PN ABT-423

AGRO-ECONOMIC PROFILE

OF

AFGHANISTAN

AND

DESCRIPTION

OF

KANDAHAR PROVINCE

By: Olaf Verheijen
Farmer Management Advisor
Agricultural Program for Southwest Afghanistan
Merci Corps International
Quetta

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1. Afghanistan.

The lack of security in Afghanistan since 1978 has had a devastating effect on the country's social and economic development. Of Afghanistan's 17.15 million people, 4.6 million live outside the country as refugees, primarily in Pakistan and Iran. Almost 8 percent of the refugees come from within 200 km of the border. According to the United Nations Research Institute for Social Development (UNRISD) survey in Pakistan, nearly 70 percent of the refugees are Pashtuns. In addition, there are several million internal refugees, who have moved from one region of the country to another and from rural to urban areas.

The return of more than 4 to 5 million people after 14 years of exile will put heavy pressure on the country's already shattered rural economy.

Over the last 12 years, Afghanistan's GDP dropped by nearly 25 percent, and food production declined by 30 percent; the country's population has dropped by far less. Considerable infrastructure in an already poorly equipped country has been destroyed. (Nathan Berger: 40)

Before 1978, 30 to 50 percent of the rural population in Afghanistan lived in absolute poverty; based on 1969/70 absolute poverty level of Afs. 2,907 per year, and the situation has deteriorated in recent years. The return of 4 million cross-border refugees will obviously increase population density and consequently upset the economic balance in many areas. Rural households are normally large; the average size of a households in the refugee camps is 8.5 dependents as opposed to a pre-war average of 7. The majority of returnees will be sharecroppers or subsistence farmers in rural areas who will benefit relatively little from conventional, commercially oriented production programs. Under current market conditions, farmers with less than 2 ha of land will be unable to diversify out of subsistence into higher-value commercial cash crops.

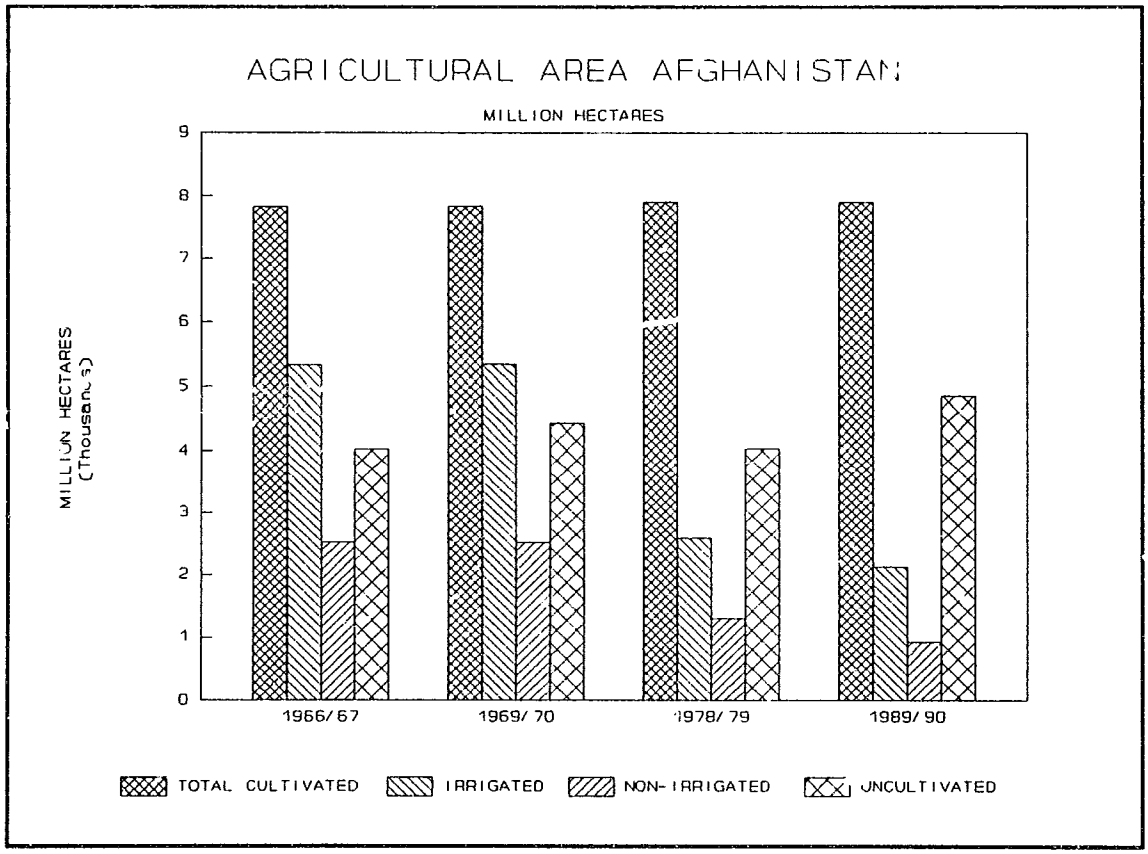
As a result of these constraints, some smaller farmers in Helmand (primarily) and other areas had begun to cultivate poppy even before the war. Estimates indicate that before 1978, 200 to 400 tons of opium and 500 tons of cannabis were grown annually in Afghanistan. Since the war, because of limited government power and economic pressure, opium production has expanded rapidly in Helmand and other areas.(Nathan Berger: 42-43)

1.1. Landuse and agricultural production.

Use of land resources (OOO hectares)

LAND CLASSIFICATION	1966/67	1969/70	1978/79	1989/90
ARABLE LAND	7,835	7,844	7,910	7,910
CULTIVATED	3,810	3,422	3,873	3,056
- IRRIGATED	(5,331)	(5,340)	2,579	2,125
- NON-IRRIGATED	(2,504)	(2,504)	1,294	931
UNCULTIVATED	4,025	4,422	4,037	4,854
FOREST			1,900	1,700
PASTURE			40,000	40,000
MOUNTAINS/DESERT			15,453	15,653
TOTAL LAND AREA			65,263	65,263

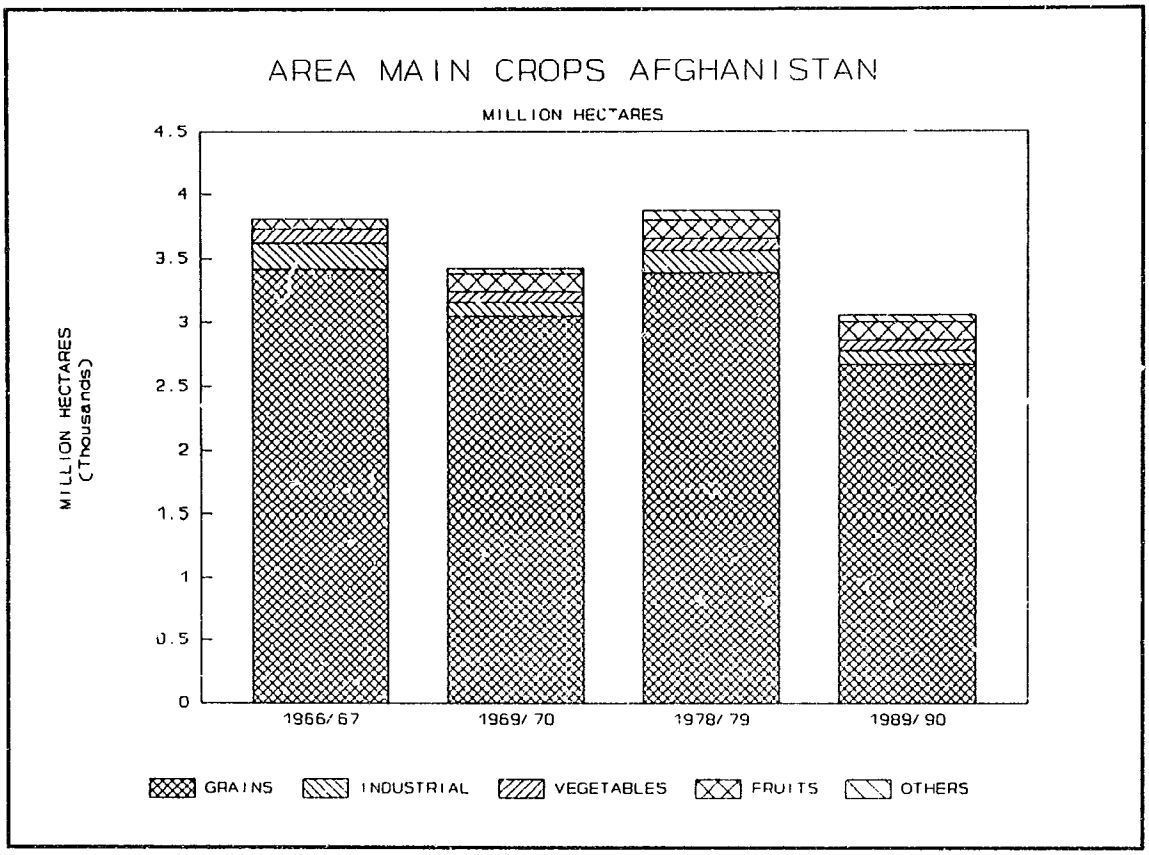
source: (Nathan Berger: 14; Dupree: 44)



