Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.5, No.22, 2014

Economics of Date Palm (Phoenix dactylifera L.) Production and Its Development in District Kech, Balochistan Province of Pakistan

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Abstract
Economics of date palm production and its constraints in District Kech, (Balochistan) was analyzed during 2012-13 using 60 date palm producers; while a good number of market agents/middlemen were also included to analyze date palm marketing. The data indicated that Turbat and Panjgoor are the districts of excellence for their high quality and remarkable date palm production; and Begum Jangi dominates in area and production, followed by Halini, Hussaini, Goknah, Dishtri, Konzenabad, Muzwati, Pashpag, Shakri and Washakar. The total estimated costs on date palm production were Rs. 225271.31/hectare which included Rs. 50903 land inputs, Rs. 66468 initial development of orchard, Rs. 76111 operational costs and Rs. 31789.31 marketing costs. Among initial orchard development costs, purchase of date palm suckers was the item of highest cost, followed by the farmyard manure and ploughing charges. The total land inputs including land rent and land tax accumulated to Rs. 50903/hectare. Among marketing costs the transportation charges were the highest amount of costs. The overall average date palm fruit yield was estimated at 77.29 maunds per hectare. The date palm yield was higher in trees aging 10-20 years; while Washakar variety fetched highest sale price, followed by Begum Jangi, Konzenabad and Goknah, while hydrated form of dates (Chhuhara) is mostly prepared from Halini variety. The income from date palm per hectare was estimated at Rs. 286745.90 against total costs Rs. 225271.31 resulting net returns of 61474.59 per hectare, resulting cost: benefit ratio of 1:1.27. The marketing analysis indicated that total price spread was Rs. 3500.00 per maund while the product reached in the hands of ultimate consumer. The middlemen (Wholesalers and commission agents) and retailer earned marketing margins of 31.68 and 24.69%, net margin 75.23 and 85.34 %, markup 46.36 and 32.78 %. The retailer shared 42.10 paisa of the consumer's rupee, middlemen (wholesaler and commission agents) 35.86 paisa; while the producer shared the lowest (22.04 paisa) of the consumer's rupee. The retailer earned 5.82 rupees (CBR=1:5.82), middlemen (wholesaler and commission agents) 3.03 rupees (CBR=1:3.03) and date palm grower earned 0.27 rupee (CBR= 1:0.27) on payment of one rupee cost. Among constraints, farm to market infrastructure and high transportation costs were the problems of rank-1 faced by 100 percent of the growers. Market facility to growers, quality seed and irrigation water, lack of date processing unit and cold storage were rank-2, rank-3 and rank-4 problems, respectively. The quality pesticides and high fertilizer and FYM price and timely availability were the problems at rank-5, while training of date palm growers for production and post-harvest handling and non-existence of soil testing facilities were the problems of low ranking.
Keywords: Date Palm, Production and Development

1. Introduction

The date palm (Phoenix dactylifera L.) is one of the oldest fruit trees in the Arab region and it is extensively cultivated for its edible sweet fruit. Due to its long history of cultivation for fruit, its exact native distribution is unknown but probably originated somewhere in the desert oases of northern Africa and perhaps also southwest Asia. Movahed et al., (2011) concluded that presence of many essential and anti-inflammatory nutrients as well as high amount of crude fiber in date palm make it a valuable dietary product to be used as tasty cholesterol free nutrients. Khiari et al., (2011) compared rachises of date palm with other sources of lignocullulosic fibers such as wood, non-wood species, and agricultural wastes and concluded that date palm rachises could be considered a good candidate as a source of fibers for papermaking. Agoudjila et. al., (2011) investigated the thermophysical, chemical and dielectrically properties of date palm wood and concluded that wood of date palm is a good example of renewable material in the development of efficient and safe insulting materials. (El-Shibli and Korelainen, 2009). The fruit length is ranged from 2.80 cm to 5.92 cm and diameter ranged between 0.59 cm to 1.37 cm in different cultivars. In addition, the five colours are observed in fruit s of date pam cultivars. It was bright yellow in Aglany cultivar, yellow with red spot in Samany cultivar, orange in Amry cultivar, bright red in Zaghloul and redscarlet in both hay any and Bent-Aisha. The date palm is a multipurpose tree, providing food, shelter, timber products. The date fruit is a good source of food providing, fiber, carbohydrates, minerals and vitamins besides having anti-mutagenic and anti-carcinogenic properties (Baloch et al., 2006).

In Arab countries, the date palm is considered one of the main fruit crops. The number of date palm trees as well as date production and consumption vary from one country to another due to prevailing environmental conditions. The major producers of dates in the world are situated in the Arabia Gulf and North Africa. Kader and Hussein (2009) reported that in 2006, world production of dates was about 7 million tons and the top 10 producing countries were Egypt, Saudi Arabia, Iran, United Arab Emirates, Pakistan, Algeria, Sudan, Oman, Libya, and Tunisia. There are thousands of date palm cultivars, including those with soft, semi-dry, and dry fruits (depending on their water and type of sugar content at harvest when fully-ripe), grown in these countries (Kader and Hussein, 2009). This is true as the Arab countries possess the majority of world's date palms and produce the major portion of the world's total date crop (FAOSTAT, 2009).

In Pakistan as well as in the Muslim world, the religious and social deep-rooted heritage enhanced the economic, nutritional and environmental benefits of date palm. Multiple usage patterns of date palm tree, high nutritional composition, profitability as well as environmental advantages makes date palm a good choice for small and medium farmers (Hassan et al., 2006). Date palm is considered as an important constituent of farming systems in dry and semi-arid regions and is suitable for both small and large scale farming (Khushk et al., 2009). It is one of the fruit trees with highest production per hectare (Okorley et al., 2005). Being the tree of hot climate, it grows well in harsh climatic conditions of the South Punjab, Pakistan. The high nutritional composition, profitability as well as environmental advantages makes date palm an excellent choice for the farmers (Al-Shahib and Marshall, 2003). Its cultivation is a good alternative to improve the food and economic status of people (Hassan et al., 2006). Similarly Chao and Krueger (2007) reported that date palm tree has numerous usages and economic importance in ecological improvement of the deserts. The tree has a great traditional importance in the Islamic world and with the increase of population in these countries; the demand is expected to increase in the future. This tree not only provides the food but also a large number of other products which have been extensively used in the rural as well as urban areas of Pakistan; while in Sindh Khairpur, Sukkur and Naushahro Feroze are also major date palm producing areas of the province. Unfortunately its actual yield at the farm level is low as compared to its potential yield (Govt. of Pakistan, 2009; PARC, 2009). A logical progress in the knowledge and skills of farmers can improve the date palm yield and decrease the cost on cultivation (Sajeev and Singha, 2010; Okorley et al., 2005).

