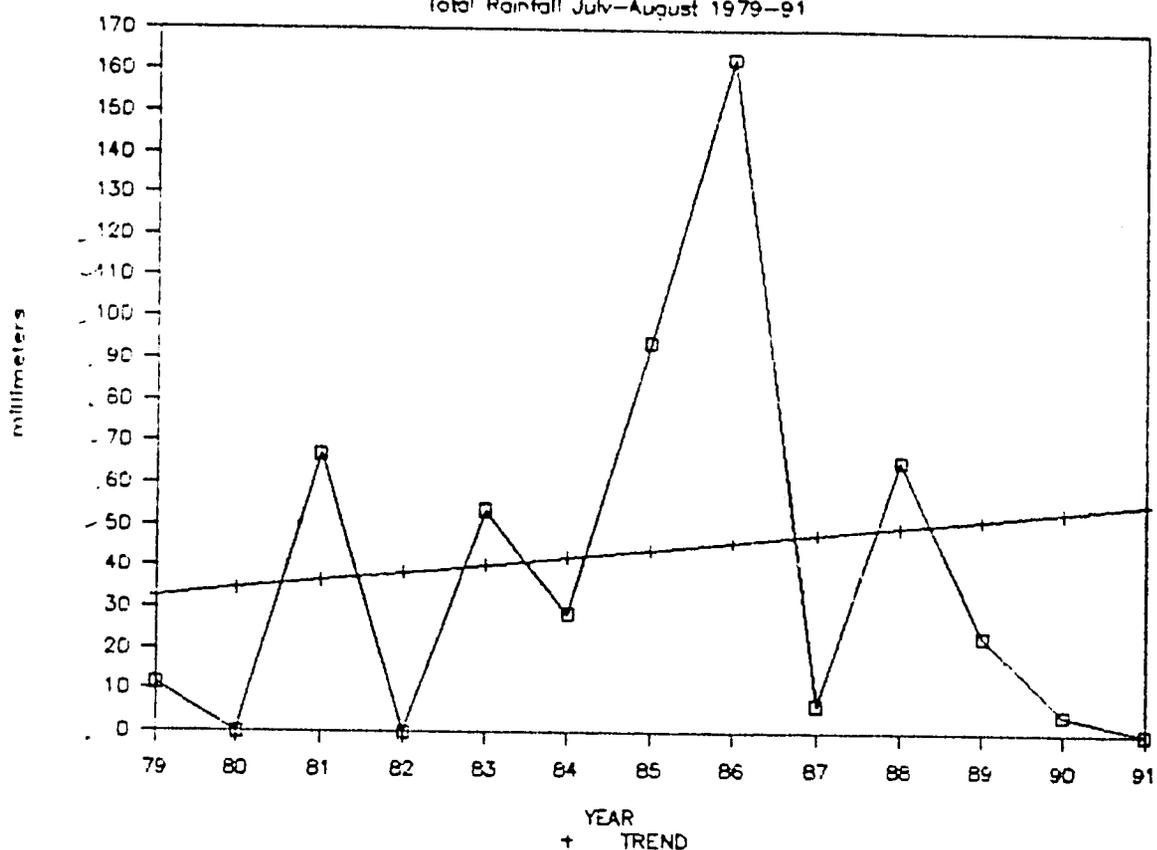
The calendar dates of rainfall during the critical period 15 July to 19 August, when the dates are fully mature, are plotted in Annex VI, "Daily Rainfall at Sukkur July 15-August 19, 1976 - 1991".

As indicated above, the degree of destruction is related to the timing of rainfall in July and August as well the total amount during that period. This is shown below.

<u>Year</u>	<u>Percent Crop Loss</u>
1979	25
1980	0
1981	100
1982	0
1983	50
1984	0
1985	75
1986	100
1987	0
1988	75
1989	100
1990	25
1991	0

# SUKKUR

Total Rainfall July-August 1979-91



Twenty-four hour rainfall data

Source: Pakistan Meteorological Service  
Monthly Meteorological Registers for the Rohri Station,  
Sukkur 1976-1990

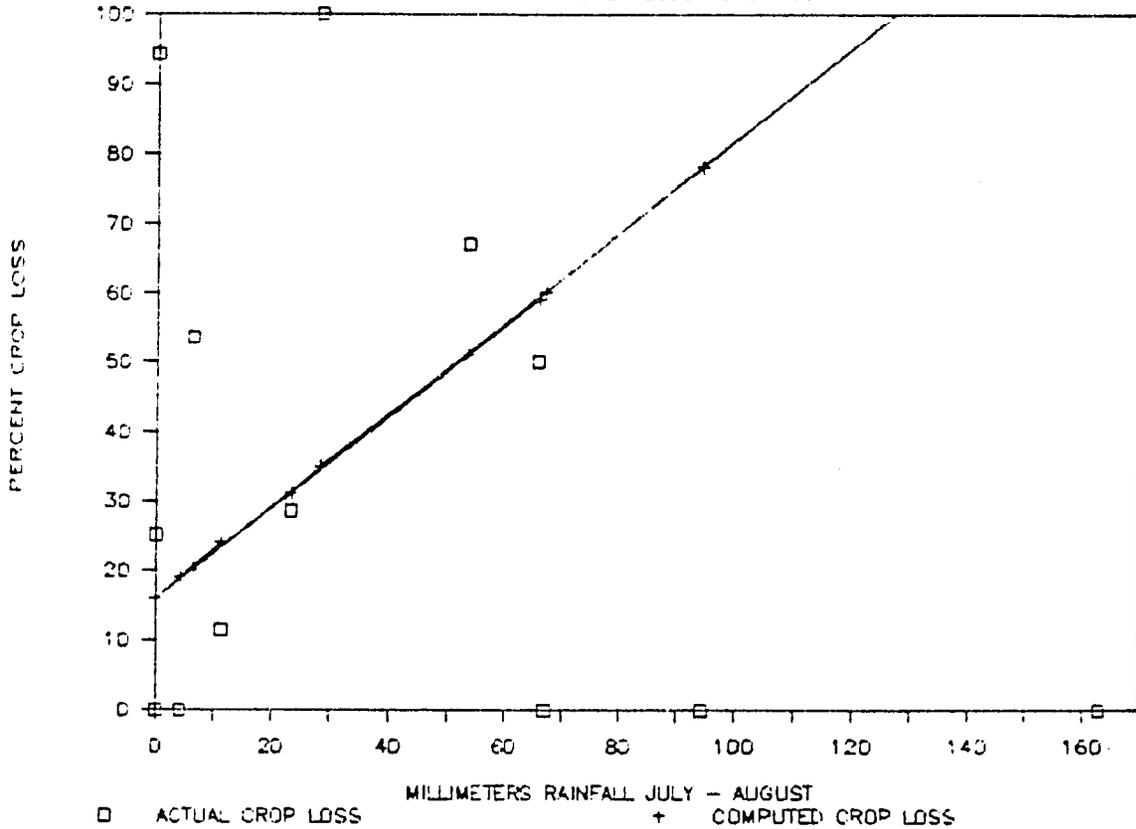
Kindly supplied by the Karachi Regional Meteorological  
Center, Karachi Airport

The relation is charted on page 10, where it is shown that a linear estimating equation relating total rainfall during the months of July and August at Sukkur to percent of crop destruction accounts for only about 60% of the variation in the latter.

This weather phenomenon has periodically interrupted the supply in Pakistan of dates of export quality. In order to hedge against this contingency, exporters have increasingly resorted to purchasing dates from drier areas, Balochistan in particular, mostly Begum Jangi and Karaba varieties. These varieties have never been destroyed by rain and are becoming better known in world markets not only for this reason but also because of their superior flavor, color, texture and keeping qualities.

# SUKKUR

RAINFALL AND % CROP LOSS 1979-1991



Estimating Equation:

$$\text{Percent Crop Loss} = 16.05 + 0.66 \text{ mm. rainfall July - August}$$

$$R^2 = 0.59$$

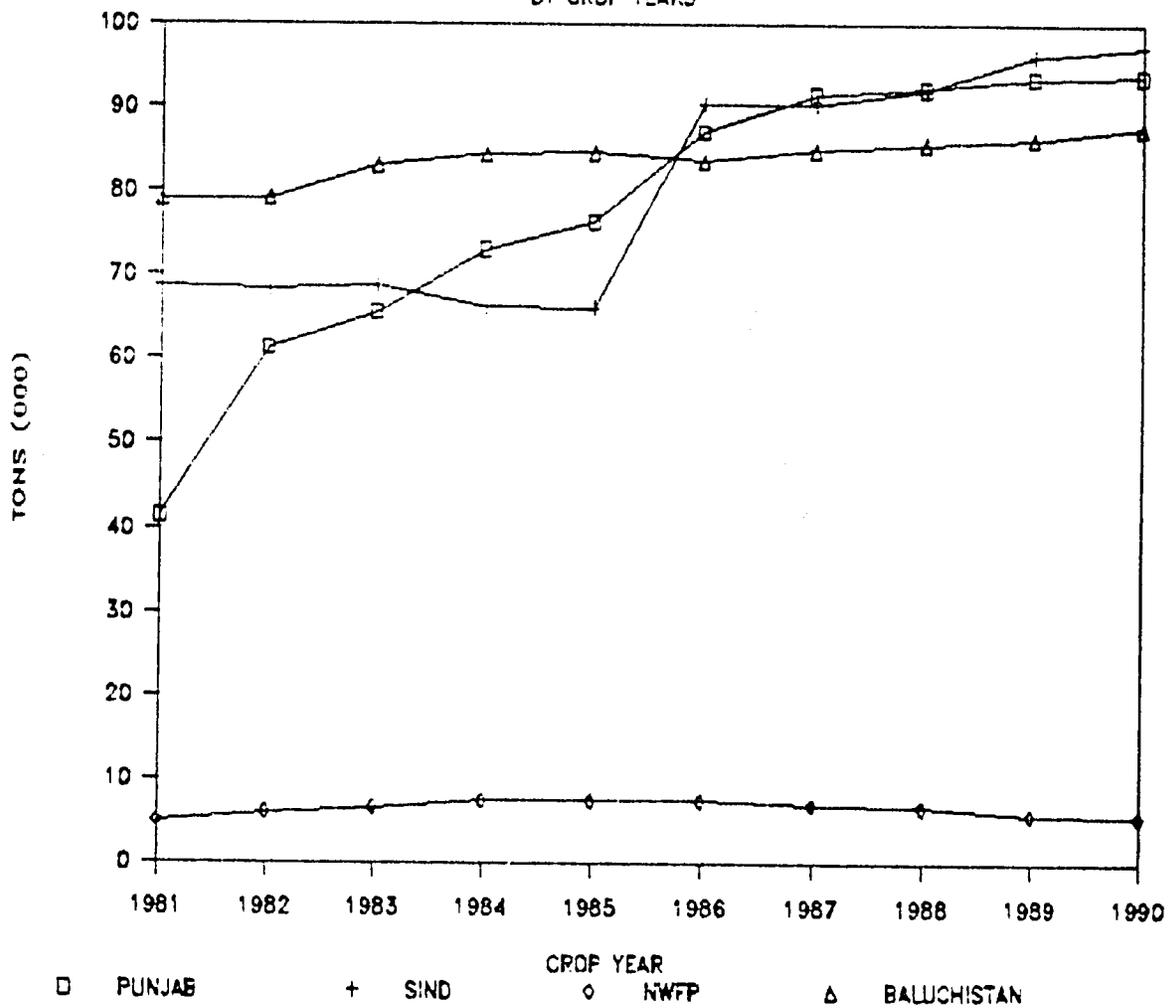
Source: Pakistan Meteorological Service

Monthly Meteorological Registers for the Rohri Station,  
Sukkur 1976-1990

Kindly supplied by the Karachi Regional Meteorological  
Center, Karachi Airport

# DATE PRODUCTION, 1981-1990

BY CROP YEARS



DATES: AREA CULTIVATED AND PRODUCTION, 1980-81 TO 1989

Year	Punjab	Sind	NWFP	Balu-chistan	Pakistan
Crop Year	Area (000 hectares)				
1981	5.6	9	0.7	8.9	24.2
1982	9.1	8.9	0.9	9	27.9
1983	9.7	10.8	0.9	9.1	30.5
1984	11.1	11.2	1	9.1	32.4
1985	11.6	11.2	1	9.3	33.1
1986	13	15.4	1	9.3	38.7
1987	14.3	15.8	1	9.4	40.5
1988	14.2	15.7	1	9.5	40.4
1989	14.4	16.5	0.9	9.5	41.3
1990	14.3	17.1	0.8	9.6	41.8
	Production (000 tons)				
1981	41.4	68.7	5	79	194.1
1982	61.2	68.2	6	79.1	214.5
1983	65.5	68.6	6.6	83	223.7
1984	72.9	66.1	7.4	84.3	230.7
1985	76.3	66	7.4	84.5	234.2
1986	87.1	90.4	7.5	83.6	268.6
1987	91.6	90.4	6.9	84.9	273.8
1988	92.2	92	6.7	85.6	276.5
1989	93.5	96.1	5.8	86.2	281.6
1990	93.7	97.3	5.5	87.6	284.1

Source: Pakistan Bureau of Statistics  
Agricultural Statistics of Pakistan, 1989

## CHAPTER II.

### TRADING, PROCESSING AND EXPORTING COMPANIES

#### 1. Processing and Exporting Companies

There are currently eleven operating processing plants in Pakistan, of which eight are in the Sukkur area and three in Karachi. There is one non-operating plant at Turbat and one at Periyalo near Sukkur. Both of these latter were financed by U.N.D.P.

Dates have been exported to the United States and Europe in significant quantities only since 1979. The Iran-Iraq war and consequent disruption of trade in the Persian Gulf provided an export opportunity to other non-traditional exporters such as Pakistan. Regarding US end users, Nabisco surveyed Pakistan's production potential and date quality in that year and reported favorably. This was followed by a pilot project by Lipton Pakistan Ltd. at Karachi in 1978 which was converted in 1980 to a processing unit. This proved successful, and Lipton established a procurement center at Karimabad, near Sukkur which was converted in 1982 to a processing plant. The reason for developing two factories was to center retail packing in Karachi to handle Begum Jangi dates from the Makran and center bulk packing of Assil dates at Karimabad. Production at Lipton's Karachi plant ceased in 1985.

Canampak established a plant at Theri, near Sukkur, to pack dates in bulk for sale in Canada. This plant processed both Assil and Begum Jangi dates, often adding Karaba dates when available. After two years, Canampak entered a joint venture with Service Packing Ltd. of Canada. This operation is currently successful.

In 1983, Anwar Date Industry established a bulk packing plant in Karachi. This also produced a small quantity of retail pack. This plant ceased production in 1987 because of repeated crop failures of Assil dates when Anwar Date Industry failed.

Oasis Corp. established a processing unit at Sukkur, and Dynasel and Gani Abdul Rahim initiated a plant at Karachi in 1984.

International Multifood Ltd. established a plant at Sukkur S.I.T.E. in 1985 which is still in operation. This plant processes retail as well as bulk dates. Its success is due largely to dependence on dates from the Makran which were sold in quantity to the Afghan refugees and mujahideen.

Remat Enterprises established a plant at Hub, near Karachi in 1986.

Then, in 1987 Sahara Food and United Distributors Ltd. established packing plants at Sukkur and Karachi respectively.

Noorfood Ltd. and Sabah Corp. commenced production in 1989, both at Theri, near Sukkur. These two companies are still operating.

Most of the plants listed are equipped with modern equipment, with the exception of Canampak, Sabah and Noorfood. The latter are also modernizing. Noorfood has already purchased new equipment.

## 2. Trading Companies

In Karachi, eight additional large trading companies are in operation. None of these companies export dates from Pakistan although most of them import dates. Only two of these deal to

any significant extent in Makran dates, reselling them to both exporting and domestic trading companies. The larger of these is Hadji Ghaffar, Rehan Trading Co.

Sukkur is the home of sixty small trading companies. None of these deal in Makran dates. In Rawalpindi date marketing occurs only during the month of Ramadan, but that city is the center of date marketing in Punjab and the NWFP. Twenty trading companies operate there, of which some deal in Makran dates. In Panjgur, there are three traders of which Mohammed Yousef Jan/Din Jan conducts at least 90% of the business. The latter supplies mainly to processors, dealing in Karaba and Jansor varieties.

### 3. Description of Major Processing Facilities

LIPTON (LEVER BROTHERS PAKISTAN LTD.) plant handles sixteen tons per eight-hour shift. There are four identical lines containing the following unit processes:

- a) fumigator [Methyl bromide was previously employed. Phostoxin is now used exclusively.] (4 laborers).
- b) vibrator-conveyor to separate dates from each other (4 laborers).
- c) belt conveyor for grading [Endless PVC coated food grade belt] (32 laborers).
- d) washer [In 1979, fungicides were employed in the wash water, but this was not needed. Filtered water is now used.]
- e) blow dryer-conveyor [Stainless steel mesh] (2 laborers).
- f) curing chamber (4 laborers).
- g) pitting machine and pitting tables (450 laborers).
- h) retail packing unit (32 laborers).
- i) bulk packing unit (10 laborers).

Including materials handling, security, cleaning, clerical and supervisory personnel Lipton employs roughly 700 persons.

INTERNATIONAL MULTIFOOD, SAHARA AND SIND PUNJAB's plants are virtually identical to the above. As in the case of Lipton, these latter perform all pitting within the plant.

SABA AND NOORFOOD handle larger tonnages. The difference between these two plants and the four firms listed above consists in their contracting for piecework following fumigation. The pitted dates are then refumigated prior to bulk packing within the plant. Total in-factory employment by these firms is only 25-30 laborers each. The smaller packers follow the same procedure.

A list of date marketing firms in Pakistan is provided in Annex III, "Date Marketing Firms in Pakistan". A list of date importing firms, with addresses, is provided in Annex IV.

CHAPTER III.  
METHODS OF PROCUREMENT

1. Introduction

Market structures and procedures for procurement of dates in Pakistan vary according to geographical areas, and, to some extent, to date varieties as well. Processing companies have introduced wooden field boxes (20 inches X 15 inches X 7 inches, carrying 15 kilos) so as to minimize damage to the product. These boxes are made in Punjab and cost Rs. 15 apiece. These boxes are customarily distributed by processors in growing areas prior to or during harvest. Sometimes they are broken down and reassembled in remote areas.

Growers who attend the auction markets employ grower boxes (24 inches X 18 inches by 14 inches, carrying 35-40 kilos). Not only are grower boxes larger than field boxes; but also they are less sturdily made, cannot be stacked properly and require more storage space. The product acquired in grower boxes thus arrives at the factory in a less suitable condition.