Distribution of agricultural land use. (000 hectares)

CROPS	1966/67	1969/70	1978/79	1989/90
WHEAT	2,346	2,070	2,348	1,745
-irrigated	-	-	1,300	1,030
-non-irrigated	-	-	1,048	715
CORN	500	457	482	458
BARLEY	350	317	310	256
RICE	222	206	210	175
OTHER GRAINS			42	35
TOTAL CEREALS	3,418	3,050	3,392	2,667
COTTON	48	55	112	50
SUGAR BEET	4	5	5	0.4
SUGAR CANE	2	3	4	2.5
OIL SEEDS	150	42	50	50
TOTAL INDUSTRIAL	204	105	171	102.9
POTATOES	-	-	18	17
OTHER VEGETABLES	-	-	76	72
TOTAL VEGETABLES	110	92	94	89
GRAPES	-	-	70	67
OTHER FRUITS	-	-	70	70
TOTAL FRUITS	78	136	140	137
OTHER CROPS	-	39	76	60
TOTAL CROPPED AREA	3,810	3,422	3,873	3,056

source: (Nathan Berger: 15; Dupree: 44)


AREA MAIN CROPS AFGHANISTAN
MILLION HECTARES
MILLION HECTARES (Thousands)
4.5
4
3.5
3
2.5
2
1.5
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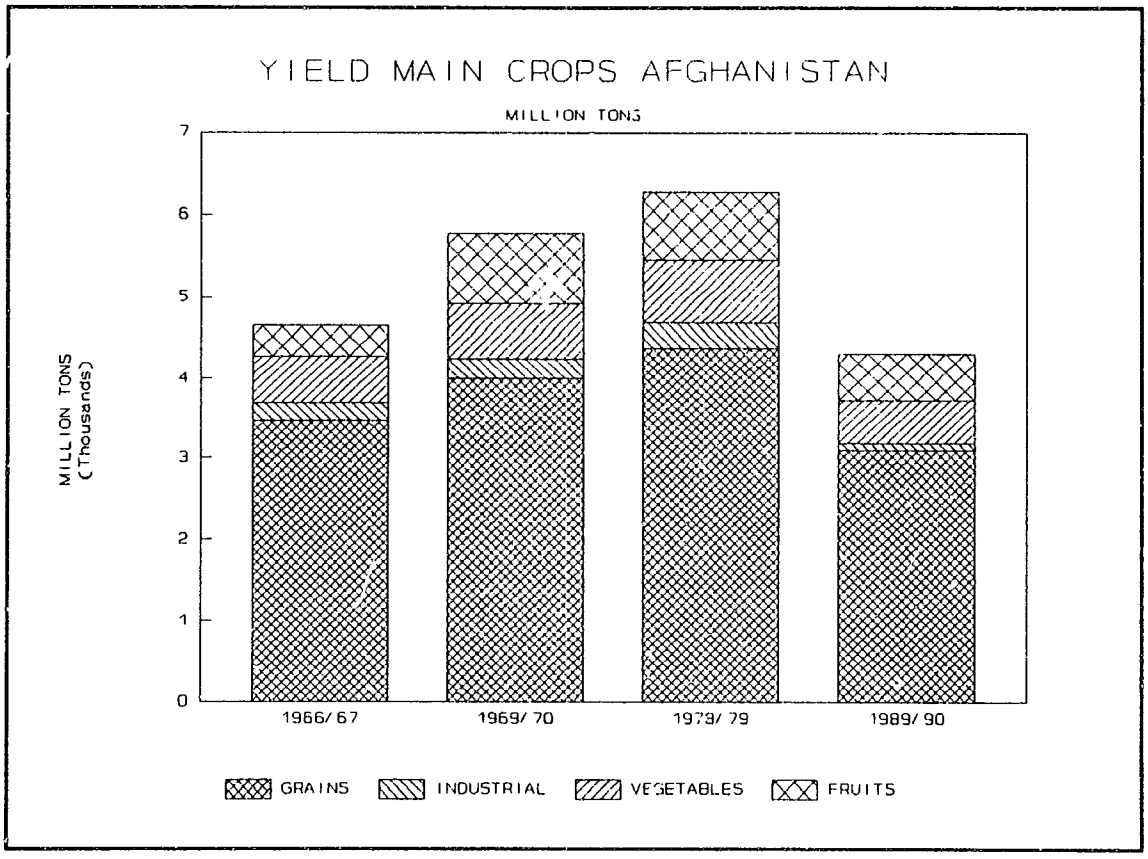
1966/67
1969/70
1978/79
1989/90
GRAINS
INDUSTRIAL
VEGETABLES
FRUITS
OTHERS


YIELD MAIN CROPS AFGHANISTAN
MILLION TONS
MILLION TONS (Thousands)
7
6
5
4
3
2
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1966/67
1969/70
1979/79
1989/90
GRAINS
INDUSTRIAL
VEGETABLES
FRUITS

Agricultural production (000 tons)

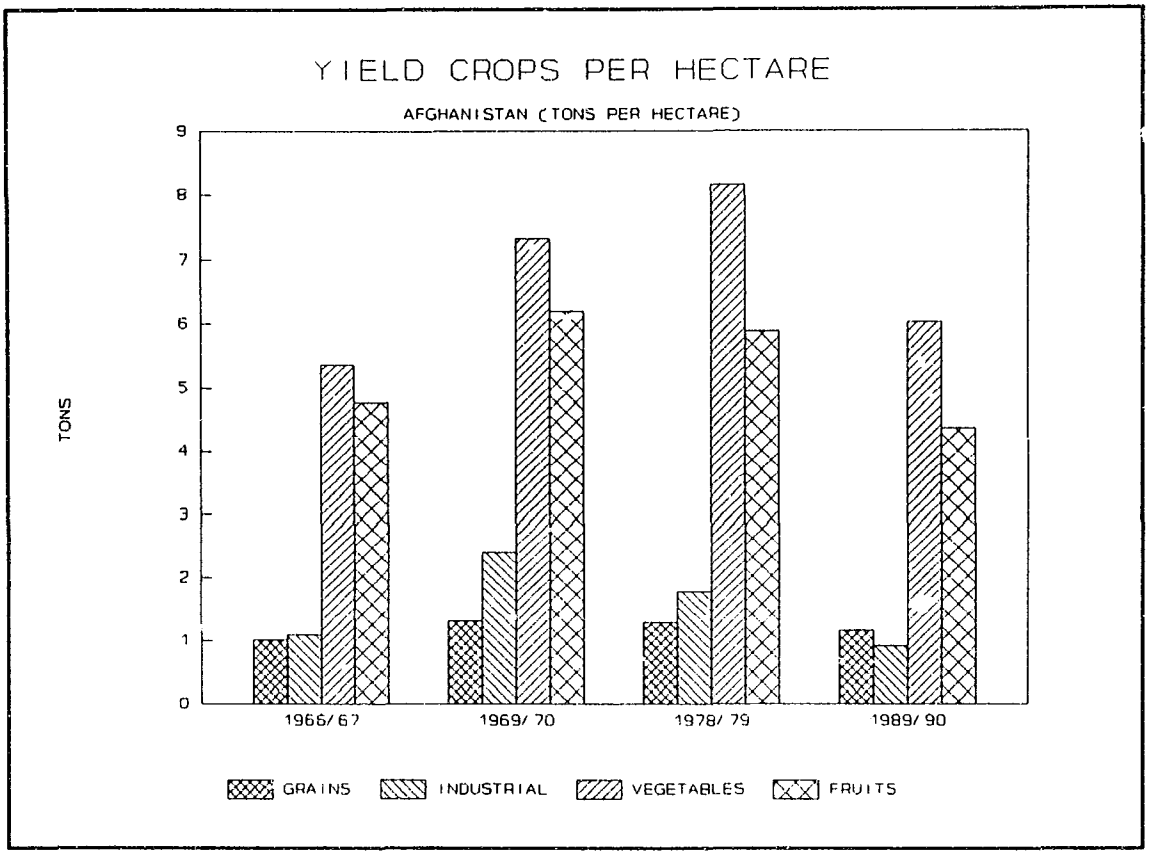
CROPS	1966/67	1969/70	1978/79	1989/90
WHEAT	2,033	2,450	2,813	1,958
-irrigated	-	-	2,255	1,580
-non-irrigated	-	-	558	378
CORN	720	785	780	587
BARLEY	375	365	325	238
RICE	337	407	428	280
OTHER GRAINS	-	-	36	26
TOTAL CEREALS	3,465	4,007	4,382	3,089
COTTON	61	85	132	43
SUGAR BEET	56	68	73	2
SUGAR CANE	51	60	64	26
OIL SEEDS	55	37	35	24
TOTAL INDUSTRIAL	233	250	302	95
POTATOES	-	-	250	169
OTHER VEGETABLES	-	-	516	367
TOTAL VEGETABLES	590	671	766	536
GRAPES	-	-	440	281
OTHER FRUITS	-	-	384	316
TOTAL FRUITS	372	842	824	597
OTHER CROPS	-	-	-	-
TOTAL CROPPED AREA	-	-	-	-

source:(Nathan Berger: 15; Dupree: 45)