The present study has been planned to examine the economics of date palm production in Kech district of Makran Division of Balochistan which is considered as the center of quality date palm production of Pakistan. Makran division consists of districts Kech, Panjgor and Gwadar with a total geographical area of 26000 km2. District Kech is comprised of Turbat, Tump, Buleda and Dasht Tahsils. In district Kech Begum Jangi, Halini, Konzenabad, Abdandan, Muzwati, Goknah, Rogini, Hussaini, Dishtari, Pashpag, Dandari, Shakri, Aseel, Kungo and Dakki varieties of date palm are cultivated in district Kech. Hence, district Kech is the main potential district for date palm production and contributes 50 percent to the total area under date palm and 56 percent to the total date palm production in Balochistan. Date palm variety Begum Jangi occupies the highest area of 8930 hectares (1535960 plants) with a yield of 6880 kg ha-1, while the highest yield ha-1 of 8600 kg was produced by varieties Goknah and Halini (Government of Balochistan, 2009). Although, the climatic condition of district Kech are most favourable for date palm cultivation; but the yields ha-1 achieved are lower than the potential yields of existing date palm varieties. Moreover, the farmers are using centuries old date palm cultivation techniques which are mostly time and labour intensive, consequently the production costs are higher and net returns are lower than the achievable value. In view of the above facts, the present study was carried out to work out economics of date palm production and its constraints in district Kech, Balochistan Province of Pakistan.

1.1 Material and Methods

his study was carried out on the basis of primary data collected from the owners of date palm orchards in district Kech, Balochistan. Sampled area was selected for study due to a potential date palm producing area. Sample survey was carried out, followed by group discussion and key informant interviews.

Analytical Technique

This section consisted of two main sub-sections. The first section described the analytical techniques used to examine the existing cost of date palm production in Kech district. The second section described the sampling frame, sample size and data collection procedure.

Sampling Frame

A sampling frame is a list of all sampling units available for section at a given stage of the sampling process (Barnet, 1991). The sampling frame for date palm producers was based on owners of date palm orchards of district Kech Balochistan. A list of date palm producers was collected from Agriculture Extension department of the province/district and out of that list, 64 date palm producers were randomly selected for interview to assess the information on production costs and income related aspects.

Sampling Size

Due to the time and financial constraints, the study was limited to district Kech and up to 64 date palm producers representing the entire date palm production scenario. The sample size was considered adequate in term of depth and accuracy required and in term of time and resources available for the research study.

Survey plan and ground work

Survey is considered as the best method to carry out research in the field of marketing system. The main task of the researcher in marketing is to investigate general conditions prevailing in the field. It is thus said that generalization could best be apprehended through survey method. Survey has so far, proved successful to spell out generalizations with certain aspects. General tendency of the people towards any particular aspect could be judged after recording the interviews with a sample of respondents. Collecting data through questionnaire has the advantage of being systematic, economical, quick and reliable. The major disadvantage of this method is that it focuses upon the pre-designed questions, which may lead to ignoring or non-recording other relevant information arising spontaneously during the interview. To avoid such instances, pre-testing has to be carried out before conducting the actual survey. Therefore, a separate questionnaire was designed for producers and intermediaries, and was pre-tested before finalization. Moreover, the information from secondary sources was also gathered whenever felt necessary.

Data collection

The primary data were collected during the year 2012-13 using a complete set of questionnaire was prepared (pre-tested before finalization) to record the interview of the randomly selected respondents.

At date palm producer level, the questionnaire contained the information on date palm varieties, farm size, initial costs on orchard development [(Initial land development (hours), Labour for lining & hole making (no), Suckers (plants), Transport of Nursery, Labour for planting, Farm Yard Manure (Truck/ha.)]. The information regarding the Land inputs (land rent and government land taxes) was also achieved. The questionnaire at farmers' level also included Operational costs [(Ploughing (hours), Levelling (hours), F.Y.M., Fertilizer (urea), Fertilizer (DAP), Interculturing (man days), Pollination (trees/ha), Pruning (trees/ha), Harvesting/picking (trees/ha)]. Marketing costs of date palm producer were also enquired which included Loading, Transportation, Unloading, Commission. After completion of costs section, the information regarding date palm yield per tree and per hectare, variety-wise approximate sale price of date palm fruit and producers' net returns and Cost: Benefit Ratio were also worked out.

Marketing margins

Marketing margin is the distinction between sale prices (received price and paid price) of two or more than two agencies for equivalent quantity of a specific commodity. The formula used to calculate the marketing margins is as follows:

$$Mm = Pr - Pp$$

Where, Mm stands for marketing margin, Pr indicates received price and Pp represents paid price.

Price spread

Price spread (Ps) is a term frequently been used to represent the combined margins of several types of dealers. This term also applied sometimes to designate absolute margin earned by some specific dealer. Price spread analysis helps in examining price levels of particular commodity at various stages of marketing.

Price spread consumption was made after Acharya and Agarwal (1987).

$$Ps = Pr - Pp$$

Where Ps denotes price spread, Pr stands for price received and Pp symbolizes price paid.

Marketing cost

Marketing cost is referred as allocate spending incurred by different marketing participants from the time as the product go away the farm-gate to arrive at marketing agents for marketing. Marketing costs were incurred by the produces as well as all the intermediaries participating between producers and consumers in the flow of commodity. The standard components of marketing cost included loading, unloading, transportation, commission and marketing tax.

Net Margin

The net margin of a specific agency is the net earnings, which it earns after paying all marketing costs. Net earnings of different market agencies concerned in the marketing of date palm were computed with the following rule:

$$Nm = P4 - Pp - Mc$$

Where, Nm stands for net margin, Pr indicates sale price, Pp represents buying price and Me represents

marketing costs incurred by the same agency.

Breakdown of consumer's rupee

The term "Breakdown of consumer's rupee" refers to the distribution of one unit of currency (rupee in case of Pakistan) paid by the final consumer for a commodity (in the form of expenses and margins) among producer and various marketing middlemen involved before it reach in the hands of consumer. In other words, it shows the pattern that how various intermediaries have contributed in the marketing chain and the extent of profits earned by them. The following formula was used to estimate the breakdown of consumer rupee.

