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AGRICULTURE AND SOCIETY IN MAKRAN

***A REPORT FOR:
RURAL DEVELOPMENT DIVISION
OFFICE OF AGRICULTURE AND RURAL DEVELOPMENT
USAID/ISLAMABAD***

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INTRODUCTION

Baluchistan Area Development (BALAD) Project was initiated in 1984 with a view to improve the quality of life for people of Makran Division through the construction and improvements of roads, water infrastructure and the institutionalization of planning and monitoring process of the Government of Baluchistan (GOB). Within the last four years BALAD has made significant contributions towards meeting the project objectives. In the water infrastructure sector four types of activities have been undertaken: Construction of delay action dams, Water course improvements, Karez boring and improvement. The results of the later three activities have been immediate and in some cases dramatic (in the availability of more water). Monitoring the impacts of delay action dams and recharge schemes on water availability is continuing. Indications are that these schemes may also avail considerably more water to the people of Makran.

In January 1989 the USAID Office of Agriculture and Rural development (O/ARD) sent a team of an agronomist and a social anthropologist to conduct a preliminary survey regarding the problems and prospects of agricultural production and marketing in Makran. In the context to the extra water resources available through BALAD efforts, the specific objectives of this survey was to identify areas of intervention in agriculture sector. Additionally, the survey findings were also expected to help define the scope of work for the BALAD agronomist to be posted in Turbat for the remaining period of the project, i.e. December 1990. It is also hoped that the findings from this survey would have some value towards identifying areas of assistance if and when USAID and GOP decide to have a BALAD II project.

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where is it
This report constitutes the sociological aspect of the survey. The agronomist's report has been submitted to O/ARD separately.

The findings of the survey presented in this report have focused on the sociology of land and water and traditional mechanism regulating their use in maintaining Makran's agro-economic system. The report analyzes different aspects of the changing socio-economic systems that have explicit or implicit relationship to agricultural practices in Makran.

The report is divided into four chapters. The first chapter provides background information on the history and population of the area. The second chapter deals with Makrani social structure and its relationship to agriculture related issues such as water, land, food habit, etc. This chapter also includes information on the traditional and prevailing agricultural practices and production system. Chapter three contains an analysis of various problems presently faced by Makran's traditional agricultural system. The final chapter summarises the report with an outline on the emerging trends in Makran's agriculture system and makes recommendations for action.

The field survey for this report was conducted in January 1989. The author visited many rural communities and interviewed (without structured questionnaires) scores of farmers regarding their preceptions on the problems of Makran's agriculture. Concerned offices of the Government of Baluchistan located in Turbat, Panjgur, and Pasni were visited for the purpose of gathering information and data pertinent to the survey.

Considerable help and cooperation, herewith gratefully acknowledged, was provided by the members of the BALAD project team Mr. Abdul Rashid Baluch (BALAD Sociologist), Mr. David Douglas (BALAD Water Resources Engineer), Mr. Ned Herring (BALAD Road Engineer) and Mr. Mirza Masood Hassan (Director, Project Planning and Management Unit).

CHAPTER 1
MAKRAN: HISTORY, LAND AND PEOPLE

I. MAKRAN THROUGH THE PAGES OF HISTORY

The year; 325 B.C. The event; part of Alexander's army passing through Makran on its way from India to Macedonia. Greek author Arrian, a contemporary of Alexander, later described the experience:

The blazing heat and want of water destroyed a great part of the army, and especially the beasts of burden (camels), which perished from the great depth of the sand, and the heat which scorched like fire (Gazetter of Baluchistan 1906, p.35).

Environs of Makran did not seem to be hospitable to Alexander's army of home bound travellers. Almost 1000 years later when Abdullah Bin Abdullah invaded Makran and won the battle over the then ruler called Saad, the victory did not seem to have excited the winner either. In 643 A.D., upon his victory over Makran, Abdullah reported the following to Caliph Umar in Iraq:

O! Commander of the faithful, it [Makran] is a country of which the mountains are mountains indeed, and the plains of which are real mountains; it is a country with so little water that its dates are the worst of dates and the inhabitants are the most warlike of men. If you hast a less numerous army there, it will be annihilated and could do nothing; and if thy army is considerable, it will perish of hunger because there are no victuals. The country beyond is still worse (ibid)

Agonies of victory! Indeed, a rare event in the history of war where victory rather than defeat commands sympathy.

Over the centuries Makran seems to have attracted the attention of many invading armies not because it offered anything of importance, but basically because Makran just happened to be on the way to something better, i.e., Sind and the Indian Sub-Continent. Makran was on the cross-road, strategically located, and thus needed to be subjected so that the plunders beyond Makran could be successful. The Portuguese, in search of the 'Fabulous East', seemed to have been so enraged with the poverty that in 1581 A.D. they burned Pasni and Gwadar in their anguish. History seems to be full of cases of 'benign-neglect' towards Makran. It is said that during the fifth century the King of India even gave the entire Makran to the ruler of Iran as a dowry in his daughter's marriage - a very wise diplomatic move that made a lot of economic sense. For the eastward expansion of Islam Makran became the gateway and hence, came to be known as 'Babul Islam' (gateway of Islam). Each invading group did not, however, establish permanent settlement because there was not enough food and water for such settlements. Hence, through periodic invasion of Makran by the Iranians, Ghaznavids, Turks, Seljuk, Portuguese and Ghorids and others took place over the centuries, the effective control of the area always reverted back to the local chieftains.

Upon the establishment of Islam in Sind, Makran lost its strategic importance, and hence the fighting for the supremacy in Makran seemed to have been localized in nature. Beginning the sixteenth century the Khans of Kalat ruled Makran through locally appointed Naibs (governors). British attention was drawn to Makran in 1838 at the time of the outbreak of the first Afghan war. At about the same time the operation and maintenance of the Persian Gulf Telegraph - linking India with Europe - required the British to firmly keep Makran under control.

Through threats of war with dire consequences the British made the then Khan of Kalat accept their supremacy and appointed him as Nazim (ruler) of Makran in 1899. Consequently, armies of the Khans and other chieftains were disbanded and the present Makran Levy was established by the British in 1904. Makran became part of Pakistan after the partition in 1947 and in 1955 it was merged with the province of West Pakistan. Makran became a district of Baluchistan in 1970 and in 1977 was made one of the four divisions of Baluchistan province.

In medieval times the Arabs called the area, including the Iranian Makran and the adjacent areas, as Maukarn. The Persians identified the area as 'Mahikhoran' or the land of fish eaters. The Greeks at the time of Alexander, called it 'Gedrosia' or 'Mekia'. In any case, a look at the Makrani's fondness of fish in their daily diet, even at places far away from the sea - is revealing in that the present term Makran may be an abbreviation of the Persian word 'Mahikhoran'.

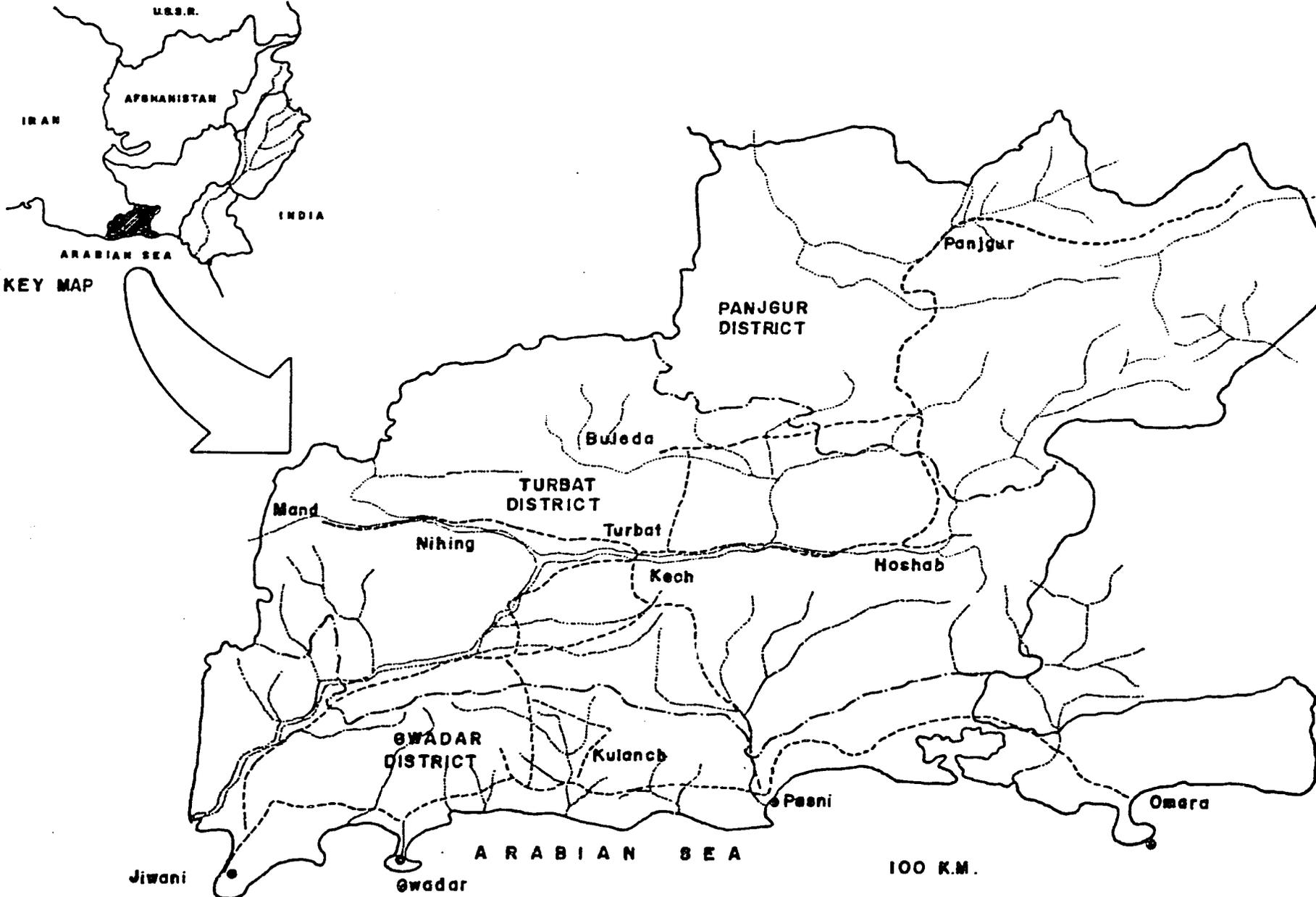
II. GEOGRAPHY AND ECOLOGY

Present Makran is one of the four divisions of Baluchistan that borders Iran in the West, Kalat Division in the North and East and the Arabian Sea in the South. (see map on p.4)

Makran Division is divided into three districts for administrative purposes, Panjgur, Turbat and Gwadar. The three districts have a total area of 54,646 Sq. Kms. which amounts to 16 percent of the total area of the Province of Baluchistan. Most of Baluchistan's and thus Pakistan's, sea coast lies in Makran as well.

Due to low humidity and scanty and very irregular rainfall (see Annex-1 for the years 1911-1987 rainfall pattern in Turbat), the climate of Makran is arid and desert like. However, the three districts possess

MAP OF MAKHRAN DIVISION



some variations in climate due to their ecological situation. The three main mountain ranges traversing Makran from East to West, define these three district ecological axis.

The coastal district of Gwadar is separated from Turbat District by the Makran Coastal Ranges. The small valleys enclosed by this range rise up to the height of about 200 feet above sea level. The climate of this area is moderate, ranging mild in winter and hot in summer. However, the seasons in the Coastal Range area are less marked than in the interior. Since rainfall is less than two inches per year and also due to its proximity to the sea, even finding enough drinking water is a great problem in Gwadar District. There is very little agricultural activity and fisheries provides the main source of livelihood for the coastal range population.

The mountain range immediately north of the Coastal Range and located at the center of the division is known as Central Makran Range which encompasses the district of Turbat. This range includes the Kech River Valley which stretches from Mand to Khushab in the East and other smaller valleys of Buleda and Balgattar. The elevation in these valleys ranges from 500 to 1000 feet above sea level. Climatically, this is the hottest part of Makran, where, as the Makrani saying goes, "eggs can be fried and bullets melted if exposed to sun during summer".

The northern most district of Makran, Panjgur is separated from Kalat Division by Siah Range. Panjgur District consists of the valleys of Panjgur, Rakhshan, Parom Dast, Gichk and Shahbaz. The elevation of these valleys varies from 3000 to 4000 feet from the sea level. Due to higher elevation, Panjgur is moderately hot in summer but cold in winter, especially during December and January.

Agriculture provides the main source of livelihood for the population of Turbat and Panjgur. There is approximately three weeks of seasonal variation between these districts. Panjgur, located in higher elevation, has early winter and late summer. Due to climactic variation agriculture practices between the two districts also differ to some extent.

III. POPULATION OF MAKRAN

According to the 1981 census the population of Makran (in 1980) was 652,602. During the inter-censal period of 1971-81, Makran's population grew at an average rate of over ten percent annually. Assuming the post 1981 population growth has followed the national growth rate of three percent annually (instead of an annual growth rate of over ten percent during the 1971-81 period), Makran's estimated population in 1989 would be over 800,000 and is projected to double by the year 2004. The district wise population distribution (as per 1981 census) in Makran Division is as follows:

TABLE 1
POPULATION OF MAKRAN BY DISTRICT

District	Area in Sq. Km.	Population	Percentage
Panjgur	16,891	160,750	24.63
Turbat	22,539	379,467	58.15
Gwadar	15,216	112,385	17.22
TOTAL	54,646	652,602	100.00

Seventy percent of Panjgur's population is settled along the bank of Rakhshan river and its tributaries. Remaining population is divided between Parome (25%) and Gichk (5%) areas of the district. Of the Turbat district population of 379,467 almost eighty percent or 300,414 people live in Kech and Nihing river valleys. Of the remaining, 26,716 people (7%) live in Dasht area and the rest of the population 52,337 (13%) is scattered at various places within the district. Over seventy percent of Gwadar district's population is settled along the coastal towns of Jiwani, Peshkan, Gwadar, Sur Bandar, Pasni, Ormara and other smaller settlements. About 33,715 or thirty percent of Gwadar's population lives in the interior.

Another facet of Makran's population is reflected in its urban-rural composition. As the following table indicates Makran's urban population grew by over 900 percent during the past 30 years, i.e., 1951-1981.

TABLE 2
MAKRAN URBAN-RURAL POPULATION

How defined.

Year	Urban Population	Percentage	Rural Population	Percentage	Total Population	Percentage
1951	10,471	7.6	128,220	92.4	138,691	100.0
1961	28,733	19.0	121,895	81.0	150,628	100.0
1971	74,431	24.5	229,579	75.5	304,010	100.0
1981	105,085	16.1	547,517	83.9	652,602	100.0

*10 471
900.00
9,423,000 ?*

*Get it Right
2% PA. urban
5% PA Rural
5.3% PA TOTAL*

Rapid urbanization often creates problems in providing social services such as water, power, education, health, etc. Concomitantly, however, urbanization is also indicative of industrialization, creating more opportunities for employment - and eases the logistics of providing social services to the population. It is also cheaper to provide social services to urban population than to isolated rural communities. In the economic development context of Makran the trend towards urbanization, thus, could be viewed positively.

8% a year over 30 years :
is ~~hardly~~ hardly a rapid figure for
Pakistan.

CHAPTER 2
MAKRANI SOCIAL STRUCTURE AND THE
ORGANIZATION OF AGRICULTURE SYSTEM

I. MAKRANI SOCIAL STRUCTURE

Over the centuries various races, Aryans, Dravidians, Semetic and African Blacks have amalgamated to form the present population of Makran commonly known by the generic term Baluch. Furthermore, language, the economic realities of an oasis agriculture system and religion have acted as an unifying factors in forming the identity of the Makrani Baluch. Even today, with an outsider a person from Makran is a Baluch, among Baluch, however, he is a Makrani. The Makrani identity is strong and taken with pride.