Yield per hectare (tons)

CROPS	1966/67	1969/70	1978/79	1989/90
WHEAT	0.87	1.18	1.20	1.12
-irrigated	-	-	1.73	1.53
-non-irrigated	-	-	0.53	0.53
CORN	1.44	1.72	1.62	1.28
BARLEY	1.07	1.15	1.05	0.93
RICE	1.52	1.98	2.04	1.60
TOTAL CEREALS	1.01	1.31	1.29	1.16
COTTON	1.27	1.54	1.18	0.86
SUGAR BEET	14.00	14.80	14.60	5.00
SUGAR CANE	25.50	24.00	16.00	10.40
OIL SEEDS	0.37	0.89	0.70	0.48
TOTAL INDUSTRIAL	1.09	2.41	1.77	0.92
POTATOES	-	-	13,89	9.94
OTHER VEGETABLES	-	-	6.79	5.10
TOTAL VEGETABLES	5.36	7.32	8.15	6.02
GRAPES	-	-	6.29	4.19
OTHER FRUITS	-	-	5.49	4.50
TOTAL FRUITS	4.77	6.19	5.89	4.36
OTHER CROPS	-	-	-	-
TOTAL CROPPED AREA	-	-	-	-

source: (Nathan Berger: 15; Dupree: 45)


YIELD CROPS PER HECTARE
AFGHANISTAN (TONS PER HECTARE)
TONS
0
1
2
3
4
5
6
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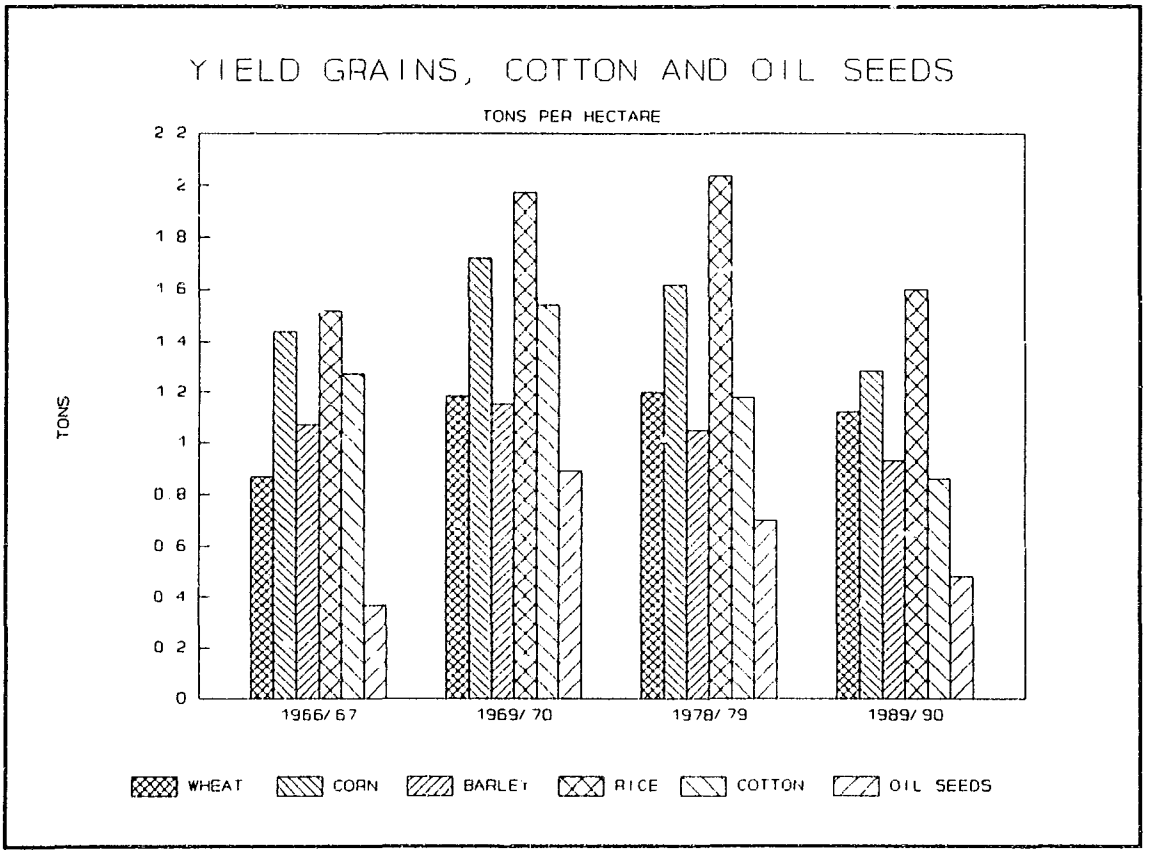
8
9
1966/67
1969/70
1978/79
1989/90
GRAINS
INDUSTRIAL
VEGETABLES
FRUITS


YIELD GRAINS, COTTON AND OIL SEEDS
TONS PER HECTARE
TONS
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
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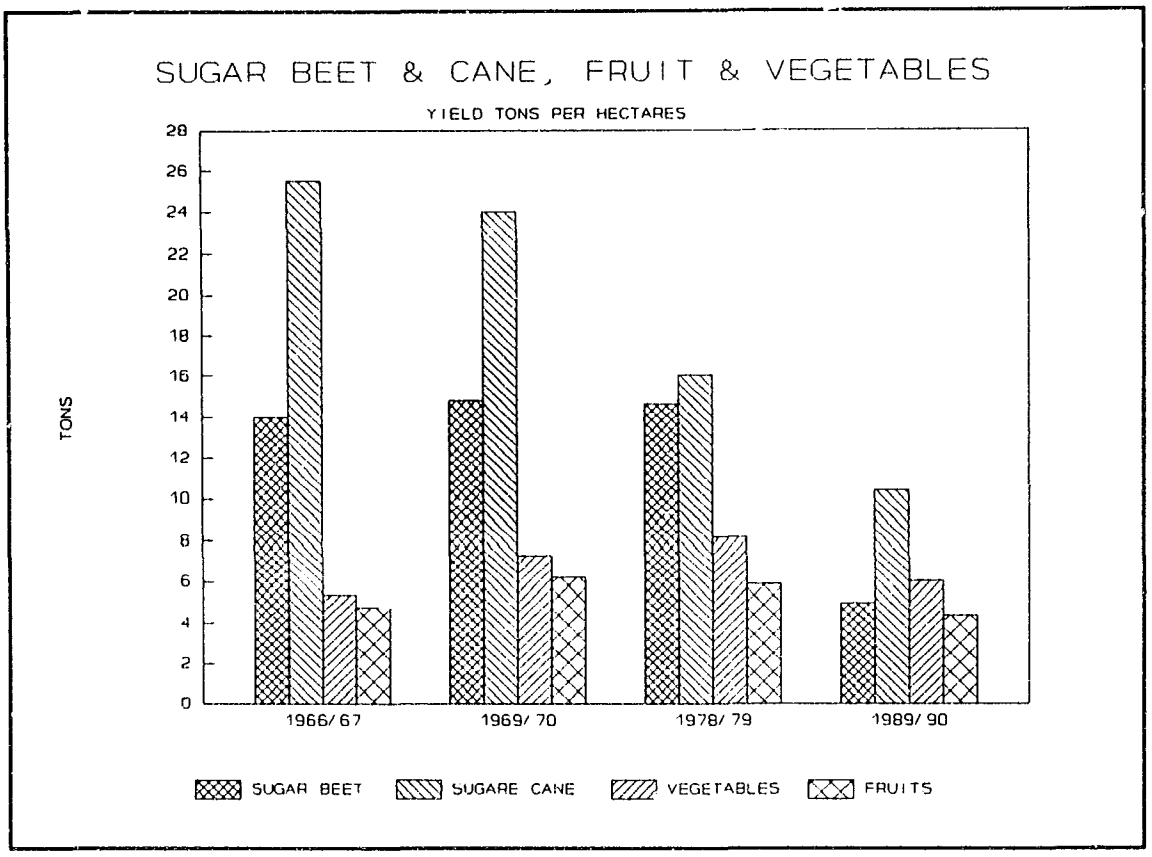
1966/67
1969/70
1978/79
1989/90
WHEAT
CORN
BARLEY
RICE
COTTON
OIL SEEDS



1.2. Agricultural export.

TABLE : Export commodities of Afghanistan for the period 1979-1982.