BDcr = Ps -Rp

Where "BDcr" stands for breakdown of consumer rupee spent on specific commodity, "Ps" indicates price spread (Ps or absolute margin both are same) and "RP" represents retail price.

Cost benefit ratio

It is defined as the amount received in the shape of profit on the cost of one rupee is called as cost benefit ratio. Cost Benefit ratio was computed by the method adopted by Siddiqui et al. (1983).

Cbr = Nr Tc

Cbr = Respondents cost benefit ratio.

Nr = Stands for net returns.

Tc = Denotes total cost.

1.1.1 Results

District-wise date palm cultivation

Secondary sources were used to assess the area, production and yield per hectare of date palm and the data (Table-1) exhibited that Turbat is the leading date palm producing district of Balochistan with an area under date of 24207 hectares with a production of 140576 tons; while the area under date palm in Panjgoor was 19955 hectares with a production of 97700 tons. Gwadar is the third major date palm producing district with 1874 hectares area under date palm cultivation with a production of 7480 tons, followed by Kharan having 1121 hectares area under date palm cultivation with production of 4436 tons. Khuzdar and Chagai also produces considerable quantity of date palm; while minor production is also received from Bolan, Sibi, Lasbella, Nasirabad, Jhal Magsi and Jafferabad district. However, the date palm yield per hectare was also highest in Turbat and Panjgoor. The data clearly indicated that Turbat and Panjgoor are the districts of excellence for their high quality and remarkable date palm production.

Table 1: District-wise date palm production in Balochistan province

Sr#	District	Area (Hectares)	Production (Tons)	Yield (Tons ha^{-1})
1.	Panjgoor	19955	97700	4.896
2.	Kech	24702	140576	5.691
3.	Kharan	1121	4436	3.957
4.	Gwadar	1874	7480	3.991
5.	Khuzdar	548	140	0.255
6.	Chagai	287	1596	5.561
7.	Bolan	45	91	2.022
8.	Sibi	25	30	1.200
9.	Lasbella	25	68	2.720
10.	Nasirabad	24	116	4.833
11.	Jhal Magsi	15	34	2.267
12.	Jaffarabad	10	50	5.000
	Total	48136	252317	5.242

Date palm varieties

The data (Table-2) indicated that Begum Jangi dominates in area and production of date palm in district Kech of Balochistan province with 8930 hectares area under its cultivation and there are some 1,535,960 trees of this variety in only Kech district; followed by varieties Halini, Hussaini, Goknah and Dishtri with area under their cultivation of 980, 548, 445 and 320 hectares and number of trees of 168560, 94256, 76540 and 55,040 trees, respectively. There is huge area under mixed varieties and that more than half of the total area under date palm production (12642 hectares), and there are 3,791,032 trees of mixed varieties. These varieties commonly fetch low process of their produce and mostly marketed for local production, because these varieties do not possess export quality.

In case of the yield potential, most of the high quality date palm producing varieties has yield potential of 40-50 kilograms; while the mixed and unknown varieties possess yield potential lower than recommended varieties.

Table 2: Date palm varieties cultivated in district Kech of Balochistan province

Sr#	Variety	Area (Hectares)	Total number of plants	Yield potential(kg tree)
1.	Begum Jangi	8930	1535960	40
2.	Hussaini	548	94256	40
3.	Goknah	445	76540	50
4.	Halini	980	168560	50
5.	Dishtari	320	55040	40
6.	Konzenabad	260	44720	45
7.	Muzwati	220	37240	45
8.	Pashpag	142	22424	40
9.	Shakri	105	18060	40
10.	Washakar	110	18920	40
11.	Others	12642	1719312	35-40
	Total	24702	3791032	-

Farm size

The data in Table-3 showed that the farm size was categorized as small size (<10 hectares), medium size (11-25 hectares) and large size (>25 hectares). Out of total 64 respondents, 38 respondents (59.38%) possessed 293.81 hectares of total area (31.14%) and the average small size farms comprised of 7.37 hectares on average; while, 18 respondents having medium size farms (28.12%) possessed 372.72 hectares of date palm cultivated land (39.51%), and their average farm size was 20.71 hectares. Similarly, 8 respondents (12.59%) possessed large size farms out of total 64, having total land area of 276.81 hectares (29.35%) and their average farm size was 34.60 hectares. The total date palm cultivated land with the 64 respondents of all farm categories was 943.34 hectares, and the average farm size was 21.01 hectares.

Table 3: Farm size distribution of sample respondents/date palm growers in Kech district of Balochistan

Farm Size	Selected Date producers Growers	(%) Growers	Area (acres)	(%) Area	Average Farm Size
Small <10 hectares	38	59.38	293.81	31.14	7.73
Medium 11-25 hectares	18	28.12	372.72	39.51	20.71
Large >25 hectares	8	12.50	276.81	29.35	34.60
Total	64	100	943.34	100	21.01

Date palm production costs

Initial costs

The initial costs on the development of a date palm orchard were calculated on the basis of various variable costs reported by 64 date palm growers in district Kech of Balochistan province and the data are shown in Table-4. The compiled results indicated that on initial land development, 11 hours ploughing was required for one hectare area of land and the average per hectare ploughing cost was Rs. 5610.00; while for lining and hole making, 13 man days were required and the average per hectare cost on this variable was Rs. 3146.00. On average, the number of trees per hectare was 136, and the on average one date palm sucker costs Rs. 359; hence, the per hectare costs on date palm suckers was Rs. 48856.00. Similarly, the nursery transportation costs were Rs. 3349.00/hectare, labour costs for planting suckers Rs. 1750/hectare and the costs on purchase of farmyard manure were upto the Rs. 13400/hectare. Thus, the total variable costs on initial development of date palm orchards accumulated to Rs. 76111/hectare.

The details regarding the economic analysis of the initial costs on date palm orchard development indicated that purchase of date palm suckers was the cost item of highest amount, followed by the cost on farmyard manure and ploughing charges.

Table 4: Initial cost of planting of date orchard (Rs/ha) as reported by the date palm growers in Kech district of Balochistan

Operation/inputs	Quantity (mean)	Rate (Rs.) (mean)	Amount Rs/ha
Initial land development (hours)	11	510	5610
Labour for lining & hole making (no)	13	242	3146
Suckers (plants)	136	359	48856
Transport of Nursery	136	24.62	3349
Labour for planting	7	250	1750
Farm Yard Manure (Truck/ha.)	4	3350	13400
Total Amount/ha.	-	-	76111

Per acre/hectare land inputs

The land inputs refer to the items of expenses basically needed to hire land for cultivation of date palm or the taxes generally paid to the government. On the basis of rates of land on contract it was observed that there was land rent varied with the quality of land and location. The land with easy access had higher land rent than that of in the remote locations. The data (Table-5) showed that the average per acre land rent as reported by 64 respondents/date palm growers was Rs. 19500 (Rs.45185/hectare); while the government receives land tax of Rs. 1100/acre (Rs.2718/hectare), and this amount is deposited to the government account. Hence, the total land inputs including land rent and land tax accumulated to Rs. 50903/hectare.