Unlike in other parts of Baluchistan where tribes and tribal affiliation define the basic parameter of ethnicity, the traditional Makrani social system is based on a three tier class structure: the landed gentry known as Hakim, the Baluch and the Hizmatgar. The landed gentry belong to the traditional ruling class who either came from outside or rose from the existing population into an economically dominant position. The Baluch, originally the nomadic pastorilist and a semi-settled agriculturist, formed the second tier of the Makrani class structure. The lowest group, Hizmatgar, were the landless people that worked as agriculture laborers, slaves, fishermen, and artisans. In the past and to some extent even today, various social systems, which reinforced the maintenance of this class structure, were and are being followed. Main among them is the system of marriage and bride-price (labb). In a traditional Makrani social mileu marriage takes place between equals; i.e. within one's class. The bride-price (labb) among the Hakim class is very high and

invariably includes land and water rights. Since they owned most of the land in the past, it was often not possible for the other two groups to gather enough bride-price to marry in a Hakim family. But on the other hand, when a Hakim married a girl from Baluch family, which did not happen often, he paid a considerably lower bride-price than he would pay for a girl from his own class. Marriage between the two upper classes and the Hizmatgar did not take place. Recently, however, due to low bride-price, some poor Baluch have started marrying girls from the Hizmatgar class. Another custom which reinforced and kept the traditional class structure intact was the system of blood compensation. Until the British took the administration of Makran, the Hakims were almost free to kill members of Baluch and Hizmatgar class and not be required to pay any blood compensation. In 1899, however, an agreement, attested by the British Political Agent, was signed by various groups of Hakim class which fixed the blood compensation at the rate of Rs. 3,000 for better class Baluch, Rs. 2,000 for an ordinary Baluch and Rs. 500 - 1500 for a person of Hizmatgar class.

Over the years, though, the system of blood compensation has ceased to exist, the inter-class marriage and the bride-price system has not changed much. Nowadays the bride-price among well-to-do families is stated to be as high as Rs. 500,000 to a low of Rs. 50,000 among lower middle class Baluch. The peculiarity of the bride-price in Makran seems to lie in the fact that unlike in other Baluch and Pathan tribes where bride-price is received and kept by the girl's father, in Makran it becomes the girl's property. It is not uncommon to find a Makrani who will point towards his house and say "the house belongs to me and the land around it belongs to my wife". This system may have enhanced a wife's position within the household discouraging divorce - the husband would be hardpressed to find extra land for another bride-price - and thus provide a stable family environment. However, in all other aspects, e.g., social, political, etc., women's position in the Makran society on

the whole does not seem to be any different from that of other Baluch and Pathan societies outside of Makran.

II. HOUSEHOLD COMPOSITION

A household in Makran, like every where else, is the basic unit of organization in the social structure that acts as the focus of economic, social, religious and cultural activities at the micro level. As the following tables indicates, household composition patterns in the last few decades seems to be changing rapidly in Makran.

TABLE 3
HOUSEHOLD COMPOSITION IN MAKRAN

Year & %	Households with Number of People				
	1-4	5-7	8-9	10 & above	Total
1961	18,667	13,301	2,302	963	35,253
%	53.0	37.8	6.5	2.7	100
1971	20,355	21,333	6,580	4,701	52,968
%	38.5	40.2	12.4	8.9	100
1981	13,611	22,918	19,459	26,313	82,301
%	16.5	27.9	23.6	32.0	100

Source: 1961, 1971 & 1981 GOP Housing Census Reports

It is interesting to note that while other parts of Pakistan seem to be experiencing a declining pattern of joint-family system, Makran is

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ONLY SIZE WE KNOW NOTHING OF COMPOSITION

about other aspects of age sex

MANY exceptions exist

getting larger

*In Addition to
 Size what are
 the other characteristics
 of extended families?
 ARE THESE OTHER
 characteristics displaced
 in any form in
 MAKRAN?*

following a reverse trend. If households with more than eight members were to be considered as an extended or joint-family households, majority of households in Makran today would be classified as joint families. The following table indicates the change during the past three decades on the number of households with eight plus members.

TABLE 4
 HOUSEHOLD WITH EIGHT PLUS MEMBERS

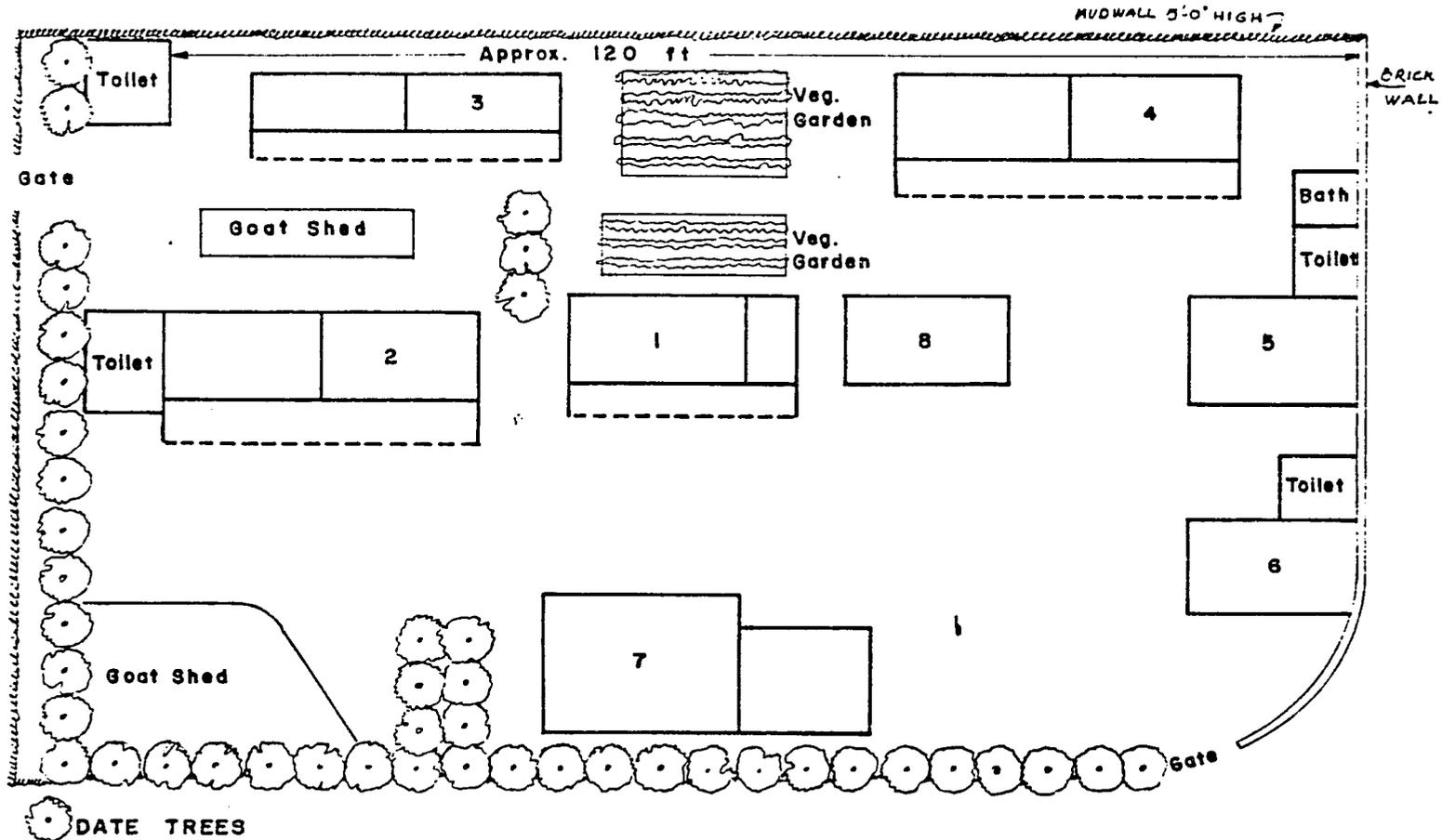
Year	No. of Households	Percentage
1961	3,265	9.2
1971	11,281	21.3
1981	45,772	55.6

Source: 1961, 1971 & 1981 GOP Housing Census Reports

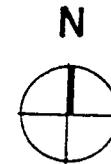
The 1981 Housing Census further indicates that almost 32 percent (or 26,313) of the above households have more than ten family members.

It is generally accepted that the nature of household composition is dependent upon the economic system a society follows. Industrialization and urbanization are considered conducive to smaller families. While economies based on hunting and gathering or that of nomadic population that rely on animal husbandary, also have smaller families. Joint family system, on the other hand, is characteristic of pre-industrialized agriculture economy. Though Makran's economy could be classified as a pre-industrialized agricultural economy, but can this really explain the increasing trend towards the joint family system? If so, has Makran's agricultural economy developed commensurate to the ratio of growth of joint family households or the population growth in the last few

SKETCH OF A UPPER MIDDLE CLASS JOINT FAMILY COMPOUND WITH LIVING QUARTERS



1. ONE BED-ROOM HOUSE FOR PARENTS
2. TWO BED-ROOM HOUSE FOR ELDEST SON AND HIS FAMILY
3. TWO BED-ROOM HOUSE FOR SECOND SON AND HIS FAMILY
4. TWO BED-ROOM HOUSE FOR THIRD SON AND HIS FAMILY
5. ONE BED-ROOM HOUSE FOR A WIDOWED DOUGHTER AND HER CHILDREN
6. ONE BED-ROOM HOUSE FOR THE FA'S BR'S SON AND HIS FAMILY
7. HOUSE WITH A COMMON KITCHEN AND VISITOR'S
8. ONE BED-ROOM HOUSE FOR VISITING RELATIVES



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decades? Available data indicate that the total acreage for major ^{field} crops (wheat, rice and barley) cultivation has gone down from 15,500 acres in 1951 to 10,390 acres in 1981, i.e., a drop of over 32 percent in thirty years. Similarly, the acreage of date cultivation, which is the basic diet of rural population in Makran, has not registered any significant change during the 1971-81 decade. In 1971 date was cultivated in 15,400 acres, while in 1981 this acreage was 15,792, i.e. a growth of a slightly over two percent.

There are no clear cut answers to this unprecedented phenomenon towards joint-family system in Makran. One can assume that the decline in grazing conditions over the years have forced the band of herdsmen families to look for other economic activities in and around urban areas. These families, in the absence of any tangible property to divide between themselves, many have started living in a joint family situation. This assumption would be particularly supported by the fact that the herdsmen population has declined from 18 percent of the agricultural sector labor force in 1961 to two percent in 1981. The other explanation could be that due to the migration of males from families, children and females in Makran began to be looked after by elder males, which in the course of time provided impetus to joint-family system. Third explanation could be that the information provided by the various post 1951 population census undertaken by GOP may represent fairly extensive lapses in figure. — ?

III. FOOD PATTERNS AND THE ROLE OF DATES

The modern day Makrani takes three meals a day. The morning meal called 'Argband' (in Baluchi language 'empty-stomach break') consists of black tea and nan or chapati type bread. The afternoon (1-2 p.m.) 'Nari' (mid-day break in Baluchi) or lunch includes rice, bread, fish and dates. The evening meal or 'Sham' is eaten at about 8 p.m. and consists

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of somewhat similar food items as that of Nari. In between meals Makranis consume a lot of dates.

With some variation between the rich and the poor, wheat, dates and fish form the main diet in Makran. Thanks to the governments subsidy program, wheat, previously considered a luxury by the poor, is readily available in affordable prices (Rs. 2-3 per kg of wheat flour). It has replaced dates as the main item of daily diet in Makran. In the coastal region fish and bread are the favorite items of daily consumption. The coastal traders supply the interior population with dried fish. These days many well-to-do families cook fish in the form of curry, while the poor families boil it with salt and eat the bread and dates with the soup and the fish meat at the end of a meal.

Makrani food patterns seemed to have changed a lot over the years (Annex-2). However, the value of the dates in its importance in Makrani economy and diet as well as its cohesive role in bringing the Makrani society together still remains true. The four months from July to September is the hottest part of the year in Makran. But this is the season of "amen" or date harvesting. For outsiders it may be the most uninviting season due to the oppressive summer heat, Makranis on the other hand, are said to be the most happy during this period. The whole of Makran is said to exhibit a festive atmosphere during amen. The pastoral nomads as well as the coastal fish people converge in Kech and Rukhshan valley during the date harvesting season. A custom called 'Chinki' allows anyone to collect the dates fallen on the ground without permission from the owner of the tree. Amen accords the intermixing of various groups of Makranis, e.g. the mountain people, the nomadic herdsmen, the fish people and the agriculturalists. Until the early 1940s, when the Makrani economy was more or less self-contained and functioned on a barter system, amen also provided an opportunity of

trading between various groups. These days, though, trading has been taken over by professional traders, people still look for the coming of this festive season.

The importance of date is reflected in the Makrani social system as well. Even some of the kinship terminology, e.g. 'bun' - relatives dating back four generations or more - is applied to date trees that branch from one mother tree. Furthermore, the Makrani marriage system requires that land with date trees must be given as part of bride-price (labb). Among well-to-do families the system is still practiced. Farmers, even with a small landholding, aspire for date trees so that his son would get married.

IV. LAND AND THE CHANGING SOCIAL SYSTEM

Makran has plenty of unused land, but most of it is waste land. Arable land is limited. It used to be that the vacant land belonged to nobody but Allah, and thus anybody could cultivate the land and claim ownership. These days, however, the government has claimed ownership of all the vacant land in Makran.

Due to the unchecked and unbelievably high population growth during the 1961-81 decades and very unfavorable rainfall patterns (8" annual rainfall in 1911 to 3" at present) the pressure on arable land in Makran has been pronounced. Subsequently, the value of the agricultural land has gone up tremendously, making it (the arable land) the most scarce commodity and beyond the reach of the working class population. The result of all this seemed to have been the further strengthening of the system of bride-price (labb). Since land and date trees are part of the bride-price one pays to get married, every father in Makran aspires to get some land from his daughter's would-be-in-laws. The requirement of land to get married, as the following table indicates, seemed to have

WAS 1911 AN OUTSTANDING YEAR
a 10 YR AVERAGE IS MOST APPROPRIATE

TABLE 5
MARRIED AND NEVER MARRIED POPULATION OF 20 YEARS OF AGE & ABOVE

Census Year	Marital Status	Male	Percent	Female	Percent
1951	Married	25,478	87.5	23,157	96.9
	Never Married	3,663	12.5	750	3.1
1961	Married	30,101	88.0	26,269	98.4
	Never Married	4,078	12.0	437	1.6
1971	Married	54,689	81.5	51,033	94.0
	Never Married	12,409	18.5	3,251	6.0
1981	Married	94,277 ^{4.5%}	78.6	89,404 ^{4.6%}	91.3
	Never Married	25,516 ^{6.7%}	21.4	8537 ^{9.4}	8.7

Source: GOP Census Report of 1961, 1971, and 1981.

created a large number of twenty and above age male bachelors. The population of never-married females in the same age category is comparatively lower. *But is growing @ a 8.4% rate vs 6.7% for males*

What is remarkable in the above figures is that, contrary to the number of females that remain unmarried in other South Asian Society (due to the dowry system), it is the males that remain unmarried in Makran. Although the system of bride-pricing alone may not be the only reason for the large number of bachelors in Makran, but the subsequently increasing percentage of never-married male population of above the age of 20 during

the last 30 years (12.5 percent in 1951 to 21.4 percent in 1981) can be assumed to have a direct relationship with the availability and value of arable land. Thus for a Makrani land not only provides a source for livelihood, but it is also a social necessity.

In earlier days most productive tract of land in Makran was exclusively owned by the Hakims - upper class ruling families. The middle class possessed some land in less productive areas and depended on the combination of agro-pastoral economy. The people of Hizmatgar class tilled the rented land. After the partition, however, the economy based on the class system started to change. The Hakims who ruled over the population on behalf of the British masters thousands of miles away, lost their ruling status. Subjective rules of the law, as practiced by the rulers previously, was replaced by the objective criterion of administration. The old system lost its conceptual base and legitimacy. All Makranis became the equal citizens of Pakistan. The government accepted the responsibility of 'Roti', 'Kapra' and 'Makan' (bread, clothing and shelter) for all Pakistanis. At about the same time new economic frontiers opened up for the Makranis in the oil rich Gulf States of the Middle-East. The overseas employment opportunities, however, did not attract the upper and middle class Makranis. It was the landless lower classes, who had nothing to lose by leaving, who found employment in Oman and other Gulf States. After many years of employment overseas these people are returning to Makran with their savings (Annex-3). They have the wealth and they now want the accompanying social status and prestige. Land ownership, of course, is the pre-requisite for both.

These days in all urban localities, and in some cases even in rural areas in Makran, a visitor will invariably notice an area of vacant land (half an acre to two acres) surrounded by walls. This is where the savings

619,020

from years of overseas employment is being placed. The demand for arable land is so high that some land holding families, who previously refused to sell their land at any cost, have started selling land. These days the Gulf returnees are paying upto Rs. 400,000 for an acre of irrigated land in Kech valley. Obviously, the productive value of such land is far less than the price paid. It is not the economy of the land that seemed to matter for the buyer, but the mere fact of being a land owner, which the Hizmatgar class never had the privilege previously, itself seemed to compensate for the bad investment. The land ownership and purchase of four wheel drive pick-up trucks (for renting and transportation) by the Gulf returnees are part of the process indicative of the new social order in the making.