COMMODITY	1979/80		1980/81		1981/82	
	VALUE	%	VALUE	%	VALUE	%
NATURAL GAS	102,8	22,0	233,1	35,8	272,5	41,0
DRIED FRUITS	177,0	37,9	169,4	26,0	174,9	26,3
CARPETS & RUGS	57,1	12,2	103,5	15,9	72,6	10,9
FRESH FRUITS	31,3	6,7	39,7	6,1	50,5	7,6
KARAKUL & OTHER SKINS	40,3	8,6	37,6	5,8	30,5	4,6
COTTON	36,7	7,9	39,6	6,1	22,5	3,4
WOOL & HAIRS	10,9	2,3	12,3	1,9	23,3	3,5
MEDICAL HERBS	4,9	1,0	4,2	0,6	11,5	1,7
CASING	4,2	0,9	5,3	0,8	4,6	0,7
OIL SEEDS	1,7	0,4	6,4	1,0	2,0	0,3
TOTALS	466,9		651,1		664,9	

According to the official statistics of 1977, over 50% of Afghanistan's annual export consisted of fresh and dry fruits; total earning from fruit export was about US$ 150 million per year. According to the 1977/78 official census, the total area under fruit was 140.300 ha. (4% of the

total cultivated area) and that of vegetables was 95.000 ha. (2%). The Province of Kandahar is one of the main fruit-growing areas in Afghanistan.

TABLE : Horticulture exports in 1981/82 (US$ million)

PRODUCT	VALUE	%	VOLUME (TONS)	%
RAISINS	70,0	66,7	36.000	27,8
FRESH GRAPE	14,0	13,3	27.000	20,8
ALMONDS	7,0	6,7	28.000	21,6
MELONS	5,6	5,3	27.800	21,4
DRIED APRICOTS	1,6	1,5	1.000	0,8
LIQUORICE	2,8	2,7	5.700	4,4
ASA FEOTIDA	2,0	1,9	900	0,7
FRESH APRICOTS	1,0	1,0	1.900	1,5
APPLES	0,9	0,9	1.400	1,1
TOTALS	104,9	100,0	129.700	100,1

source: USAID.

Raisin production in the early 1980s expanded greatly due to the creation of no less than 12 modern processing plants. As a result, by 1982/83, Afghanistan had captured more than 60% of the international market for raisins. Official trade statistics have not been published since 1982. Raisins exports grew to a peak in 1986/87, partly due to good harvests in 1985, but have dropped sharply during the last years of the 1980s. In 1984/85, Afghanistan's share in the raisins' world market dropped to 40%. In 1986/87 this was further declined to 26% and in 1988/89, Afghanistan had only 16% of the world market for raisins.

Agricultural exports from Afghanistan have probably fallen to between 60 and 70% of the pre-war total. A shortage of fresh fruit and vegetables in the rapidly-growing towns of Afghanistan has resulted in a steep rise in prices. It is now usually more profitable to sell a product on the local market than to sell it to processors or exporters. Not only has production declined due to lack of inputs and labor power, but the destruction or dilapidation of post harvest storage, grading and processing facilities has made many Afghan products unfit for sale in Western markets.

1.3. Livestock.

Animal agriculture is one of the primary economic activities in Afghanistan for both sedentary and nomadic people. Meat and milk products form an important component of the diet for all groups. The village-based sedentary groups augment their incomes from crop production with outputs of milk, meat and fiber (wool) from small ruminants and cattle which utilize marginal lands unsuitable for more intensive activities. The nomadic *koochi* people rely almost entirely on income generated from the sale of their animals or animal products for the purchase of grain and other essential commodities. Moreover, camels, horses and donkeys provide the primary

means of transportation for seasonal migration of nomads and are used for soil tillage and agricultural transport. (MCI: Community-based Animal Health Assistance for Southwest Afghanistan, Kandahar Province: 2)

For many people in Afghanistan, sheep, goats, cattle and camels represent their banking system. The largest and most vulnerable group of these livestock owners are the nomadic herders known as *koochi*. The koochi travel in camps of 10 to 50 families, each family having 200-400 sheep and goats. They have very few possessions besides their herds, and therefore are very concerned about the health of their animals.

In Southwest Afghanistan, different koochi groups are present:
- Nomadic Baloch koochi, who spend their winters (October to March) in the Registan Desert.
- Nomadic Pashtoon koochi, who spend winters between the Arghandab, Helmand, Tarnak and Arghastan Rivers and the desert.

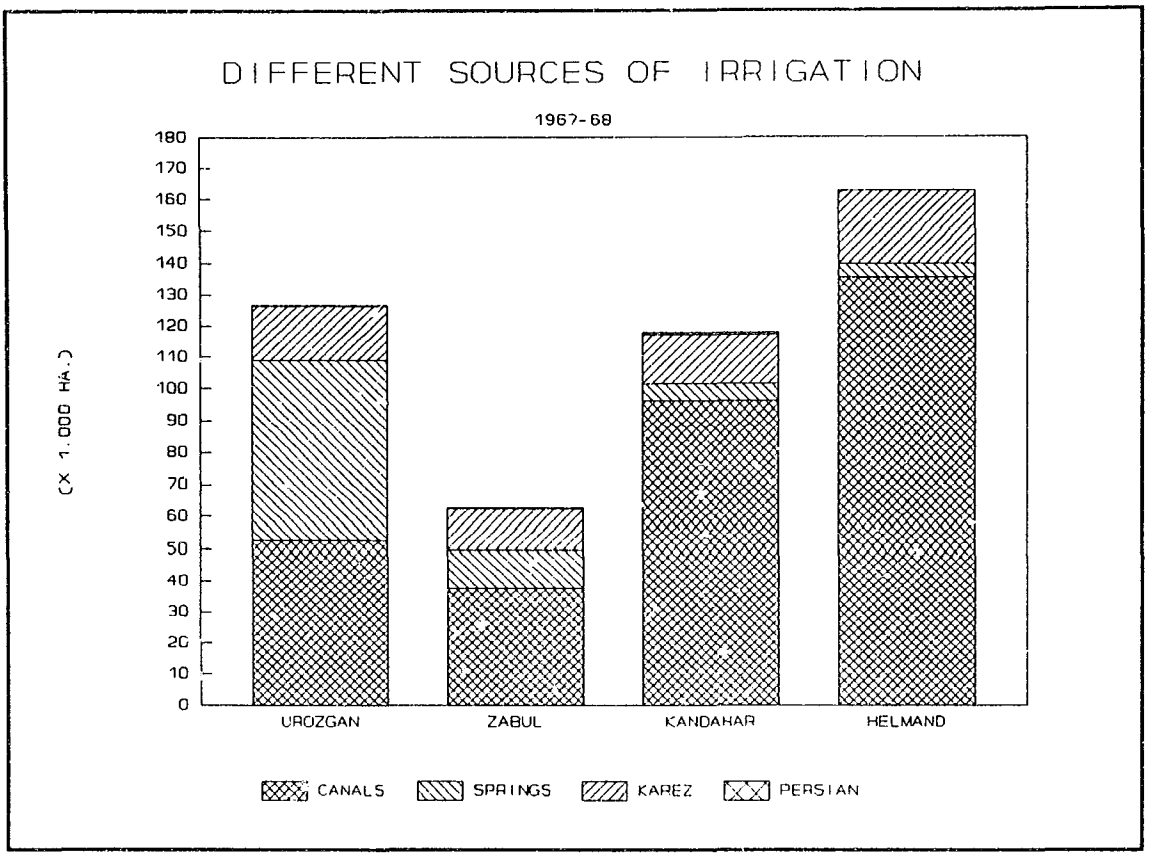
Both of the above groups migrate to summer grazing pastures in Ghazni, Urozgan and Ghor in Central Afghanistan.
- Semi-nomadic koochi, who have made Arghistan, Khakrez, and Shah Wali Kot Districts of Kandahar Province their permanent home, cultivating grains and other crops along with their herding.

1.4. Irrigation in Southwest Afghanistan.

TABLE : Area cultivated by different sources of irrigation in 1967/68 (000 ha.)