Table 3: Average per acre/hectare land inputs the date palm growers in Kech district of Balochistan

Cost components	Quantity (mean)	Rate/acre (Rs.) (mean)	Amount Rs/ha
Land rent	1	19500	48185
Land tax	1	1100	2718
Grand Total	-	20600	50903

One hectare = 2.471 acres

Operational costs

The operational costs are the expenditures incurred time to time throughout the year in the date palm orchard which include ploughing (hours), levelling (hours), farmyard manure, fertilizer (urea and DAP), interculturing (man days), pollination, pruning and harvesting/picking of fruits. The data (Table-6) exhibited that the total costs on ploughing in the date palm orchard were Rs. 4900/hectare and leveling Rs. 3300/hectare. The cost paid on the purchase of farmyard manure was the highest one (Rs. 20100/hectare), while the costs on purchase of urea and DAP were Rs. 3616 and Rs. 8022/hectare, respectively. Similarly, the costs on interculturing were estimated at Rs. 3675/hectare; while the costs incurred on pollination were estimated at Rs. 9850/hectare. The extent of costs on pruning of trees was at Rs. 3940/hectare; while the costs paid for harvesting/picking of the mature dates were estimated at Rs. 8865/hectare. The total costs on various operations and items of application to the date palm trees accumulated to Rs. 66468/hectare.

It was observed that purchase of farmyard manure was the item of highest cost, followed by fertilization, pollination and harvesting/picking etc.

Table 6. Variable costs of date orchard (Rs/hectare) paid by the date palm growers in Kech district of Balochistan

Operations	Quantity (Mean)	Rate (Rs.) (Mean)	Amount (Rs/ha)
Ploughing (hours)	7	700	4900
Levelling (hours)	6	550	3300
F.Y.M	6	3350	20100
Fertilizer (urea)	2.12	1800	3816
Fertilizer (DAP)	1.91	4200	8022
Interculturing (man days)	14	262.50	3675
Pollination (trees/ha)	136	72.42	9850
Pruning (trees/ha)	136	28.97	3940
Harvesting/picking (trees/ha)	136	65.18	8865
Total	-	-	66468

Marketing costs of date palm producer

The date palm producers in Kech district of Balochistan also paid a considerable amount on account of marketing costs after harvesting of the produce and the data (Table-7) indicated that the marketing costs comprised of loading/unloading of the produce, transportation and commission etc. at the market place. The date palm producers in the study area paid Rs. 4977.45/hectare as loading charges, Rs. 21237.12/ hectare as transportation of the produce from the farm to market, Rs. 4313.79/hectare paid as the unloading costs, while the producer paid Rs. 1260.95/hectare as the commission on their date palm produce. This indicates that among marketing costs the transportation charges were the highest amount of costs; and the total marketing costs were estimated at Rs. 31789.31/hectare as reported by 64 date palm growers in the study area.

Table 7: Average per hectare marketing costs paid by the date palm growers in Ketch district of Balochistan

Cost components	Quantity	Rate/40 kg maund	Total cost
Loading	331.83	15	4977.45
Transportation	331.83	64	21237.12
Unloading	331.83	13	4313.79
Commission	331.83	3.80	1260.95
Total	-	-	31789.31

Total costs

The total costs including land inputs, variable costs, capital inputs and marketing costs were accumulated and the data (Table-8) showed that the total costs on production of one acre date palm orchard were estimated at Rs. 91166.04; while the per hectare production costs were estimated at Rs. 225271.31. These accumulation of costs included the payment of Rs. 50903/hectare on account of land inputs, Rs. 66468/hectare were paid by the date palm producer as variable costs, Rs. 76111/hectare were the variable costs and Rs. 31789.31/hectare were paid on account of marketing costs by the date palm producer to market his per hectare produce.

Table 8: Total costs paid by the date palm growers in Kech district of Balochistan

Cost components	Average per acre (Rs)	Per hectare (Rs)
Land inputs	20600.16	50903
Variable Cost	26899.23	66468
Capital Inputs	30801.70	76111
Marketing Cost	12864.95	31789.31
Grand Total	91166.04	225271.31

Date palm fruit yield per tree (kg)

The date palm fruit yield per tree as reported by 60 date palm growers of different categories by farm size and age of the tree was assessed. The data (Table-9) indicated that the fruit yield per tree at the small, medium and large size date palm orchards having trees of 5-10 years age was 18.40, 17.20 and 21.60 kg, respectively averaging 19.07 kg per tree. The date palm fruit yield per tree at the small, medium and large size date palm orchards having trees of 10-20 years age was 25.20, 26.20 and 26.80 kg, respectively averaging 26.07 kg per tree. Similarly, the date palm fruit yield per tree at the small, medium and large size date palm orchards having trees of more than 20 years age was 21.40, 23.20 and 24.60 kg, respectively averaging 23.07 kg per tree. The overall average date palm fruit yield per tree was estimated at 22.73 kg.

Table 9: Average yield (kg/tree) as reported by the date palm growers in Kech district of Balochistan

Farm Size	Age of tree		
	5-10 years	10-20 years	More than 20 years
Small <10 hectares	18.40	25.20	21.40
Medium 11-25 hectares	17.20	26.20	23.20
Large >25 hectares	21.60	26.80	24.60
Average	19.07	26.07	23.07
Average yield per tree (kg)	22.73		

Date palm fruit yield per hectare (kg)

The date palm fruit yield per hectare as by 60 date palm growers of different categories by farm size and age of the tree was examined and the data are presented in Table-10. The data in this table exhibited that the fruit yield per hectare at the small, medium and large size date palm orchards having trees of 5-10 years age was 2502.4, 2339.2 and 2937.6 kg, respectively averaging 2593.067 kg per hectare. The date palm fruit yield per hectare at the small, medium and large size date palm orchards having trees of 10-20 years age was 3427.2, 3563.2 and 3644.8 kg, respectively averaging 3545.067 kg per hectare. Similarly, the date palm fruit yield per hectare at the small, medium and large size date palm orchards having trees of more than 20 years age was estimated at 2910.4, 3155.2 and 3345.6 kg, respectively averaging 3137.067 kg per hectare. The average fruit yield in maunds was also converted which indicated that the trees of 5-10 years age produced fruit yield of 64.83 maunds per hectare, trees of 10-20 years of age produced fruit yield of 88.63 maunds per hectare; while the trees of more than 20 years of age resulted average fruit yield of 78.43 maunds per hectare. The overall average date palm fruit yield was estimated at 77.29 maunds per hectare. This indicated that the date palm yield per hectare was lesser in case of trees below 10 years of age; while the yield substantially increased when the date palm trees were in the age of 10-20 years. However, the date palm fruit yield started decreasing when the age of the trees crossed 20 years.