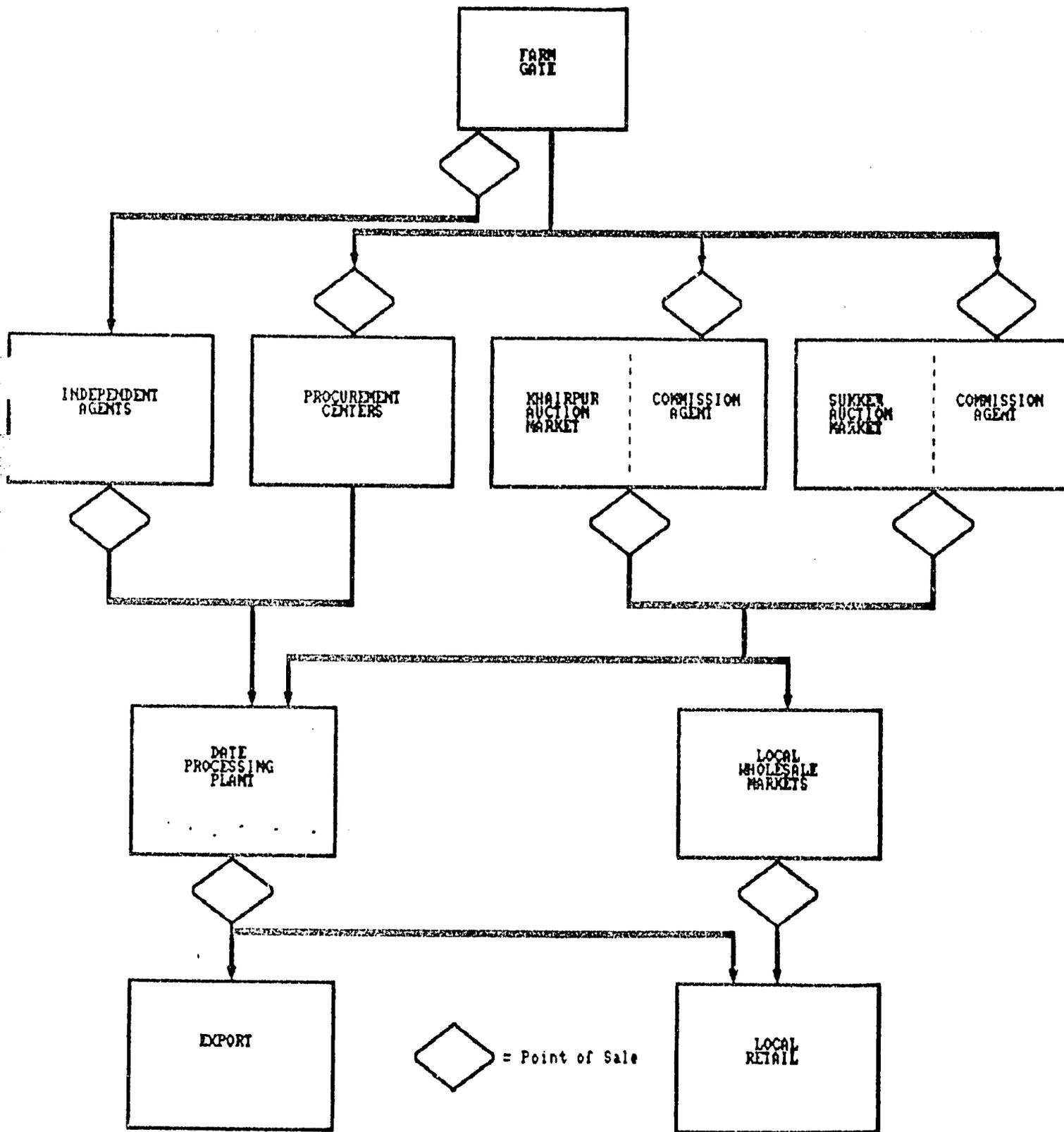
2. Procurement in Sind (refer to diagram on following page)

In Sind, processors may avail themselves of four methods of purchasing dates. These are: (1) Buying directly from growers at the factory gate in field boxes and compensating transport costs of various growers according to their distance from the factory. (2) Buying through commission agents in grower boxes at the auction markets at Sukkur and Khairpur.<sup>4</sup>

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<sup>4</sup> A more comprehensive description of these auction markets is provided in Section 5, below.

# SIND MARKETING CHANNELS



III - 2

The commission agent is not compensated by a processor with which he contracts in advance, but charges other buyers Rs. 2/maund (40 kg.). The agent also charges sellers 10% for conducting the auction. (3) Establishing procurement centers in date-growing areas and buying directly from growers in the company's field boxes. (4) Buying through an independent agent who is usually the head of a village. The agent is compensated Rs. 10/maund and is provided with field boxes.

a) LIPTON - MULTIFOOD: These two firms employ similar methods. Lipton uses all of the four methods listed above. Its purchases from growers at the factory gate require sampling for quality in order to determine the price. Payment at the factory gate is always in cash. This accounts 40% of Lipton's purchases. Field centers account for an additional 40% of purchases, also directly from growers. Lipton's purchases through commission agents at the two auction markets account for only 20% of its purchases. These dates are inspected at the factory on the date of purchase and the seller is compensated by the agent only if the quality is acceptable. The point of inspection and sale is the field center. The balance of Lipton's purchases is through independent agents. No dates from the Makran are acquired by any of these methods.

The US National Biscuit Co. independently conducts its inspection of all purchases by Lipton.

Multifood does not maintain field centers. Otherwise, its purchasing procedure is the same as Lipton's. Multifood relies on the auction markets for over 50% of its purchases, on independent agents for 30%, and, for the balance, on purchases at the factory gate.

b) ALL OTHER PROCESSORS: Their purchases from auction markets average 80% of total procurement and the remainder, at their factory gates.

### 3. Procurement in Punjab/NWFP

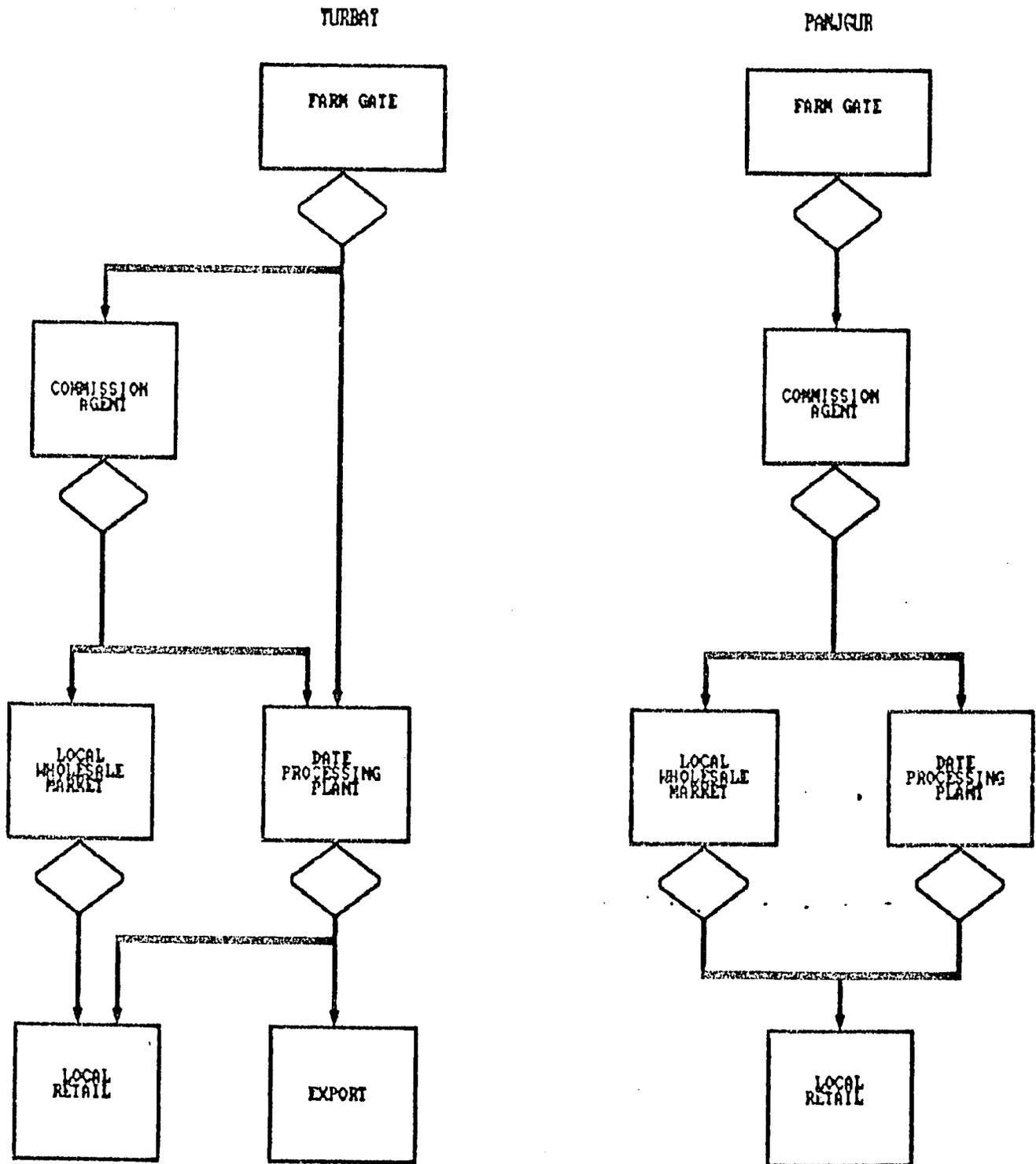
Two small auction markets exist in Usharif and Dera Ismail Khan. These dates are purchased by commission agents for consumption in nearby communities. Because of the small quantities marketed, no processor is represented in these markets, and the dates sold there never reach consuming centers such as Karachi and Lahore. However, their quality is quite high.

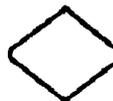
### 4. Procurement in Balochistan (see diagram on following page)

In the Turbat and Panjgur areas, all varieties of dates, mainly, in fact, mixtures of varieties, were formerly packed in woven mat bags weighing 40 kg. and were acquired on consignment by agents residing in Karachi. The latter paid transport costs and sold the dates there. Thus the growers would not know the real sale price and would be required to wait 6-9 months for compensation. Purchasers in Hyderabad followed the same procedure.

Growers who sold under this system tended to extract date syrup ("date honey") prior to delivering the dates and sell it locally for Rs. 10/kilo and add water to the dates to substitute for the loss of weight, increasing the likelihood of microbiological contamination of the product. The dates were often transported with other products on the same truck, providing further opportunities for off-tastes and contamination. Thus under the traditional system growers were not greatly motivated to expand production or improve on-farm productivity and their product reached consumers in such poor condition that it fetched very low prices.

# MAKRAN MARKETING CHANNELS



 = Point of Sale

In 1979, Lipton began to send field boxes to growers in the Turbat area and buy directly from growers for cash. For the first time, the superior qualities of the Begum Jangi variety thus became known outside Turbat and began to interest other buyers as a desirable product for sale both within Pakistan and abroad.

Currently, Lipton maintains a store of field boxes at Turbat from which field boxes are distributed to growers as far as Mand and Buleda. A surveyor then journeys to distribution sites to determine the number of filled field boxes. Five three-man teams (quality control inspector, cashier and weighman) each tries to bring in a full truckload of dates to Lipton's warehouse at Turbat. There they are fumigated prior to transport to Lipton's processing plant at Sukkur. Lipton has attempted variants on this system, e.g., substituting smaller cardboard cartons for wooden field boxes, but these have not proved to be cost effective.

This system has the following advantages: (1) The dates arrive at Turbat in better condition. (2) They are fumigated more quickly following harvest. (3) Transport is more readily and economically arranged from the Lipton warehouse. (4) The field boxes can be properly stacked in trucks both at production sites and at the warehouse. However, the higher quality of dates acquired by this method brings in train considerable marketing cost which is largely borne by the grower.

As indicated above, other processors have imitated the Lipton system at Turbat but have been unwilling to establish warehouses there. Because of this they incur higher infestation damage and greater transport costs and losses of both product and field boxes. Currently in 1991, in addition to Lipton, the following processors are active in the Turbat area: Multifood, NoorFood, Sind-Punjab, Sabah, Canampak and Oasis. In contrast to Lipton,

these latter firms, with the exception of Multifood for about 30% of its purchases, do not buy directly from growers and deal at arms' length through commission agents. There are now some 20 commission agents in the Turbat area. Some of these agents deal with more than one processor. Because of Libton's prior entry into the Turbat area and its large volume of purchases, its prices are generally followed by other buyers except in years when demand for Begum Jangi dates becomes particularly acute because of crop failures elsewhere or extensive hedging against such failures.

Because of the entrance to the area of processors on such a large scale, the traditional merchants to the domestic market have largely abandoned the Turbat region in so far as the Begum Jangi variety is concerned. They do acquire some other varieties there for sale within Pakistan. Because the processors and their agents pay cash, the traditional merchants are also obliged to pay growers in cash.

This mixed system has the disadvantage of causing uncertainty concerning quality and weight of the dates and general neglect of date varieties grown around Turbat other than the Begum Jangi. Both of these factors clearly have adverse economic effects on both buyers and sellers as well as on the overall reputation of dates from the Turbat area.

In conclusion, the marketing system now in effect in the Turbat area is much more costly, and product quality is much less assured than that in Sukkur, for the following reasons:

- 1) Empty field boxes are sent from Sukkur to Turbat and distributed through a wide area.
- 2) Absence of supervision of the boxes often causes considerable breakage and theft 25% or more of the boxes.

- 3) Professional staff and labor are inefficiently employed and require high salary, transport and per diem expenses.
- 4) Delays in delivery to Turbat can cause unnecessary dead-heading of trucks and drivers and high infestation damage or even total loss of the product.

It should be noted that all of these disadvantages are quite independent of the high cost of road transport from Turbat to Sukkur.

In contrast to Turbat, the smaller quantities of Karaba, Jansor and other varieties of dates currently grown in Panjgur have attracted less attention from processors. Both large processors and traditional merchants for the domestic market buy dates there through commission agents, of which three are active in the area. But as indicated above, one agent Mohammed Yousef Jan/Din Jan controls at least 90% of the commission business. Commission agents are so closely tied to processors and traditional merchants that third parties cannot procure dates at going prices in the Panjgur area.

No field grading is performed in Panjgur. Dates are packed in palm leaf bags weighing 40 kg., approximately. No field boxes or grower boxes are used. Damage to dates is extensive, in terms of weight loss, sugar loss and appearance.

Thus although Panjgur is closer and better connected by road to Sukkur than is Turbat, lack of competition keeps prices low and discourages producers from expanding production or improving quality.

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### 5. Operation of the Auction Markets at Rohri and Khairpur

The date auction market at Sukkur has a long tradition, at least 60 years. Previous to 1986, it was located within the city, involving some 20 auctioneers. This location proved congested and the market was removed to a 10-acre site at Rohri. There, 130 auctioneers now operate daily during the date marketing season (June 15 - September 30). Auction hours are from 7:30 a.m. to noon. From 2:00 to 5:00 p.m. auctioneers inspect and weigh their purchases. After 5:00 p.m., they oversee shifting and loading of trucks. At the peak of the season (August 10-23) the market now handles 10-12,000 grower boxes. Processors rarely purchase through the Rohri market.

Sellers are paid in the following way:

- a) Fifty percent of the transaction is paid in cash within five days.
- b) Twenty-five percent of the transaction is paid in cash 2-3 months after the transaction has taken place.
- c) Twenty-five percent of the transaction is paid in cash 4-6 months after the transaction has taken place.

No interest is paid on outstanding balances.

The roles of the auctioneer include:

- a) Auctioning dates on behalf of the grower. For this, he charges 5% of the price.
- b) Purchasing and storing merchandise on his own behalf.
- c) Lending money to growers for 3-6 months (unsecured crop credit). The current rate is about 10% per year.
- d) Purchasing for date traders outside Sukkur. Each auctioneer may represent three or four date traders. For performing this service the auctioneer charges Rs. 2/maund. He provides quality assurance and a guarantee of the weight to the traders. No auctioneer will

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guarantee a forward price, however. There is no futures market for dates, so market participants cannot hedge against price fluctuations.

The auction market at Rohri is expanding rapidly. Since 1986, daily volume has increased from 5,000 to the current level of 10-12,000 boxes. It is an oddity of this market that at a given moment prices of 90% select-10% good average quality may vary from Rs. 360 to Rs. 400. There is no means other than word-of-mouth for communicating prices. Prices for select are different from those for good average quality (300-350 Rs.) or for fair average quality (100-250).

In 1982, a second auction market was established by the Government of Sind at Khairpur with only twelve auctioneers at that time. They did no business until 1984. There are now 52 auctioneers. This market currently handles 8-10,000 boxes/day, of which 25% goes to Punjab traders, 25% is retained by auctioneers for their own stock and 50% is purchased by processors. The activities of the auctioneers are the same at Khairpur and Rohri. Only the auction time is changed. It operates from 11:00 a.m. to 1:00 p.m.

Processors enter the Khairpur market because:

- a) The quality of dates entering this market is superior.
- b) It is nearer to their processing facilities, reducing transport, district tax for leaving Sukker (Rs. 2/crate) and the export tax for not processing at the site area (Rs. 3/crate).
- c) Prices at Khairpur are lower by Rs. 20 for each grade than those at Rohri because it is closer to growing areas and because of the taxes listed above.

For these reasons, it appears that the volume of trading at Khairpur will exceed that in Rohri within the next couple of years.

The imperfections of these two markets are:

- a) Prices are not uniform.
- b) No interest is paid to the seller on balances which may remain outstanding for as long as six months. In addition, the seller must go to the trouble of finding the auctioneer who in the mean time may have deceased or become insolvent.
- c) Auctioneers are not independent market operators -- they are allowed to purchase for their own account and to enter into financial transactions with both outside merchants and growers.
- d) Information does not flow readily between the two markets and at processor factory gates, or for that matter, among different points within the same market.
- e) The closing price on a given day is not automatically adopted as the opening price on the following day.
- f) In case of rain, roads are flooded, sheltered space is unobtainable, and product is spoiled. Weather may thus close these markets altogether for as long as three days.
- g) The Khairpur market is small and congested.
- h) There are no inspection tables in the markets and lighting is inadequate.

Among the reasons for these imperfections, the following are significant:

- a) Sellers are often tied to one auctioneer in order to amortize debts.
- b) There is no electronic or even visual means of communicating prices and trading volumes among market actors.
- c) The action in the markets varies from point to point within them, and even in shops adjoining them.
- d) Auctioneers are identified by the presence of representatives of processors, and the volume of

transactions in such cases may periodically become abnormally large in relation to those of other market actors.

- e) Shelter space is inadequate, especially in the vicinity of the Khairpur market.

Evidently, the rapid growth of these markets has outstripped the provision of reasonable and necessary overhead facilities, such as equipment for handling merchandise and moving personnel, shelter from the weather, methods of communicating information, inspection tables and lighting. More seriously, the absence of a mechanism for financing causes hardship to sellers over a considerable period of time and distracts them from other activities while locating their interest-free debtors, the auctioneers.

CHAPTER IV.  
EXPORTS OF DATES FROM PAKISTAN

1. Introduction

Official data on date exports from Pakistan show insignificant numbers prior to 1985. Saudi Arabia accounted for the bulk of these. Then in 1985, there was a large expansion, principally to Australia, India, Canada, USA and UK, for a total of over 20,000 tons as compared to only 600 in the preceding year. By 1988, total exports had increased to 36,500 tons, a total which was not exceeded until 1991. We have official data for only eleven months of the latter year (official data are for crop years).

In 1985, exports of dried dates appeared for the first time in the official figures. These seem to be a mix of products. The exports of dried dates to India, Bangladesh, Sri Lanka, Singapore and Saudi Arabia were probably choara (boiled dates) whereas the others should have been invoiced as fresh sun-dried dates, probably indistinguishable from those shown in the first column. In 1991, exports of choara to India doubled, this despite the imposition by the Government of India of a requirement of 200% advance deposit on opening letters of credit for imports.

During 1985-90, dried dates accounted for 3/4 of total exports. The principal purchasers, by countries, have been India, Bangladesh, Canada, Australia, Denmark, Finland, UK and USA. Fresh dates are exported to USA, Canada, Australia, UK, Denmark and Japan. In 1990, Pakistan exported dried or fresh dates to twenty-three countries.

Unit prices, in \$US/ton were as follows:

	<u>Including choara</u>	<u>Excluding choara</u>	<u>Fresh Dates</u>
1984-85	402	638	776
1985-86	444	732	755
1986-87	401	749	799
1987-88	428	787	787
1988-89	616	1186	1352
1989-90	539	755	761
1990-91*	378	475	719.

\* July 1990 - May 1991

In view of the above, it is somewhat difficult to determine the real export price of fresh dates. With the exception of a one-time rise in 1989, the price of fresh dates in \$US showed little change during the entire period. On the other hand, the price of choara has been falling over the past three years.

## 2. Analysis of the official figures

These prices, even allowing for the exclusion of choara, appear to be somewhat lower than those reported by date exporters.

Invoices of two major exporters in 1990 were as follows:

	<u>\$US/Ton</u>
Assil pitted (22 kg cartons)	820
Assil pitted (10 kg cartons)	950
Select Assil pitted*	1200
G.A.Q. Assil pitted*	1025
F.A.Q. Assil pitted*	850
Begum Jangi pitted	850
F.A.Q. Begum Jangi pitted*	750
Karaba pitted	700.

\* G.A.Q. = good average quality

\* F.A.Q. = fair average quality

The data on physical quantities of dates exported are also inaccurate, especially for the earlier years of the series (pp. 6-10). Among the Pakistani exporters, Lipton alone exported some 3,000 tons of dates to USA and Canada in 1982 and 4,000 tons in 1983. In the latter year Canampak exported 1,000 tons to Canada.