PROVINCE	CANALS/STREAMS		SPRINGS		KAREZ		PERSIAN WHEEL		TOTAL
	HA.	%	HA.	%	HA.	%	HA.	%	HA.
UROZGAN	52.67	(41,6)	56.28	(44,5)	17.55	(13,9)	0.08	(0,1)	126.58
ZABUL	37.67	(60,2)	11.99	(19,2)	12.78	(20,4)	0.10	(0,2)	62.54
KANDAHAR	96.05	(81,5)	5.31	(4,5)	15.86	(13,4)	0.70	(0,5)	117.92
HELMAND	135.44	(83,2)	4.32	(2,7)	22.83	(14,0)	0.13	(0,1)	162.72
TOTALS	321.83	(68,5)	77.90	(16,6)	69.02	(14,7)	1.01	(0,2)	469.76

source:



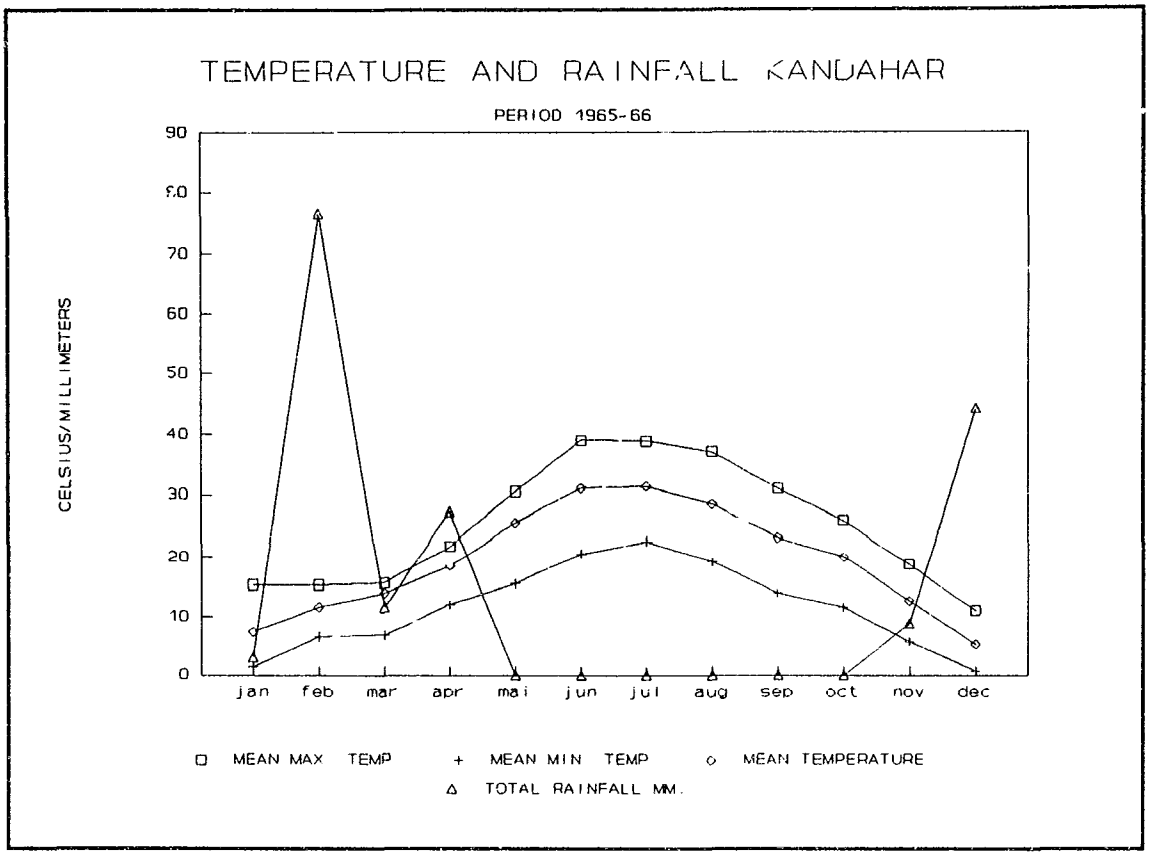
The assessment of damage to horticulture crops in Southwest Afghanistan was as follows:
- Helmand: 60-90%
- Kandahar: 60-90%
- Oruzgan: 0-40%
- Zabul: 0-40%

2. Kandahar Province.

2.1. Geography.

The province of Kandahar lies in the far south-eastern corner of Afghanistan. Kandahar is semi-arid with an average rainfall of 50-150 mm. The southern half of the province is largely desert. Moving north across the province, the landscape becomes more mountainous. Kandahar City is situated on a flat plateau surrounded by hills. Portions of the districts of Arghandab, Dand, Panjwai and Maiwand which border the city of Kandahar, are irrigated by the Arghandab and to a lesser extent the Tarnak rivers. These are the most productive and densely populated districts in Kandahar.

The area of Kandahar Province is 49,371 square kilometers and the altitude ranges from a low of 900 meters in the desert of Reg to a high of 1,750 meters in the mountains of Maruf district.



Dupree (1980) gives an indication of the climate in Kandahar. For the year 1965/66 the temperatures and the rainfall for Kandahar Province are given.(Dupree: 17)
In 1965/66, the average maximum temperature was 25,1° Celsius, the average minimum temperature 11,5° Celsius, and the mean temperature was 19,1° Celsius. The average relative humidity was 37,3%, which ranged between 19 percent in September and 67 percent in February. The total rainfall in 1965/66 was 171,6 mm, which fell in the period from November to April.

2.2. Administrative structure.

Administratively, Kandahar is divided into 12 districts (*woloswali*) and 3 subdistricts (*alakadari*).

Administrative divisions and physical characteristics.

	administrative status	area sq. km.	altitude meters
ARGHANDAB	woloswali	586.60	1,000
ARGHISTAN	,,	4,308.30	1,300
KANDAHAR	prov. capital	38.80	1,000
DAMAN	woloswali	1,373.50	1,040
DAND	,,	531.30	1,000
GHORAK	alakadari	1,617.50	1,175
KHAKREZ	woloswali	1,129.10	1,625
MAIWAND	,,	10,424.70	942
MARUF	,,	3,245.30	1,750
NESH	alakadari	1,744.00	1,500
PANJWAI	woloswali	3,989,30	950
REG	alakadari	5,134.80	900
SHAHWALIKOT	woloswali	2,931.30	1,100
SHEGAH	,,	2,961.50	950
SHORABAK	,,	4,964.40	1,075
SPIN BOLDAK	,,	4,391.20	1,210

source: (UNIDATA: 3)

2.3. Population.

The 1979 Census estimated the total population at 567,204. The 1979 Population Census determined the urban population to be 178,409 or 31.5 percent of the total provincial population. There were 1,865 localities, of which 1,817 were main villages and 48 were sub-villages with an average population per locality of 304 persons, or approximately 43 households. The last population census of 1979 remained incomplete because of reforms instituted by the government and the civil turmoil that followed the introduction of these reforms. The census did not have separate data on population for the districts of Dand and Shega and the sub-district of Nesh. (UNIDATA: 16-18)

Population characteristics in 1979.

	settled population	density of pop. sq.km.	number of households	number of localities	average hh. size
ARGHANDAB	43,047	74	6,617	75	6.5
ARGHISTAN	19,868	5	3,504	226	5.7
KANDAHAR	277,508	1,233	35,271	190	7.9
DAMAN	17,005	4	2,692	84	6.3
DAND	-	-	-	-	
GHORAK	5,514	3	851	50	6.5
KHAKREZ	13,166	11	2,205	114	6.0
MAIWAND	38,559	4	6,445	172	6.0
MARUF	19,040	6	3,004	285	6.3
NESH	-	-	-	-	
PANJWAI	72,666	17	9,945	167	7.3
SHAHWALIKOT	24,966	8	4,010	286	6.2
SHEGAH	-	-	-	-	
SHORABAK	6,616	1	979	38	6.8
SPIN BOLDAK	28,146	6	4,333	174	6.5
REG	1,103	0	165	4	6.7
TOTAL	567,204	12	80,021	1,865	7.1

source: (UNIDATA: 17)

UNIDATA placed family size at 7. Household size has been affected in may ways. Poor security conditions and damage to shelter caused by war forced families with close ethnic and clan ties to live together. These families are common in urban and rural areas attacked by the mujahideen or subjected to government air raids. So the war sometimes increased the average household size. Nevertheless, at the beginning of the war, the younger generation fled the country. This decreased the household size. People over 40 usually stayed at home.(UNIDATA: 18)

In 1990, UNIDATA estimated the total population of Kandahar province at 737,762, of which 445,120 live actually in the province, and 292,640 are refugees in Pakistan and Iran. Without the refugees, the population density is 9 in 1990. The urban population constitute 8.2% of the total. The number of nomads is estimated at 53.796.(UNIDATA: x)