Table 10: Average yield (kg/hectare) as reported by the date palm growers in Kech district of Balochistan

Farm Size	Age of tree		
	5-10 years	10-20 years	More than 20 years
Small <10 hectares	2502.4	3427.2	2910.4
Medium 11-25 hectares	2339.2	3563.2	3155.2
Large >25 hectares	2937.6	3644.8	3345.6
Average	2593.067	3545.067	3137.067
40 kg maunds	64.83	88.63	78.43
Overall average yield per hectare (40 kg maunds)	77.29		

Variety-wise approximate sale price date palm fruit

The date palm growers were asked to disclose that at wheat price they sale the date palm produce of different varieties and the growers reported among varieties "Washakar" dates are mostly fresh consumed and this variety fetches highest price of about Rs. 5000/- maund, while when it is dehydrated, its price is reduced to Rs. 2600/maund. The fresh "Begum Jangi" fetches price of Rs. 4500/maund, while dehydrated "Begum Jangi" fetches price upto Rs. 4000/maund. Similarly, "Konzenabad" date as fresh fetches approximate price of Rs. 4000/maund, and its price is increased approximately to Rs. 4300/maund when it is marketed in dehydrated form. The "Goknah" and other mixed variety dates fetch lowest market price generally, and approximately it is sold at the rate of Rs. 3000/maund as fresh and at Rs. 2600/maund in dehydrated form. Another date palm variety named "Halini" is specifically popular for hydrated form of dates (Chhuhara) and as fresh "Halini" fetches price of approximately Rs. 4000/maund and when hydrated, its price is approximately Rs. 3100/maund (Table-11).
It was reported that the market price is mostly quality dependent and healthy fruits safely harvested and safely packed fetches higher prices as compared to those their post-harvest management is poor.

Table 11: Variety-wise approximate selling price (Rs/maund) of date palm as reported by the date palm growers in Kech district of Balochistan

Varieties	Fresh	Dehydrated	Hydrated
Washakar	5000	2600	-
Begum Jangi	4500	4000	-
Konzenabad	4000	4300	-
Halini	4000	-	3100
Goknah and others	3000	2600	-
Average market price Per 40 kg maund	Rs. 3710.00		

Net returns

The net returns were worked out by subtracting the gross expenditures incurred on various costs from the gross income/farm and the results are reported in Table-12. It is obvious from the results that the average income per tree was Rs. 2109.89 against total costs Rs. 1657.56 resulting net returns of 452.34 per tree; while the average income per acre was Rs. 116044.48 against total costs Rs. 91166.04 resulting net returns of 24878.44 per acre. Similarly, the average income per hectare was Rs. 286745.90 against total costs Rs. 225271.31 resulting net returns of 61474.59 per hectare.

Table 12: Net returns and cost:benefit ratio achieved by the date palm growers in Kech district of Balochistan

Cost components	Average per tree (Rs)	Average per acre (Rs)	Per hectare (Rs)
Total Income (Rs)	2109.89	116044.48	286745.90
Total Costs (Rs)	1657.56	91166.04	225271.31
Net returns (Rs)	452.34	24878.44	61474.59

Cost:Benefit Ratio

Cost benefit ratio is widely used to determine the farm efficiency and the technique for calculating the cost benefit ratio is to divide the net margin by total cost. The analysis of cost benefit ratio are summarized in Table-13, which illustrated that the net returns from date palm production per hectare were estimated at Rs. 61474.59 against the total costs Rs. 225271.31; which resulted the date palm producers' average cost:benefit ratio of 1:1.27. This indicates that the date palm farmer earned 27 paisa on his one rupee investment in the date palm orchard.

Table 13: Cost: benefit ratio achieved by the date palm growers in Kech district of Balochistan

Sr#	Particulars	Per hectare (Rs)
1.	Total Costs (Rs)	225271.31
2.	Net returns (Rs)	61474.59
3.	Cost : Benefit ratio	1:1.27

Marketing agents

Price spread

Price spread shows the difference between the prices of the two or more agencies for equivalent quantity of specific commodities. It refers to the difference between price paid by consumer and price received by farmers for an equivalent quantity of farm product. The data (Table-14) indicated that the price of the date palm produce almost doubled over the price received by the farmer when reached in the hands of the consumer from retailer. Hence, the middlemen has been the major beneficiary, he spent a minimum cost and earn a high margin from a minimum time period. The price received by the date palm producer from the middlemen (Wholesalers and commission agents) was Rs. 3710.00 per maund on average, while the retailer paid Rs. 5430.00 per maund to the middlemen who pocketed Rs. 1720 per maund. Similarly, the retailer received Rs. 7210.00 per maund from the consumer earning Rs. 1780 on selling of one maund date palm. Against purchase

price of date palm from the producer of Rs,. 3710.00 per maund, the total price spread was Rs. 3500.00 per maund while the product reached in the hands of ultimate consumer.

Table-14 Price spread from date palm grower to the ultimate consumer in the date palm market of Kech district of Balochistan

Sr#	Agent	Price paid	Price received	Price spread	%age
1.	Middlemen(Wholesalers and commission agents)	3710	5430	1720	49.14
2.	Retailer	5430	7210	1780	50.86
Total		1720	1780	3500	100

Marketing margins

All shares received by different agencies actually help in determining the service of marketing of some specific commodity. It also helps in determining and implementing the appropriate prices and marketing policies. The marketing margins earned by various agencies participating in marketing of date palm were tabulated and calculated (Table-15). The above table indicated that the middlemen (Wholesalers and commission agents) earned remarkably highest percentage of marketing margins (31.68%), while the retailer received 24.69% of the marketing margins in different markets of Ketch district of Balochistan.