V. KAREZ, SARISHTA AND THE WATER

Like land, water is an extremely valuable commodity in Makran. This is indicated in the form of Makrani hospitality, where visitors and guests are offered a glass of water as a gesture of friendship and the host's generosity. The Makrani saying "Yak Tasey Aap Bawar, Sadsal Wafa Bekin" (Be loyal for 100 years to the person that offers you a glass of water) most aptly describes this custom.

Karez (a horizontal underground channel that carries water from one aquifer located at a high elevation to agricultural lands at lower elevation) and Kaurjo (open channel that carries water from the semi-perennial rivers to the fields for irrigation) are the source of drinking as well as irrigation water in Makran. Karez and Kaurjo construction and maintenance is both costly and time consuming. Hence, all Karez and Kaurjos in Makran are owned by a group of investors who also own the land in the command area commensurate to their investments. Each Karez and Kaurjo - some of which are over a thousand years old - is headed by a supervisor called Sarishta. A Sarishta is responsible not

only for the maintenance of the water channels but also looks after the distribution of water and mediates water disputes between shareholders.

During the pre-partition period Sarishta was also responsible for collecting the government share of the revenue from the shareholders. As the manager of the most important commodities in Makran's economy - land and water - a Sarishta, in the old days, occupied a very key position in the Makrani social system. He was the leader of a group of investors who relied on his judgment and sought advice and intervention during inter and intra group conflicts. However, over the years the Sarishta's leading position has gone through a drastic change. Of the many reasons for this change is the fact that the Sarishtaship is a hereditary position. The original Sarishtas must have wanted the privilege of their positions to continue to their families for ever. Thus, if the original Sarishtas came from a leadership and influential positions, later on, regardless of the quality of leadership, their sons simply inherited the position, and thus incompetency kept being ahead of changing socio-economic requirements for leadership.

~~The~~ other reason for the declining role of a Sarishta in Makran is the introduction of diesel pumps to pump underground water for irrigation. Many well-to-do farmers, especially in Kech Valley, have installed diesel pumps to irrigate their land. This is a new development that has not only minimized the Sarishta's role and social standing among the water users, but is creating a lot of dry karezes as well. Furthermore, the introduction of diesel pumps by individual farmers is slowly eroding the concept of cohesiveness of an economy and the institution of the Sarishta which regulated the use of water.

Though dates, water and land are still important and visible aspects of Makran's economy, due to the changes in the socio-economic system, the

mechanism regulating and maintaining the functioning of the entire system is passing through tremendous strains.

Irrigated farm lands in Makran depend on water from three sources: the traditional system of Karezes, Kaurjos, and lately, tubewells with motorized pumps. The land irrigated by a Karez or Kaurjo is known as 'dayat' and is distributed in proportion to the investment made by each shareholder. The capacity of a particular Karez or the portion of water rights owned by various shareholders of a Karez is expressed in terms of a unit called 'hangam'. A 'hangam' is further divided into units and subunits known as 'nim-hangam' (half hangam), four 'tassu', eight 'nim-tassu', or thirty-two 'tas'. The water supply is measured in terms of these units and distributed to each shareholder according to his share by a person appointed by the Sarishta. However, the quantity of water of one hangam differs from one Karez to another. For an outsider a further confusion is created by the fact that Makranis also use the word hangam in denoting their land holding. If two Makranis say that they own two hangams of land each (located at different places and irrigated by different Karezes), it does not mean that they own the same amount of acreage of land. Depending upon the water flow, a given Karez or a Kaurjo, may irrigate anywhere from 15-100 acres of land. The number of shareholders in a given Karez or Kaurjo is also dependent upon the quantity of water and agricultural land available at the command area. But traditionally, for the convenience of weekly distribution of water, a Karez or Kaurjo share is kept at a number that is either seven or a multiples of seven, such as fourteen, twenty-one, twenty-eight, etc.

There are 415 different known Karezes and Kaurjos in Makran. Of these, 58 (13.9%) Karezes/Kaurjos have been dead for the past ten years or so. Presently, Makran has 348 functioning Karezes/Kaurjos. A complete list of these Karezes/Kaurjos has been compiled by the Baluchistan Area Development (BALAD) Project.

How big is a "hangam"?

VI. AGRICULTURE CYCLES, MAJOR CROPS AND PRODUCTION

Farmers in Makran divide the year into four periods based on the sowing and harvesting of different crops. These are: (1) Peshkishar or the sowing of the spring crop, (2) Jopag or the period of spring crops harvesting, (3) Karrai, period for sowing autumn crop, and (4) Eraht or the period of autumn crop harvesting. The spring crop sowing season begins from October (15/20 days later in Panjgur because of colder climate) and lasts till the end of December. The harvesting of this crop takes place between March 15 to April 15. The Autumn sowing takes place between the end of April to July 15 and is harvested after 100-120 days. Major crops produced at each harvest season is as follows: (

Partly describes & should be on TABLE

**TABLE 6
MAJOR CROPS AND SEASONS**

SPRING CROPS		AUTUMN CROPS	
Irrigated Land	Dry Land	Irrigated Land	Dry Land
Wheat	Wheat	Rice	Sorghum
Barley (fodder)	Barley (fodder)	Sorghum	Guhar
Lucerene (fodder)		Lucerene (fodder)	
Broad Beans		Vegetables	Mash
Tomato		Seasame	Mung
Onions			Melons
Chillies			Water Melons

*S H
+ Dec MAR-APR*

*S H
AP-July*

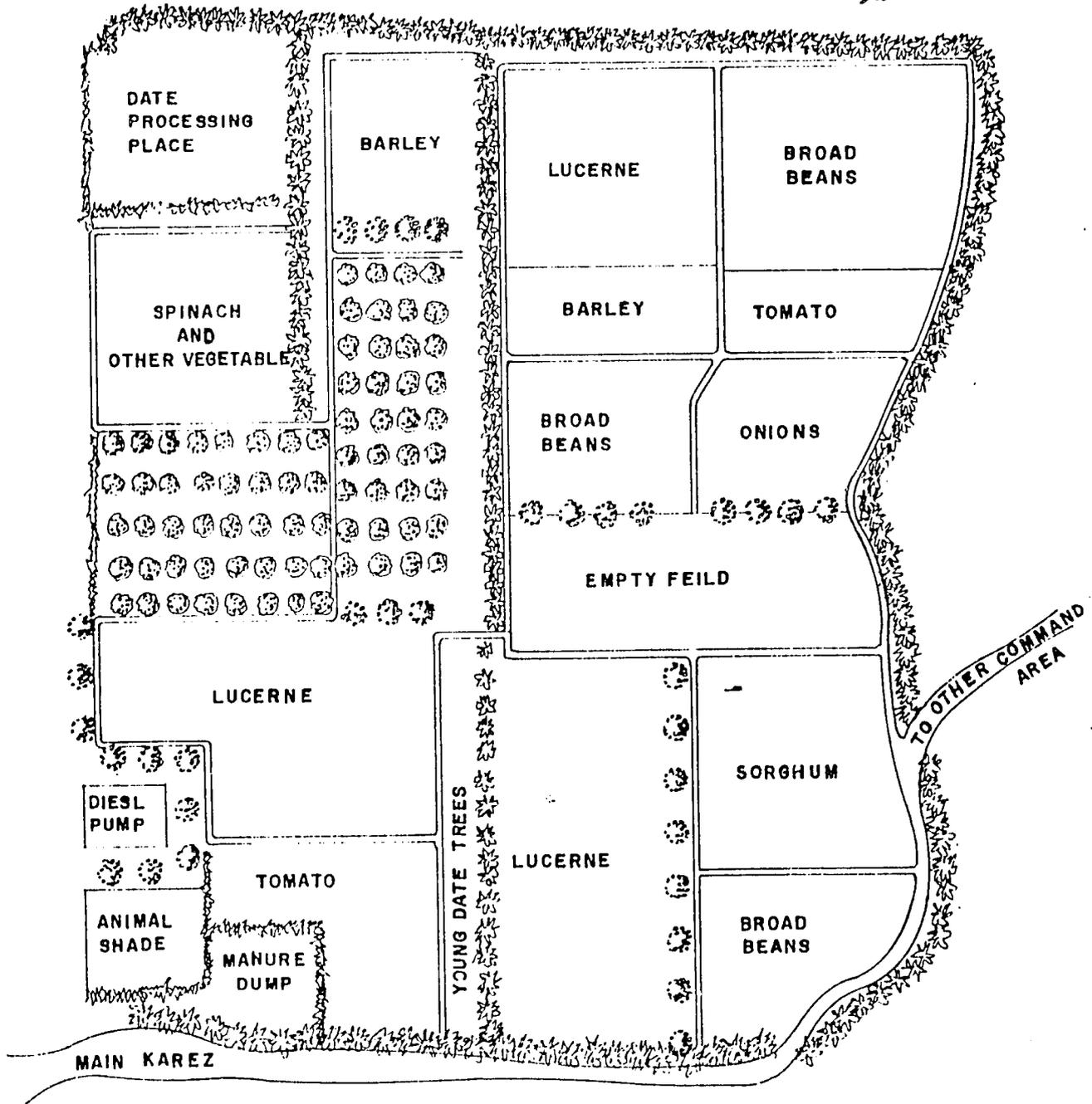
Of the Spring crops wheat, barley and lucerene are cultivated in both dry and irrigated land. Lucerene is exclusively grown as fodder. One sowing of the local variety of lucerene is said to last for seven years and give

SKETCH OF A TURBAT FARM (TYPICAL ?)

(JANUARY 1989)

SCALE: 1" = 60 ft. APPROX.

TOTAL AREA ?
DIST From Home



☼ DATE TREES APPROX. 600

🌳 FRUIT TREES (GUAVA, MANGO, BER.) APPROX. 30

🍋 LIME TREES APPROX. 75

🌴 PALM LEAVES FENCE

== IRRIGATION CANAL

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upto twelve cuttings per year. These days barley crop, especially grown in dry areas, is also used for fodder. Of the Autumn crops, sorghum, which is cultivated in both dry and irrigated land, is used mostly for animal feed. Water and labor intensive crops, such are rice, are slowly being replaced by vegetables and other cash crops. The following table (Table 7) provides a list of major crops and their production during the three year period beginning 1983-84 to 1985-86. Unfortunately reliable data for the remaining two years, 1986-87 and 1987-88, could not be found.

TABLE 7
 MAJOR CROPS AND PRODUCTION
 (Production in Tons by Fiscal Year)

~~MAJOR CROPS AND PRODUCTION~~
 SOURCE

Crop	1983-84	1984-85	1985-86
Dates	62,600	62,830	62,000
Wheat	2,100	1,600	900
Rice	1,500	1,500	1,200
Sorghum	600	600	200
Barley	1,300	300	300
Mung	52	136	138
Mash	353	246	132
Kharif Pulses	280	186	133
Onions	3,280	3,530	2,960
Garlic	45	18	25
Chillies	36	44	34
Mango	2,810	2,770	2,600
Citrus Fruits	920	1,245	1,410
Grapes	360	390	410
Pomegranate	2,430	2,430	2,500

During the three year period production of most crop excepts mung, citrus fruits, grapes, and pomegranate, seems to be declining. The drop in production could be due to labor and water shortage or relative prices of profit. *Acreage & yield would be more useful than total production.*

Traditionally, Makranis divide the soil into different categories in dry as well as irrigated areas. Milk, white soft clay brought down from the hills by floods and torrents, is considered the most fertile soil. The second type of soil gach is deposited by floods and torrents whose course lies in the white hill clay. The color of this soil is bluish white. Gach soil is considered very fertile for cultivation for two years of cropping and then it becomes hard. After the soil becomes hard and starts to crack, sun's ray penetrate and suck the moisture and the land has to be left fallow for couple of years until another flooding completes the process. The third type of soil is called mat. It consists of a thick layer of slit that has a mixture of earth and sand. It is considered very good for dry farming for one agricultural season only.

est of milk, gach & mat

Soil in Makrana is rich and fertile and for some crops better than agricultural land elsewhere. Despite the insignificant input in terms of chemical fertilizer, pesticides, and other agriculture related extension services, per hectare production of some crops in Makran seems to be at almost par with or even better than in other areas of Pakistan. The following table (Table 8) provides a comparison of per hectare production of major crops in Makran and selected divisions outside of Makran. The divisions selected for the comparisons (on the per hectare production of major crops) are those areas in Pakistan where the given crop excels in quantity and quality.

RANDOM

*on an
some other
BASIS*

TABLE 8
 PER HECTARE PRODUCTION OF MAJOR CROPS IN MAKRAN
 AND SELECTED DIVISIONS IN PAKISTAN
 (1985 - 1986)

CAN we get a
 TRENDS over
 TIME

Division	Crop	Cultivated Area (Hectares)	Production (Tons)	Per Hectare Production (Tons)
Sukkur	Dates	15,187	89,751	5.90
Makran	Dates	6,906	62,000 48%	8.97
Faisalabad	Wheat	697,000	1,597,000	2.29
Makran	Wheat	1,100	900	0.81
Gujranwala	Rice	479,000	637,000	1.32
Makran	Rice	800	1,200	1.50
Rawalpindi	Sorghum	78,000	38,000	0.48
Makran	Sorghum	400	200	0.50
FATA	Barley	39,500	22,500	0.56
Makran	Barley	500	300	0.50
Quetta	Mung	1,603	914	0.57
Makran	Mung	335	138	0.41
Gujranwala	Mash	39,789	20,492	0.51
Makran	Mash	305	132	0.43

Continued

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TABLE 8
PER HECTARE PRODUCTION OF MAJOR CROPS IN MAKRAN
AND SELECTED DIVISIONS IN PAKISTAN
 (1985 - 1986)

Continued...

Division	Crop	Cultivated Area (Hectares)	Production (Tons)	Per Hectare Production (Tons)
Hyderabad	Masoor	6,546	2,960	0.45
Makran	Masoor	22	10	0.45
Hyderabad	Kharif Pulses	7,536	3,840	0.50
Makran	Kharif Pulses	186	133	0.71
Hyderabad	Onions	19,673	183,570	9.33
Makran	Onions	250	2,960	11.84
D. I. Khan	Garlic	1,154	6,977	7.04
Makran	Garlic	4	25	6.25
Hyderabad	Vegetables	18,600	94,300	5.06
Makran	(Except potato & Sugarbeets)	2,300	25,300	11.00
Hyderabad	Chillies	43,610	59,979	1.37
Makran	Chillies	25	34	1.36
Sargodha	Citrus Fruits	32,574	331,045	10.16
Makran	Citrus Fruits	298	1,410	4.73
Hyderabad	Mango	23,131	174,689	7.55
Makran	Mango	474	2,600	5.48

SOURCE: Agricultural Statistics of Pakistan, 1986

TABLE 8
PER HECTARE PRODUCTION OF MAJOR CROPS IN MAKRAN
AND SELECTED DIVISIONS IN PAKISTAN
(1985 - 1986)

Continued...

Division	Crop	Cultivated Area (Hectares)	Production (Tons)	Per Hectare Production (Tons)
Lahore	Guava	10,574	76,544	7.23
Makran	Guava	77	230	2.98
Peshawar	Plum	1,879	20,978	11.16
Makran	Plum	4	20	5.00
Quetta	Grapes	2,352	23,870	10.14
Makran	Grapes	49	410	8.36
Quetta	Pomegranate	882	13,180	14.94
Makran	Pomegranate	168	2,500	14.88

As the above figures illustrate Makran seems to excel other provinces and divisions in the per hectare production of many crops including dates, rice, sorghum, kharif pulses, onions, garlic and vegetables (except potato and sugarbeets). Few crops, such as chillies, masoor, barley, mung, mash, grapes and pomegranate come close to per hectare production in areas considered best for these crops in Pakistan. Per hectare production of wheat and some fruit varieties (e.g. plum, guava, citrus fruits and mangoes), however, do not compare favorably.

A USEFUL
CLASSIFICATION
WOULD BE NEW
PROBLEMS VS
OLD OR LONG
STANDING PROBLEMS

CHAPTER 3
CONSTRAINTS IN MAKRAN'S AGRICULTURE

Makran's agriculture sector is facing problems in many fronts. Some of these problems concern the scarcity of water, while others are management related, and still other are caused by the changing socio-economic milieu. To some extent government policies and programs, though initiated for the welfare of the population, may have the inhibiting effect on crops such as wheat, and in general the cropping patterns. This chapter briefly deals with these various issues.