Population and refugees: 1979 and 1990

	population		refugees		adjusted 1990 pop. at home	population per sq. km.		
	1979	1990	Pakistan	Iran		1979	1990	1990 adj.
ARGHANDAB	40,413	62,029	17,158	2,000	42,871	67	106	73
ARGHISTAN *	18,652	24,031	39,952	-	4,806	4	6	1
KANDAHAR	172,211	225,430	30,497	20,200	174,733	4,438	5,810	4,019
DAMAN	15,965	23,594	3,192	-	20,402	12	17	17
DAND	88,320	115,512	15,627	5,000	94,885	166	217	208
GHORAK	5,177	5,849	59	-	5,790	3	4	4
KHAKREZ	12,361	15,334	1,358	-	13,976	11	14	12
MAIWAND	36,200	51,481	25,333	5,000	21,148	3	5	2
MARUF *	17,875	19,020	33,061	-	3,804	5	6	1
NESH	7,276	9,624	-	-	9,624	4	5	5
PANJWAI	68,220	92,409	68,375	5,000	19,034	17	23	5
SHAHWALIKOT	23,439	50,838	1,813	-	49,025	8	17	17
SHEGAH	4,499	6,053	-	-	6,053	1	2	2
SHORABAK *	6,211	6,323	9,049	-	1,265	1	1	0
S. BOLDAK *	21,925	29,500	46,961	-	5,900	5	7	1
REG	1,036	735	-	-	735	0	0	0
TOTAL	539,780	737,762	292,435	37,200	474,051	11	15	10

* nomadic population is not included.
Compiled from USAID/UNIDATA Mapping Service, 1990.
source: (UNIDATA: 19-20)

With the refugee population, the total population of Kandahar province increased with 197,982 (+36.7%) in the 11 years from 1979 to 1990; 3,3% per year. Without the refugee population, the population decreased with 65,051 persons (-12,2%). In 1990, 329,635 (registered) refugees from Kandahar province were still living in Pakistan and Iran; 44,7 percent of the total provincial population in 1990. Of those who became refugees, 89 percent moved to Pakistan and 11 percent to Iran. The approximately 240,000 refugees from Kandahar province account for nearly 10 percent of all Afghan refugees registered in Pakistan. Considerable internal displacement of the population has also taken place toward Kandahar City, whose pre-war population of nearly 200,000 is thought to hav oubled.
Should all refugees return in the near future, the country's population will double by the year 2010.(UNIDATA: 20-21)

2.4. Agriculture.

Kandahar is best known for the many varieties of fruit produced in the province. Fruits for export being grapes, pomegranates and apricots. Apples, figs, peaches, pears, mulberries, almonds and plums are also common. Industrial crops like cotton, sesame, olives, sunflower, cumin and groundnut are grown in different parts of the province. The important field crops are wheat, barley and maize.(UNIDATA: 4)

In pre-1978 Afghanistan, grapes made up over 60% of the Kandahar fruit production. According to the official statistics of 1977, over 50% of Afghanistan's annual export consisted of fresh and dry fruits; total earning from fruit export was about US$ 150 million per year.

Kandahar Province was producing over 60% of this export fruit. Fresh grapes and raisins comprised 55% of all fruits exported from Kandahar. To facilitate the export of raisins at internationally acceptable levels, 4 packing facilities were operational in 1978, with a total capacity of 8.000 tons per season. Two of these were operational in 1990. (MCI (March, 1990):) A mechanized industrial base was founded in 1934 with the establishment of the Pashtun Company. Kandahar Fruit Exporting Company was established in 1959 and activated as a factory in 1963. Sorting, storing and drying fruits or making syrups and compotes were the main activities of this factory. In Kandahar City, two textile and clothing plants, fur coat, jewellery, metal work and embroidery centers existed.(UNIDATA: 5)

A very rough estimation of Kandahar's production of grapes and percent of damage during the war is as follows:
- 1974: 294.000 kgs.
- damage: 50%
- 1990: 147.500 kgs.

Before the war, Kandahar city had the following processing plants and its present state:
- Kandahar Raisins: not working;
- Arghandab Fruit Company (raisins): no materials;
- Shakat Niwa Fruit Company (canning and juice): closed in 1975;
- SS Pashtun Store (cold storage): working;
- Kandahar Textiles: no material.

Land use in 1980 (area in jeribs).

	FALLOW LAND	CULTIVATED	CULTIVATED/ FALLOW RATIO	FORESTS	PASTURES	TOTAL
ARGHANDAB	10,000	49,000	4.9 : 1	-	-	59,110
ARGHISTAN	10,580	77,340	7.3 : 1	10,000	247,910	345,830
KANDAHAR	990	4,460	4.5 : 1	-	120,210	125,660
DAMAN	8,830	29,310	3.3 : 1	8,000	124,640	170,780
DAND	76,180	214,310	2.8 : 1	-	-	290,490
GHORAK	990	4,830	4.9 : 1	-	111,970	117,790
KHAKREZ	5,820	12,040	2.1 : 1	-	-	17,860
MAIWAND	15,300	126,760	8.3 : 1	-	140,200	282,260
MARUF	3,890	13,360	3.4 : 1	-	-	17,250
NESH	980	4,160	4.2 : 1	-	113,480	118,620
PANJWAI	20,190	70,980	3.5 : 1	-	141,870	233,040
SHAHWALIKOT	6,990	33,440	4.8 : 1	10,000	-	50,430
SHEGAH	-	-	-	-	337,610	337,610
SHORABAK	-	-	-	-	-	-
SPIN BOLDAK	55,980	147,250	2.6 : 1	-	185,310	388,540
TOTAL	216,720	787,350	3.6 : 1	28,000	1.523,200	2.555,270

source: (UNIDATA: 44)

The total agricultural land under cultivation is estimated to be 787,000 jeribs or around 158,000 hectares. Of this close to 590,000 jeribs, 118,000 hectares or almost 75 percent of all cultivated land is dependent on irrigation.(UNIDATA: 40) Of the total cultivable land in the province, 30.8 percent is said to be under cultivation with 8.5 percent lying fallow. Pastures account for the majority (59.6%) of cultivable land, while the rest of the land or 1.1 percent is

taken up by forests.(UNIDATA: 43)

In 1980, the ratio of cultivated land to fallow land was the highest in Maiwand, where for each jerib of fallow land, 8.3 jeribs were being cultivated. The lowest ratio was found in Khakrez where for each jerib of fallow land only 2.1 jeribs were cultivated.
The average ratio for the whole province was 3.6 jeribs of cultivated land to 1 jerib, which was lying fallow.(UNIDATA: 44)

Because of the war, the cultivated/fallow ratio for the province will be lower, because many farms are abandoned by their owners. In 1990, UNIDATA counted 744,090 jeribs of land were cultivated against 787,350 jeribs in 1980. This may conclude, that the area, which was lying fallow, increased with 43,260 jeribs to 259,980 jeribs in 1990. The cultivated/fallow ratio was 2.9 : 1 in 1990. The most important reasons for the decrease of the ratio with 0.7 are the abandonment of farms, destruction of irrigation systems, lack of farm power and man power, insecurity by mines, and destruction or neglect of maintenance of orchards.

Total cultivable land by crop in Kandahar province in 1990. (jeribs)

DISTRICTS	GRAINS			INDUSTR. CROPS	VEGETAB.	FRUITS	OTHER CROPS	TOTAL CULTIV. LAND
	IRRIG.	NON-IRRIG.	TOTAL					
ARGHANDAB	37,110	-	37,110	1,000	6,410	6,410	-	50,930
ARGHISTAN	70,840	12,240	83,080	800	2,150	-	-	86,030
KANDAHAR	3,730	-	3,730	-	1,080	80	-	4,890
DAMAN	33,320	-	33,320	430	640	4,140	1,390	39,920
DAND	113,190	3,690	116,880	4,000	3,740	14,980	5,560	145,160
GHORAK	4,250	-	4,250	70	170	640	80	5,210
KHAKREZ	9,770	2,460	12,230	-	-	980	880	14,090
MAIWAND	93,060	-	93,060	2,390	3,690	16,740	3,880	119,760
MARUF	9,980	670	10,650	-	-	4,730	900	16,280
NESH	4,160	440	4,600	170	510	550	140	5,970
PANJWAI	70,240	-	70,240	2,720	2,500	4,520	3,860	83,840
SHAHWALIKOT	20,750	-	20,750	1,130	1,890	8,120	1,900	33,790
SHEGAH	-	-	-	-	-	-	-	-
SHORABAK	-	-	-	-	-	-	-	-
SPIN BOLDAK	49,000	79,300	128,300	-	-	9,920	-	138,220
TOTAL	519,400	98,800	618,200	12,170	22,780	71,810	18,590	744,090
% of total	69.8	13.3	83.1	1.6	3.1	9.7	2.5	100.0

source: (UNIDATA: 46)

Arghandab, Dand, Panjwai and Maiwand districts produce high quality grapes, pomegranates and apricots which have good market value inside and outside the country. Maruf produces good quality almonds for markets in Pakistan. Other districts like Shah Wali Kot, Khakrez and Arghestan also produce fruit.