Table-15 Marketing margins earned by various agents in date palm marketing in Kech district of Balochistan

Sr #	Agent	Price Paid (a)	Price received (b)	Absolute Margin	%age of marketing margin
1.	Middlemen(Wholesalers and commission agents)	3710	5430	1720	31.68
2.	Retailer	5430	7210	1780	24.69

Net margin

The net margin is defined as the net earnings of some specific agencies who earn after incurring all marketing cost. It is important to calculate from economic point of view, because one should know, what he spent and what he earns. The results regarding the net margins of various marketing agencies are presented in Table-16, which revealed that the retailer had the highest level of net margins (85.34 %) over the costs he paid, while the middlemen (wholesalers and commission agents) had 75.23% net margins over the marketing costs they paid during the process of date palm marketing.

Table 16: Net margins of various agents in date palm marketing in Kech district of Balochistan

Sr #	Agent	Absolute Margin(a)	%age	Cost Amt(b)	%ageb*100 /a	Net Margin(a-b=C)	%ageC*100 /a
1.	Middlemen	1720	100	426	24.77	1294	75.23
2.	Retailer	1780	100	261	14.66	1519	85.34

Markup

The markup can be calculated by dividing the absolute margin by price paid by the agent. To determine the profit of business it is necessary to calculate the markup. Traders also use the markup to calculate or show the levels of earning on the percent investment basis therefore it is also necessary to calculate the markup in the date palm marketing business to know the business efficiency and the participating agencies earning. The results pertaining to markup percentage (Table-17) of the marketing agents indicated that middlemen (wholesaler, commission agents etc.) received a higher markup percentage (46.36%) over the price they paid for purchasing of date palm from the growers, while the retailer received 32.78 % markup over the price he paid to the wholesaler/commission agents for the purchase of date palm in district kech of Balochistan.

Table-17 Markup paid by various agents in date palm marketing in Kech district of Balochistan

Sr#	Agent	Absolute Margin	Price Paid	Markup %
1.	Middlemen	1720	3710	46.36
2.	Retailer	1780	5430	32.78

Breakdown of consumer's rupee

The parameter "breakdown of consumer's rupee" is referred to series of figures representing the average net margin of different types of agencies divided by retail price. It shows the portions of consumers rupees pocketed by different marketing agencies i.e. wholesalers and retailers. The breakdown of consumer's rupee worked out for production and marketing agencies (Table-18) showed that the retailer shared 42.10 paisa of the consumer's rupee, while the middlemen (wholesaler and commission agents) shared 35.86 paisa of the consumer's rupee; while the producer shared the lowest (22.04 paisa) in the production and marketing of date palm in district Kech of Balochistan province.

Table 18: Breakdown of consumers' rupee among various agents in date palm production and marketing in Kech district of Balochistan

Sr#	Agent	Net margin	Breakdown of consumers rupee
1.	Middlemen	795.38	22.04
2.	Middlemen (wholesaler, commission agent)	1294	35.86
3.	Retailer	1519	42.10
Total		3608.38	100.00

Cost benefit ratio

The term "cost benefit ratio" is basically a simple technique to calculate the cost with the benefit (net margin). It is simple and widely used to observe the farm efficiency. The cost: benefit ratio worked out for the present investigation (Table-19) indicated that the retailer earned 5.82 rupees (CBR=1:5.82) on investment of one rupee in the date palm marketing business, while the consolidate cost benefit ratio of middlemen (wholesaler and commission agents) was 1:3.03 indicating that on one rupee investment in the date palm marketing business, the middlemen (wholesaler and commission agents) earned 3.03 rupees as profit. However, the date palm producer earned the lowest ratio of benefit over the costs he paid and his cost benefit ratio was 1:0.27 indicating that in date palm production he pocketed only 27 paisa on payment of one rupee cost.

Table 19: Cost:Benefit Ratio of various agents in date palm production and marketing in Kech district of Balochistan

Sr#	Agent	Net Margin (X)	Expenditure(Y)	CBR X/Y=Z
1.	Date palm grower (producer)	795.38	2914.62	1:0.27
2.	Middlemen (wholesaler, commission agent)	1294	426	1:3.03
3.	Retailer	1519	261	1:5.82

Problems/constraints

The date palm growers of district Kech (Balochistan) were finally asked to perceive on the problems/constraints categorically they face in date palm production and marketing and they reported that farm to market infrastructure, high transportation costs, market facility to growers, quality seed, lack of date processing unit and cold storage, quality pesticides, high fertilizer and FYM price and timely availability, training of date palm growers for production and post-harvest handling and non-existence of soil testing facilities. According to the growers, farm to market infrastructure and high transportation costs were the rank-1 problems faced by 100 percent of the growers; while market facility to growers, quality seed and irrigation water, lack of date processing unit and cold storage were rank-2, rank-3 and rank-4 problems, respectively. The quality pesticides and high fertilizer and FYM price and timely availability were the problems at rank-5, while training of date palm growers for production and post-harvest handling and non-existence of soil testing facilities were the problems at rank-6 and rank-7.

In view of the present study, it could be argued that the government did not show its existence to help the date palm growers and in marketing infrastructure development in the study area of district Kech of Balochistan.

Table 20: Problems/constraints and their ranking as perceived by the date palm growers in Kech district of Balochistan province

Sr#	Problems	Frequency	Percentage	Rank
1.	Farm to market infrastructure	64	100.00	1
2.	High transportation costs	64	100.00	1
3.	Market facility to growers	62	96.87	2
4.	Quality seed	58	90.62	3
5.	Irrigation water	58	90.62	3
5.	Lack of date processing unit and cold storage	51	79.68	4
6.	Quality pesticides	47	73.43	5
7.	High fertilizer and FYM price and timely availability	47	73.43	5
8.	Training of date palm growers for production and post-harvest handling	32	50.00	6
9.	Non-existence of soil testing facilities	26	40.62	7

Discussion

The results showed that in the present study, the date palm growers in Kech district reported the average date palm yield of around 22 kg per tree; while Ahmad et al. (2004) reported that yield of Hillawi, Aseel and Shamran varieties was up to 81 kg, 79 kg and 71 kg per plant, respectively. It means that the yield of date palm in the study area was very low as compared to the potential yield. Probably, the farmers' knowledge regarding date palm production technology is poor and hence their yields are far less than the average yields. Al-Abbad et

al. (2011) suggested that there should be a good possibility to develop logistics that support marketing of dates, especially through agricultural cooperatives, besides further enhancing exploitation of state subsidies for date palm cultivation.