In 1984, Sind and Punjab traders exported 700 tons to Australia. Total exports from Pakistan in 1984 were of the order of 7,000 tons to North America, Australia and Europe, whereas the official data show exports of only 600 tons, all to Iran and Saudi Arabia.

In 1984-85, a 7.5% rebate on the invoiced value of fresh dates existed but not on dried dates. The ratios of fresh and dried dates in the official data for 1984-87 do not reflect the removal of this rebate. In 1985, for example, 74% of exports to the US, UK, Australia and Canada were reported as fresh, whereas in 1986-87, 82% of exports to those countries were reported as fresh dates. Since 1982, exporters from Pakistan are accorded a 50% income tax rebate on profits from exports of dates. An additional rebate is allowed for five years on costs of construction of date processing facilities outside Karachi.

Excluding choara, total reported exports of 7,000 tons of fresh and dried dates in 1985 and 5,300 in 1986, 4,500 in 1987, 8,000 in 1988, and 5,800 in 1989 appear reasonable. The 1990 figure, 9,000 tons is an underestimate. In 1990, fourteen trading companies reported exports of 10,700 tons. In descending order of importance these were: Lever Brothers, Ltd., Sabah Corp., Canampak, Noorfood Products, International Multifoods, Quari Abdul Rahim, Sind-Punjab Traders, Dynasell, Remath Enterprises, Hadji Pir Buksh, Fidai Trading, Compass Trading Co., Sahara Food and Oasis. There were doubtless some other smaller traders not included in this total.

The 1991 figure (for eleven months) is 12,000 tons of exports of fresh dates, roughly the same as in the preceding year. The outlook is for further price increases for fresh dates in 1991-92. Extensive war damage to both processing facilities and bearing trees has occurred in Iraq (according to one report, over 70% of Iraq's date trees have been destroyed). But Iraq's

shortfall in exports will be compensated to some extent by exports from Iran, particularly if the US embargo on imports from that country is lifted. Exports from Pakistan in 1992 should be of the order of 15,000 tons, representing an average annual growth rate of 31% per year since 1985-87.

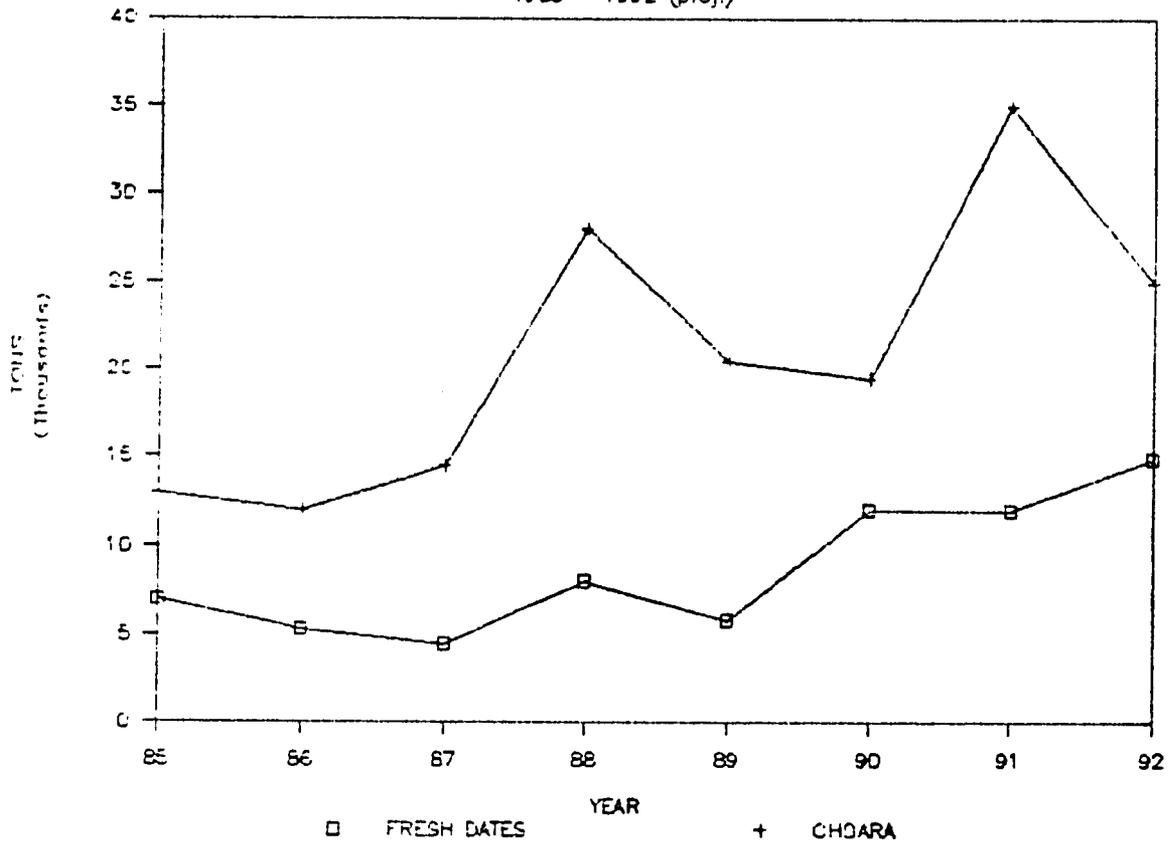
### 3. Exports to the United States

Pakistan became a major exporter of dates to the United States with pits in 1983 and with pits removed in 1984. The volume of Pakistan's exports remained fairly constant until 1987 and rose sharply in 1988-89. But overall US imports of dates have dropped, although between 1988 and 1990 Pakistan was by far the largest supplier. But in the first half of 1991, the United States commenced to import large quantities of dates from non-traditional sources of supply in Latin America: Colombia, Venezuela and Ecuador.

Prior to 1985, the prices of dates with pits exported to the United States by Pakistan were about the same as the equivalent product exported from other sources, but after that date until 1991 the price of Pakistani dates with pits dropped sharply. Over this period, the price of pitted dates imported from Pakistan also fell relative to those of pitted dates imported from other countries. In 1991, however, US overall import prices for pitted dates fell to about the same level as those imported in that year from Pakistan. In other words, US import prices for dates have been falling in recent years, but prices for dates imported from Pakistan are currently (first half 1991) above those of other suppliers.

# EXPORTS OF FRESH DATES AND CHOARA

1985 - 1992 (proj.)



Source: Official data (see following table) and authors' estimates and projections

PAKISTAN: EXPORTS OF FRESH AND DRIED DATES, BY COUNTRIES

Twelve-month period ending July of year shown

	Fresh Dates		Dried Dates	
	Tons	Rs. mill.	Tons	Rs. mill.
1982				
Afghanistan	4	0	0	0
Italy	1,000	11	0	0
S. Arabia	2,001	22	0	0
Total	3,005	34	0	0
1983				
Iran	34	0	0	0
S. Arabia	5,167	29	0	0
Total	5,201	29	0	0
1984				
Iran	10	0	0	0
S. Arabia	596	2	0	0
Total	607	2	0	0
1985				
Australia	1,352	33	165	1
Bangla Desh	0	0	3	0
Canada	793	13	274	2
Germany	15	0	68	1
HongKong	36	0	85	1
India	0	0	13,151	47
Maldiva Is.	86	0	0	0
Netherlands	22	0	0	0
New Zealand	0	0	8	0
Quatar	0	0	1	0
Singapore	0	0	2	0
Sri Lanka	109	1	167	4
USA	1,415	26	724	12
UK	310	5	266	3
Barein	0	0	3	0
Cyprus	0	0	32	0
S. Arabia	0	0	14	0
Total	4,142	45	16,472	71
1986				
Australia	918	64	19	0
Bangla Desh	4	0	235	2
Canada	1,732	24	43	1
Djibouti	36	0	0	0
Germany	54	1	0	0
HongKong	2	0	0	0
India	0	0	11,596	60
Maldiva Is.	5	0	0	0
New Zealand	267	5	0	0
Singapore	10	0	10	0
Sri Lanka	920	7	18	1
Sweden	31	0	0	0
USA	429	0	0	0

PAKISTAN: EXPORTS OF FRESH AND DRIED DATES, BY COUNTRIES

Twelve-month period ending July of year shown

	Fresh Dates		Dried Dates	
	Tons	Rs. mill.	Tons	Rs. mill.
UK	579	8	94	0
Dubai	0	0	80	1
S. Arabia	2	0	0	0
Total	4,988	64	12,240	66
1987				
Australia	686	9	182	2
Bangla Desh	0	0	228	1
Canada	1,210	17	338	5
Denmark	14	0	32	1
Dubai	0	0	87	1
France	0	0	8	0
India	0	0	14,642	78
Kuwait	15	0	0	0
Netherlands	53	1	0	0
New Zealand	227	1	0	0
Quatar	2	0	0	0
Singapore	7	0	6	0
Sri Lanka	94	0	64	1
Sweden	47	1	17	1
USA	306	6	52	1
UK	514	6	442	3
Afghanistan	0	0	100	1
Nepal	0	0	7	1
Uganda	0	0	18	1
Total	3,179	47	16,223	97
1988				
Australia	435	6	1,012	17
Austria	0	0	13	0
Bangla Desh	237	2	10	0
Canada	63	1	1,581	22
Denmark	0	0	203	3
Dubai	252	2	170	1
Finland	51	1	419	7
France	18	0	48	1
India	160	1	27,705	171
Kuwait	1	0	2	0
Lesotho	1	0	0	0
Malaysia	6	0	0	0
Netherlands	6	0	0	0
New Zealand	116	2	0	0
Paraguay	9	0	0	0
Singapore	5	0	0	0
Sri Lanka	20	0	0	0
Sweden	54	1	0	0
USA	1,081	19	200	3
UK	907	12	368	4
Afghanistan	0	0	100	1
Japan	0	0	47	1
Total	5,904	86	29,950	192

PAKISTAN: EXPORTS OF FRESH AND DRIED DATES, BY COUNTRIES  
 Twelve-month period ending July of year shown

	Fresh Dates		Dried Dates	
	Tons	Rs. mill.	Tons	Rs. mill.
1989				
Australia	863	14	115	2
Canada	2,431	39	102	2
Denmark	272	3	51	1
Dubai	279	2	0	0
Finland	1	0	227	1
Germany	17	0	0	0
India	8	0	19,658	189
Japan	109	1	120	2
Lesotho	5	0	8	0
Malaysia	0	0	18	0
Maldive Is.	2	0	0	0
Nepal	0	0	42	0
Netherlands	0	0	17	0
New Zealand	24	1	50	0
Singapore	30	1	0	0
Sweden	19	0	15	0
USA	368	65	428	8
UK	1	3	193	2
Bangla Desh	0	0	110	1
Kuwait	45	1	0	0
Sri Lanka	0	0	6	0
Cyprus	0	0	6	0
Thailand	0	0	131	2
Total	4,473	130	21,180	210
1990				
Australia	933	16	100	2
Canada	1,958	35	382	6
Denmark	243	3	5	1
Finland	75	2	0	0
Germany	41	1	32	0
India	18	0	18,250	186
Japan	190	2	123	2
Lesotho	40	0	0	0
Malaysia	15	0	34	1
Maldive Is.	3	0	0	0
Nepal	60	1	172	1
Netherlands	16	0	0	0
New Guinea	58	0	0	0
New Zealand	17	0	0	0
Norway	52	1	0	0
Singapore	62	2	0	0
S. Korea	26	0	0	0
Sweden	13	0	0	0
USA	3,787	63	585	10
UK	475	7	18	0
Abu Dabi	5	0	103	0
Bangla Desh	0	0	241	3
Kuwait	0	0	8	0
Total	7,603	136	19,936	213

PAKISTAN: EXPORTS OF FRESH AND DRIED DATES, BY COUNTRIES

Twelve-month period ending July of year shown

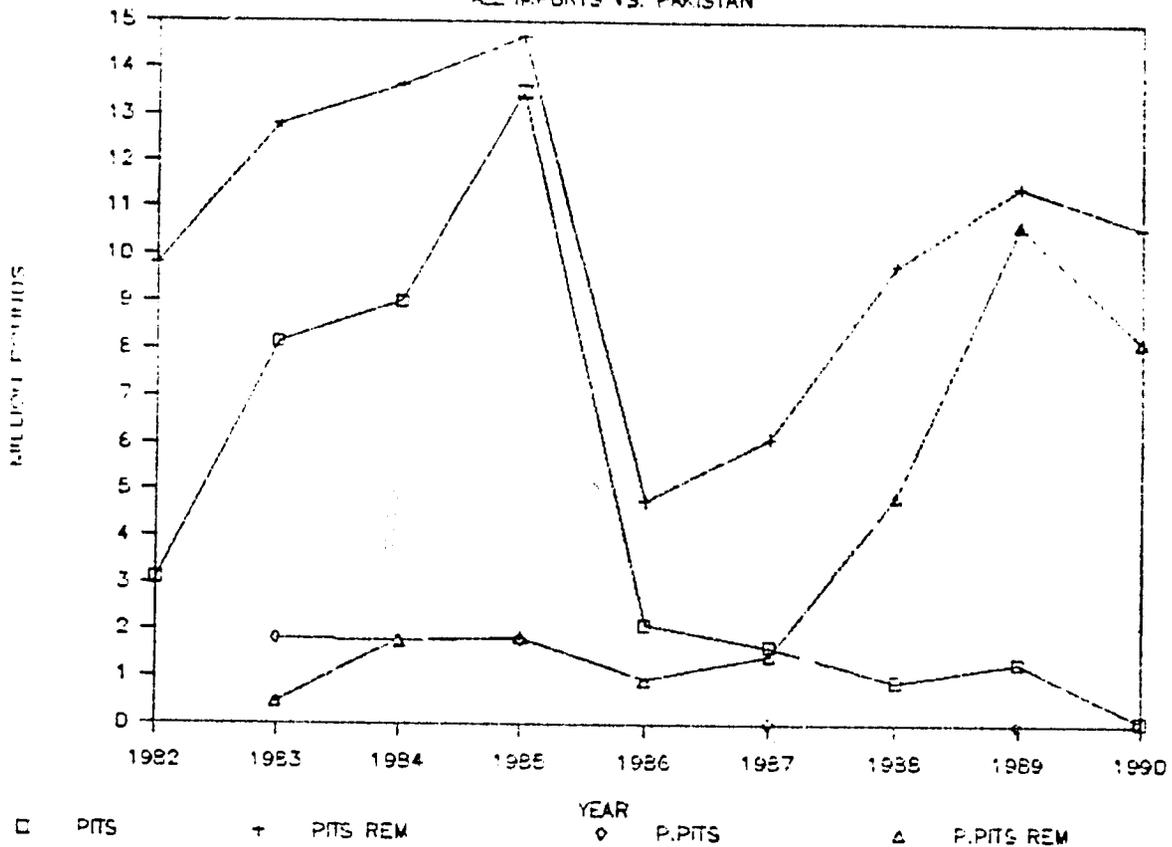
	Fresh Dates		Dried Dates	
	Tons	Rs. mill.	Tons	Rs. mill.
		1991		
Australia	1,046	17	415	7
Austria	30	1	18	0
Malaysia	40	1	9	0
Mauritius	8	0	0	0
Nepal	14	0	0	0
Netherlands	131	3	49	0
New Zealand	92	2	0	0
Panama	53	1	0	0
Poland	23	1	0	0
S. Arabia	25	1	0	0
Singapore	3	0	0	0
Sweden	32	1	23	0
Thailand	35	1	0	0
Turkey	58	1	0	0
USA	3,000	54	0	0
UK	1,832	28	707	13
India	814	7	726	11
Asia nsp	0	0	35,005	275
Belgium	0	0	20	0
Colombia	0	0	2	0
Greece	0	0	20	0
Hong Kong	0	0	20	0
Rwanda	0	0	55	0
S. Korea	0	0	21	0
Sri Lanka	0	0	74	1
Total	10,095	167	41	0
			38,525	325

Data for 1991 are July - May

Source: Pakistan Bureau of Statistics  
Foreign Trade Statistics of Pakistan, Exports

# DATES: US IMPORTS

ALL IMPORTS VS. PAKISTAN

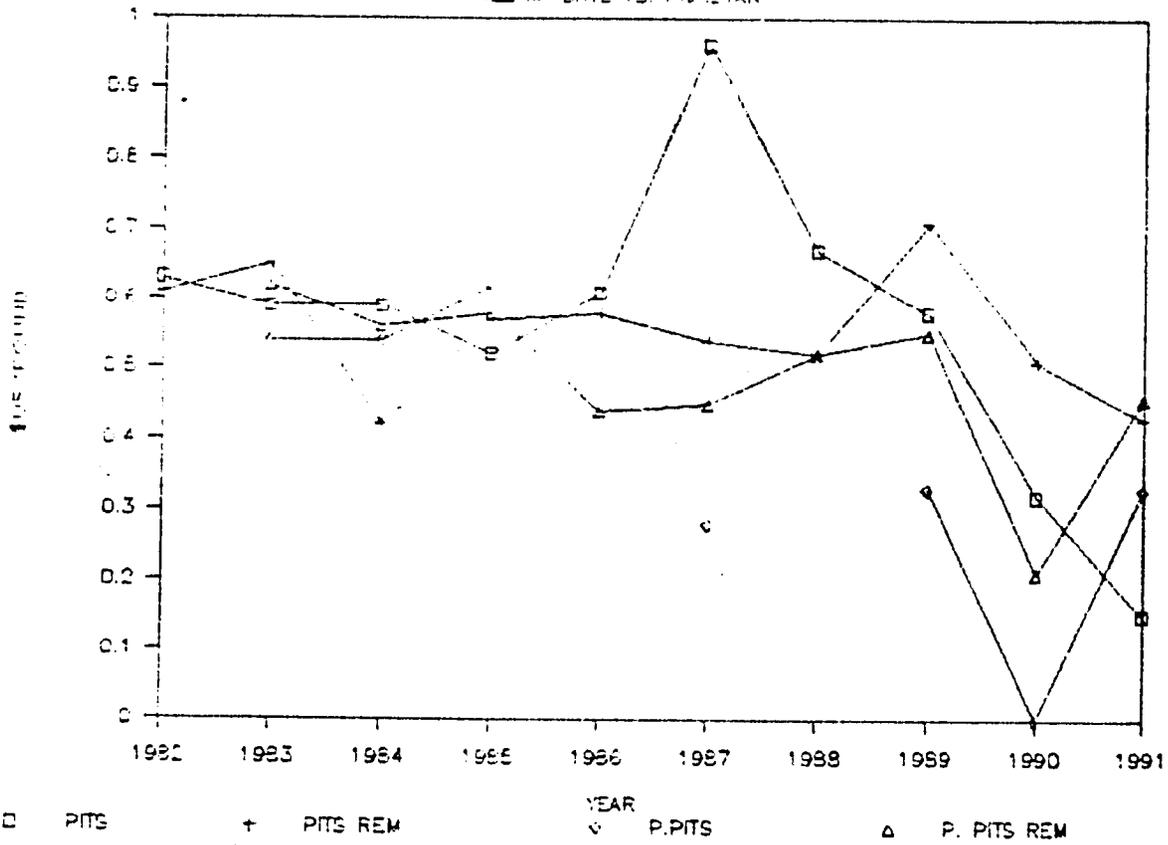


Source: US Department of Commerce  
FT 135 US Imports for Consumption  
IM 146 US Imports for Consumption

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# DATES: US IMPORT PRICE/LB

IMPORTS VS. PAKISTAN



Source: US Department of Commerce  
ET 135 US Imports for Consumption  
IM 146 US Imports for Consumption

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DATES: US IMPORTS FOR CONSUMPTION

Country	000 lbs	VALUE \$000	PRICE / lb.
1982			
with pits			
Iraq	1988	1129	0.57
Iran	711	411	0.58
China M	330	360	1.09
Other	42	43	1.02
Total	3088	1943	0.63
pits removed			
Canada	162	119	0.73
Iraq	1444	1766	1.22
Iran	1124	741	0.66
China M	4475	2750	0.61
Hong Kong	1406	536	0.38
Australia	32	14	0.44
Other	144	67	0.47
Total	9827	5942	0.61
1983			
with pits			
Iraq	761	450	0.59
Iran	5157	3015	0.58
Pakistan	1819	987	0.54
China M	283	221	0.77
Other	120	96	0.81
Total	8143	4781	0.59
pits removed			
Canada	150	104	0.69
Iraq	2288	2258	0.99
Iran	6555	4338	0.66
Pakistan	475	293	0.62
China M	2980	1544	0.52
Hong Kong	302	135	0.45
Other	46	38	0.83
Total	12797	8353	0.65
1984			
with pits			
Iraq	1081	861	0.81
Iran	5086	3085	0.61
Israel	126	118	0.94
Pakistan	1775	961	0.54
China M	281	308	1.09
Other	147	91	0.62
Total	9009	5426	0.59
pits removed			
Iraq	1554	1372	0.88