Forage crops of alfalfa and glover and industrial crops such as cotton, sunflower, sesame, olives, cumin and groundnut are grown, especially in Arghandab, Dand, Maiwand and Panjwai. Vegetables like tomatoes, onions, okra, eggplant and cucumber are also cultivated in different parts of the province; Arghandab, Dand and Panjwai produce vegetables for local consumption and for Kandahar City.

Wheat, barley and maize are the cereal crops produced throughout the province. Planting time for wheat is from October to December and harvesting occurs from May to July. Tilling time

for corn is from April to May, planting is in June and July and harvesting is done in October.(UNIDATA: 41)

In 1980, 83.1 percent of the land was cultivated with grain crops; fruits were grown on 9.6 percent of the land, vegetables on 3.1 percent, industrial crops on 1.7 percent and 2.5 percent for other crops. In 1990, the distribution of landuse for crop production had not hardly changed compared to the distribution in 1980.(UNIDATA: 45)

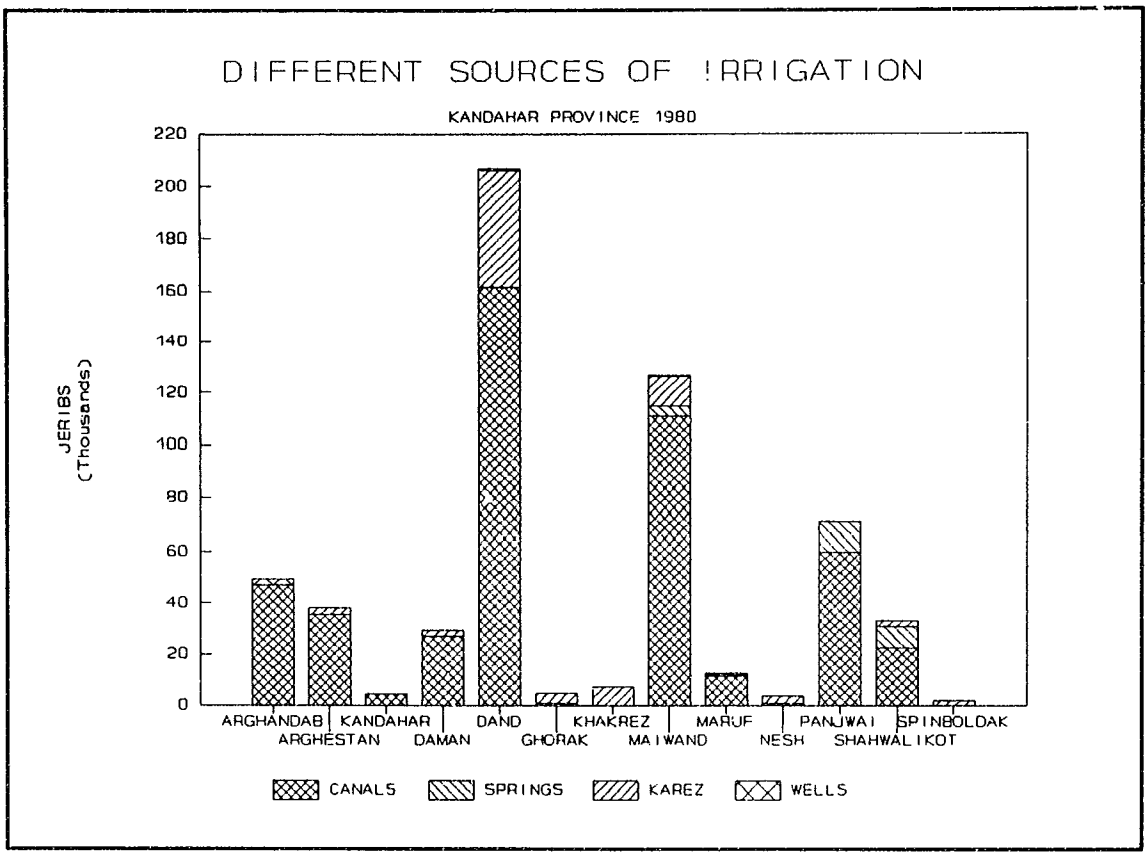
Irrigated land area and sources of irrigation in 1980. (jeribs)

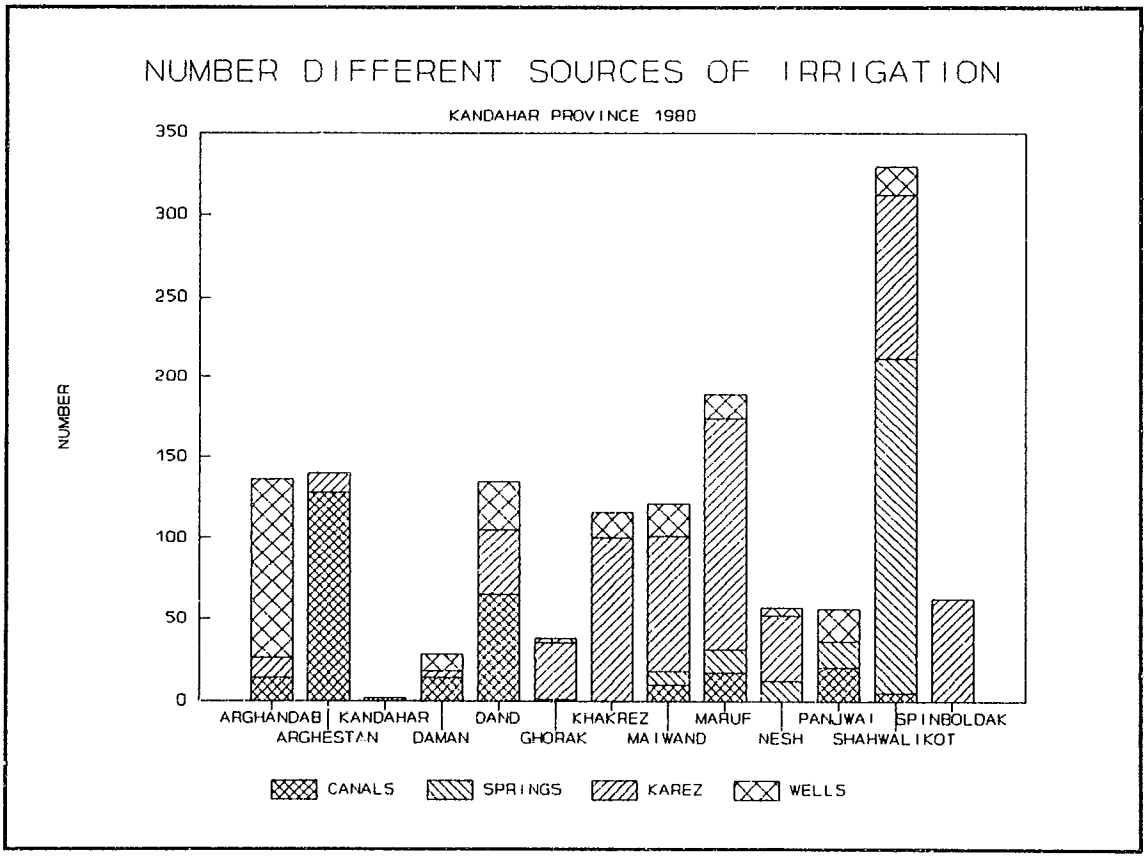
	CANALS		SPRINGS		KAREZ		WELLS		TOTAL	
	AREA	NO.	AREA	NO.	AREA	NO.	AREA	NO.	AREA	NO.
ARGHANDAB	46,910	14	-	-	100	12	2,100	110	49,110	136
ARGHISTAN	35,580	128	-	-	2,760	12	-	-	38,340	140
KANDAHAR	4,460	2	-	-	-	-	-	-	4,460	2
DAMAN	27,040	14	-	-	2,180	4	100	10	29,320	28
DAND	161,800	65	-	-	44,270	40	500	30	206,570	135
GHORAK	-	-	830	1	4,000	34	-	3	4,830	38
KHAKREZ	-	-	-	-	7,340	100	-	16	7,340	116
MAIWAND	110,980	10	4,160	8	11,120	83	500	20	126,760	121
MARUF	11,510	17	600	14	290	143	200	15	12,600	189
NESH	-	-	920	12	2,790	40	-	5	3,710	57
PANJWAI	59,580	20	11,400	16	-	-	-	20	70,980	56
SHAHWALIKOT	22,400	5	8,660	207	2,280	100	100	17	33,400	329
SHEGAH	-	-	-	-	-	-	-	-	-	-
SHORABAK	-	-	-	-	-	-	-	-	-	-
SPIN BOLDAK	-	-	-	-	2,150	62	-	-	2,150	62
TOTAL	480,260	275	26,570	258	79,280	630	3,500	246	589,610	1409
% of total	81.5		4.5		13.4		0.6		100.0	