I. THE CHANGING PATTERNS OF WATER USE

The scarcity of water in Makran has already been mentioned elsewhere in this report. With the on-going changes in the climactic conditions resulting in the scanty and erratic rainfall on the one hand, and the escalating demands placed on water by the entire process of modernization and development in social service sectors (drinking water, public hygiene, education, etc.), traditional agriculture system in Makran is facing tough competition. The changing patterns of water use in Makran is clearly exhibited by the use of the diesel pumps, the government initiated drinking water schemes, the numerous schools and government offices that require sanitation and thus more water, the changing food and eating patterns (hotels, restaurants, etc.), and the list goes on and on.

With the considerably cheaper oil available across the border in Iran (Rs. 300 for a drum of 86 gallons vs. Rs. 900 for the same amount of oil at Pakistan State Oil gas station), oil smuggling in Makran continues at a hectic pace. Iranian oil prices seemed to have dropped further during

*can only
be slowed by
time*

the Iran-Iraq war inducing many farmers in Kech Valley and Dast area to install diesel motor pumps to pump underground water for irrigation. The following table indicates the growing popularity of diesel tubewells in Makran.

TABLE 9
NUMBER OF TUBEWELLS IN MAKRAN
(1986-87)

*Diesel
or Electric*

District	Govt. Owned	Private Owned	Total
Turbat	4	343	347
Panjgur	3	85	88
Gwadar	0	7	7
Total	7	435	442

SOURCE: Development Statistics of Baluchistan, 1987-88

The frequency of private diesel tubewells for pumping underground water for irrigation is a post 1980 phenomenon. Knowledgeable farmers in Turbat say that during the 70s there were hardly ten diesel tubewells in the entire Kech Valley. It is estimated that since the year 1986-87 another 50 or so diesel tubewells have been added in Turbat area alone. The government owned tubewells have been mainly used to pump drinking water, while the water pumped by all 435 diesel tubewells in private sector is used for irrigation. The added importance of diesel tubewells can be seen in the changing nature of source of irrigation as indicated in the following table.

STATEMENTS
CANNOT BE MADE
IN THE ABSENCE
OF DATA OVER TIME

TABLE 10
AREA IRRIGATED BY SOURCE OF IRRIGATION
(1986-87)

(IN ACRES)

Karezes/	Kaurjos	Diesel Tubewells	Total Acres
19068	7,410	11,139	37,617
50.8%	19.6%	29.6%	100%

SOURCE: Development Statistics of Baluchistan, 1987-88

Though over the seventy percent of irrigated land in Makran still depends on Kaurjos and Karezes for water, the trend towards diesel or motorized tubewell irrigation is unmistakable. Pumping of underground water for irrigation and other purposes (drinking, sanitation, etc.,) is growing in Makran at an alarming rate.

The Makran Public Health Engineering Division has completed 66 drinking-water schemes in the two districts of Turbat and Panjgur. They serve over two thirds of Makran's total population. It has cost the Government of Baluchistan (GOB) over Rs. 138 million to install these schemes. Based on the government estimates of ten gallons per person per day water use, these schemes presently pump over 4.5 million gallons of underground water per day. Of the over 400 diesel pumps, which run between three to ten hours per day and pump over 3,000 gallons per hour, even a conservative estimate, based on a five hours per day per pump operation, would indicate pumping of over 3 million gallons of underground water per day. All of this, of course, effects the underground water table - the source of water for all Karezes and Kaurjos.

↓
THIS DEPENDS
UPON THE RECHARGE
FACTOR. IS THERE DATA
ON RECHARGE? SHOULD
THE PROJECT COLLECT SUCH
DATA?

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The author is not trying to suggest that the process of modernization and development is stopped. Rather, the purpose is to draw attention to the changing demands on water and its use. If a Makrani, under the traditional system of water-use, required two gallons of water per day, these days two gallons of water is expended in just one flush of a modern toilet! Furthermore, the modern water use in Makran has no recycling effect, i.e., it does not percolate deep enough to recharge the underground aquifer. ? *same*

The GOB and Baluchistan Area Development (BALAD) Project initiated water infrastructure sector activities, especially the delay-action dams, may help the process of recharging the underground aquifer. But given the growing demands for water in Makran, whether or not these efforts are sufficient to avert a crisis situation in the event of a long dry spell is beyond the scope of this study. The present situation urgently demands the conduction of a reliable study to ascertain the extent and nature of underground water in Makran.

II. SHORTAGE OF AGRICULTURE LABOR

Before partition in 1947 and the opening of the Gulf States job markets, the Hizmatgars were the major agricultural labor force in Makran. They either tilled the rented land, worked on a daily wage basis during the agricultural season or were simply bonded labors that worked on the masters land until incapacitated by disease, old age or death. However, as Buzdar (1987)* points out that:

The first large scale exodes of Makranis was in the 1930s and 1940s when social changes inside Makran including the abolition of

* *Nek* Buzdar (1987), Socio-economic Survey of Makran Division of Baluchistan, USAID, Islamabad

Ned ?

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salavery resulted in the migration of thousands of poor and landless Makranis to the newly industrialized Karachi. A second wave of outmigration, albeit of temporary nature, started in the sixtees when neighboring Persian Gulf States suddenly became oil rich and needed labor for development projects and soldiers for defence.

As mentioned earlier, it was the Hizmatgars who were the first to take advantage of the employment in the Gulf. The lower middle class Baluch, who did not depend on the Hizmatgars for farming their land, generally held only dry-crop area and depended on the combination of flock-owning and transport with seasonal and shifting cultivation for livelihood. Only exception was during the date harvesting season when the flock-owners and agro-pastoralists worked as laborers in picking, processing and packing the dates. This, of course, provided them and their animals an opportunity to live "off the fat of the land" for a few months and collect enough provisions of dates to last them for a whole year. Hence, the irrigated land owners never relied upon the nomads or the agro-pastoralist groups to provide a steady source of farm labor. With the Hizmatgars gone the agricultural labor situation seemed to have become critical especially during the early sixtees upto the early eighties.

The Hizmatgars and other other labor class Makranis that had gone overseas for employment are also returning, but they no longer work as agriculture laborers. With new found prestige backed by a hefty pocket book and knowledge of the outside world, they seem to be happy spending all their time chatting at the street corner tea-shop.

The problem of agricultural labor shortage in Makran also seems to have another social aspect which Buzdar (1988) has aptly described in the following words:

'Waja' in Baluchi literally means 'master' and a waja with even one acre of land will consider it beneath his dignity to work on his land and dirty his hands. Once the labor cultivating classes found work opportunities elsewhere they no longer cared to work as tenant on small tract of land with relatively meager to negligible incomes.

The changing socio-economic scene, with the previous labor class becoming the new rich class, has brought new values and ethos concerning agricultural work among the Makrani Baluchs. Laborers from NWFP, Sind and Punjab, however, are being hired to do agricultural work by a few landowners in Turbat and Dast. But the cost of outside laborers (Rs. 50 per day plus lunch and tea) prohibits small landowners from utilizing them. Furthermore, the specialized nature of agriculture work in Makran (e.g. pollination and harvesting of dates, Karez cleaning) demands experienced hands for which the seasonal workers from outside are not qualified.

How does a tractor pollinate or harvest dates or clean karez?
 Aware of this problem, GOB has started to assist the farmers by renting tractor for a nominal fee. However, due to small size landholding with complex Karez and canal networks, only the rich farmers have been able to take advantage of this facility. Tractors and bulldozers (government rented) are also used in reclaiming agricultural land. Some big farmers are also taking loans from the Agricultural Development Bank of Pakistan (ADBP), Makran Division Office, to buy tractors and other farm equipments (During 1988 ADBP had disbursed a total of over Rs. 5 million for this purpose).

Though tractors are not the total answer to the shortage of agricultural labor in Makran, it seemed to have provided some relief. For small farmers (approximately 54 percent of the land holders in Makran), unless

they shed the motion of 'wajaship', the problem, of labor shortage, however, will continue.

III. LAND FRAGMENTATION

Due to the system bride-price (labb) mentioned earlier and the traditional inheritance system, land fragmentation is pervasive in Makran. Land fragmentation seemed to be specially severe among the small landholders that own below eight acres (21 percent own below two acres and another 54 percent own between two to eight acres) of arable land. They lack the financial resources either to buy their brothers or sisters share and add more land in other ways. Though a small farmer may own a total of eight acres, but in reality his land would be located at several places in small tracts. The nature of land fragmentation has not only given impetus to land and water related disputes, but also due to poor management caused by location of tracts at various places, the yield has been effected as well.

IV. AGRICULTURAL EXTENSION SERVICES AND OTHER INPUTS

The GOB Agriculture Department's Agricultural Extension Divisional Office is located in Turbat. Of the 13 gazetted (BPS-17 and above) positions sanctioned for this office only three are filled. The shortage of technical manpower as well as the logistic problems make the extension work ineffective at best. Except a few farmers in Turbat, the majority do not know of its work or its existence, nor seem eager to know about it. Very few have ever heard of the 48 demonstration plots that the Agricultural Extension Department is supposed to be running for the benefit of the Makrani farmers.

The problem of date-borer specially in Panjgur area and the problem of lucerne capterpillar all over Makran has seriously effected these crops.

THE EFFECTS
PRODUCTION AND
EQUITY. YOU
ONLY DISCUSS
PRODUCTION.

AAEA
OR
ANIMAL

However, due to the lack of pesticides and proper equipments, the Extension Office has been unable to assist the farmers. Many farmers do not know much about the use of chemical fertilizer. Farmers use farm manure and compost to fertilize the land. A truckful of manure costs anywhere between Rs. 1500 - 2000 depending upon where it comes from. It is brought from a distance as far as 160 to 200 miles (Dast and Husab). Though there is some demand (among rich farmers) for chemical fertilizer, but the unavailability restricts its use. The following table illustrates this fact. For comparison chemical fertilizer consumption at Kalat, neighboring Division, is also given.

Could also be tied to low rainfall & only limited Irrigation

The consumption of chemical fertilizer in relation to cropped area further illustrated the almost insignificant use of chemical fertilizer by Makrani farmers.

TABLE 11
CONSUMPTION OF CHEMICAL FERTILIZER IN MAKRAN (1986 - 1987)
(METRIC TONS)

Division	Nitrogenous (N)	Phosphatic (P)	Photashic (K)	Total
Kalat	1,462.49	237.63	31.15	1,731.27
Makran	6.68	10.26	0.90	17.84

SOURCE: Development Statistics of Baluchistan, 1988

One is left to wonder as to how well some of the crops in Makran that excel even the best agricultural areas of Pakistan in per hectare production (see Table 8) would do with a better input of seed and fertilizer.

TABLE 12
CONSUMPTION OF CHEMICAL FERTILIZER
IN RELATION TO CROPPED AREA
(1986 - 1987)

Division	Fertilizer Consumption (Metric Tons)	Cropped Area (Hectares)	Per Hectare Consumption (Kgs)
Kalat	1,731.27	117,531	60.14
Makran	17.84	21,228	1.60

SOURCE: Development Statistics of Baluchistan, 1988

As an oasis agricultural system Makran's agriculture has no support from the forestry side. There are practically no forests in Makran and the conditions of range land is in an extremely poor state. With no forest cover, soil erosion is rampant. It is said that the floods these days do not just carry water but heavy silt and top soil from the mountains to the sea. This type of flooding may be useful for dry farming for a season or two, but in the long run it will have a detrimental effect to the functioning of Karezes and Kaurjos. Knowledgeable sources indicate that a lot can be done to improve the existing forest and rangeland conditions in Makran through the introduction of drought tolerant forage species such as salt bush, prosopis, acaciamilotica, leucaena, leucocephala, cacti, etc.

V. MARKETING OF AGRICULTURAL PRODUCTS

The marketing of local agricultural products, especially dates, citrus fruits (lime) and vegetables (tomato and onions) is a major problem faced by farmers in Makran while the demand for these products in cities like

Karachi is high, the transportation difficulties have not been encouraging to both buyers and producers. For example, Dast and Kech valley in the past two years produced an appreciable amount of lime (two farmers in Dast and Turbat produced over 50,000 Kgs. of lime each in 1986/87), but there were no buyers. Farmers in Dast, could not even sell their 1987 lime crop for 25 paise per kg. while the cost of lime at that time in Karachi was reported to be over Rs. 8 per kg. Similarly, this year farmers in Dast have produced a good tomato crop. In January they were trying to sell it for Rs. 3 per kg., while 100 kilometer away in Turbat tomatoes were selling for Rs. 8 per kg. The following table provides the January retail prices of various agricultural products at three place in Makran and their source.

TABLE 13
PRICES OF SELECTED FOOD ITEMS IN
TURBAT, PASNI AND DAST
(January 1989)

(In Rs./Kg.)

Commodity	Turbat	Pasni	Dast	Source
Egg Plant	4	6	1-2	Dast
Red Radish	3	4	1	Dast
Chillies (Green)	7	9	3	Dast/Karachi
Carrot	8	10	3	Dast/Karachi
Tomato	8	10	3	Dast/Karachi
Spinach	3	4	-	Turbat
Potatoes	8	10	-	Karachi
Peas (dry)	12	14	-	Karachi
Garlic (dry)	16	19	-	Karachi

Continued

TABLE 13
PRICES OF SELECTED FOOD ITEMS IN
TURBAT, PASNI AND DAST
(January 1989)

Continued

(In Rs./Kg.)

Commodity	Turbat	Pasni	Dast	Source
Onions	8	9	3	Dast/Karachi
Eggs (per dozen)	18	20	-	Karachi
Cauliflower	10	11	-	Karachi
Cabbage	8	-	-	Karachi
Veg. Ghee	50	55	-	Karachi
Milk (Tetrapack)	16	19	-	Karachi
Milk (480 g. powder)	11	12	-	Karachi
Sugar	11	12	15	Karachi
Dates (best quality)	10	11	-	Turbat
Dates Iranian	11	12	-	Iran
Rice good quality	12	13	18	Karachi
Rice low quality	6	7	9	Karachi
Wheat Flour	4.50	3.50	5	Karachi
Chickpeas	12	13	-	Karachi
Oranges	5	6	-	Karachi
Peas (whole/dried)	12	14	-	Karachi
Mung Dal	16	14	-	Karachi
Tea (125 g pack)	9	10	12	Karachi
Chicken (dressed)	90	90-100	90-100	Local
Mutton	70	70	60-70	Local
Beef	30	35-40	25-30	Local

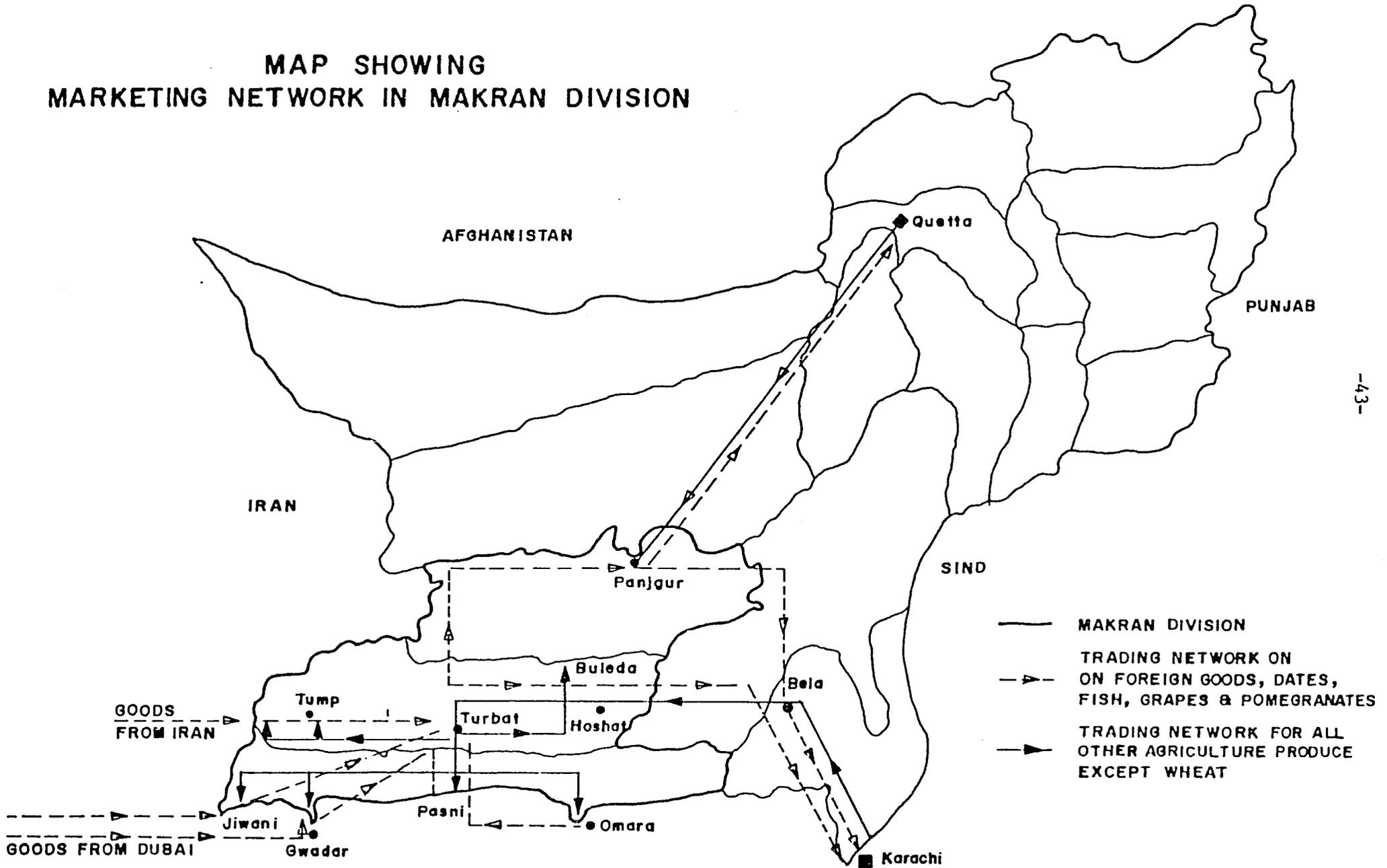
All food items, except wheat which is imported from Karachi, comes to Makran through Turbat. The wholesalers in Turbat then distribute it to sub-wholesalers and retailers throughout the two districts of Turbat and Gwadar. Wheat, is GOB subsidized and is brought to Pasni via sea. Ships carrying wheat from Karachi are anchored at deep sea about three miles from the shore. Small boats unload the wheat from the ship and bring it to the shore for distribution.