DATES: US IMPORTS FOR CONSUMPTION

Country	000 lbs	VALUE \$000	PRICE / lb.
Pakistan	1782	999	0.56
China M	556	242	0.43
Iran	9617	7018	0.73
Other	109	58	0.53
Total	13628	5689	0.42

1985

with pits			
Iran	10185	5046	0.49
Israel	128	180	1.41
Pakistan	1813	1125	0.62
China M	361	465	1.29
Tunisia	821	391	0.48
Other	188	97	0.52

pits removed			
Germany	29	19	0.66
Iraq	1269	1125	0.89
Iran	10907	5800	0.53
Israel	69	104	1.51
Pakistan	1855	1078	0.58
China M	194	112	0.58
Tunisia	174	85	0.49
Other	174	102	0.59
Total	14671	8425	0.57

1986

with pits			
Iran	1793	927	0.52
China M	216	204	0.94
Other	176	160	0.91
Total	2121	1291	0.61

pits removed			
Iran	2232	1444	0.65
Israel	68	99	1.46
Pakistan	946	420	0.44
Tunisia	986	548	0.56
Other	512	250	0.49
Total	4767	2776	0.58

1987

with pits			
Mexico	87	109	1.25
Iran	1282	704	0.55
Pakistan	29	8	0.28
China M	299	246	0.82
Other	154	110	0.71
Total	1851	1777	0.96

DATES: US IMPORTS FOR CONSUMPTION

Country	000 lbs	VALUE \$000	PRICE / lb.
		pits removed	
Mexico	115	78	0.67
Iraq	353	215	0.61
Iran	2355	1308	0.56
Israel	282	142	0.49
Pakistan	1453	649	0.45
China M	331	149	0.45
Tunisia	1171	746	0.64
Other	52	36	0.69
Total	6112	3323	0.54

1988

Country	000 lbs	VALUE \$000	PRICE / lb.
		with pits	
Mexico	139	136	0.98
China M	305	260	0.85
Hong Kong	266	134	0.51
Other	192	78	0.41
Total	901	607	0.67

Country	000 lbs	VALUE \$000	PRICE / lb.
		pits removed	
Iran	627	408	0.65
Israel	186	121	0.65
Pakistan	4861	2539	0.52
China M	3380	1595	0.47
Other	714	538	0.75
Total	9775	5201	0.52

1989

Country	000 lbs	VALUE \$000	PRICE / lb.
		with pits	
Mexico	46	43	0.93
Turkey	4	3	0.75
Iraq	465	193	0.41
Israel	116	68	0.59
Pakistan	3	1	0.33
Singapore	139	138	0.99
China M	419	244	0.58
Hong Kong	106	58	0.54
Total	1298	748	0.58

Country	000 lbs	VALUE \$000	PRICE / lb.
		pits removed	
Mexico	84	36	2.33
Lebanon	2	4	2.01
Israel	116	51	0.43
Jordan	62	24	0.39
Pakistan	10677	5831	0.55
Singapore	11	41	3.73
China M	406	1905	4.69
Hong Kong	20	109	5.45
Tunisia	49	186	3.8

DATES: US IMPORTS FOR CONSUMPTION

Country	000 lbs	VALUE \$000	PRICE / lb.
Egypt	1	5	5.01
Canada	50	41	0.82
Total	11478	8233	0.71

1990

		with pits	
Costa Rica	49	11	0.22
Spain	1	5	4.99
Arab Emir.	26	8	0.31
Total	76	24	0.32

		pits removed	
Mexico	57	12	0.21
UK	33	232	7.03
Iraq	947	521	0.55
Israel	218	214	0.98
Jordan	150	54	0.36
Pakistan	8181	3874	0.47
China M	1032	485	0.47
Total	10618	5392	0.51

six months 1991

		with pits	
Colombia	82109	13415	0.16
Venezuela	18842	3683	0.21
Ecuador	60045	5599	0.09
Israel	13	50	3.85
China M	3	2	0.67
Egypt	49	19	0.39
Mexico	15	8	0.53
UK	1016	533	0.52
Pakistan	9	3	0.33
Malaysia	123	177	1.43
Macao	18	20	1.11
China M	243	206	0.85
Hong Kong	44	24	0.55
Japan	1	1	0.99
Total	162530	23745	0.15

		pits removed	
Sweden	9	5	0.56
Israel	465	163	0.35
Jordan	49	12	0.24
Pakistan	4907	2249	0.46
China M	681	227	0.33
Total	6111	2656	0.43

CHAPTER V.  
Imports of Dates to Pakistan

1. Introduction

Pakistan' official figures indicate imports of both fresh and dried dates from a number of middle east countries: Iraq, Dubai, Iran, Jordan, Abu Dhabi, Lebanon, Quatar and Saudi Arabia. In some recent years, imports were also recorded from Mexico and Afghanistan. As in the case of the export figures, there may be some misclassification (pp. 4-5, below). Fresh dates account for the bulk of the reported import trade; no dried dates whatever were imported in 1990 or 1991. Imports of fresh dates expanded rapidly between 1983 and 1990 (by 35% per year) but dropped sharply in 1991, from over 42,000 in the preceding year to less than 1500 tons. This last might be explained by the fact that crop loss in Sukkur was very high in 1989, moderate in 1990 but not so far in 1991. More significantly, imports from Iraq ceased during the 1991 crop year.

Unit prices, in \$US/ton were as follows:

	<u>Fresh Dates</u>	<u>Dried Dates</u>	<u>All Dates</u>
1984-85	822	388	809
1985-86	988	1028	1001
1986-87	248	6037	1407
1987-88	3059	374	315
1988-89	200	386	240
1989-90	176	nd	176
1990-91	210	nd	210

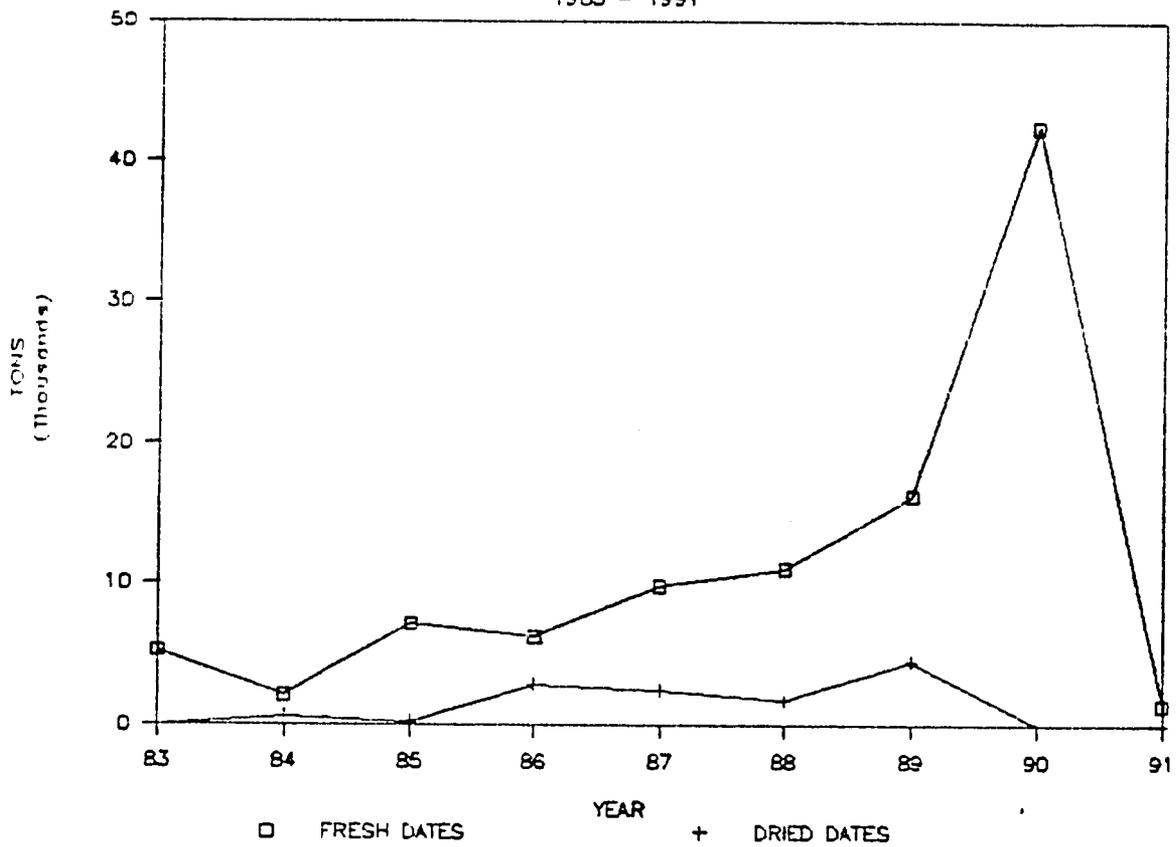
2. Analysis

The official data on dry dates appear doubtful. First, imported dried dates are not known to import traders. These dates should probably be classified as fresh dates. The unit prices of imports on all dates, however, coincide roughly with import prices over the period indicated.

Import prices of all dates (in \$US) fell steadily between 1987 and 1990. Imports of dates were banned between 1979 and 1983. A 20% import tariff substituted for the previous embargo and still remains in effect.

# IMPORTS OF FRESH DATES AND DRIED DATES

1983 - 1991



Source: Pakistan Bureau of Statistics  
Foreign Trade of Pakistan, Imports

PAKISTAN: IMPORTS OF FRESH AND DRIED DATES, BY COUNTRIES  
Twelve-month period ending July of year shown

Country	Fresh Dates		Dried Dates	
	Tons	Rs. mill.	Tons	Rs. mill.
1983				
Iran	34	0	0	0
S. Arabia	5167	29	0	0
Total	5201	29	0	0
1984				
Dubai	10	0	10	0
Iran	210	1	0	0
S. Arabia	1874	16	597	2
Total	2094	16	607	2
1985				
Iran	208	1	215	1
S. Arabia	6892	69	0	0
Total	7099	70	215	1
1986				
Iran	730	4	0	0
S. Arabia	5475	77	0	0
Kuwait	0	0	2800	38
Total	6205	81	2800	38
1987				
Dubai	2428	10	0	0
Iran	1175	6	799	9
Iraq	1635	7	152	1
S. Arabia	422	4	995	13
Germany	0	0	500	1
Total	9772	32	2447	195
1988				
Dubai	652	3	0	0
Iran	509	2	16	0
Iraq	0	0	250	1
Jordan	9073	53	0	0
Kuwait	8	0	0	0
S. Arabia	231	1	1468	10
Oman	2	0	0	0
Total	10976	62	1734	12
1989				
Abu Dhabi	5516	30	0	0
Dubai	710	0	466	2
Iraq	9047	30	766	3
Jordan	38	0	0	
S. Arabia	20	3048	30	
Iran	0	0	156	1
Total	16223	68	4436	36

PAKISTAN: IMPORTS OF FRESH AND DRIED DATES, BY COUNTRIES  
Twelve-month period ending July of year shown

Country	Fresh Dates		Dried Dates	
	Tons	Rs. mill.	Tons	Rs. mill.
		1990		
Dubai	8315	28		
Hadhramat	43	0	0	0
Iran	43	0	2	0
Iraq	33576	0	0	
Lebanon	42	0		
Mexico	246	1	0	0
Quatar	205	1	0	0
S. Arabia	10	0	0	0
Total	42479	157	2	0
		1991		
Dubai	11	0	0	0
Dubai	522	3		
Irab	909	4	0	0
Quatar	0	0	0	0
Total	1443	7	0	0

Data for 1991 are July - May.

Source: Pakistan Bureau of Statistics  
Foreign Trade of Pakistan, Imports

## CHAPTER VI.

### PROSPECTS FOR FACILITATING THE MARKETING OF MAKRAN DATES

#### 1. Introduction

The authors have surveyed the Turbat and Panjgur producing areas and have noted a lively interest by both producers and buyers of dates in altering existing market institutions and procedures.

#### 2. Grower Discontent

Growers feel that buyers offer arbitrary prices on a "take-it-or-leave it" basis with no real competition. The few commission agents in the area represent both processors and buyers for the national markets. In 1984, growers suffered because there was no buyer except Lipton which purchased only 50% of the crop in Turbat prior to the month of October. By that time, the remaining crop was so badly infested that it was unmarketable. Then in 1987 this experience was repeated, with even greater losses. Commission agents made some purchases but were unable to sell the dates in Karachi or processors and lost interest in handling dates from the Makran. In 1990, growers in the Makran, in an effort to rekindle interest in their product, reduced prices on Begum Jangi dates from Rs. 350 to 180/maund in order to clear the market but were unable to market other varieties.

Paradoxically, growers in the Turbat area are now increasing plantings of Begum Jangi trees and preparing new land for cultivation (see Chapter I).

### 3. Buyer Discontent

Commission agents and processors buying directly from growers complain of:

- 1) The high cost of assembling dates -- distribution of field boxes, sending representatives to verify the number of boxes filled, and inability to obtain full truckloads to transport the dates as far as Turbat.
- 2) Difficulty in dealing with transporters, both to send field boxes to Turbat and have them arrive in good condition and to transport filled boxes from Turbat to Sukkur.
- 3) The dirty condition upon arrival in Sukkur of dates transported in field boxes.
- 4) Infestation as a consequence of long delays in the marketing chain.
- 5) The high cost of labor involved in transporting the workers to work sites and irregular amounts of effort involved in picking up lots of varying size.
- 6) High transport and per diem costs for professional and semi-professional employees sent to perform the necessary work away from home. Further logistical problems are lack of speedy access to air transport to Turbat and Panjgur and absence of adequate hotel space there. The latter is being corrected, at least in Turbat.
- 7) The absence of security of field boxes by theft or careless handling. Each year, roughly 35% of field boxes are lost by buyers in the Makran.
- 8) Uncertainty concerning the crop and prices. Lipton is the nominal price setter but its plans as concerns amounts to be acquired from the Makran are not known to other buyers who may unexpectedly be faced with price competition. This makes it difficult and expensive for them to quote prices to overseas buyers.

- 9) Tying up large amounts of capital in cash for a considerable period of time in order to make small purchases and accounting for it, as well the ever-present possibility of robbery.
- 10) The absence of bank branches throughout the date-growing area, with the exception of Turbat and Tump. Even these frequently do not have adequate cash on hand.

In effect, buyers are motivated to acquire dates from the Turbat area almost entirely because of concern that weather conditions in Sind may cause extensive crop damage there (see Chapter I). They have heretofore made no real effort to make markets overseas for the Begum Jangi variety despite its attractiveness to overseas buyers (see Chapter I).

#### 4. Some Preliminary Observations Concerning Possible Improvements

As noted above (Chapter III) many of these problems would exist regardless of the absence of good roads to and within the Makran.

- a) **PACKAGING** As indicated above, field boxes represent a major expense, both because of their intrinsic cost and high potential for theft and breakage, and because under current circumstances they must be filled and emptied several times through the marketing chain. The weight of empty wooden field boxes varies, complicating weighment.

Lumber is not available in the Makran, and rigid plastic boxes, although they are easy to clean, more efficiently stacked in less space, and of uniform weight are prohibitively expensive. Cardboard boxes (Packrite) are dust-proof if properly sealed but they provide insufficient protection from mechanical damage.

A partial solution might be to manufacture perforated wooden field boxes of uniform weight in which to fumigate the dates. These could then be wrapped in plastic for shipment so as to seal them from dust.

- b) **TRANSPORT** Small vans and pick-up trucks are becoming increasingly available in the Makran. These could be rented by many growers to transport small quantities of dates as far as Turbat as an alternative to the large trucks procured by commission agents. This would make it possible for growers to cash checks in Turbat and reduce the need for cash by commission agents and the cashiers hired by processors.
- c) **QUALITY ASSURANCE** Growers do not clean field boxes nor perform suitable selection of dates at growing sites. Buyers must perform random samples of quality and weight in the field. This requires emptying field boxes for inspection, weighing and refilling them. These activities could be more efficiently performed either by trained and motivated growers prior to filling field boxes, or by paid semi-professionals at a central site, especially if all field boxes were of the same weight and filled in the same manner.

A second source of losses to buyers is that weight loss from evaporation is a function of time between picking and collecting field boxes. Waiting time varies from site to site depending upon speed of collection. The loss from evaporation alone amounts to hundreds of tons per year in the Makran. If growers had an interest in weight, quality and timeliness of delivery to buyers of filled field boxes they could pass on considerable savings to buyers which would be reflected in sales prices.

- d) **STORAGE** Growers' drying areas are the principal site for storing dates. These are improperly fenced and unprotected from depredation by animals, birds and theft (Chapter I). If buyers do not pick up the dates within one week of picking this space also becomes physically inadequate. If left spread for drying, dew will begin to blacken the dates. But if dates will be stacked, sugar will begin to be lost from the product and the bottom layer will begin to ferment. At the same time, the degree of infestation increases over time.

All this represents economic loss to both growers and buyers, but as things stand at present there is no motivation for them to cooperate with each other in finding solutions to this problem. As in the case of quality control, provision of suitable storage facilities at a central site would go a long way toward resolving the problem.

Adobe bricks are cheap and plentiful in the date growing area around Turbat. Low walls around level, level tamped clay drying spaces on hilltops near roadsides, with plastic netting against birds and sufficient heavy plastic roll to protect against dew could be the property of one or more growers. All of this would represent an outlay of less than Rs. 25,000. If used in combination with some of the other measures suggested in this chapter its cost could be amortized in two crop seasons or less.

- e) **FUMIGATION** Growers in the Makran never fumigate harvested dried dates because they are ignorant of fumigation techniques, and they have no suitable fumigation facilities. More important, they have no motivation to fumigate. During the current crop year,

collection is delayed because buyers are holding off due to uncertainties as to export prices and crop conditions in the Sukkur area. They would have one less major concern and incur less risk if they could be certain that infestation would not be a bigger problem with each day of delay. Also, due to the absence of early fumigation dealers are often unable to store dates until the month of Ramadan when they bring better prices.

Semi-processing of dates either at various sites in the area or at Turbat would represent a solution to the problem noted. As in the case of other quality control measures, dates fumigated while still in the possession of growers would demand better prices and increase grower incomes. (For a discussion of fumigation methods, see Annex II).

- f) COMMUNICATION OF PRICE NEWS Telephone direct dialing/fax has recently become possible at many sites in the Makran. Many inhabitants of the area have acquired radio receivers. But despite all this they profess to be ignorant of market prices for dates at other sites in the Makran or in Sind. This results from absence of an effective organization of growers to make timely market news available to its members. In mosques prayers might end with an announcement of the day's date auction prices. Market news could also be posted in convenient places such as bazaars, hotels and schools.

## 5. Panjgur

Most of the above is applicable to both the Turbat and Panjgur areas. In Panjgur, however, the association of date growers exists and has sent a delegation to Islamabad to explore with the Federal authorities the possibility of establishing an auction market there. Their justification is that no real competition exists for their product (see Chapter III). They also appear to have access to the District Commissioner in this regard. The latter was interviewed by the authors of this report and appeared to be well informed in this regard and disposed to provide official assistance for such a project.

Potential demand for the Karaba dates produced in Panjgur appears to be good for the time being because of its low price, suitability for industrial purposes and ease of transport to processing centers in Pakistan without the use of expensive field boxes.

## 6. Some Generalizations

To the majority of date growers in the Makran most of the above ideas would appear utopian. The essential point, however, is that implementation of any or all of them would contribute to strengthening the bargaining power of growers with respect to buyers at the same time resulting in mutual financial gain. To the extent that all improvements are left to the buyers they will be able to take advantage in other ways. Brief consideration as to what this has accomplished for the commission merchants in the Sukkur and Khairpur auction markets (Chapter III) should make this frightfully clear.