The present study further showed that the total estimated costs on date palm production were Rs. 225271.31/hectare which included Rs. 50903 land inputs, Rs. 66468 initial development of orchard, Rs. 76111 operational costs and Rs. 31789.31 marketing costs. Among initial orchard development costs, purchase of date palm suckers was the item of highest cost, followed by the farmyard manure and ploughing charges. The total land inputs including land rent and land tax accumulated to Rs. 50903/hectare. Among marketing costs the transportation charges were the highest amount of costs. The overall average date palm fruit yield was estimated at 77.29 maunds per hectare.. The income from date palm per hectare was estimated at Rs. 286745.90 against total costs Rs. 225271.31 resulting net returns of 61474.59 per hectare, resulting cost: benefit ratio of 1:1.27. The above analysis indicates that the production costs are very high as compared to the income received by the date palm growers in the study area. Eskola (2005) shows that the cost of date palm production is high when compared with the average date palm yields. Due to lower yields, the cost benefit ratio is not economical. It is suggested that the farmers may be trained for improved production practices and post-harvest storage, so that economic date palm production is ensured. Al-Hebshi (2007) indicated that BCR was 1.67, Net Income, 101,238 thousand YR and IRR, 18%. While in Wadi Surdud, Governorate of Hodeidah the BCR was 2.63, Net Income, 335,850 thousand YR and IRR, 20.7%. Marketing analysis indicated that the EPM was 56.31 in Hodeidah Market and 15.79 in Mukalla Market, which means improving market efficiencies will sustain the date palm for long-term investment. The above results clearly indicates that in Yemen, the date palm is produced systematically using improved production technologies and hence high yields are obtained and hence economic parameters are improved.

The marketing analysis indicated that total price spread was Rs. 3500.00 per maund while the product reached in the hands of ultimate consumer. The middlemen (Wholesalers and commission agents) and retailer earned marketing margins of 31.68 and 24.69%, net margin 75.23 and 85.34 %, markup 46.36 and 32.78 %. The retailer shared 42.10 paisa of the consumer's rupee, middlemen (wholesaler and commission agents) 35.86 paisa; while the producer shared the lowest (22.04 paisa) of the consumer's rupee. The retailer earned 5.82 rupees (CBR=1:5.82), middlemen (wholesaler and commission agents) 3.03 rupees (CBR=1:3.03) and date palm grower earned 0.27 rupee (CBR= 1:0.27) on payment of one rupee cost. These results are partially supported by Hassan et al. (2006) who reported net profit Rs. 50527 from date palm production in the Punjab and indicate that the date cultivation fetches higher returns, whereas benefit cost ratio is reasonably high (1.48) implying that investing one rupee in the date cultivation is highly profitable. The lower cost:benefit ratio in the present study area was mainly due to lack of communication facilities, non-existence of farm to market and many other barriers which increased the cost of production of the grower. Al-Hebshi (2010) reported that the middlemen gains a profit of about 4,256 $/ha, for the same year which means that the net marketing margin is 244% for the middlemen profit. Marketing is frustration for small farmers in Yemen. Farmer's production increased, but their income did not.

The present study further showed that farm to market infrastructure and high transportation costs were the problems of rank-1 faced by 100 percent of the growers. Market facility to growers, quality seed and irrigation water, lack of date processing unit and cold storage were rank-2, rank-3 and rank-4 problems, respectively. The quality pesticides and high fertilizer and FYM price and timely availability were the problems at rank-5, while training of date palm growers for production and post-harvest handling and non-existence of soil testing facilities were the problems of low ranking. These results are in agreement with those of Eskola (2005) who reported that inadequate physical infrastructure, lack of market information, and inefficient institutional framework are the major barriers in date palm production. Increased funding for physical infrastructure, improvement in fair access to credit and dissemination of market information are necessary to understand the full potential of agricultural trade as a tool in the fight against poverty. On the contrary, Jari and Fraser (2009) showed that farmers use recommended rates of inputs to their date palm trees and achieving attractive prices of their produce due to the quality parameters. The date palm farmer of this region is well aware of the production and marketing patterns and executes its entrepreneur according to the situation to earn high net returns. Abdulaziz (2011) argued that the investment in date palm plantation is not an easy decision by the farmers, because it needs couple of years spending without revenue. The farmers in the date growing areas were hesitant in providing information about the date variety, number of trees per hectare, tree age, fertilizers, pesticides, land ownership, intercropping, cost of production, total yield, quantity sold and price received. The study suggested further investigations on growing high quality date palms, date production and marketing aspects to harvest maximum profit by the farmers as well as support by the government for facilitating proper market and subsidies to date growers. Ata et al. (2012) revealed that farmers had very low level of knowledge about the production technology of date palm. The unawareness about production technology of the date palm was found as one of the major factors hindering the yield and ultimately profit for the date growers. The agricultural extension staff was

found to be ineffective in dissemination of date palm technology and most of the respondents reported that they had received no information from agricultural extension staff regarding date palm production technology. There is an urgent need to train farmers about irrigation and fertilizer application, disease and pest management, sucker transplanting and processing of dates.

Conclusion

Turbat and Panjgoor are the districts of excellence for their high quality and remarkable date palm production. Begum Jangi dominates in area and production of date palm in district Kech followed by varieties Halini, Hussaini, Goknah, Dishtri, Konzenabad, Muzwati, Pashpag, Shakri and Washakar. Most of the high quality date palm producing varieties have yield potential of 40-50 kilograms; while the mixed and unknown varieties possess yield potential lower than recommended varieties. The total date palm cultivated land with the 64 respondents of all farm categories was 943.34 hectares, and the average farm size was 21.01 hectares. The total estimated costs on date palm production were Rs. 225271.31 which included Rs. 50903 land inputs, Rs. 66468 initial development of orchard, Rs. 76111 operational costs and Rs. 31789.31 marketing costs. Among initial costs purchase of date palm suckers was the cost item of highest amount, followed by the cost on farmyard manure and ploughing charges. The total land inputs including land rent and land tax accumulated to Rs. 50903/hectare. Farmyard manure was the item of highest cost, followed by fertilization, pollination and harvesting/picking etc. Among marketing costs the transportation charges were the highest amount of costs.The overall average date palm fruit yield was estimated at 77.29 maunds per hectare. The date palm yield per hectare was lesser in case of trees below 10 years of age; while the yield substantially increased when the date palm trees were in the age of 10-20 years. However, the date palm fruit yield started decreasing when the age of the trees crossed 20 years. Washakar date palm variety fetched the highest sale price, followed by Begum Jangi, Konzenabad and Goknah, while hydrated form of dates (Chhuhara) is mostly prepared from Halini variety. It was reported that the market price is mostly quality dependent and healthy fruits safely harvested and safely packed fetches higher prices as compared to those their post-harvest management is poor. The income from date palm per hectare was estimated at Rs. 286745.90 against total costs Rs. 225271.31 resulting net returns of 61474.59 per hectare, resulting cost : benefit ratio of 1:1.27. The total price spread was Rs. 3500.00 per maund while the product reached in the hands of ultimate consumer. The middlemen (Wholesalers and commission agents) and retailer earned marketing margins of 31.68 and 24.69%, net margin 75.23 and 85.34 %, markup 46.36 and 32.78 %. The retailer shared 42.10 paisa of the consumer's rupee, middlemen (wholesaler and commission agents) 35.86 paisa; while the producer shared the lowest (22.04 paisa) of the consumer's rupee. The retailer earned 5.82 rupees (CBR=1:5.82), middlemen (wholesaler and commission agents) 3.03 rupees (CBR=1:3.03) and date palm grower earned 0.27 rupee (CBR= 1:0.27) on payment of one rupee cost. Farm to market infrastructure and high transportation costs were the problems of rank-1 faced by 100 percent of the growers. Market facility to growers, quality seed and irrigation water, lack of date processing unit and cold storage were rank-2, rank-3 and rank-4 problems, respectively. The quality pesticides and high fertilizer and FYM price and timely availability were the problems at rank-5, while training of date palm growers for production and post-harvest handling and non-existence of soil testing facilities were the problems at rank-6 and rank-7.