Turbat has become a focal point of distribution even for locally grown products. Turbat's position as the major market center of Makran seems to have been considerably enhanced due to its proximity to Iran (for Iranian goods). Lately Turbat has also become a center for foreign goods from Dubai smuggled into Makran mainly via Gwadar and Jiwani. Most of these foreign items are said to reach Karachi ultimately through various distribution networks.

The three districts of Makran have different market orientations (see Sketch). While the districts of Turbat and Gwadar are oriented towards Karachi market, Panjgur, the northern district, is oriented towards Quetta. Except wheat, all other major food items in Panjgur come from Quetta. Most of its export of grapes, pomegranates and dates is being bought by Quetta-based wholesalers. Internal marketing of these Panjgur products seems to be very limited.

Due to the marketing difficulties Makrani farmers pay more for the imported food items and get less for their products. In some cases they cannot even sell their products at any price. This is a big problem especially for farmers in Dast area, who in the absence of buyers have started cutting lime trees. (one farmer in December 1988 cut 70 of his 200 lime trees so that he could divert water to other crops).

MAP SHOWING MARKETING NETWORK IN MAKRAN DIVISION



The problem of agriculture marketing seems to have many aspects. The first relates to transportation of goods. Loaded trucks take from 18 to 24 hours to complete the 360 miles journey from Turbat to Karachi. Completion of the BALAD project assisted Turbat-Bela road is expected to be shorten the travel to 8 - 10 hours. This will certainly have a positive impact on the marketing problems as a whole and will bring the high cost of imported food items down. The other aspect of the marketing problem relates to communication of information between wholesalers in Karachi and producers in Makran. Wholesalers in Karachi know very little about the various agricultural products (excluding date) they could purchase from farmers in Dast and Kech area of Makran. Even when such information is known, the wholesalers seem to shy away from Makrani market due to lack of assurance of a steady supply of agriculture produce. For example, one wholesaler in Karachi with a depot in Turbat tried to market tomatoes, onions and lime from Dast area in 1986. However, in the absence of the a steady flow of fairly large quantity of supply of these items by the farmers in Dast, he suffered a loss and subsequently went back to suppliers in Hyderabad. The farmers, on the other hand, do not know whether during a given year a particular crop could be sold at an amicable price. The case of lime crops seemed to have created a lot of jitters among them. If purchases were assured, farmers in Makran seem to be willing to produce in quantity. One farmer in Dast, with approximately 60 acres of irrigated land, is willing to guarantee the production and sale of 150,000 kg. of melons, 100,000 kg. of lime, 40,000 kg. of Okra, 100,000 kg. of onions and 200,000 kg. of tomatoes, if purchase were to be assured.

VI. PROBLEMS OF DATES PRODUCTION AND MARKETING

Dates is the main product of Makran. Hence, special attention needs to be made regarding the problems that concern date production and marketing.

The oasis agriculture of Makran is totally dependent upon date for the sustainance of its agriculture. Date trees provide shade to the irrigated fields so that the loss of water through evaporation is minimized. Date leaves are used to fence fields to fend off animals from destroying the crops. Date branches and trunks are used as firewood and construction material for houses. And most important of all date trees provide a steady source of food even during prolonged periods of droughts. Date harvesting season also brings the Makranis together and renews the community spirit and thus the Makranis identity.

Makrani dates, especially Mujati and Begum Jangi varieties, are valued for their taste. Despite the absence of any significant efforts to improve the quality and quantity, per hectare production of dates is still higher in Makran than elsewhere in Pakistan. One can only wonder how well dates in Makran would do with even a little improvement in sucker (seedling) production, pollination, harvesting and/or processing.

The government date farm - spread over a 100 acres - presently seems to have a limited role in date sucker production and distribution. One sucker sells for over Rs. 200 and even that is not easily available. The farm produces 80 to 100 suckers per year, but mostly for export to countries in the Middle-East.

Though the number of date trees in Makran has grown, per tree production of better varieties of dates (Begum Jangi, Mujati, Helani) has declined over the years. Begum Jangi and Nazani which produced an average of over 70 kgs. per tree in 1904 presently produce between 40-60 kgs. per tree. Similarly, per tree production of an average of 50 kgs. of Mujati and Helani varieties of dates in 1904 has declined to an average of 40 kgs. at present. Farmers attribute the decline in production mainly to the lack of skilled manpower to pollinate the date trees and harvest the dates. Farmers estimate that a minimum of 15-20 percent of the date

production is lost due to the lack of skilled labor force to handle these activities. Development and introduction of simple equipments (that could be locally produced) to pollinate and harvest date trees and training to local farmers in the construction, maintenance and use of these equipments, will considerably enhance the present volume of date production in Makran.

The third problem Makrani date producers face concerns the processing and preservation of the harvested dates. Following the harvest farmers process and preserve dates through various indigenous methods.

TABLE 14
INDIGENOUS METHODS OF DATE PROCESSING
AND PRESERVATION

Processing Methods	Name of Processed Dates
1. Boiled and packed in palm baskets	Hoskina
2. Boiled and packed in palm baskets with syrup	Harany
3. Dates without seed cooked in butter and packed in cans	Madar
4. Dates pressed by feet in large palon baskets	Laghati
5. Dried dates without seed	Kapo or Lad
6. Dates mixed with herbs & nut and packed by hand in earthen jars	Pundi

Most indigenously processed dates seem to be infected by various kinds of worms and bugs. Appropriate methods of fumigation is totally lacking. Realizing this problem a group of farmers formed a cooperative society and started a date processing plant in 1962. The cooperative society, with a membership of 216 farmers and a contributed share capital of

Rs. 56,300, seemed to be doing fairly well until 1970. In 1971, however, the Karachi based buyer refused to accept their dates and subsequently no buyers could be found and the processing plant was abandoned. The GOB Cooperative Department re-opened the plant in 1982 with a loan of Rs. 70,520 from the Makran Finance Corporation. But the department also could not sell its products in Karachi market and the plant, after suffering a loss, was closed in 1983. The shareholders, meanwhile have decided to re-open the plant. But a bitter dispute between the Cooperative Department and the Board of Directors (of the plant) has left the plant unfunctional.

The functioning of the already established date processing plant obviously will help the Makrani farmers to realize a better price for their products. Presently the wholesalers and corporate buyers like Lipton and others purchase Makrani dates at an average of Rs. 4 per kg. The date, thus, purchased is trucked to either Sukkur or Karachi for processing. Processed and neatly packed Makrani dates are sold for Rs. 30 per kg. in Karachi retail shops.

CHAPTER 4
SUMMARY AND RECOMMENDATIONS

I. TRENDS AND PROSPECTS IN MAKRAN'S AGRICULTURE

Makran has changed from a self-contained economy based on barter system of pre-1950 and has arrived at the threshold of the market economy. Even a war at a distant place (like Iran-Iraq or the conflict in Afghanistan) affects Makranis. Gone are the camel caravans, replaced by the four wheel Toyota pick-ups that ravage the road with dust so thick that one cannot even see one foot ahead. The rich range lands is replaced by sandy dunes. The birds, even the crows, are not seen in Makran. They have no nesting grounds and have left. The forest, the camels, range lands and the birds are all part of an eco-economic system that used to sustain the traditional agricultural system in Makran.

With the opportunities of overseas employment and education (at home and abroad), new mores and values have been introduced that have undermined the traditional social structure. People are conscious about the world around them. Makrani students are considered to be so conscious politically that they are said to spend more time striking for their rights (rights for better education?) than inside the classrooms.

The new values seemed to have created some distortions that effect the functioning of the traditional agro-economic system. Examples of such distortion could be seen in the construction of new Karezes (see Annex-5 for detail). For the newly rich Makranis, land ownership seems to have acquired a new social dimension whereby land is vluued primarily a symbol of social status rather than for its potential for agricultural production.

Despite all the changes, a few things in Makran will probably be difficult to change. Makran without the date trees and Makran with an optimum sufficiency in water in relation to its land, is a Makran hard to imagine.

The above paragraph may have painted a somewhat gloomy aspect of the on-going change-phenomenon. However, Makran is not devoid of dynamism in its agriculture sector. Makrani farmers are changing their agricultural practices, albeit slowly. Subsistence farmers all over the world have been known to be a conservative as far as changes in their cropping pattern is concerned. The economy of a few acres does not allow the luxury of crop experimentation. Subsistence farmers cannot change their farming and production patterns without being absolutely certain of where and how the next meal is going to come from. And farmers in Makran are no exception.

Makrani farmers are changing their cropping patterns from the traditional cereal orientation to cash crops such as lucerene, onions, garlic, tomatoes, citrus fruits, etc. They know that it is better to buy subsidized wheat and grow other crops instead. Similarly, acreage of rice and barley is decreasing as well. An acre of lucerene fetches more than Rs. 15,000 per year whereas the returns from an acre of wheat is only Rs. 1,000 at the most. With some assistance from the government and other resources, agriculture in Makran could be a viable proposition.

The GOB development activities, some planned and some already in operation (see Annex-6 for the total list), will be expected to bring further changes in Makran's agriculture production and marketing patterns. The completion of the power lines between Pasni and Turbat will introduce more motorized pumps and draw underground water for irrigation. It will effect the karezes and kaurjos induced community

oriented economic system based on hangam (water share). Makrani society will probably be individualized. The disappearance of a community spirit, the spirit of sharing, will be sad. (The goals of economic development (market economy?), on the other hand, is to create sufficiency in agriculture, health, education and all other requirements; some presently known and other still unknown to contemporary life and living. In this context material sufficiencies often has not been known to be equated with happiness.)

With the construction of Turbat-Bela road and the completion of Pasni harbor (though it is exclusively designed for fishermen with small boats), the present severity of agriculture marketing could be lessened. The planned construction of the Pasni-Ormara coastal highway by GOB, will further reduce the distance between Karachi and various part of Makran. In the water sector if the Miran dam is completed as per GOB plans, the Dast region of Makran could become the Punjab of Baluchistan. If the present plans are carried out successfully, the prospects of agricultural development in Makran in the distant future seems bright. These prospects, however, carry a lot of 'ifs' and uncertainties. Hence, the question may be what can be done to assist Makran's agriculture sector in the immediate future?

II. RECOMMENDATIONS FOR ACTION

A key issue faced by many development projects and activities in Makran today concerns the question of sustainability of these activities. In the absence of mechanisms to sustain the status of a given set of development works upon the completion of GOB or donor agency assisted project(s), the time may not be far off when further projects may need to be formulated to keep the previous input functional. Hence, activities designed to help Makran's agriculture sector, for that matter assistance activities in all other sectors, need to be sensitive to this issue.

Specific recommendations for future actions in the development and improvement of Makran's agriculture are grouped under the following headings. Some of these recommendations, if already mentioned in the main text, are listed here with the purpose of re-emphasizing their importance.

I. DATES

A. Date processing plant in Turbat should be re-activated and be allowed to function freely without undue interference from the public sector. Provisions of soft-term loans should be made to the private sector Cooperative Society.

B. Intermediate technology concerning pollination and harvesting of dates is available and should be introduced in Makran. Farmers should be trained in the application and maintenance of this technology.

C. Research on various aspects of dates, e.g., processing and preservation of dates with locally available materials, production of quality suckers, control of date pests, etc, should be initiated at the government date farm in Turbat. The farm's extension work, especially of sucker production, should be effective and helpful to the farmers. Posting of a date expert in the farm will greatly help the situation.

II. WATER SECTOR

1. A detailed and reliable survey should be conducted to ascertain the extent and nature of underground water at various locations in Makran.

2. In view of the growing popularity of motorized tubewells, benefits from assistance in karez and kaurjo improvement activities

(capping the karez wells, construction of infiltration galleries to tap more water, piping of karez water under river beds and nullahs, etc.) might be short lived. Hence, future assistance might be directed towards the construction of more delay action dams and simple earthen dams to catch and preserve flood water. This will provide water to both on the ground irrigation as well as underground infiltration and will have the positive effect of continuously recharging the underground aquifers.

III. CROPPING

Cropping should be based on the per hectare production as shown in Table-8. In this context cereal crops such as wheat and rice that are both labor and water intensive should be de-emphasized in favor of cash crops. e.g. onions, lucerene, tomatoes, garlic, etc.

IV. EXTENSION WORK ON ON-FARM WATER SECTOR

1. Demonstration plots should be established to introduce farmer to improved on-farm management activities. Based on the selection of progressive farmers in various parts of Makran, each farm should be chosen for demonstration of a specific crop. Such farmers should be trained in various aspects of such crop, e.g. water use, techniques of better seed extraction and production, etc.

2. Farmers should be specially provided with extension service regarding the techniques of manure production, and its use. In the absence of chemical fertilizer availability and considering the fertilizer purchasing capacity of Makrani farmers, a multi-pronged approach that combines the use of chemical fertilizer with manure (animal and other type) and compost, may be a more practical approach to enhance the fertility of, and production from, the land.

V. ECOLOGICAL BASIS OF MAKRANI AGRICULTURE

1. Due to massive deforestation the agriculture system in Makran has very little ecological complementarity. It is recommended that while replanting of drought resistance varieties of trees is conducted at a renewed pace, fuel efficient cooking system based on coal be introduced at the household level. Local women should be trained in making such cooking system (Chula) popular. UNICEF, which has done a pioneering work in this area might be requested to assist. Since 90% of Makranis depend on firewood for cooking, fuel efficient Chula will greatly relieve the pressure on the scanty forest and the range lands.

2. A study should be conducted to see the viability of drought resistance trees that could also provide fodder for animals.

VI. ANIMAL HUSBANDRY

It is recommended that a survey be conducted on the feasibility of introducing a semi-stall and stock feeding system of animal husbandry in Makran.