A corollary of this is that improved on-farm handling and conducting many of these operations at a central site such as Turbat are not mutually exclusive. What is required is that a

few strong zamindars and growers begin to take initiatives in the directions indicated (in whatever order, or however organized does not really make much difference). What might mobilize these market actors is the initiation of some sort of auction markets. This possibility is discussed in the following chapter.

CHAPTER VII.  
OPERATIONAL PROGRAM FOR THE MAKRAN

1. Introduction

The preceding review of date marketing problems in Turbat and Panjgur indicates that the key intervention would be a properly designed auction market.

The role of an auctioneer in such a market would be to announce a price for consideration by buyers and sellers at a designated auction site. He would be totally independent of either buyers or sellers and would be forbidden to purchase or sell on his own account. His sole income would be a charge to growers of Rs. 2 per field box, and to buyers of Rs. 1 per field box. In return, the auctioneer would compensate the project 10% of his gross proceeds. The auctioneer would be authorized to cancel the auction in the event that there are insufficient buyers or sellers.

The unit of sale would be field boxes only. The market would provide field boxes at cost if they are not available from the box manufacturer (see below). The market would repurchase these boxes if they are returned in good condition. Buyers would be permitted to weigh and inspect the merchandise prior to initiation of the auction. Settlement would be immediate, and in cash. At the site of the auction there would be one auctioneer. Each transaction would be recorded and displayed immediately in such a way that it is visible throughout the auction market.

Several considerations would condition the success of this auction. These are:

- a) LOCATION - A city-center site with access to transport, banks, water and electricity is essential. It should

be sited in such a fashion that expansion of auction space and ancillary facilities can be added, such as storage space for both growers and buyers, and other structures listed below.

- b) COMMUNICATIONS - Facilities must be available for communication of information essential both within the market and to other markets in the Makran and throughout Pakistan. For the former, perhaps a blackboard visible throughout the auction space would do at first. But the latter requires adequate telephone/fax/telex facilities, easily accessible to both buyers and sellers.
- c) ACCOMMODATIONS FOR GROWERS - Growers are unwilling to pay going rates for hotels. They require inexpensive facilities for eating and sleeping if they are to bring merchandise to the market. They also require a secure site for storing merchandise prior to sale.
- d) ACCOMMODATIONS FOR BUYERS - The two small hotels in Turbat are continuously overbooked during the date buying season. At least during the start-up period of the market a small rest house must be provided. This later could be sold to a private party as a hotel. Over time, buyers will begin to construct their own storage facilities for dates and containers, with sleeping and other accommodations included.
- e) OFFICE SPACE FOR TRANSPORT COMPANIES - Suitable facilities, including communication equipment, would make it possible for trucking companies to coordinate their activities and facilitate negotiations with date buyers.

- f) FACILITY FOR MANUFACTURING GROWER BOXES - A facility for making boxes from lumber transported in bulk from the Sind or Punjab would make the project especially attractive to buyers. These would be sold to buyers, growers and the auction market.
- g) STORAGE TANK FOR WASH WATER - Municipal facilities would be overloaded by the large water requirements of the above facilities.
- h) SECURITY - Proper arrangements must be made for housing security personnel, as well as for protecting their equipment.
- i) PRIORITY AIR TICKETING - Seats are not available immediately from other sites in Pakistan to Turbat and Panjgur. Arrangements must be made with PIA to give priority to date buyers during the date procurement season.
- j) TECHNICAL ASSISTANCE - Growers should become familiar with date grades acceptable to buyers. They should also be familiarized with fumigation techniques and methods for packaging and storing dates following fumigation.
- k) AUCTION MARKET MANAGEMENT - A five-man board would be constituted, representing growers and buyers, with the auctioneer sitting as a non-voting member. Their responsibilities would include: Possible use of the market for auctioning other products outside the season for marketing dates; establishment of user charges such as the price of grower boxes and prices of accommodations or storage; disciplining any member accused of irregular practices; overseeing security,

maintenance and cleanliness of all facilities;  
admission of additional auctioneers; and dealing with  
problems such as utilities and access

## 2. Project Investment Costs

Municipal authorities in Turbat and Panjgur should be willing to furnish suitable space for auction markets at no cost to the project, provided they obtain assurances that the space will be employed for the purpose intended. (For the purpose of the following financial calculations, a value of Rs. 2,000,000 is imputed to this contribution). Some cost may be involved in razing and relocating existing municipally-owned facilities, and some land might have to be purchased by the project if the land made available by the municipalities should be inadequate for the facilities listed below. A sum of of Rs. 1,000,000 should be budgeted for these purposes.

Buyer storage would not be chargeable to the project since this will be constructed in the vicinity of the auction market from the buyers' own resources. They would also install fumigation facilities, and at a later date further preprocessing facilities (see Annex 1).

A communications center available to both buyers and growers would involve construction costs of a 21 X 14 ft. room, Rs. 250,000; and equipment valued at Rs. 150,000. The facility would not earn income for the project.

Accommodations for growers -- an open shed with sleeping, washing and kitchen facilities would cost Rs. 300,000. A godown to stack 200 grower-owned field boxes would cost an additional Rs. 250,000. Growers would be charged for the use of these services. This project component should become self-sufficient over a three-year period.

Accommodations for buyers, including sleeping accommodations for five persons, meeting and dining space would cost Rs. 1,000,000. This facility could be leased to a private manager and perhaps sold at some future date, since buyers will begin to construct their own living facilities. This project component should become self-sufficient over a three-year period.

Office space for transport companies would cost Rs. 250,000. The facility would not earn income for the project.

Living facilities for security personnel and space for their equipment would cost Rs. 250,000. The facility would not earn income for the project.

A box making facility of the order of 500 boxes/day over the date buying season, using manually operated equipment would represent an investment cost of roughly Rs. 500,000. This project component should become self-sufficient over a three-year period.

Overhead tank for additional water for the above, and distribution facilities for it would cost Rs. 150,000. This project component would not earn income for the project.

Investment costs would thus sum to Rs. 4,100,000 at each auction site, of which Rs. 800,000 would represent investment that would not earn income for the project.

### 3. Variable costs

Operational costs of the above facilities could be budgeted at no more than Rs. 500,000 annually, since accommodation and storage costs would be largely reimbursable.

Security costs over a four-month date marketing season would be Rs. 50,000. Maintenance of grower box inventory would amount to

Rs. 50,000 per year. Assuring priority to date merchants on round trips to Turbat and Panjgur during the same period should represent no cost to the project.

Technical assistance costs would depend to some extent upon soliciting cooperation of date buyers concerning grading of dates. If this were assured, it could be supervised during the course of the buying season by one project technician. Fumigation techniques could be taught in one ten-day session per season by a certified fumigation firm. Thus technical assistance could be budgeted at Rs. 100,000. Technical assistance could be discontinued after three years.

Variable costs would thus sum to Rs. 650,000 per season, exclusive of overall project management (loan collection and reporting).

The above figures would have to be doubled if auction markets were to be established at both Turbat and Panjgur.

#### 4. Implementation Arrangements

Both growers and buyers must be involved in assuming some share of project costs at the outset, and in reimbursing investment costs as well. Growers must be convinced of their financial stake in the auction market. A workable formula might be 1/3 for the former and 2/3 for the latter. This would imply that growers would be responsible for an investment of some Rs. 1,300,000. They should be asked for a down payment of Rs. 300,000 and reimbursement of an additional million Rs. over a ten-year period at commercial bank rates.

Buyers will require little persuading to meet their share of loan-funded project costs, since loan amortization would represent only a fraction of their current outlays in obtaining

dates under the inefficient marketing system now prevailing in the Makran. Loan management will be offered to a commercial bank. The bank would charge a commission of 5% of the outstanding balance for performing this service.

Project supervision will be discontinued after three years, and services such as maintenance and security would be transferred to the auction market. As buyers and growers develop interest in developing their own on-site fumigation, storage, and other facilities, amortization of loans could be recycled to finance individuals for this purpose.

On the assumption that the auction market will handle 250,000 field boxes, gross auctioneer income would be Rs. 750,000 per season. Of this, the project would charge the auctioneer Rs. 75,000.

Project financial flows could thus be summarized as follows:

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4 &amp; Following</u>
	(Rs. 000)			
Municipality (kind) 2000	-	-	-	-
Growers (cash) 300	-	-	-	67*
Buyers (cash) 600	-	-	-	133*
Growers (loan) 1000	-	-	-	-
Buyers (loan) 2200	-	-	-	-
Project var. cost	<u>700</u>	<u>700</u>	<u>700</u>	<u>-</u>
Total	6800	700	700	200
Project earnings	190	420	508	**
Loan amortization	-	-	-	-
Buyers	-	422	422	422
Growers	-	192	192	192
Auctioneer earnings	300	525	636	750
Project supervision	360	360	360	130***

\* Security, maintenance and field boxes.

\*\* Rs. 445 plus 10% of auctioneer earnings

\*\*\* Project promotion for three years, and loan supervision by private bank (5% of outstanding loan balances).

Memorandum Item: Donor Contribution estimated to be 5160 the first year, 1008 for the second and third year and 130 for year 4 and following.

At least three self-sufficient businesses would result from the project: accommodations for growers and for buyers, and box making facility. Over time, the communications center and office space for transporters might also become self-sufficient.

## 5. Financial Analysis of the Project

The financial benefits of the project can be computed in two ways:

- 1) As income flows to and from the project over a period of ten years,
- 2) Including with the above financial benefits to growers, buyers and auctioneers.

The costs and benefits can be computed from the data presented above. It is assumed that saleable property is disposed of after ten years, depreciated in the case of the rest house for growers. This computation yields an internal rate of return to the project of 2% annually.

The costs and benefits to auctioneers are computed in accordance with the assumptions shown on the table on page 10. It is assumed that 100,000 boxes of dates will be auctioned in the first year, rising to 250,000 in the fourth year and by 5% per year thereafter. It is also assumed that loans by the project to buyers and growers will carry an interest rate of 14%, and loan amortization amounts are deducted from gross earnings of buyers and growers. The price before the auction is the current 1991 price of Rs. 75/box. Additional costs to buyers are currently Rs. 28/box. The auction price is Rs. 95/box, and savings to buyers by employing the auction system are shown on the table.

The investment and cost figures take into account the contribution in kind by the municipality, cost of security, and loan collection costs paid to a private bank. These assumptions

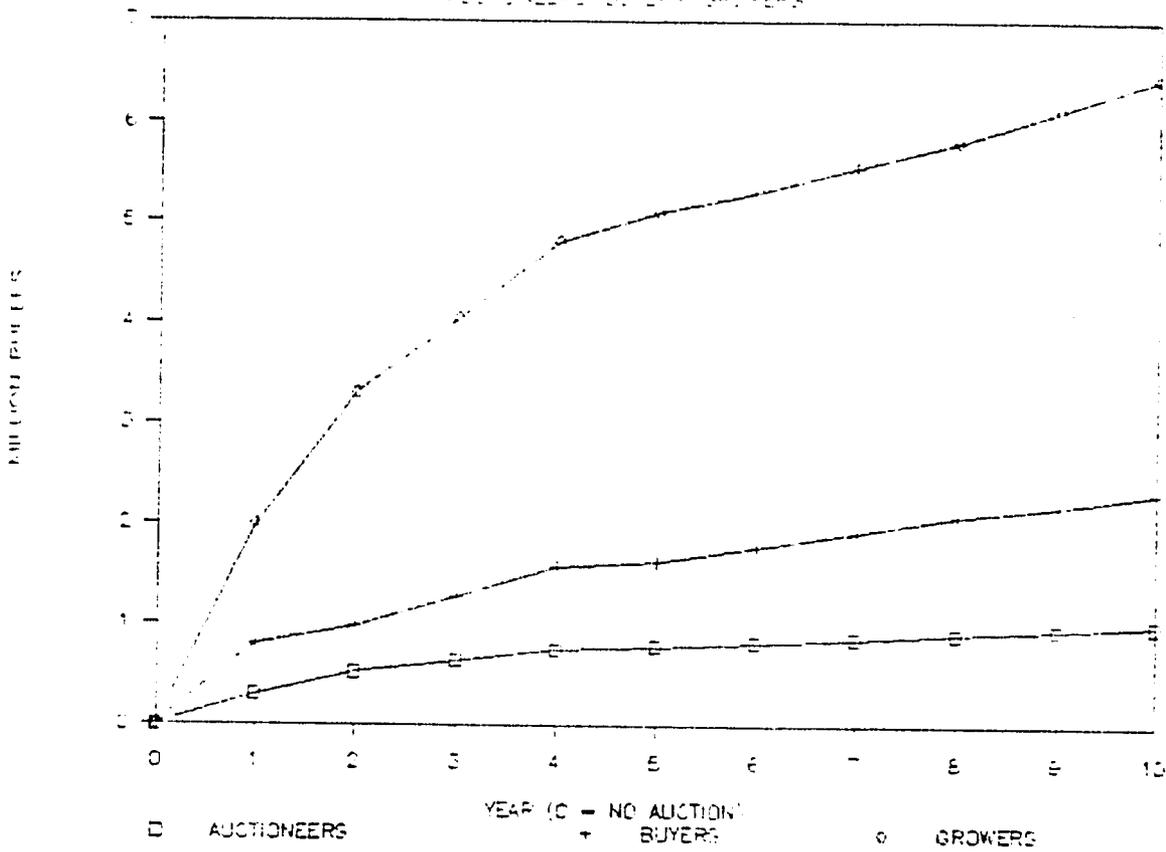
yield a total rate of return, including benefits to growers, buyers and auctioneers of 72% per year.

#### 6. Interest of Other Donors in the Project

The AID-funded BALAD project will terminate in December 1991. The date auction market project could then be undertaken by the UNDP/ADE Fruit and Vegetable Marketing Project. It should also be interesting to other donors such as the Private Enterprise Development Bureau of the US Agency for International Development.

# EXTERNAL BENEFITS FROM DATE AUCTION

AUCTIONEERS BUYERS GROWERS



BEST AVAILABLE DOCUMENT

EXTERNAL BENEFITS FROM DATE AUCTION MARKET  
THOUSANDS

YEAR	VOLUME	AUCTION	BUYERS	GROWERS	BUYER+	GROWER+	BUYER@	GROWER@
0	100	0	10332	7500	0	0	0	0
1	100	247	8511	8511	812	2121	812	2000
2	175	553	13022	11022	1102	2811	1102	2702
3	250	1000	17533	15533	1553	4121	1553	4121
4	325	1457	22044	19044	1904	5031	1904	4802
5	400	1914	26555	23555	2355	5941	2355	5092
6	475	2371	31066	28066	2806	6851	2806	5902
7	550	2828	35577	32577	3257	7761	3257	6812
8	625	3285	40088	37588	3758	8671	3758	7722
9	700	3742	44599	42099	4209	9581	4209	8632
10	775	4199	49110	46610	4661	10491	4661	9542

VOLUME = GROWER VOLUME  
 AUCTION = AUCTIONED BARS ONLY  
 BUYERS = DEBT OF DATE  
 GROWERS = RECEIPTS FROM SALES OF DATES  
 BUYER+ = COMPARISON WITH PRE-AUCTION YEAR  
 GROWER+ = COMPARISON WITH PRE-AUCTION YEAR  
 BUYER@ = AFTER DEBT AMORTIZATION  
 GROWER@ = AFTER DEBT AMORTIZATION

BEST AVAILABLE DOCUMENT

ANNEX 1  
PROJECT PROFILE FOR A PROCESSING  
FACTORY

**ANNEX I:**  
**PROJECT PROFILE FOR A PREPROCESSING FACILITY**

**1. Introduction**

Market opportunities for dates grown in the Makran will be enhanced if they are preprocessed in the area prior to shipment. Such a unit would encourage growers to expand production and improve quality. Moreover, buyers would have greater confidence in quality, price and weight of the preprocessed dates. Moisture loss, in particular, would not present the problem which it now does with unprocessed dates.

In 1965, a processing unit was established at Turbat, with World Bank funding. This unit was initially operated by expatriate technicians. In 1967, it was turned over to the growers' association, but the enterprise soon failed due to the growers' inability to attract managers with necessary technical and business know-how. After standing idle for some years, the Federal Government attempted to rehabilitate the plant and once more failed for the same reasons, returning the plant to the growers' association. Then in 1988, the growers' association leased the plant at a nominal fee for ten years to a local businessman.

The plant re-opened and processed a few tons of Begum Jangi dates during 1989-90, attempting to sell them in retail packs for consumption in Pakistan. The quality of these was too low; the enterprise proved to be unprofitable; and the plant was soon closed. The lease, however, still remains in the hands of the latter and still has seven more years to run. There is apparently no ready way for the growers' association to revoke the present lease.

## 2. Description of the Existing Plant

The processing facility at Turbat is technically as good as any such plant in Pakistan. It is located on four acres of prime city land. The covered area is 7,000 square feet. The plant is equipped with a standby diesel generator; six well-designed fumigation chambers; an initial grading line [endless belt with PVC food-grade coating]; washing conveyor with pressure nozzles providing 60 psi of pressure, produced by a modern pressure tank; blow dryer conveyor with four 24" fans; a final grading conveyor with dividers; a belt conveyor retail packing line with semi-automatic packaging machine; a hopper for bulk packing; and a macerating machine. This latter unit automatically removes pits and caps for producing high-quality chopped dates. All of the above equipment is currently in excellent operating condition. The plant lacks only curing facilities, but this deficiency could easily be remedied at low cost.

The capacities of the unit processes in this plant are imbalanced. It can produce only 3 tons of washed whole dates per 8-hour shift, whereas the capacity of the macerator is 5 tons. The bulk packing unit can pack 3 tons, and the capacity of the retail packing unit is 2 tons. Thus there is a considerable bottleneck in washing and grading as compared to packing capacity.

An expert consultant hired by the BALAD project was assigned to the plant in 1989 and recommended that retail packing be discontinued in favor of the then-idle bulk packing facilities. As indicated above, this advice was disregarded and the plant closed for lack of a market for its product. In the absence of suitable technical and business know-how, this plant will continue to be idle.

### 3. Alternate Possibilities

One alternative to the present deadlock is for one of the existing date processors to integrate the Turbat plant with its existing operations at Karachi or Sukkur. Another is for one of the date buyers to construct a completely separate unit which would fumigate, wash, cure and bulk pack whole dates prior to shipment from Turbat.

Assuming that a date auction market is established at Turbat so as to assure continuity of supply of good-quality dates, an efficient pre-processing unit would be of the order of 10 tons per day capacity. It would operate over a 60-day period.

Buildings for fumigation and storage would be unnecessary because the dates could be brought directly from the market to the plant and fumigated in an open space under plastic (see Annex II). The covered area required for washing, curing, packing and storing the finished product would be 10,000 square feet. A covered waterproof shed with a solid concrete floor providing adequate drainage would serve for this purpose.

The cost of this facility would be of the order of Rs. 2,200,000, distributed as follows:

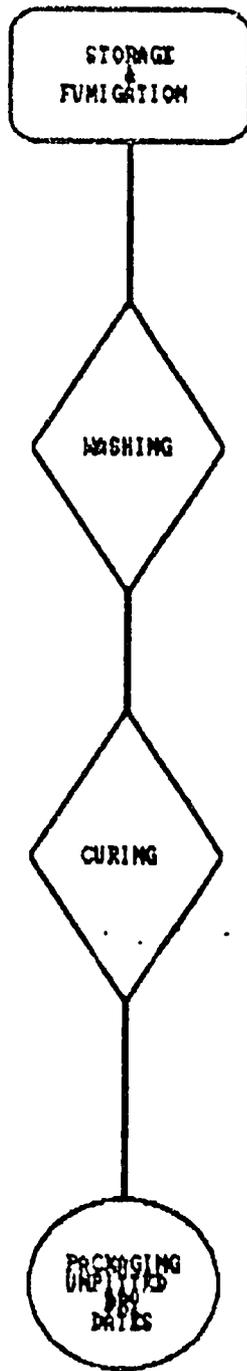
- a) LAND 1/2 acre: Rs. 100,000
- b) CONSTRUCTION: Rs. 1,500,000
- c) WASHING UNIT, WITH VIBRO CONVEYOR: Rs. 125,000
- d) CURING ROOM WITH MATERIALS HANDLING EQUIPMENT: Rs. 300,000
- e) ACCESS AND UTILITIES HOOK-UPS: Rs. 100,000.