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APPENDIX
LIST OF DATE PALM GROWERS OF KECH DISTRICT USED AS RESPONDENTS

Sr#	Name of Zamindar/farmers	Address.
	Mr. Sardar Abdul Rehman	Rameez General Store Main Road Absor
	Mr. Master Abdul Ghafoor	Govt. Boys High school Absor Turbat
	Mr. Haji Dad Muhammad	C/O Grid Station Turbat Absor
	Mr. Akhtar Ali	Settlement Office Turbat
	Mr. Waja Basher Ahmed	Rameez General Store Main Road Absor
	Mr. Haji Muhammad Umer	Muhammad Azeem Sawali General Store Turbat
	Haji Bashir Ahmed	Haji Barket General Store Turbat
	Mr. Khuda Asmi	Muhammad Azeem Sawali General Store Turbat
	Dr. Faquir Muhammad	C/O Faquir Medical Store Turbat
	Mr. Mir Ikram Dashti	Khudan Tehsil Khudan District Kech.
	Mr. Aziz Dashti	Khudan Tehsil Khudan District Kech.
	Mr. Mir Hamal Dashti	Khudan Tehsil Khudan District Kech.
	Mr. Manzoor Ahmed	GDA Officer Gwadar
	Mr. Tariq Baloch	Village Goburd Tehsil Tump District Kech
	Mr. Mir Abdul Ghafar (Mulla Bux)	Village Bulu Mand Tehsil Tump District Kech
	Haji Allah Baksh Askani	Village Bulu Mand Tehsil Tump District Kech
	Mir Qadir Bakhsh	Village Goburd Tehsil Tump District
	Mir Kamalan Rind	Village Nazarabad Tehsil Tump District Kech
	Chairman Dist Muhammad	Village Gomazi Tehisl Tump District Kech.
	Mir Muhammad Khalid Rind	Baloch Air Conditioner Shop near Boys Moddle School Turbat
	Mr. Haji Mohammad Aslam	Village Jusak Turbat Kech
	Mr. Haji Ali	Village Shahrak Tehsil Turbat
	Dr. Tariq Baloch	Village Nasirabad District Kech
	Mr. Manzoor Pullin	C/O Dr. Clooney Turbat
	Major Aziz Ullah	Kech Floor Mil Turbat
	Khalil Katwar	Village Ginnah District Kech
	Ziaudin	Village Nazarabad Tehsil Tump District Kech
	Abdul Rehman Dashti	C/O Settlement Officer Turbat
	Mir Zafarullah Gichki	B/R Hospital Turbat
Sr#	**Name of Zamindar/farmers**	**Address.**
	Dr. Muhammad Haleem	DHQ Hospital Turbat
	Mr. Dur Muhammad	C/O OFWM Office Turbat
	Mr. Ahmed Ali	Shahrak Tehsil Turbat Kech
	Mr. Ghalam Farooq	Jusak Tehsil Turbat Kech
	Tekadar Zubair Ahmed	Village Kalatuk District Kech
	Muhammad Jan	Village Kalatuk District Kech
	Ellahi Bakhsh	Village Ginnah Tehsil Turbat District Kech
	Shah Bakhsh	C/O Shah Petroleum Services Turbat
	Mr. Bashir Ahmed Rind (Ex-Director Agriculture)	Village Ginnah Tehsil Turbat District Kech.
	Mr. Bashir Ahmed Kasanwi	Village Kasanu Pulabad Tehsil Tump District Kech
	Mr. Sheer Jan	Village Jusak District Kech
	Master Din Muhammad	Village Jusak District Kech
	Waji hasil Khan	Village Jusak District Kech
	Muhammad Arif	Village Sarikahn Tehsil Turbat District Kech
	Master Muhammad Saleh	Village Sarikahn Tehsil Turbat District Kech
	Haji Ahmed	Village Minu Tehsil Turbat District Kech
	Lal Bakhsh Azad	Village Balnegour Tehsil Dasht District
	Fazal Karim	President Bulida Zamindar Union Bulida
	Abdullah Murad	General Secretary Blida Zamindar Union Builda
	Umid Ali	Bulida Zamindar Union Office Bulida
	Mir Muhammad Anwar	Bulida Zamindar Union Officer Bulida
	Captain Muhammad Mehrab	President Kissan Union Turbat C/O Surani Kallag District Kech.
	Aziz Ahmed Mehrab	Village Pidark District Kech
	Ghulam Nabi	C/O EDO Extension Turbat (Zamindar Bahoot Chat Mirani Command Area)
	Liaquat Ali	Village Shahrak District Kech
	Mir Abdi Khan Rind	MMD Colony Turbat
	Mir Ghulam Nabi	Mekran Petroleum Service Main Road Turbat
	Mansoor Rind	Village Nasirabad District Kech
	Ali Jan	C/O Imran General Store Main Road Turbat
	Waja Mir Dost Muhammad	Village Shahi Tump District Kech
	Waja Haji Abdullah (Ex-Director Agriculture)	Village Shahi Tump District Kech

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