VII. USE OF MAKRANI EXPATRIATE'S INCOME IN AGRICULTURE

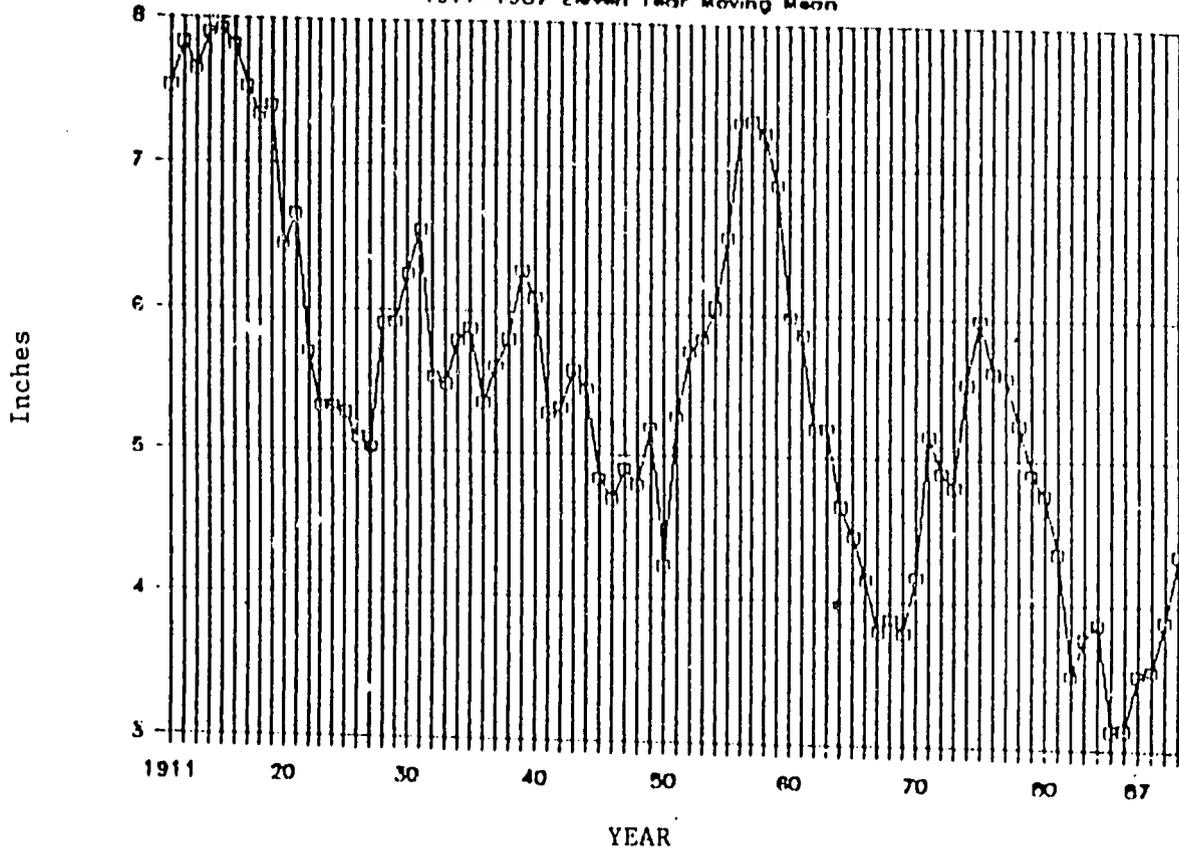
It is highly recommended that GOB establish a divisional level unit to advise the expatriate Makranis regarding investments in agriculture sector. Small scale investment schemes in agriculture could include canning (of tomato), jam and pickle making (lime), establishment of poultry as well as dairy farms, fish-meal plants (already started by a group of Makrani expatriates), cold storage, etc.

Though outside the scope of this report, the biggest problem facing Makran is the rapid growth of its population. Without effective measures to curb and regulate the present growth rate (of ten percent annually between 1971-81) of population, efforts to assist Makran in agriculture or any other developmental sector, will be totally nullified.

ANNEXES

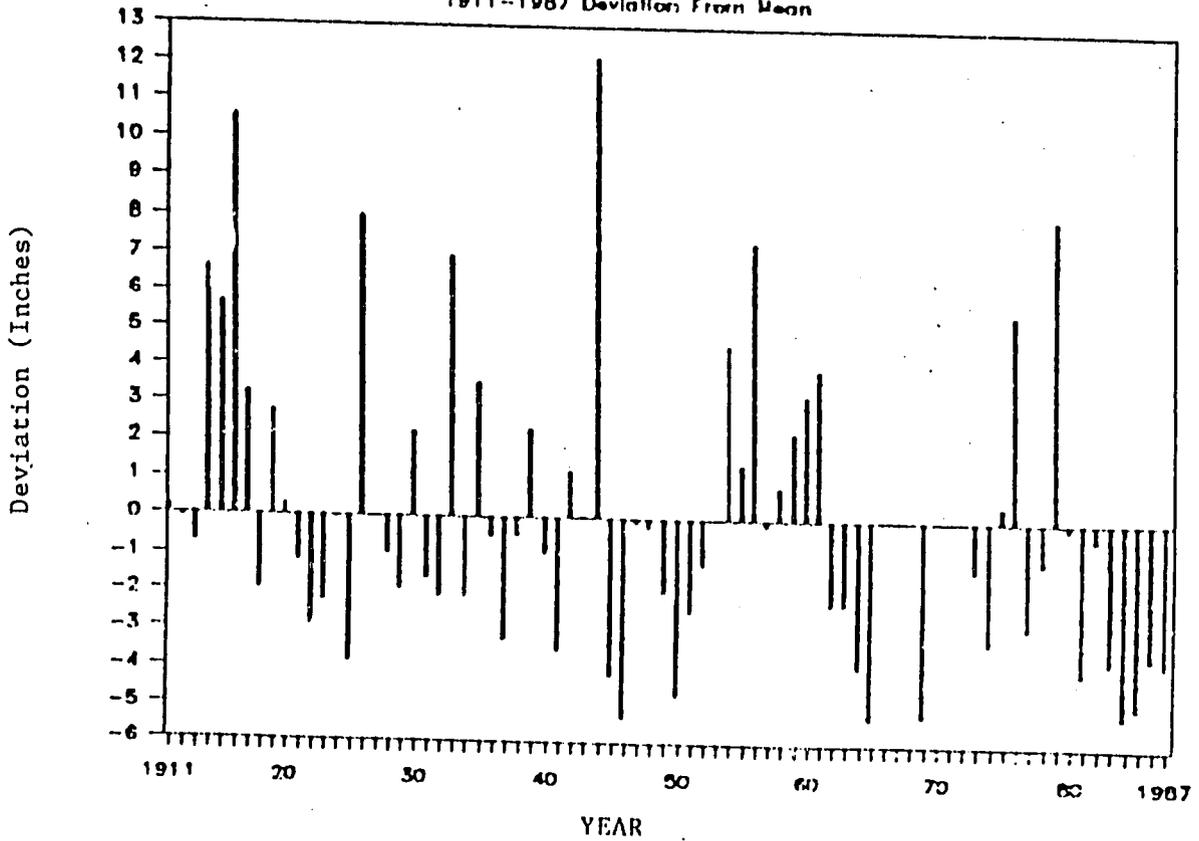
Rainfall Turbat

1911-1987 Eleven Year Moving Mean



Rainfall Turbat

1911-1987 Deviation From Mean



MAKRANI FOOD PATTERNS IN EARLY 1900 A.D.

(Excerpts from Makran Gazetter)

A chief or headman rises early and after offering his prayers takes breakfast (harsband). On emerging from his house he takes his seat under the shade of the tree which by ancient custom has come to be regarded as the meeting place of the village and here he is joined by other idlers until by 10 o'clock a fairly large gathering has assembled. The weather, crops, local politics, old fights and other subjects are discussed till mid-day when every one retires for his siesta till about 3 p.m. when another meal is taken and diwan is again held till the call to evening prayer. Now and then a visit is made to the fields to see how the crops progress. The household work is done by girls of servile origin and the cultivation by tenants or servile dependants.

The cultivator is busy only at seed time and harvest, especially in large khushkaba tracts where no weeding is done. The interval is spent like the chiefs and headmen. A cultivator, who owns irrigated lands, attends to his fields daily, does weeding when necessary, and looks to the repairs of his fences. But the cultivator is not idle even when he attends the village meetings, for if his tongue be wagging, his hands are busy in spinning goat hair or wool or making palm leaf sandals or mats.

The shepherd's life is spent in one monotonous round. He leaves the village before dawn with his flock to wander over hill and dale. When the pasture near the village is exhausted, he is sometimes absent from the village or encampment for weeks or months, merely returning to replenish his supply of dates which he largely supplements with milk from his animals. He sleeps in the midst of his flock or in some cave or hole close by, and is even on the watch against the attacks of wild animals. His only relaxation is playing his reed ripe (nal).

Four meals are taken daily by the majority of the people which may be designated breakfast (harsband), lunch (nahari or subdrag); the afternoon meal (nemrosai), and dinner (sham). Breakfast is taken immediately after rising; lunch at about mid-day; the afternoon meal between 4 and 4 p.m.; and dinner after sunset. For the afternoon meal, which is a light one, every one consumes dates. Breakfast and lunch in the case of the majority of the people consists of dates washed down with water and milk; for dinner judr cakes are eaten. A shepherd will sometimes consume dates for weeks together with all three meals. Boiled fish is taken by every one whenever obtainable, the gravy being sipped with the dates and the flesh being eaten at the end of the meal. The poor seldom see meat of any kind. Among the wealthy the use of rice for breakfast is common, and wheat cakes are substituted for the date ration at lunch and dinner. A man of substance will also eat meat frequently with all three meals, but he has a special preference for fish. The extensive consumption of dates has been indicated by the above remarks, and they may be regarded as the staple food of the population. It is no uncommon thing for a hard worked Zangi or Baddi to consume 2 seers at a sitting, and stories are told of men who have eaten 5 or 6 seers at a time. The date is considered the choicest kind of food and very invigorating, and a family of it is the only provision taken for a journey. A taste for dates and fish is quickly acquired by strangers, and the subject forms a standing joke against the Brahuis among the indigenous population. When a Brahui first comes to Makran, he is said to turn up his nose at both, but after a few days he sticks fish in his turban and carries dates in the trousers of his uniform.

Juari (locally known as surrat) comes next in importance to dates as a food. The flour is ground by the women in handmills, and made into a thick paste with water when it is baked on a stone griddle. The same process is followed with rice which is of poor quality, and consequently seldom boiled whole. The consumption of wheat flour is small and the

cakes made from it is generally eaten unleavened every where except in Panjgur. A Makrani prefers his dried fish boiled, but has no objection to eating it raw, a habit which is attributed to the Ichthyophagoi by Arrian. The meat of fowls is the most commonly eaten, but rich men kill goat and sheep occasionally for the entertainment of thier quests.

The well-to-do keep cows, but the majority of the people depend for their supply of milk on goats and sheep. The milk is generally taken raw or as curd which is prepared with a piece of copper or silver, alum, parner-band (*Withania coagulans*), or rennet extracted from the stomach of a kid. Butter is made from curd in a churn made from a leather skin (*hinsak*); cheese by extracting the moisture from the curd. Whey is boiled and the residue, after evaporation, made into shilanch. The biltong which is so connom in the upper highlands is known in Makran as tabdig, and is seldom made except by the wealthier people in Panjgur.

The condiments in use consist of such articles as turmeric, the seed of the sour pomegranate, tamarind, and peeper. With the exception of the tamarind all the others are pounded, made into cakes and dried for ready use in stews. The better classes also use ghi in stews. With the exception of onions, which are generally eaten raw, the garden vegetables common in India are practically unknown. The people, however, are fond of vegetables stews made from beans (*bank lenk*) and pulse masur. In Panjgur turnips boilded with dates are regarded as a great luxury. Among wild plants which are used as vegetables may be mentioned sorichk which grows chiefly along the coast; shagoshag which is very popular; aputag which grows after rain at the root of the dwarf-oalm and is consumed in very large quantities; indar-kah (*Trianthema pentandra*) which is only eatern by the poor in case of great necessity and gurdgpad (*Malva parviflora*) which grows in abundance in places reached by the river floods. The last is only eaten when nothing is better is procurable.

END OF THE GULF SYNDROME

By Siddiq Baluch

With bulk of overseas Pakistanis returning home, the Gulf syndrome has come to an end in Mekran. Hundreds of these people have come back and thousands of others are on their way back to their homeland after decades of military service in Muscat where they enjoyed comparatively a comfortable life unimaginable in foreseeable future in Mekran.

Overseas Pakistanis pumped about Rs one billion into the consumer economy of the country, artificially raising the per capita income by Rs 200 annually in Mekran. The recipients of this hard-earned money did not engage thousands in any viable economic activity and thus created a false financial growth and an artificial prosperity crudely demonstrated through display of valuable personal belongings, electronic goods, domestic appliances, lavish spendings on food, clothings, transport, medical treatment and to a lesser extent on education of their children and residential accommodation.

This situation prevailed for about two decades, but has reversed during the past three years with the stoppage of fresh recruitment in the defence forces of the Sultanate following the Gulf Cooperation Council decision to 'Arabise' the defence forces of the member countries.

Another factor is the un-ending war between Iran and Iraq and a slump in the world oil market, resulting in economic recession in the Gulf.

According to unofficial estimates, about one-fourth of the Mekran population is serving in the Gulf, including their defence forces and internal security systems. This work force forms four per cent of the entire overseas Pakistani serving the Gulf countries.

The remittances from these people were Rs 1.25 billion annually some three years back which have now dropped to Rs one billion annually. Most of the bankers in Mekran estimate that in the next three years, with complete 'Arabisation' of the Sultanate forces by 1990, the remittances will register a further fall upto Rs. 0.5 billion, or even less.

The Baluch officers and soldiers in the Sultanate defence forces comprise 30 per cent of the total strength. Salaries of officers were in the range of Rs 20,000 to Rs 40,000 per month and of soldiers from Rs 8000 to Rs 15,000 per month. Officers retiring from active military service get a financial benefit ranging from Rs two to four million and soldiers from Rs one to two million.

Most of the repatriates interviewed by this correspondent expressed total disgust and frustration as they found no scope of investment in any of the sectors of the local economy and also for reasons of a change in their life style.

They lived a luxurious life in Muscat with best available facilities of residential accommodation, best food, drinks, clothings, transport and other facilities. All these facilities are missing in Mekran and they are back to square one.

As a result of prolonged absence from their families, most of the repatriates found their children 'spoiled', some of whom became drug addicts for lack of supervision and guidance.

A majority of repatriates are illiterate or semi-literate. The Sultanate Government as had recruited them as matter of policy based on the fear that the educated manpower could pollute the political atmosphere of the country. Mekran is more politicised than any other part of the Province, and the selectors from Muscat and Oman were very careful in choosing the candidates keeping in view the different political systems in both the countries, the Sultanate and Pakistan. Boys of 17 years of age were preferred and after their selection as soldiers were trained and acclimated in their own environment.

When these soldiers returned to Pakistan for good, they had to face an ambivalent attitude of the people around. While their relatives and family members were happy at the re-union, people belonging to the left wing groups considered them as 'mercenaries' who fought for money to suppress the national aspirations of the Arab people and thus undermined the image of the Baluchs in the Gulf countries.

Most of the repatriates had close links with the urban culture because of their frequent contact prior to their leaving the country for the Gulf region. But another set of people, from Jhalawan, who are also coming back after serving in the Gulf, have semi nomadic characteristics and work on agricultural fields in Jhalawan. They retained their profession in the Gulf region, including Saudi Arabia, and did farming there. The first set of people were originally not soldiers but they turned to soldiery for money which had no investment channels. When the second set of people came back to Jhalawan, they had the skill as well as the money to upgrade farming with the help of tubewells and improved techniques. This has changed the entire economic pattern in Jhalawan.

However, as the Gulf syndrome draws to a close, the chances of productive investment of remittances in Mekran are bleak for lack of infrastructural facilities. Most of the expatriates will have to spend their money on consumption. However, a few repatriates have put their moneys in fixed deposits with banks. There is a move by some enlightened repatriates to form companies for investment in industries on Mekran coast and in the Hub Industrial Estate.

LIST OF DRINKING-WATER
SUPPLY SCHEMES (WSS) IN MAKRAK

TURBAT DISTRICT

S. NO.	NAME OF SCHEMES	CAPITAL COST (IN RS.)	COMPLETION YEAR	POPULATION COVERED
A. COMPLETED SCHEMES				
1.	WSS Turbat	43,39,274/-	1979	30000
2.	WSS Abser (Turbat)	37,34,000/-	1983	20000
3.	WSS Buleda	22,98,700/-	1984	8000
4.	WSS Desht Kuddan	11,50,000/-	1984	5000
5.	WSS Mand.	42,29,800/-	1983	10000
6.	WSS Dandar	14,47,000/-	1983	7000
7.	WSS Tump	21,12,000/-	1983	10000
8.	WSS Kunchti	8,44,000/-	1985	2000
9.	WSS Zareen Bug	15,15,000/-	1984	15000
10.	WSS Nag/Niwano	27,29,000/-	1983	8000
11.	WSS Mandagani Kalat	19,13,000/-	1986	3000
12.	WSS Pattani Kahoor	25,10,000/-	1984	5000
13.	WSS Kosh Kalat	18,68,000/-	1985	10000
14.	WSS Hoshab	14,88,600/-	1984	14000
15.	WSS Shahani Gohrag	8,45,000/-	1985	8000
16.	WSS Kahiran	14,32,000/-	1986	2000
17.	WSS Qurkani Seechi	8,29,900/-	1984	500
18.	WSS Shahi Tump	57,09,000/-	1986	15000
19.	WSS Dazen (Tump)	14,44,000/-	1986	4000
20.	WSS Tolager	14,59,000/-	1987	6000

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NEW KAREZ ECONOMICS

David Douglas
Water Engineer, BALAD

New karez construction is on-going in several areas within Makran. In the Turbat District new karezes are under development near Sami, Tump, and Buleda. In Panjgur new karezes are under development on the east side of Panjgur and in the remote Paroom region. The oldest karez in Paroom is eleven years old and currently at least four karezes are operating in this area.