If dates can be acquired at Rs. 95 per box, the semi-processed product could easily be sold at Rs. 125 f.o.b. Turbat. Allowing for 10 laborers @ Rs. 1000/day, and for other variable costs (utilities, packaging) even assuming that it would operate at

only 1/2 capacity during the first year, such a business would earn in excess of 25% per year over a five-year period. Thus one can confidently predict that if the existing plant at Turbat does not recommence operations soon after the initiation of an auction market in that city, it will be faced with a swarm of low-cost competitors. These will supply so much of its potential market for semi-processed dates that they might then prevent it from operating as a viable enterprise at any time in the foreseeable future.

**BEST AVAILABLE DOCUMENT**

# PREPROCESSING FACILITY



BEST AVAILABLE DOCUMENT

ANNEX 2  
FUMIGATION METHODS

## ANNEX II. FUMIGATION METHODS

### 1. Introduction

As indicated above (Chapter I) dates in Pakistan are attacked by insects which lay eggs in the fruit while growing and drying. No insecticides are employed by date farmers to protect the growing fruit, so harvested dates must be fumigated within a week after picking and be protected thereafter from insects which might reinfest the product by further fumigations. Otherwise they will be unacceptable to both local consumers and foreign buyers.

### 2. Fumigation Chemicals

Methyl bromide is the traditional fumigation chemical. This chemical is still employed for fumigating spices in the United States and is classified by the US Food and Drug Administration (FDA) as a Generally Regarded as Safe (GRAS) compound, since it had been commercially used prior to passage of the Delaney Amendment to the Food & Drug Act that bans all chemicals for food use which in any amount has been shown to cause cancer in experimental animals.

But date buyers in the United States and elsewhere are becoming increasingly concerned about methyl bromide residues in dates, since these are consumed in amounts much greater than are spices, and it is a halogenated hydrocarbon which could be carcinogenic if ingested by humans. Class action lawsuits against purveyors of foods containing such substances could be extremely expensive to them. Methyl bromide is therefore no longer recommended as a fumigant for dates, at least for export to anglo-saxon countries.

Phostoxin will destroy live insects and their eggs and if properly used is harmless to both processing workers and consumers of the dates. Phostoxin destroys insects and their eggs on field boxes, but it is ineffective in destroying many yeasts, molds and spoilage bacteria. Methyl bromide, on the other hand, is an effective fungicide. But it is fatal if inhaled, even in parts per million.

Experimental work on irradiation of foods in the United States has shown excellent results in destroying spoilage microorganisms, insects and insect eggs. Irradiation has been approved by the FDA for use in all foods. The advantage of irradiation is that it uses no chemical compounds that might leave residues of any kind; and once the equipment has been installed, its operating cost is virtually zero. Furthermore it is harmless to operatives at the irradiation site. But the product to be irradiated must be thinly spread in order to permit its penetration by the lethal rays in order for irradiation to be effective. Some Pakistani date exporters are considering use of irradiation although none have so far purchased and installed irradiation equipment.

### 3. Timing of and Procedure for Fumigation

- a) AFTER PROCUREMENT: Fumigation must be performed within one week after the product is procured. Phostoxin is highly toxic when landing on the skin or inhaled, so fumigation is performed under airtight (high density polyethylene sheets) or preferably in a sealed masonry chamber. The field boxes must be stacked so as to permit free circulation of the fumigation material. In practice, this means a gap of 4-5 feet between stacks. Sand bags are placed over the plastic sheeting in order to prevent the gas from escaping.

For the first dosage after use, 90 tablets (270 grams of phostoxin) are employed per 1000 cu. ft. of product and packaging material.

- b) REFUMIGATION: The product must be refumigated in the same fashion after 5-6 weeks. Only 45 tablets of phostoxin are used at this time. Packaging materials must also be refumigated.
- c) FUMIGATION PRIOR TO EXPORT: The container must be fumigated with the above dosage before and after loading.

ANNEX 3

DATE MARKETING FIRMS IN PAKISTAN

**Annex III.**  
**Date Marketing Firms in Pakistan**

<u>Company Name &amp; Manager</u>	<u>Location</u>	<u>Telephones</u>	<u>Fax</u>
SABAH CORP.	Karachi	Office 021 2414268	2414285
Mr. Bashir		2413691	
Mr. Haroon		2414268	
		Factory 021 295394	
CANAMEAN	Karachi	Office 021 2417467	2416593
Mr. A. Khalil		2419363	
		Factory 021 295394	
LIPTON PAKISTAN	Karachi	Office 021 520241-9	510918
Mr. Ikramullah		510762	
Mr. Azimuddin Khan		Factory 0792 2594	
		84071	
SAHARA FOODS	Karachi	Office 021 2417798	2417409
Mr. E. Manzoor		2413154	
		Factory 071 60554	
		60660	
INTERNATIONAL MULTIFOODS	Karachi	Office 021 522054	523010
Dr. M.A. Chaudhry		522098	
		528010	
		Factory 071 60843	
		60844	
OASIS CORP.	Karachi	Office 021 2416065	
Haji Iqbal		Factory 071 60813	
		84504	
DYNASEL PRIVATE LTS.	Karachi	Office 021 573961	9221570537
A. Laique	Lahore	042 871933	
	Rawalpindi	051 63969	
	Factory	021 654141	
NOORFOOD PRODUCTS LTD.	Karachi	Office 021 2419682	410911
Umer Yusuf		2416743	
Umer Munir			

QUARI ABDUL RAHIM Salim Paracha	Karachi	Office	021	221265 222713
REHMAT ENTERPRISES	Karachi	Office	021	221567 224821
REHAN & CO. Mohammad Hanif	Karachi	Office	021	23035-8
PAK. EXPORT ENTERPRISES	Karachi	Office	021	238597
Haji Peer Buksh. Fazal Rahim	Karachi	Office	021	231204 230758 736971
FUGURA ENTERPRISES	Karachi	Office	021	513981 510632 512051
SIND & PUNJAB TRADERS	Karachi	Office	071	83756 6883 6880

ANNEX 4  
DATE IMPORTING FIRMS IN BUYER  
COUNTRIES

ANNEX IV.  
DATE IMPORTING FIRMS IN BUYER COUNTRIES

1. Introduction

The major importing countries from Pakistan (in order of importance in 1991) are: USA, UK, Canada, Australia, Denmark and Netherlands. The principal importing firms in these countries are as follows:

USA

Bonner Packing Co., P.O. Box 12148, Fresno CA 93776  
Lawnelson Corp., P.O. Box 705, Fairfield CT 06430-0705  
Sunny Rock Food, New York, NY  
Nisco Inc., 103 Washington St. Suite 375 Morristown NJ 07960  
Fleischman Yeast Co., 222 Sutter St. San Francisco CA 94801  
American Importing Co., 173 Glenwood Ave. Minneapolis MN 55405

UK

Landham Produce, Pepys House, 14 Cooper Row London EC3N2B9  
Poultmas Dry Fruit Ltd., 56-58 High St. Sutton, Surrey SM11E2  
Colman's of Norwich, Burlington La. London W42RW  
Dennis Ciclitira Ltd. Capital House 6-62 Leman St. London E18E4

Canada

Straton Trading Co., 430 King St., Toronto, Ont. M5U1L5  
J.S. Khazam, 360 St. James St., Montreal, Que. H2Y1P5  
Johnson JB Coffee & Food, 88200 N. Brook Ct. Burnaby BC U5J5G1  
Balcorp Ltd., 4103 Sherbrook St. W., Montreal, Que. H3Z1A7

Australia

Jorgenson Waring, Ltd. 492 Kilda Rd., Melbourne Vict. 3004

Nut Trading Co. Pty. Ltd. P.O. Box Q2011, Sydney NSW 2000

Denmark

B.K. Food Ejby Industrive DK2600 Glostrup

Nordisk Andelsfor Bund Vester Farimagsgade DK1606 Copenhagen

Danish Natural Food Frejasvej 42 3400 Hillerod Giro 2597500

Netherlands

Mcm Maarten, Catz Merchandising Co., P.O. Box 140, 3100 AC  
Schiedam

ANNEX 5  
STANDARDS FOR GRADES OF DATES

Annex V.  
STANDARDS OF GRADES FOR DATES

1. Introduction

Dates, grown from Phoenix dactylifera, are subject to minimum and grading standards in a number of countries. Voluntary standards for grades of dates were issued by the United States Department of Agriculture under the authority of the Agricultural Marketing Act of 1946. In 1981, the Health Protection Branch, Ministry of Agriculture of Canada issued mandatory standards for determination of extraneous material in unprocessed and processed dates. The Organization for Economic Cooperation and Development issued a compilation of provisions concerning the marketing and commercial quality control of dates provided by member countries, indicating a number of variations which have yet to be harmonized (no date).

In this annex we summarize the three documents for ready reference.

2. Summary of Major Provisions

a. Purpose of Standards

- US: To serve as a basis for the inspection and grading of domestically produced and imported dates by the Federal Inspection Service. This service is offered to interested parties, upon application, on a fee-for-service basis. A grade can be assigned by the Service based on product factors or characteristics.
- CAN: To determine compliance with the Food and Drugs Act.
- OECD: To provide a general guide for commercial quality control of dates moving in trade between and to European countries.

b. Products Covered by Standards

US: Whole unpitted dates  
Pitted dates  
Date pieces  
Macerated dates  
Dry dates for processing (have not been softened by hydration).

CAN: Unprocessed dates  
Processed dates.

OECD: Whole unpitted dates  
Processed dates (dates prepared from fruit in its natural state by drying, hydration, washing or pasteurization)

c. Products Excluded from Standards

US: None.

CAN: None.

OECD: Dates for processing, pressed dates or frozen dates.

d. Quality Grades

US: US Fancy  
US Choice  
US Grade B (dry) for processing  
US Standard  
US Grade C (dry) for processing  
Substandard.

CAN: None

OECD: Extra Class  
Class I  
Class II  
Not meeting minimum requirements.

e. Ascertaining the Grade

US: Factors of quality include:

	<u>Points</u>
Color	20
Uniformity of size	10
Absence of defects	30
Character	40.

Each factor of quality is separately described for: whole and pitted dates, whole dry dates for processing, and other categories.

CAN: Defective dates  
Acceptable dates

OECD: Both general character classes and specific defect tolerances. These latter include: sour, decayed or mouldy fruit, dirty fruit, or fruit contaminated by insects and mites, damaged, immature or unpollinated fruit and blemished fruit. Grade tolerances are assigned by adding the percentage of fruit containing each defect to a total number of points for each grade (5% for Extra, 10% for Class I and 20% for Class II).

The distinguishing characteristic of the OECD standard in this regard is a preceding list of "minimum requirements". All dates must be:

- intact,
- unaffected by rotting or deterioration such as to make it unfit for consumption,
- practically free of any visible foreign matter,
- ripe, plump and plastic,
- free of any living insects or living parasites,
- free of visible damage by insects, mites or parasites,
- free of mould,
- free of any foreign smell and/or taste,
- free of fermentation,
- in condition to withstand transport and handling, and to arrive in satisfactory condition at the place of destination.

#### f. Good Color

US: Color is practically uniform; and with respect to whole or pitted dates that are predominantly light amber in color there may be no more than 5% (Fancy), 10% (Choice) that are dark amber in color. With regard to macerated dates, the units may be slightly dull but not off-color.

CAN: No standard

OECD: Dates of "superior" class must have the color characteristic of the variety and/or commercial type (no allowance for lack of uniformity).

#### g. Uniformity of Size

US: Applies to only whole and pitted styles. As in the case of color, a sliding scale is applied. A limiting rule of 20%, by weight must not be conspicuously larger or smaller than the average size of the dates in the container.

CAN: No standard.

OECD: Irrespective of the variety, the minimum weight of the date shall be 4.75 gm. For all classes 10% by weight must be 4-4.75 gm. A limiting factor for all classes is 4 gm.

#### h. Defects

US: A long list of defects are allowable, up to 10% of the weight of the dates for Fancy. But there a shorter list of limitations which cannot exceed 6%, and an even shorter list of extreme limitations which cannot exceed 4%. Finally, no more than 1% by weight of the dates can be affected by decay.

- discoloration
- broken skin
- checking
- deformity
- puffiness
- scars
- sunburn
- insect injury
- improper hydrating
- mashing
- mechanical injury
- lack of pollination
- blacknose
- side spot\*
- black scald\*
- improper ripening\*!
- serious damage by checking
- serious damage by puffiness
- souring\*!
- mold\*!
- dirt\*!
- insect infestation\*!
- foreign material\*!
- decay\*!#
- other defects\*!

\* limitations list !shorter list # 1% list

- CAN: Provides a sampling plan and inspection procedures for:
- Insect damaged
  - Mite infested
  - Mouldy or sour
  - Dirty
  - Worthless (so immature, woody or fibrous as to be practically valueless as human food)
  - Multiple defectives (more than one of the above)

The lot shall be considered in compliance when not more than two of eight analytical units examined have defective dates in excess of 8% and none of the eight analytical units examined has defective dates in excess of 12% per analytical unit.

- OECD: Makes no allowance for sour, decayed or mouldy fruit for higher grades; allows 1% for Class II'. Allows a sliding scale 3-8% for dirty fruit; 2-6% for damaged, immature or unpollinated fruit and 3-7% for blemished fruit.

#### i. Character

- US: "Good character" is determined by:
- well developed
  - well fleshed and soft, or packed such that within 15 days they will develop such character.
  - not more than a total of 2% by weight may possess semi-dry calyx ends and none may possess dry calyx ends.

In order to establish grades, points are given up to a total of 40 points (see item e., above)

- CAN: No character standard.

- OECD: Flesh must be abundant, fat or semi-fat, and greasy. The epicarp must be translucent and, according to the variety, adhering to the flesh.

ANNEX 6

DAILY RAINFALL AT SUKKUR JULY 15  
THROUGH AUGUST 19, 1976 - 1990

j. Moisture content

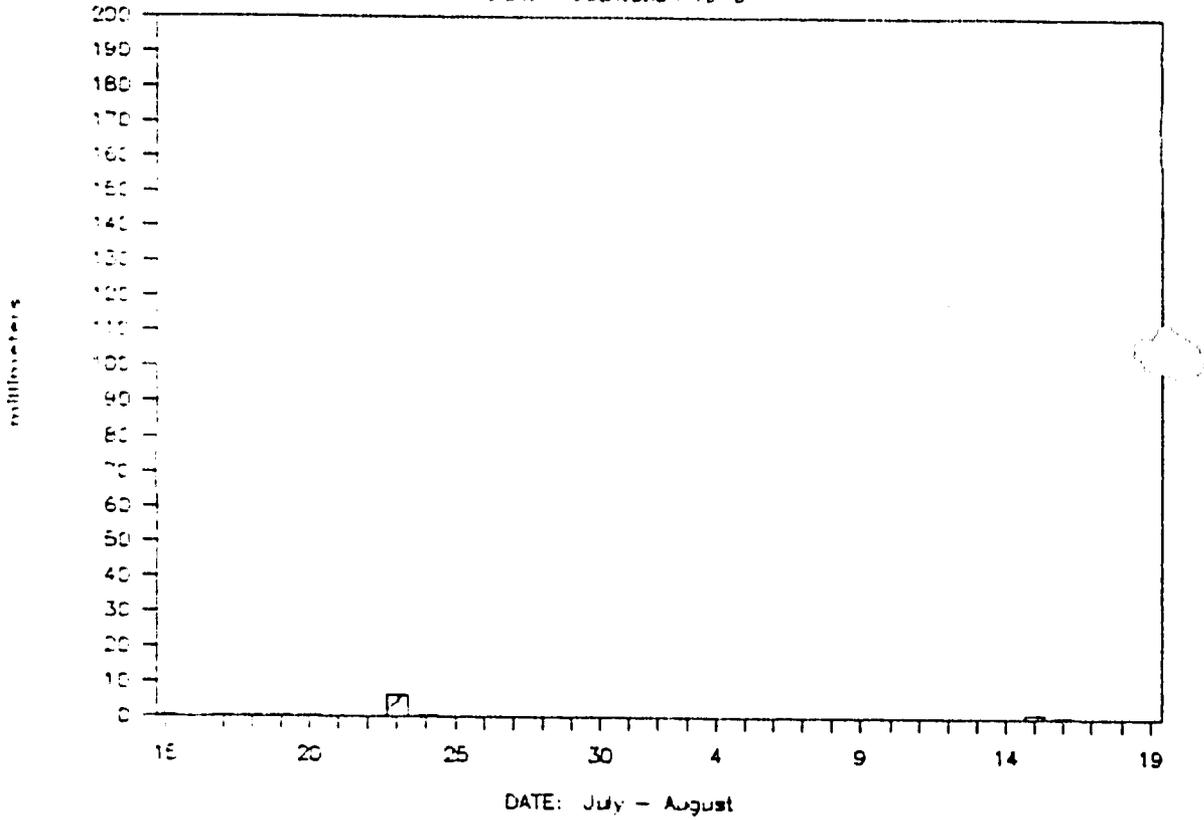
US: No standard, except for improper rehydration.

CAN: No standard

OECD: Not to exceed 26% for cane sugar varieties or 30% for invert sugar varieties. This standard applies to all classes.

# SUKKUR

Daily Precipitation 1976

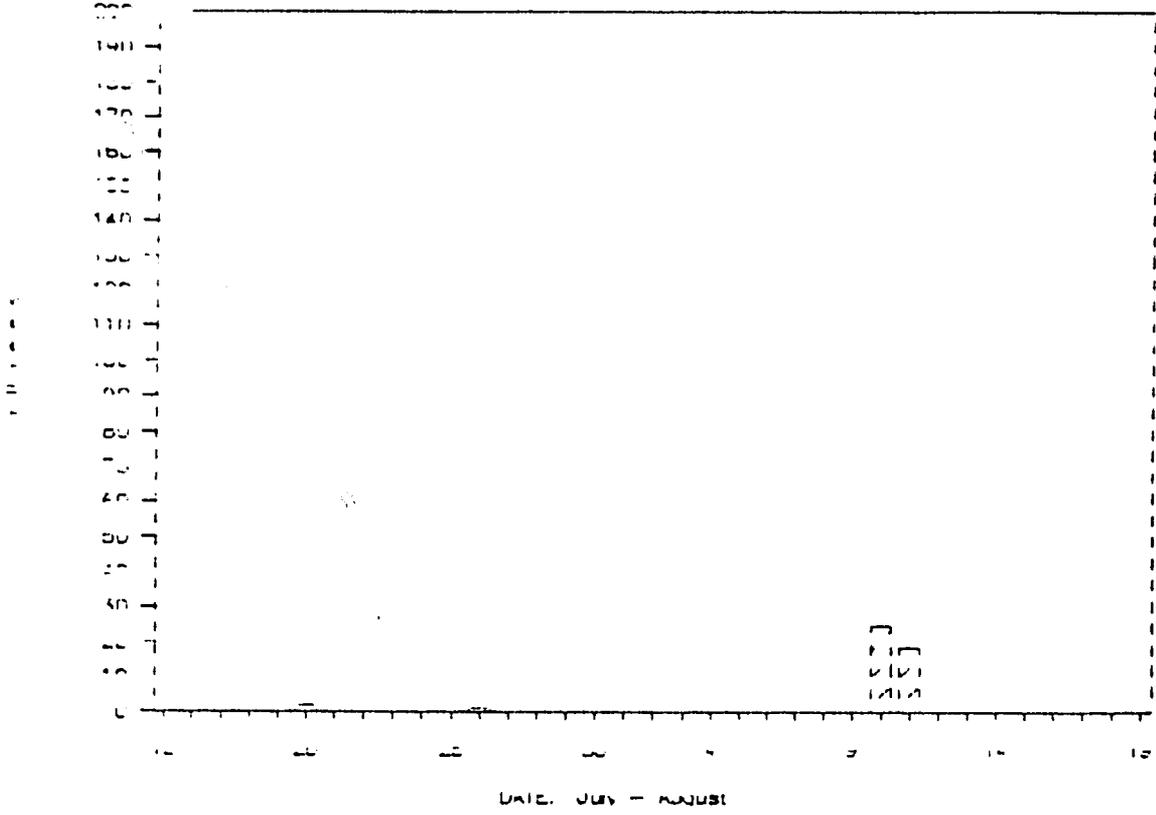


Twenty-four hour rainfall data

Source: Pakistan Meteorological Service  
Monthly Meteorological Registers for the Rohri Station,  
Sukkur 1976-1990

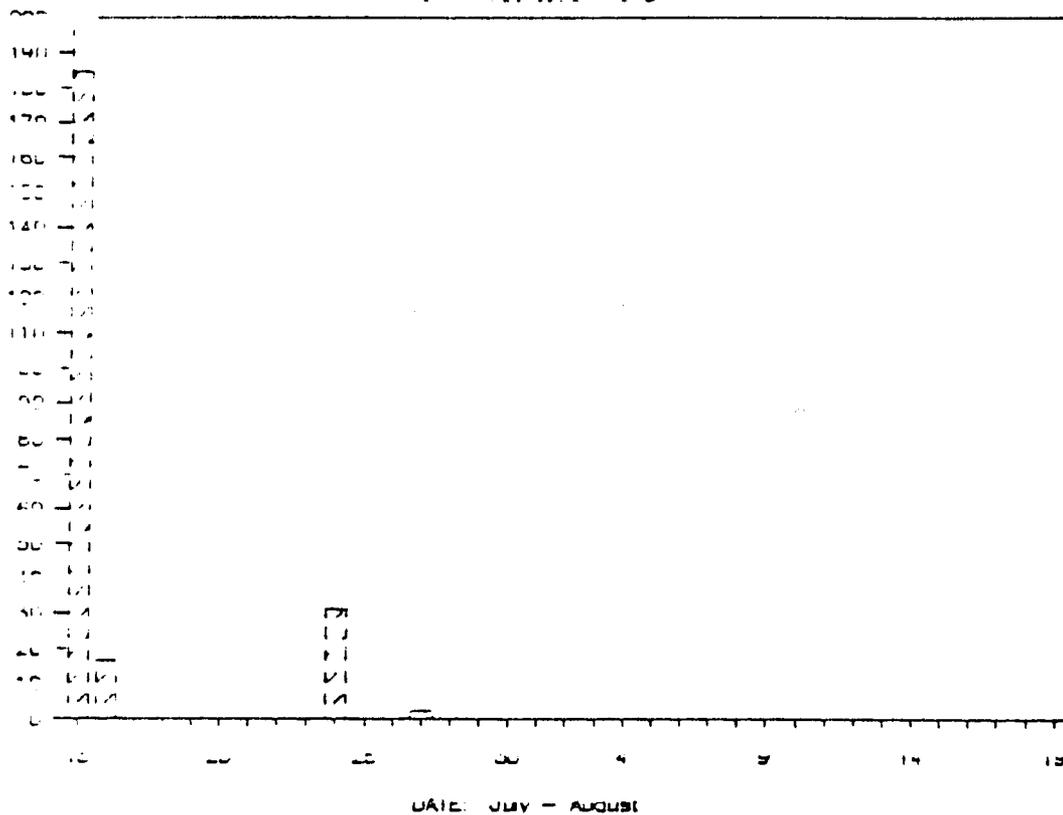
Kindly supplied by the Karachi Regional Meteorological  
Center, Karachi Airport

SUNRISE  
Daily Precipitation 1977



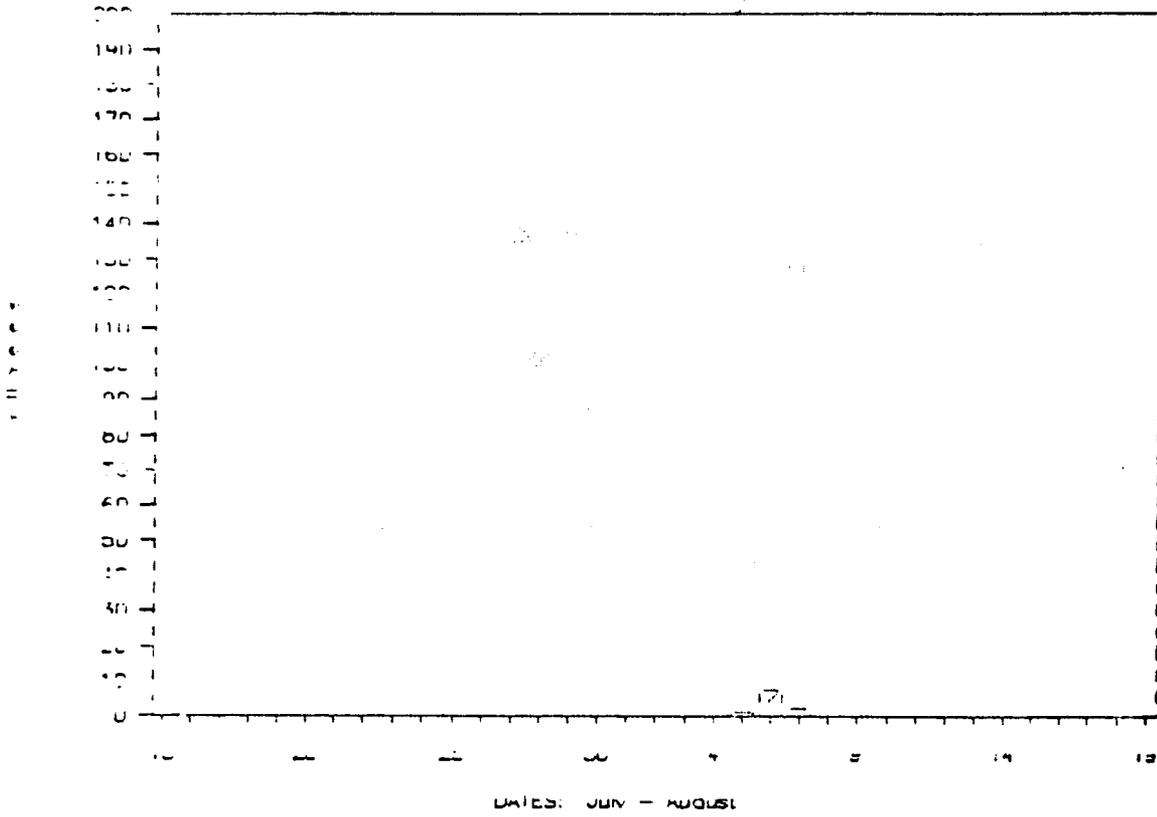
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SUNRISE  
 Daily Precipitation 1979