Verbal reports indicate that a typical expense associated with the development of a new karez, including karez construction and land preparation, is in the order of Rs.2,000,000. Specific data are scarce.

BALAD has collected economic data of Bayan karez, currently being developed in the Tump area. The karez data were collected by BALAD sociologist, Abdul Rashid Baluch, during interviews with the sarrishta and shareholders. The data are summarized below:

Karez	:	Bayan
Location	:	Balicha, Turbat District
Sarrishta	:	Mir Bayan
No. of Hangams	:	17
Total Construction cost (Karez)	:	Rs.1,400,000

Total cost Land Leveling*

Bulldozer hours Rental	: 3,500 (16 hangams)*
cost paid for Bulldozer rental from Agriculture Dept	: Rs. 180/hr.
More probable Bulldozer operating Cost (C&W Estimate)	: Rs. 472/hr.
Total Command Area	: 50 Acres (17 hangams)
Cost Karez	: Rs. 1,400,000
Actual Cost Land Development	: Rs. 669,375 (bulldozer rental cost)
Actual Total Cost	: Rs. 2,069,375 (17 hangams)
Probable Land development cost (based on realistic dozer hire rate)	: Rs. 1,755,250
Realistic Estimate of Non subsidized total cost	: Rs. 3,155,250.

The development of the command area is considerably subsidized by the Agricultural Dept. The bulldozer rental paid by the developer is Rs.180 per hours. The C&W estimates that the actual cost is Rs.472 per hour.

To support the 50 acres currently under development, assuming relatively efficient water utilization since the kalmar is very short, i.e. 7.5 acre-ft/acre, 350 acre-feet per year, or an average flow rate of 0.52 cusecs, will be required.

* Land leveling still in progress.

**LIST OF DRINKING-WATER
SUPPLY SCHEMES (WSS) IN MAKRAN**

TURBAT DISTRICT

Continued

S. NO.	NAME OF SCHEMES	CAPITAL COST (IN RS.)	COMPLETION YEAR	POPULATION COVERED
B. ON-GOING SCHEMES				
1.	WSS Gawak and Ozai	25,75,000/-	-	9,700
2.	WSS Jan Mohammad Bazar (Desht)	58,00,000/-	-	9,000
3.	WSS Kumbial	29,28,000/-	-	4,000
C. NEW SCHEMES (Approved and in tendering process)				
1.	WSS Shahrak	23,65,000/-	-	5,000
2.	WSS Bak Nigore	15,00,000/-	-	5,000
3.	Augmentation WSS Turbat	20,83,000/-	-	10,000
4.	E/I Nag at Toplow	10,00,000/-	-	5,000
5.	E/I WSS Baluchabad to Lebnon Area	10,00,000/-	-	4,000
6.	WSS Shahzangi and Machath	20,00,000/-	-	4,800
7.	E/I WSS Absar	10,00,000/-	-	4,500
D. PANJGUR DISTRICT				
1.	Aumentation of WSS Panjgur	68,60,000/-	1983	25,000
2.	WSS Khudabadan	88,62,000/-	1986	16,000
3.	WSS Kohbun /abdullah	11,74,000/-	1987	2,500
4.	WSS Katagari	12,81,000/-	1983	1,500
5.	WSS Kohbun	11,76,000/-	1987	2,000
6.	WSS Gaddgi	11,65,000/-	1987	2,000

**LIST OF DRINKING-WATER
SUPPLY SCHEMES (WSS) IN MAKRAN**

TURBAT DISTRICT

Continued

S. NO.	NAME OF SCHEMES	CAPITAL COST (IN RS.)	COMPLETION YEAR	POPULATION COVERED
21.	WSS Redeegh	14,70,000/-	1986	3000
22.	WSS Mullah Chath	14,40,000/-	1987	7000
23.	WSS Gokdan	16,85,000/-	1987	6000
24.	WSS Koshk Buleda	14,19,000/-	1986	35000
25.	WSS Colony (Turbat)	5,03,000/-	1983	10000
26.	WSS Sorap (Mand)	14,26,000/-	1987	1600
27.	WSS Degree College	9,25,000/-	1987	700
28.	WSS Gibun	12,78,000/-	1988	15000
29.	WSS Baluchabad	12,000,000/-	1988	4500
30.	WSS Nazarabad	47,68,000/-	1988	5000
31.	WSS Karkak	18,36,000/-	1988	1500
32.	WSS Jusak	12,00,000/-	1988	6000
33.	WSS Baloor	19,47,600/-	1988	3000
34.	WSS Tolagi	10,00,000/-	1988	4000
35.	WSS Dannuk	17,98,000/-	1988	2500
36.	WSS Drechko	13,50,000/-	1988	3000
37.	E/I Turbat WSS	24,10,000/-	1988	7000
38.	E/I WSS Pattani Kahoor	3,50,000/-	1986	2000
39.	E/I Tump WSS	21,12,000/-	1983	10000
40.	E/I WSS Kahiran to Kaf-Kafar Village	10,76,000/-	1987	1000

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* Land leveling still in progress.

**LIST OF DRINKING-WATER
SUPPLY SCHEMES (WSS) IN MAKRAK**

TURBAT DISTRICT

Continued

S. NO.	NAME OF SCHEMES	CAPITAL COST (IN RS.)	COMPLETION YEAR	POPULATION COVERED
B. ON-GOING SCHEMES				
1.	WSS Gawak and Ozai	25,75,000/-	-	9,700
2.	WSS Jan Mohammad Bazar(Desht)	58,00,000/-	-	9,000
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5.	E/I WSS Baluchabad to Lebnon Area	10,00,000/-	-	4,000
6.	WSS Shahzangi and Machath	20,00,000/-	-	4,800
7.	E/I WSS Absar	10,00,000/-	-	4,500
D. PANJGUR DISTRICT				
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5.	WSS Kohbun	11,76,000/-	1987	2,000
6.	WSS Gaddgi	11,65,000/-	1987	2,000

The observed flow rate at Bayan karez, during 1988, was approximately 0.25 cusecs. The sarrishta is reportedly considering extending the karez. This will increase the capital expenditure and it is doubtful if the 0.5 cusec goal can be reached. At the current flow rate sufficient water will be available for only 25 acres of cultivation. Internal Rate of Return for a variety of conditions have been computed and are summarized below. Net return per acre is assumed to be Rs.4,250, as per the BALAD Project Paper, p.37.

TIME PERIOD	C&W BULLDOZER RENTAL 0.5 CUSEC FLOW	ACTUAL BULL-DOZER COST 0.5 CUSEC FLOW	ACTUAL BULLDOZER COST 0.25 CUSEC FLOW
10 year	-0.06	-0.12	-0.21
20 year	0.05	0.01	-0.05
50 year	0.08	0.05	0.02

It would appear from this cursory analysis that the Bayan Karez is a poor investment. Even if it met the expectations of its developers, which is doubtful, the IRR is unacceptable. It is probable that social factors, such as the lack of other investment opportunities and the social prestige of owning land, are important in new karez development.

Mir Bayan, the sarrishta of Bayan Karez, intends to sell shares in the karez. For one hangam, which refers in this case to 2.9 acres of land with 10 hours of water rights per week, Mir Bayan intends to ask Rs.6 lac. The potential revenue from one hangam, assuming sufficient water is available, is approximately Rs.12,325 per year.

**LIST OF DRINKING-WATER
SUPPLY SCHEMES (WSS) IN MAKRAN**

Continued

S. NO.	NAME OF SCHEMES	CAPITAL COST (IN RS.)	COMPLETION YEAR	POPULATION COVERED
7.	WSS Dasht Shahaz Kalat	13,83,000/-	1987	15,000
8.	WSS Rahi Jgore	16,50,000/-	1987	2,000
9.	WSS Parome	8,38,580/-	1986	1,600
10.	Sarwan WSS (Chakul and Haji Musa Bazar)	12,07,000/-	1987	1,800
11.	WSS Surchill	14,35,000/-	1988	1,500
12.	WSS Diz Prome	11,43,000/-	1988	1,500
13.	WSS Mudressa Darul Tauheed Tasp	5,90,000/-	1988	200
14.	WSS Car (Sher Jan Bazar)	12,00,000/-	1989	500
15.	WSS Grankar	80,00,000/-	1989	18,000
16.	WSS Chatkal	40,00,000/-	1989	1,800
Grand Total of A+B+C+D		13,45,61,454/-		4,64,200

SOURCE: Public Health Engineering Division, Turbat.

ANNEX-6
LIST OF GOB INITIATED PROJECTS IN MAKRAN

(This list includes all developmental activities including donor agency assisted projects (except BALAD) that focus on Makran)

SOURCE: Planning and Development Department,
Government of Baluchistan, Quetta.

(1) SMALL IRRIGATION SCHEMES IN BALUCHISTAN

DONOR(S) KUWAIT FUND FOR ARAB ECONOMIC DEVELOPMENT (KFAED)

FINANCING PATTERN ----- (RS IN MILLION)

COST			Year of commencement	Year of completion
Local	F.E.C.	Total		
151.63	252.00	403.63	1983	1989

EXPENDITURE :

Year	Local	F.E.C.	Total
1982-83	10.290	-	10.290
1983-84	13.487	-	13.487
1984-85	20.795	13.200	33.995
1985-86	12.288	65.500	77.788
1986-87	25.915	38.862	64.771
1987-88	25.000	40.000	65.000

FINANCING RATIO :

KFAED	62.4 %
GOP	37.6 %

LOCATION :

Entire Baluchistan except the districts of Jafarabad and Tambu.

EXECUTING AGENCY :

Irrigation and Power Department, Government of Baluchistan.

OBJECTIVES :

The present level of agriculture development in Baluchistan is very low due to non availability of sufficient irrigation water. The annual rainfall is also very low with the result that the soil cannot retain enough moisture for the production of crops. The only way to increase agriculture production is to implement small irrigation schemes like flood diversion weirs, delay action dams, storage dams, infiltration galleries, pick up weirs, tubewells, dug wells, karezes etc. Therefore, this project aims at constructing similiar schemes to increase agriculture production.

Under this project, 39 Small Irrigation Schemes are envisaged through which nearly 48,103 hectares would be irrigated annually. Out of this an existing irrigated area of 17,391 hectares would receive supplemental irrigation and an additional area of 30,712 hectares would be brought under cultivation. As a result, the increase in food grains production is expected to increase by 56,000 tons per annum.

PROGRESS UPTILL 30TH JUNE, 1988 :

	<u>District</u>	<u>Complete</u>	<u>In progress</u>
i)	Zhob	2	2
ii)	Chaghi	1	-
iii)	Quetta	2	-
iv)	Pishin	4	-
v)	Loralai	1	2
vi)	Khuzdar	4	1
vii)	Kalat	1	-
viii)	Turbat	4	-
ix)	Ziarat	2	1
x)	Kachhi	2	1
xi)	Lasbela	2	-
xii)	Sibi	-	1
xiii)	Kharan	-	1
xiv)	Panjgur	-	1
xv)	Kohlu	-	2
			!Work !Suspended !due to !dispute
xvi)	Dera Bugti	-	2
Total :		25	14 = 39

(2) AKRA KAUR DAM.

DONOR(S) :

FINANCING PATTERN : (Rs. in Million)

COST			Year of Commencement	Year of Completion
Local	F.E.C	Total		
213.957	-	213.957	1988	1990

FINANCING RATIO :

Nil

LOCATION :

16.7 miles North-West of Gwadar Town, across Akra Kaur stream in Mekran Division.

EXECUTING AGENCY :

Irrigation and Power Department , Government of Baluchistan.

OBJECTIVES :

Gwadar, Jiwani and other coastal towns of Mekran Division suffer from the non-availability of drinking water. People have to walk for miles only to fetch a bucket of water from the stagnating ponds where rain water is collected. Because of that water consumption, infantile mortality rate is high and people suffer from all kinds of water borne diseases. The main objective of the project is to provide safe drinking water (treated in accordance with WHO standards) to the people of Gwadar, Pallery, Pishukan, Ganz, Jiwani, Surbandar, Dhor Shatti, Chib Kalmat, Shambe Ismail, and Nigor Sharif. The scheme is expected to meet water requirements of existing population of 43,000 and the projected population of 60,000 in the year 2000-01.

PROJECT COMPONENTS :

An earth - filled dam of 66 ft high and 1115 ft long, across Akra Kaur Stream to store 503 million cft of water will be built. It will provide 1.615 million gallons per day (mgd) of water, out of which, 1.346 mgd will be used for drinking and the remaining 0.269 mgd for irrigation purposes. Transmission pipelines will be laid to supply water to different villages and the pumping stations will be constructed to boost flow of water.

PROGRESS UPTILL 30TH JUNE, 1988 :

The consultants (NESPAK) have been engaged for preparation of tender documents and the construction supervision.

(3) BALUCHISTAN INTEGRATED AREA DEVELOPMENT PROJECT (BIAD)

- DONOR(S): UNICEF, EEC, GOVT OF NETHERLANDS, & CIDA.

- FINANCING PATTERN: ----- (Rs. in million) -----

COST			Year of commencement	Year of completion
Local	F.E.C	Total	1982	1990
340.44	400.00	740.44		

EXPENDITURE :

	LOCAL	FPA	TOTAL
1982-83	2.502	63.885	66.387
1983-84	6.425	78.0	84.429
1984-85	9.0	38.13	47.13
1985-86	8.973	63.0	71.973
1986-87	7.453	15.0	22.453
1987-88	9.16	5.89	15.05

(Phase-I 1982-88)

(Phase-II 1988-89)

(Phase-III and Phase-IV will be taken up after review of BIAD Program at the end of Phase-II).

(Out of the local component of Rs.340.00 million, the GOP will provide Rs.80.00 million, while the remaining amount of Rs.260.44 million will be provided by the community in shape of land and labour for digging trenches to lay pipelines for Water Supply Schemes).

FINANCING RATIO :

UNICEF, EEC, GOVT OF NETHERLANDS, AND CIDA	54%
GOP	10.0%
Community	35.2%

LOCATION :Phase I Schemes: Districts of Jafarabad, Gwadar, Loralai, and Kalat.Phase II Schemes: Districts of Pishin, Kachhi, Lasbela, and Turbat.Phase III Schemes: Panjgur, Khuzdar, Kohlu, and Dera Bugti.Phase IV Schemes: Kharan, Quetta, Zhob, and Sibi.

(iv) Informal Education

To motivate parent to provide education to their children.

- (v) Income Generating Activities : These activities
(primarily for females) : have not been
: taken in hand so
(vi) Basic Literacy Training : for.
(primarily for females) :
:
(vii) Construction of Multi-purpose :
Community Centres. :

- PROGRESS UPTILL 30TH JUNE, 1968 :**Phase-I****i) Water Supply Schemes:**

<u>Districts</u>	<u>Completed</u>	<u>In progress</u>
Loralai	4	2
Pishin (experimental)	1	-
Quetta (experimental)	3	-
Kalat	3	3
Jafarabad	3	4
Gwadar	3	-

ii) Under Primary Health Program, 5828 people have been trained / educated.

iii) Under Sanitation Program, 1336 pour-flush latrines have been constructed, and 116 village volunteers have been trained in sanitation.

Note: Two donors, viz. CIDA and Dutch Government have withdrawn after Phase-I.

(4) BALUCHISTAN FISHERIES DEVELOPMENT PROJECT- DONOR(S): ASIAN DEVELOPMENT BANK- FINANCING PATTERN: _____ (Rs. in million)

COST			Year of commencement	Year of completion
Local	F.E.C	Total		
192.60	370.50	563.1	1984	1989

EXPENDITURE :

YEAR	LOCAL	FPA	TOTAL
1986-87	22.722	30.241	52.963
1987-88	20.091	107.172	127.263

FINANCING RATIO :

ADB	65.8%
GDP	34.2%

- LOCATION :

Pasni, District Gwadar.

- EXECUTING AGENCY :

Pasni Fisheries Harbour Authority, and the Department of Food and Fisheries, Government of Baluchistan.

- OBJECTIVES :

The primary objective of the project is to protect the fishermen of Mekran Coast from the exploitation of rich traders of Karachi. They will be provided jetties at Pasni so that they can bring their catch to the village, which otherwise is not possible due to shallow beach. Secondly, they will be provided the facilities of ice plants in Pasni where their catch could be stored and they will not be under tremendous pressure of selling their quickly-perishable catch to the traders - mostly from Karachi - whose launches

are anchored off-shore where the transaction takes place. The local fisherman has twin disadvantages: he cannot bring his catch to Pasni, as the sea is very shallow near the village and the fishing vessels cannot come near; and secondly even if the catch is brought to Pasni, what then? There are neither cold storages available, nor roads to transport his catch to the markets.

- PROJECT COMPONENT :

i) CONSTRUCTION OF A FISHERIES HARBOUR AT PASNI:
RS. 352.300 MILLION

Under the project, Pasni Fisheries Harbour Authority has been set-up and assigned the job of constructing a harbour at Pasni. The harbour is expected to accommodate 500 local vessels including some from nearby coastal fishing towns and villages like Jiwani, Gwadar, and Ormara. It plans to have two 845 meter long break water walls; four 100 meter long berthing jetties; one 60 meter long sloping jetty to provide unloading facilities for small boats; one 100 meter long unloading quay; and one 150 meter long cargo jetty. In addition to that, the project aims at construction of repair shop facilities for fishing vessels (consisting of a ramp for beaching of fishing vessels and a building containing basic repair and maintenance facilities); a fishing handling centre (consisting of an auction hall, ice plants, and four chilled storage rooms); an administration building and staff quarters for harbour authority staff.

ii) MARINE ENGINES AND FISHING GEARS:
RS. 97.500 MILLION

The project also provides 1071 marine diesel engines (4-7 HP) for existing non-motorized fishing boats of more than one-ton capacity, and 2348 sets of improved fishing gears to the fishermen. The purpose is to increase the capability of local fishermen to catch more fish and thereby not only make it available in local market but also increase their standard of living. For the procurement of these engines and gears, the fishermen are planned to be provided loan through Agriculture Development Bank of Pakistan.

iii) MARKETING AND TRANSPORTATION FACILITIES:
RS. 71.500 MILLION

This component consists of the following :

a) Ice Plants/Chilled Rooms : Rs.21.762 million

Under the project, five ice plants (15 ton/day capacity)/ice stores (25 tons capacity), and five chilled stores (50 tons capacity) are planned to be established in Pasni, while one ice plant (5 tons/day capacity) and ice and chilled store (25 tons capacity) is planned to be established in Turbat. All these plants will be established in the private sector and the credit facilities are planned to be extended through the Asian Development Bank of Pakistan.

b) Fish Carriers & Insulated Trucks

4 Fish carriers with a fish hold capacity of 75 m tons will be constructed/procured and will be owned and operated by the private sectore. They will serve between Karachi and Pasni.

c) Fish Meal Plants : Rs.4.46 million

Two fish meal plants (1500 m ton production capacity), one each at Pasni and Gwadar, will be constructed in the private sector. The credit facilities for these are planned to be extended by the Agriculture Development Bank of Paskistan.

d) Workshop Equipment

A repair and maintenance shop for fishing boats at Pasni Fisheries Harbour will be constructed and the building will be leased out by PFHA to private sector boat builder who will procure necessary equipment. The ADBP will extend a loan facility upto Rs.0.52 million for the purpose of procurement.

iv) TRAINING AND EXTENSION SERVICES

To optimize the exploitation of fish resources and to utilize the inputs properly, the project envisages provision of training and extension services. This training and extension component includes strengthening of Directorate of Fisheries with permanent extension facilities consisting of engine workshops and demonstration rooms, net/fishing gear workshops and demonstration rooms, office accommodation for fisheries extension officers and suitable storage facilities. In addition to that, abroad and local training of Directorate of Fisheries extension officers, and arrangement of training and demonstration courses for fishermen in field on

installation, operation and maintenance of engines, fishing with better gear and proper handling of catch will be arranged. Other facilities under this component include.

- WORKSHOP BUILDING AND EQUIPMENTS AND STAFF QUARTERS

The Directorate of Fisheries has, at present, facilities (including administrative and workshop building and curing yards) at all major landing centres, i.e at Jiwani, Gwadar, Pasni and Ormara. However, such facilities were not available at Sonmiani (Lasbela), which is another major fish landing centre. It is envisaged in the project to strengthen workshop facilities at Pasni, Gwadar, Jiwani, and Ormara and to establish and equip workshop at Sonmiani. It is also planned to construct 9 staff quarters (4 at Lasbela, 3 at Gwadar, and 2 at Jiwani).

- Fellowships

The strengthen the Directorate of Fisheries' manpower capabilities, training facilities are provided to its extension officers and marine engineers (mechanics for Directorate of Fisheries). The intention is that after their return from foreign training, this field staff (extension officers and field mechanics) will supervise the installation of marine engines and train the fishermen in handling and maintenance of marine engines and gear and improve the fishing methods.

- PROGRESS UPTILL 30TH JUNE, 1988 :

- i) Possession and levelling etc of harbour area (about 20 acres).
- ii) Importation, port clearance and transportation of construction machinery and equipment to site.
- iii) Rigging and instillation of machineries.
- iv) Completion of temporary and Semi-permanent houses (20 in number), site offices and stores.
- v) Completion of labour housing.
- vi) Construction of about 20 Km new gravel road.
- vii) Widening and improvement of about 32 Km existing road.
- viii) Completion of temporary jetty

- ix) Casting of piles (each 25 meter long & weighing 13 tons); 577 completed.
- x) Casting of antifer blocks (each weighing about 8 tons) 3570 completed.
- xi) Driving of piles in the sea for construction of jetties; 5 test piles and 30 regular piles driven.
- xii) Construction of breakwaters rocks including revetment and cause way completed.
- xiii) Construction of overhead and underground water storage tanks--foundation & plinth etc completed; columns being erected.
- xiv) Construction of P.F.H. building ---excavation & levelling completed; columns being constructed.
- xv) Dredging started close to South breakwater.
- xvi) Excavation, grading & haulage of rocks etc and casting of piles and antifer blocks in progress.
- xvii) Work on water distribution system (digging an open well at Shadi Kaur and installation of 13 Km pipe line) started, well has been dug about and trenches (about 3 Km) have been dug to lay the pipe lines.
- xviii) Decking of Cargo Quay started.

(5) 45 MW DIESEL GENERATING POWER STATION AT PASNI BASED ON FURNACE OIL.

DONOR(S) GOVERNMENT OF JAPAN (GRANT)

FINANCING PATTERN (RS IN MILLION)

COST			Year of Commencement	Year of completion
Local	F.E.C.	Total		
782.000	456.000	1238.00	1988	1990

EXPENDITURE :

Year	Local	F.E.C.	Total
1987-88	3.073	-	3.073

FINANCING RATIO :

GOVERNMENT OF JAPAN	36.8 %
GOP	63.2 %

LOCATION :

Pasni, District Gwadar.

EXECUTING AGENCY :

W.A.P.D.A.

OBJECTIVES :

Mekran Division and the entire coastal area is one of the major parts of the province where due to extreme remoteness of cities and towns and also due to the geographical conditions and locations, it does not appear to be economically viable to construct long transmission lines for giving power supply from the national grid. Mekran Division is about 450 Km far from the WAPDA electric power net work. The existing diesel generating sets are operating in isolation and then the generating capacity of these stations is also insufficient to meet power demands. The

power supply is made available for 6 to 12 hours per day. As a consequence, the agricultural and industrial potential of Makran remains unexploited.

Project Components :

The project, therefore, aims to install a 45 MW Station comprising of 5 diesel generating units of 9 MW each at Pasni, alongwith a network of 132 KV transmission lines and grid stations to connect the towns of Turbat, Gwadar, Jiwani, Hoshab, Tump and Mund.

The following network is planned to be established :

Section of 132 KV Transmission Lines	Length of Line(Km).
Pasni - Gwadar	140
Gwadar - Jiwani	90
Pasni - Turbat	125
Turbat - Tump	75
Tump - Mund	40
Turbat - Hoshab	95
Total	565

PROGRESS UPTILL JUNE 1988 :

- i) The Project Director has been appointed.
- ii) Land acquired for construction of power station.
- iii) Short listing of foreign consultant completed.
- iv) Terms of Reference for foreign consultants sent to OPEC for approval.
- v) Draft Tender Documents for Power Station, Grid Stations & Transmission Lines Materials Prepared.

(6) MIRANI DAM PROJECT ON DASHT RIVER.**DONOR(S) :****FINANCING PATTERN :** _____ (Rs. in Million) _____

COST			Year of commencement	Year of completion
Local	F.E.C.	Total		
1727.00	166.00	1893.00	1988	1994

FINANCING RATIO :

To be confirmed later.

LOCATION :

48 kms West of Turbat Town, on Dasht River, District Turbat.

EXECUTING AGENCY :

W.A.P.D.A.

OBJECTIVES :

The proposed earthfill dam, 35 meters ft high, will be located across Dasht River, about 48 Kms from Turbat in Mekran Division.

The Dam will irrigate 36,600 acres through a lined main canal and two branch canals. It would make an immediate contribution to the development of irrigated agriculture in coastal areas of Baluchistan. Under the existing conditions, agriculture productivity is extremely low and hardly provides subsistence to the farm population where crop are harvested only once in two to three years.

The total production with project will increase to 28.850 tonnes as against the without project production of 2.725 tonnes. An area of 36,600 acres is expected to be cultivated after completion of the Dam. In addition to irrigation facility, the project envisages commercial water supplies to adjoining coastal towns. The assured water supply will provide firm basis for its future development.

PROGRESS UPTILL 30TH JUNE 1988 :

The project has been approved from the ECHEC.

(7) INTEGRATED VALLEY DEVELOPMENT PROGRAM BALUCHISTAN.

DONOR(S) : (Under Consideration of few Donors)

FINANCING PATTERN : _____ (Rs. in Million) _____

COST			Year of commencement	Year of completion
Local	F.E.C.	Total		
7312	-	7312	1989	1999

FINANCING RATIO :

To be confirmed later.

LOCATION :

Loralai, Chagai, Khuzdar, Kharan, Kohlu, Turbat, Kalat, Panjgur, Pishin, Derabugti, Zhob, Bela, Sibi, & Kachhi Districts.

EXECUTING AGENCY :

WAPDA, and other provincial Departments.

OBJECTIVES :

The proposed program aims at providing package of integrated socio-economic services in 23 valleys. The proposed package includes drinking water, housing, training, health, sanitation, communication, electricity and irrigation schemes under a total approach. These valleys have 0.75 million population in 650 villages.

PROJECT COMPONENTS :

- i) Ground water investigation and Development.
- ii) Instalation of 444 tubewells of 1 cusec capacity each and 56 tubewells of 0.5 cusec capacity.
- iii) Installation of diesel generators/construction of transmission lines.
- iv) Provision of tubewell, industrial and household electric connections.

- v) Agriculture and livestock development and provision of inputs and extension services.
- vi) Exploration and exploitation of mineral resources.
- vii) Improving health and education facilities.

PROGRESS UPTILL JUNE, 1988 :

Feasibility study is in progress.

(8) 45 MW DIESEL GENERATING POWER STATION AT PASNI BASED ON FURNACE OIL.

DONOR(S) GOVERNMENT OF JAPAN (GRANT)

FINANCING PATTERN (RS IN MILLION)

COST	Year of	
	Commencement	completion
Local	F.E.C.	Total
782.000	456.000	1238.00
	1988	1990

EXPENDITURE :

Year	Local	F.E.C.	Total
1987-88	3.073	-	3.073

FINANCING RATIO :

GOVERNMENT OF JAPAN	36.8 %
GOP	63.2 %

LOCATION :

Pasni, District Gwadar.

EXECUTING AGENCY :

W.A.P.D.A.

OBJECTIVES :

Mekran Division and the entire coastal area is one of the major parts of the province where due to extreme remoteness of cities and towns and also due to the geographical conditions and locations, it does not appear to be economically viable to construct long transmission lines for giving power supply from the national grid. Mekran Division is about 450 Km far from the WAPDA electric power net work. The existing diesel generating sets are operating in isolation and then the generating capacity of these stations is also insufficient to meet power demands. The

power supply is made available for 6 to 12 hours per day. As a consequence, the agricultural and industrial potential of Makran remains un-exploited.

Project Components :

The project, therefore, aims to install a 45 MW Station comprising of 5 diesel generating units of 9 MW each at Pasni, alongwith a network of 132 KV transmission lines and grid stations to connect the towns of Turbat, Gwadar, Jiwani, Hoshab, Tump and Mund.

The following network is planned to be established :

Section of 132 KV Transmission Lines	Length of Line(Km). -----
Pasni - Gwadar	140
Gwadar - Jiwani	90
Pasni - Turbat	125
Turbat - Tump	75
Tump - Mund	40
Turbat - Hoshab	85

Total	565

PROGRESS UPTILL JUNE 1988 :

- i) The Project Director has been appointed.
- ii) Land acquired for construction of power station.
- iii) Short listing of foreign consultant completed.
- iv) Terms of Reference for foreign consultants sent to OEPC for approval.
- v) Draft Tender Documents for Power Station, Grid Stations & Transmission Lines Materials Prepared.

(9) OIL SEED DEVELOPMENT PROJECT.

DONOR(S) : WORLD BANK/UNDP

FINANCING PATTERN : (Rs. in Million)

COST			Year of Commencement	Year of Completion
Local	F.E.C	Total		
41.169	8.96	50.12	1988	1995

FINANCING RATIO :

IDA 60%
 GOP 40%

LOCATION :

Masirabad, Sibi, Kachhi, Lasbela and Turbat Districts.

EXECUTING AGENCY :

Agriculture Department, Government of Baluchistan.

OBJECTIVES :

The broad objectives of the project are to substitute huge edible oil imports by introducing high yielding oilseed crops, carrying out research on new and existing oil seed crops and providing pure seed to the farmers. The project will add 7000 hect. to the existing oil seed area, which will include both traditional and non-traditional oil seed crops.

PROJECT COMPONENTS :

This includes :

- i) Setting up an oil seed research centre at Sibi and two sub-centres at Usta Mohammed and Gidder.
 - a) Construction of office and laboratory facilities.
 - b) 16 residences for the staff.
 - c) Provision of 14 vehicles (including 10 Motorcycles), field and laboratory equipments.

(10) COASTAL ROAD (LIARI - ORMARA ROAD).

DONOR(S) : Nil

FINANCING PATTERN			(RS. IN MILLION)	
COST			Year of Commencement	Year of completion
Local	F.E.C.	Total		
501.00	-	501.00	1984	1993

EXPENDITURE :

Year	F.W.O.	C & W
1984-85	30.000	-
1985-86	19.722	0.854
1986-87	10.278	9.930
1987-88	-	10.000

FINANCING RATIO :

Nil

LOCATION :

Kalat & Mekran Divisions.

EXECUTING AGENCY :

Frontier Works Organization and C&W Department of Baluchistan.

OBJECTIVES :

The project aims at Socio-economic benefits and general uplift of the area. The road will alternate link to Iran. It will contribute in national economy in the following ways:

- Help in marketing the surplus fish produce along the Mekran Coast.
- Facilitate industries and economic development in the region.
- Promote trade to and from the area.
- Reduce transportation costs.

- d) Appointment of 53 technical and non-technical staff members.
- ii) Provide oil seed extension services.
 - a) Construct 6 offices for ADA's and Agriculture officers.
 - b) Construct 5 residences.
 - c) Procure 2 pickups, 8 motorcycles and four oil seed planter.
 - d) Recruit 14 technical and 30 supporting staff for extension work.
 - e) Laying out of 312 demonstration plots in 7 years.
 - f) Training of staff in various techniques of oil seed production.
- iii) Provision of facilities for oil crop seed production, processing and storage.
 - a) Construction and installation of seed processing and storage unit at Gandawah with storage facility at Uthal.
 - b) Installation of seed processing and cleaning plant at Gandawah to serve Sibi, Kachhi and Nasirabad Distts: and a mobile unit for Lasbela and Turbat.
 - c) Recruit staff to look after the seed production, processing and storage work.
 - d) Procurement, multiplication and distribution of seed of oil seed crops.

PROGRESS UP TO JUNE 1968 :

PC-I of the project has been cleared by the CDWP.

PROJECT COMPONENTS :

Construction of 256 Km metalled road from Liari to Ormara.

PROGRESS UPTILL JUNE, 1988 :

28.5 Km has been constructed by C & W Department and from Km 111 to Km 457.5 Km has been constructed by F.W.O.