**BEST AVAILABLE DOCUMENT**

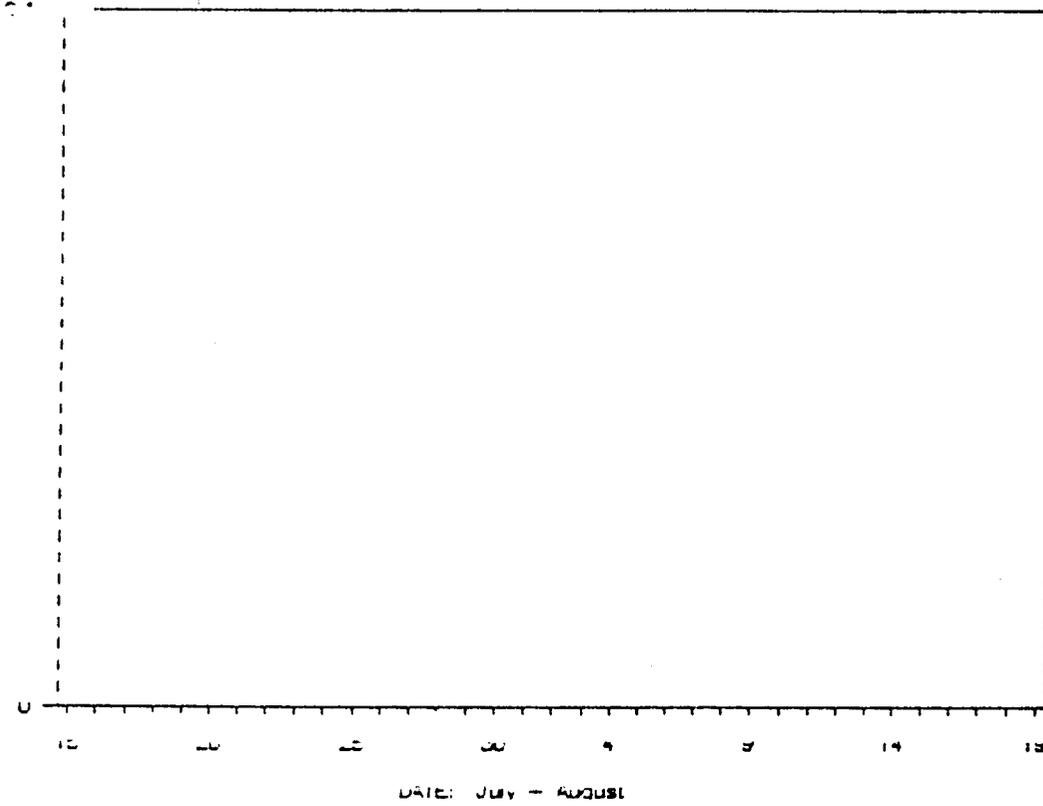
CLARK  
CLARK  
Bell, December 1990



BEST AVAILABLE DOCUMENT

STATION ID:  
DATE: Precipitation 1980

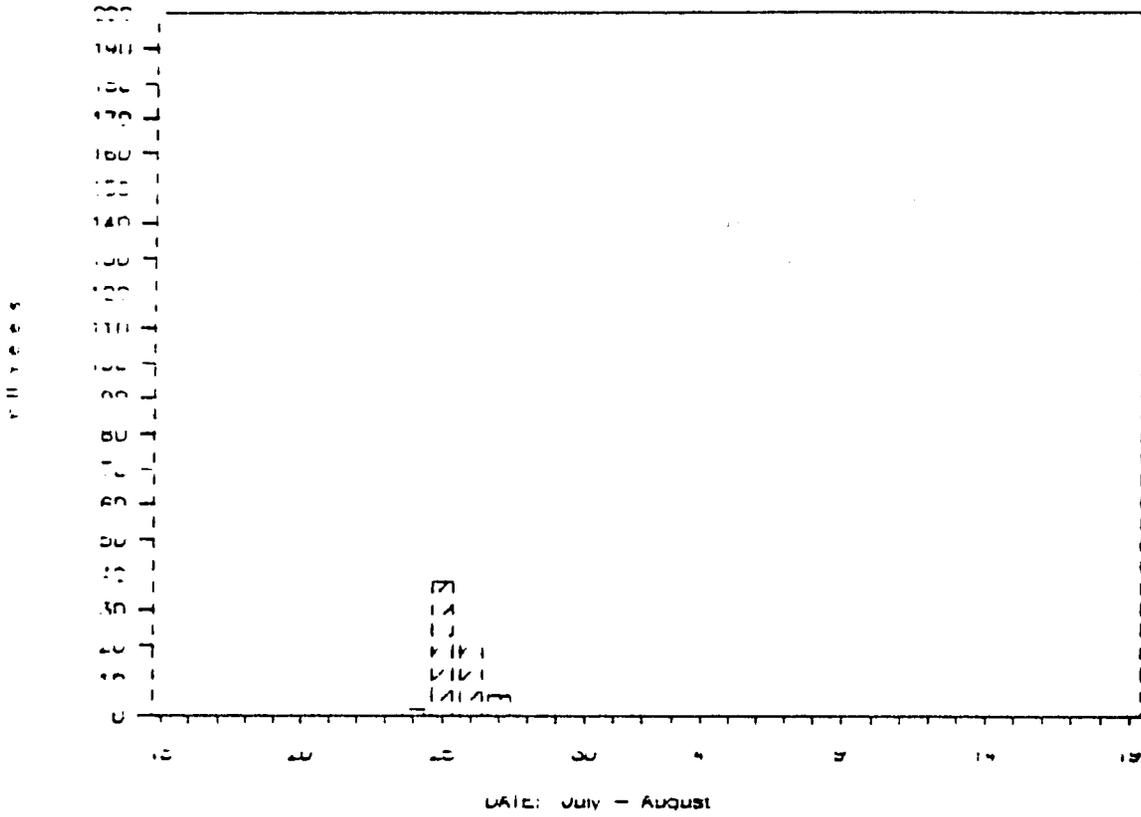
INCHES



BEST AVAILABLE DOCUMENT

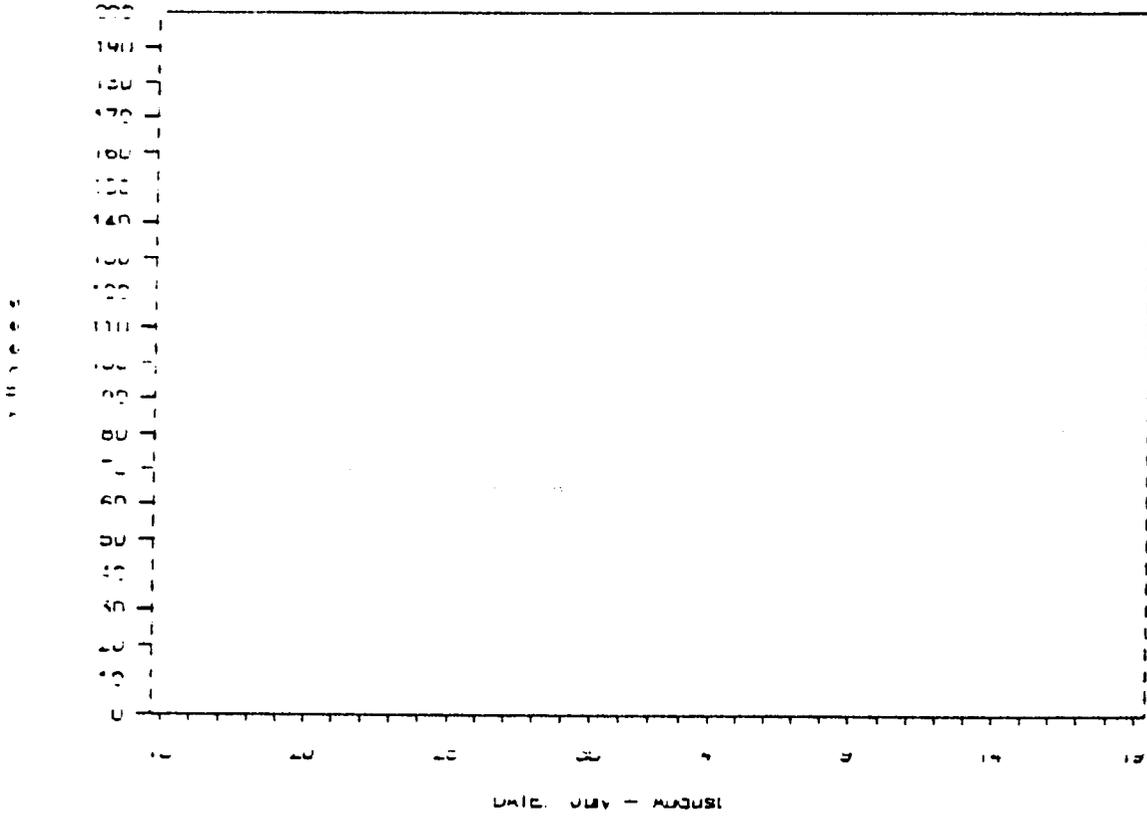
STARKER

Day Precipitation 1991



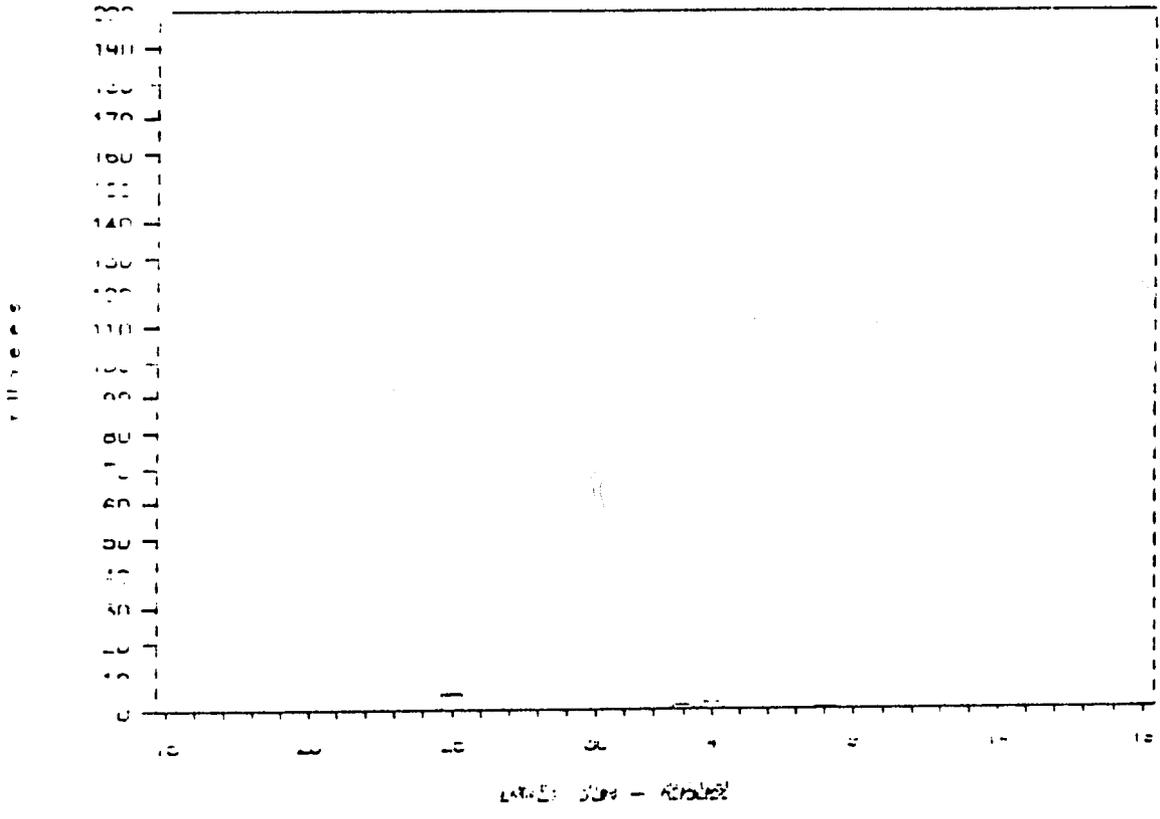
BEST AVAILABLE DOCUMENT

SUMMER  
Daily Precipitation 1962



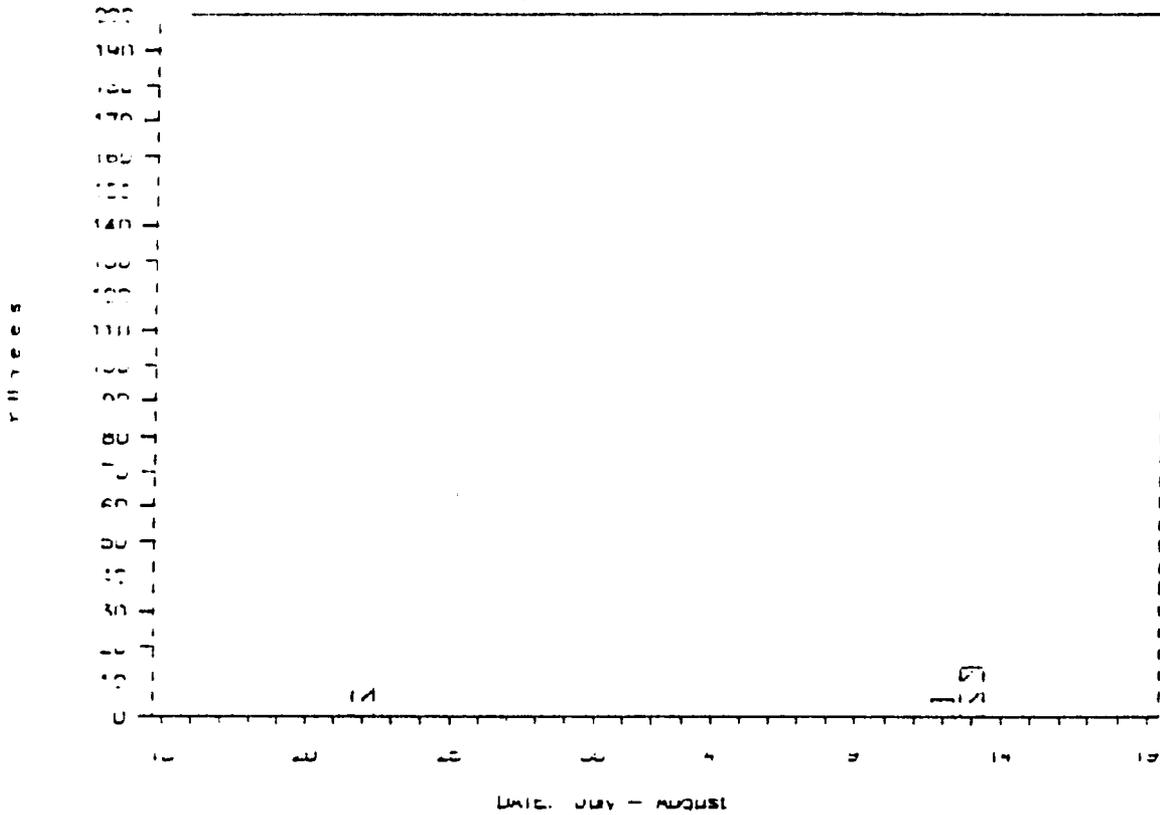
BEST AVAILABLE DOCUMENT

STRIKID  
Daily Description 1993



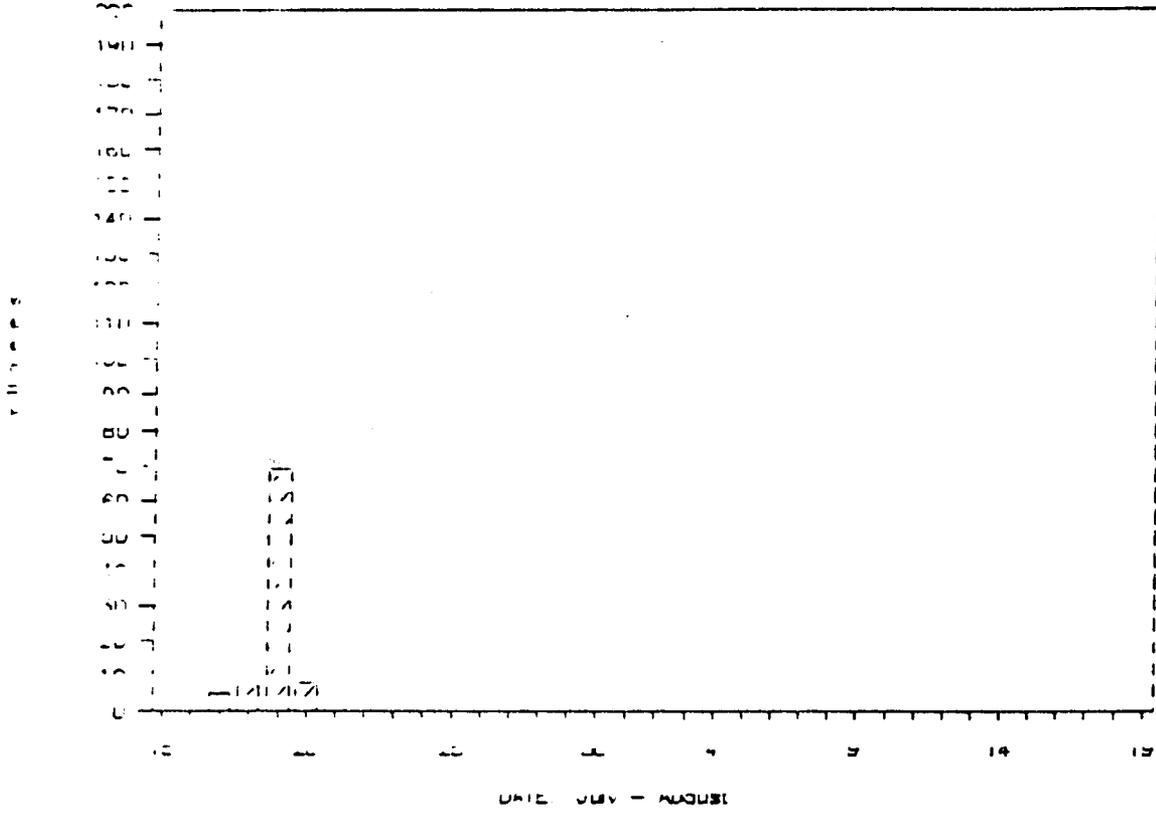
BEST AVAILABLE DOCUMENT

STUKOR  
Date: 1984



BEST AVAILABLE DOCUMENT

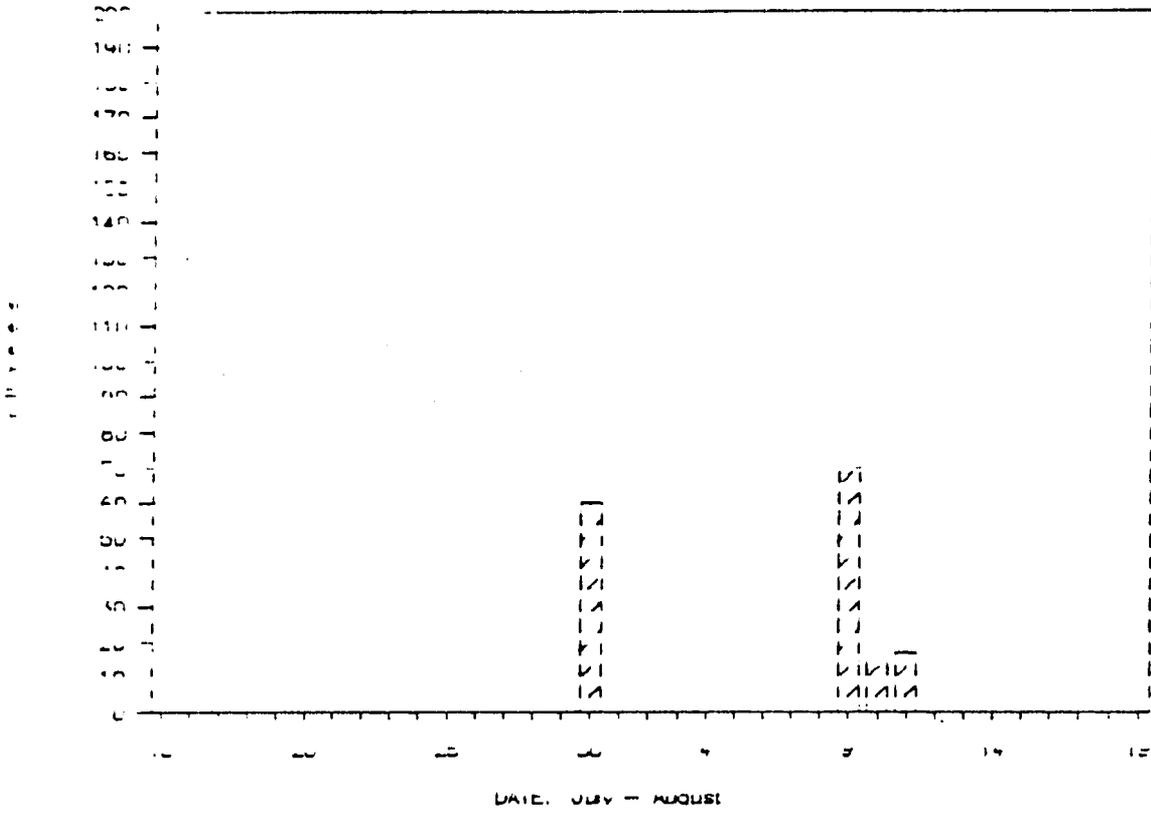
CLIMATE  
 Data - Precipitation 1985



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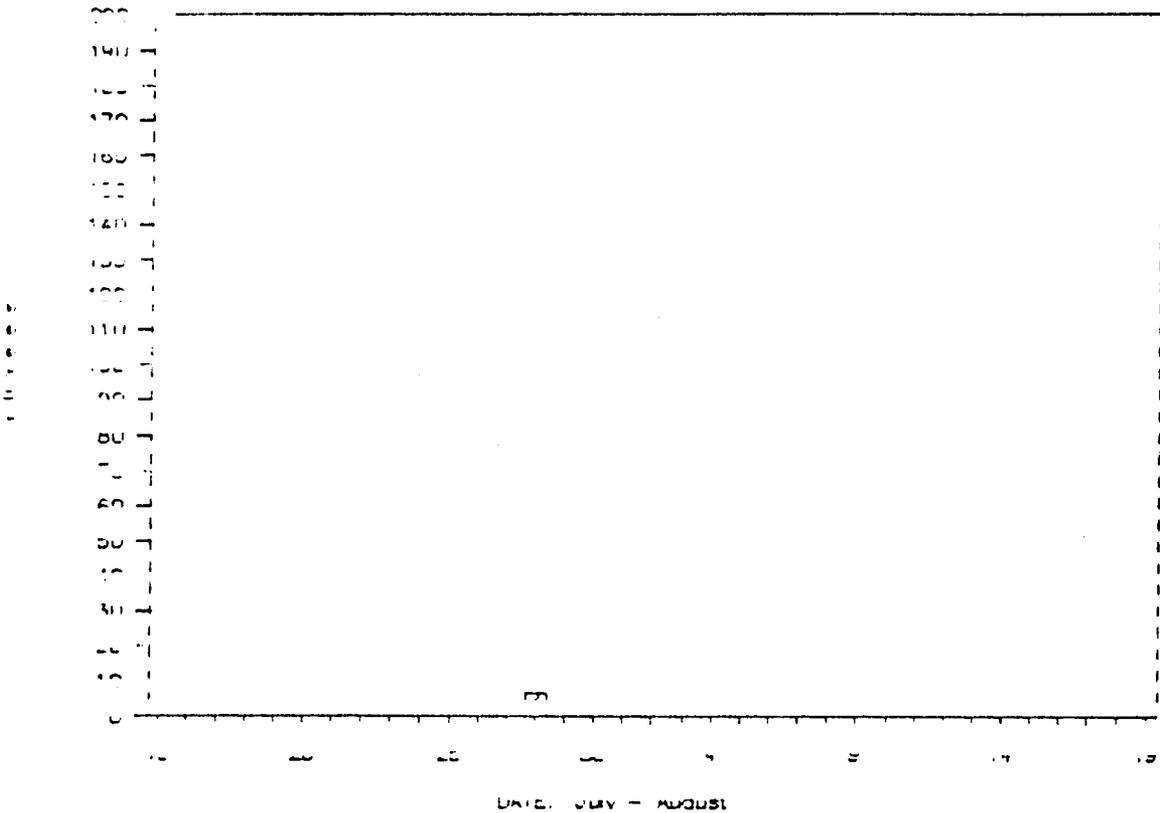
# SUKKUR

Daily Precipitation 1996



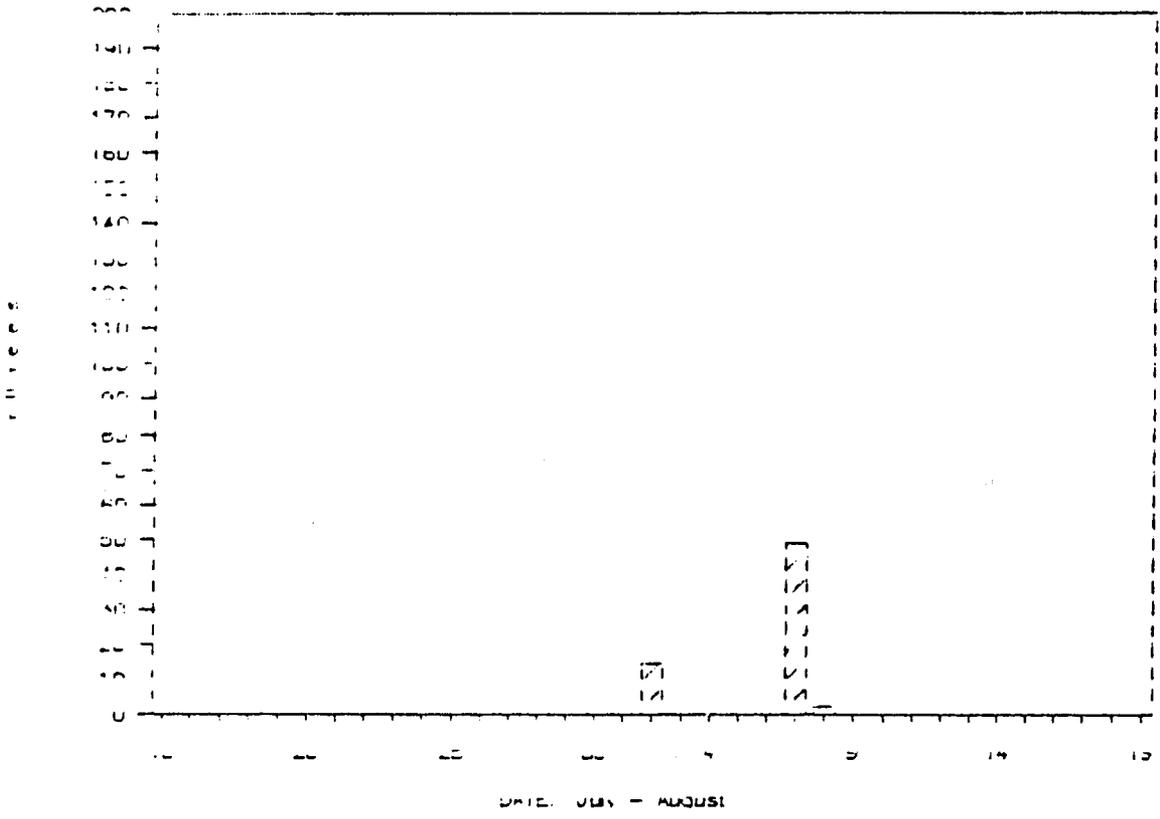
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SURKUP  
Daily Precipitation 1997



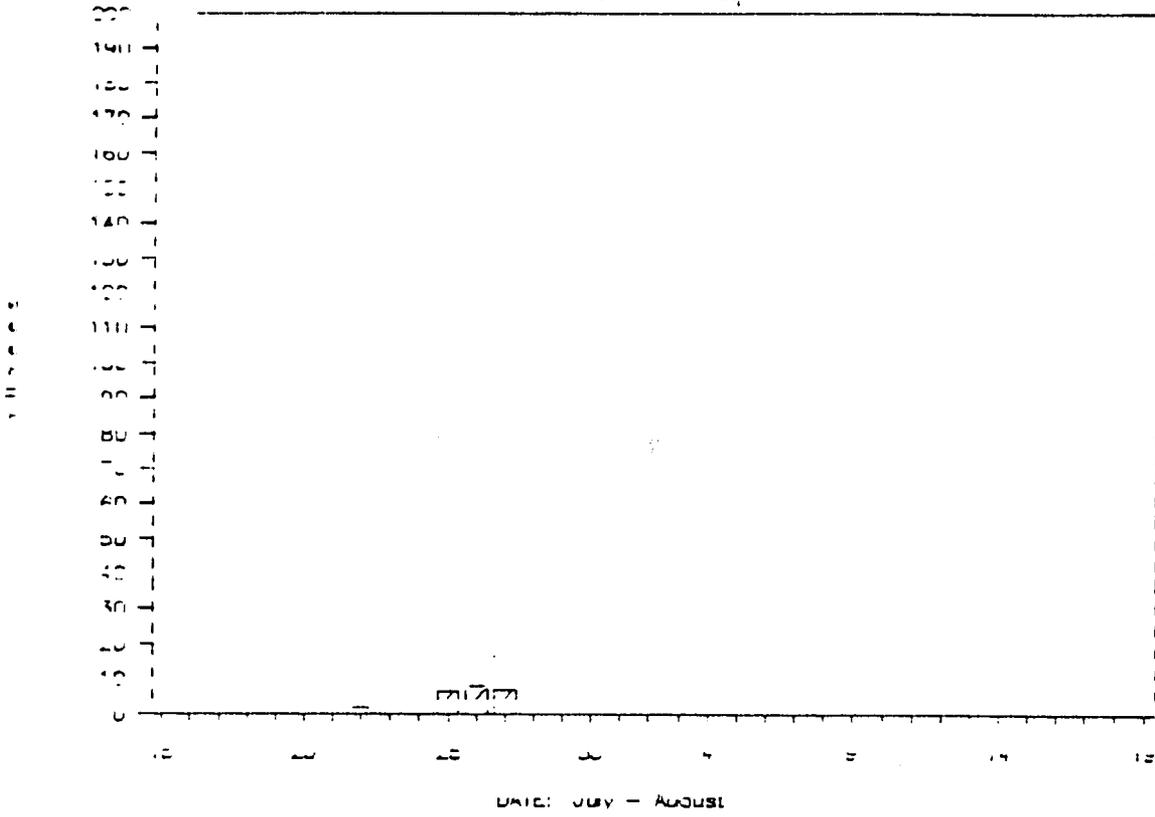
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COCKING  
 Daily Precipitation 1999



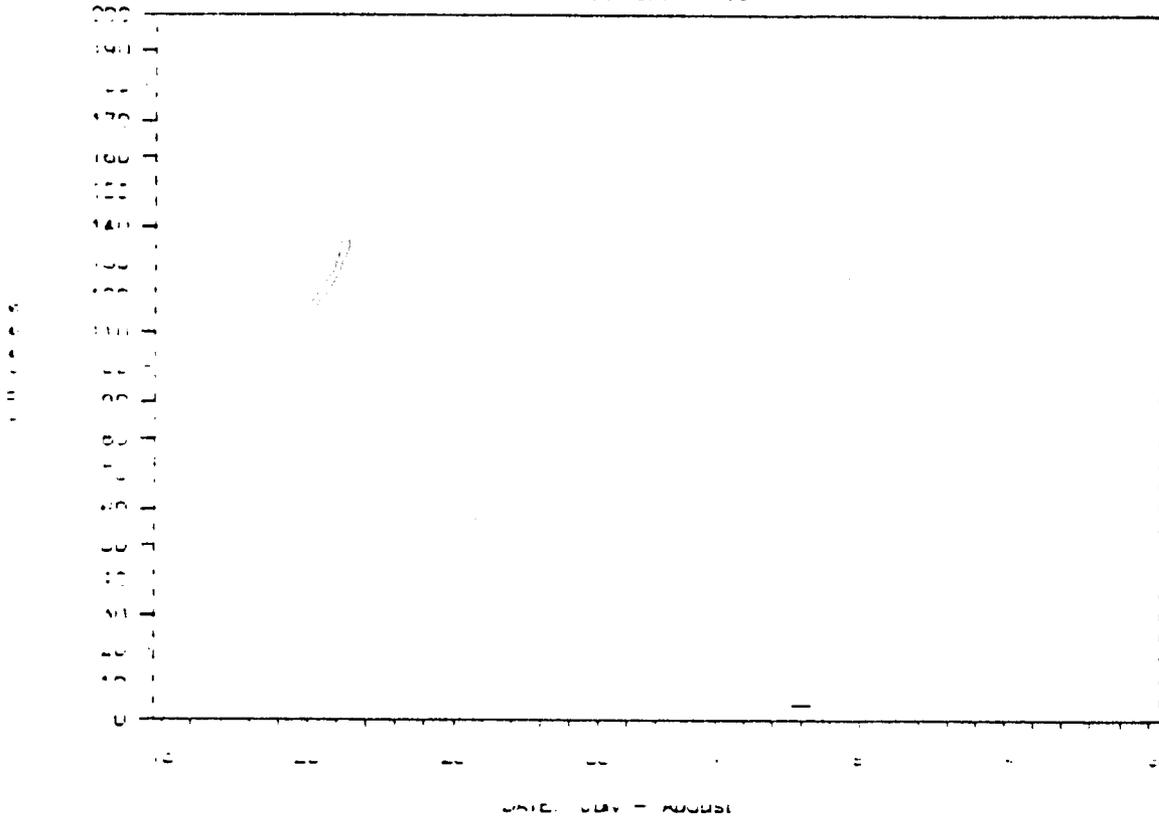
BEST AVAILABLE DOCUMENT

CHICKLE  
Soil Precipitation 1989



BEST AVAILABLE DOCUMENT

SURKUR  
Daily Precipitation 1990



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