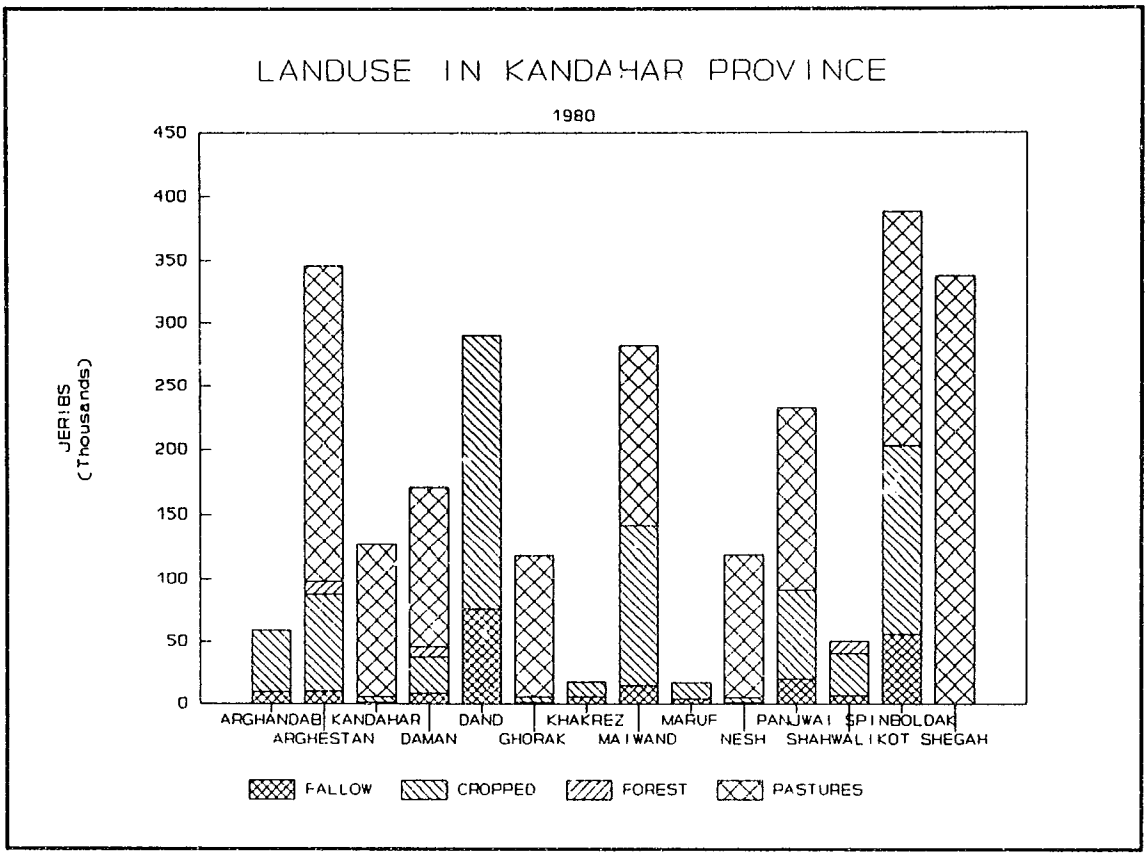
source: (UNIDATA: 47)

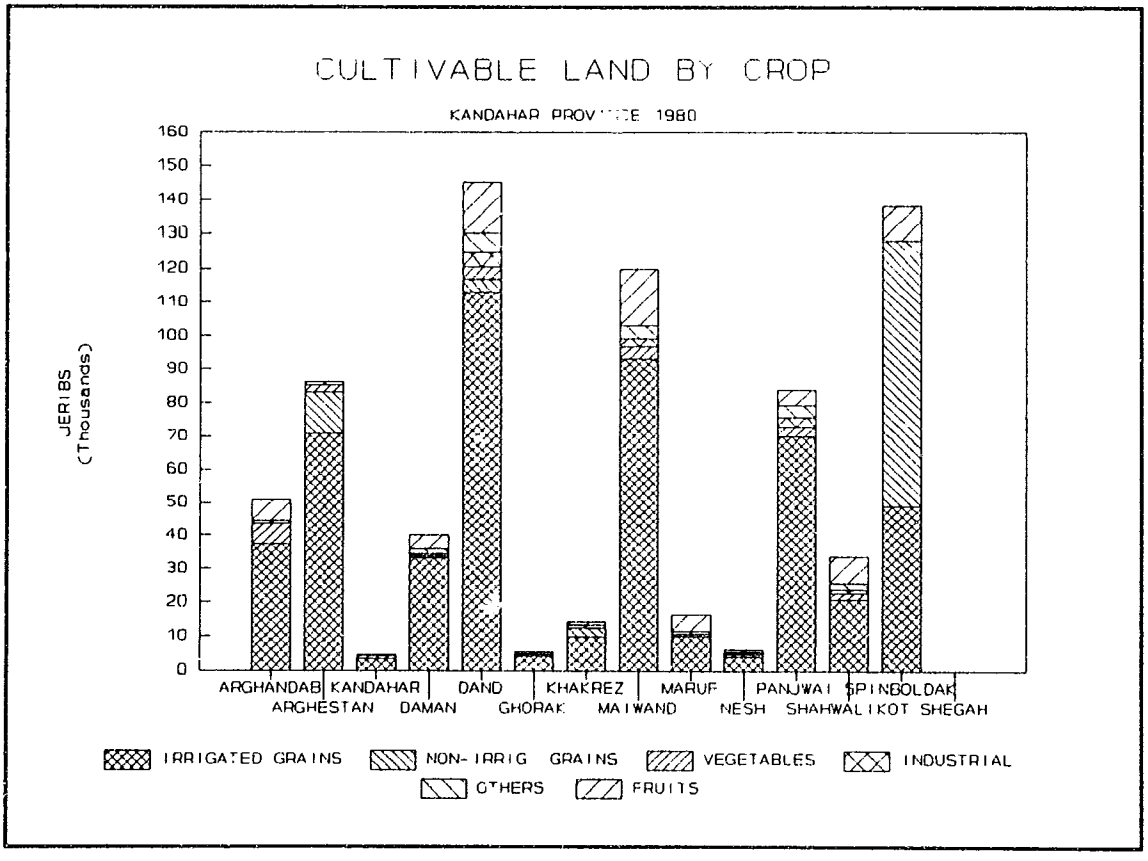
Canals supplied water to 81.5 percent of the total irrigated area. Irrigated land using karezes, springs and wells (with Persian wheels) constituted 13.4 percent, 4.5 percent, and 0.6 percent respectively of all irrigated land area in Kandahar province.

A total of 197,350 jeribs (39,470 hectares) of non-irrigated land in the province was reported in 1980. Spin Boldak district alone accounted for 73.4 percent (145,100 jeribs) of the non-irrigated land. The share of other districts with non-irrigated land was 19.7 percent (39,000 jeribs) for Arghestan, 3.9 percent (7,740 jeribs) for Dand, 2.4 percent (4,700 jeribs) for Khakrez, 0.4 percent (760 jeribs) for Maruf and 0.2 percent (440 jeribs) for Nesh.(UNIDATA: 48)


DIFFERENT SOURCES OF IRRIGATION
KANDAHAR PROVINCE 1980
JERIBS (Thousands)
220
200
180
160
140
120
100
80
60
40
20
0
ARGHANDAB
ARGHESTAN
KANDAHAR
DAMAN
DAND
GHORAK
KHAKREZ
MAIWAND
MARUF
NESH
PANJWAI
SHAHWALIKOT
SPINBOLDAK
CANALS
SPRINGS
KAREZ
WELLS


NUMBER DIFFERENT SOURCES OF IRRIGATION
KANDAHAR PROVINCE 1980
NUMBER
350
300
250
200
150
100
50
0
ARGHANDAB
ARGHESTAN
KANDAHAR
DAMAN
DAND
GHORAK
KHAKREZ
MAIWAND
MARUF
NESH
PANJWAI
SHAHWALIKOT
SPINBOLDAK
CANALS
SPRINGS
KAREZ
WELLS


LANDUSE IN KANDAHAR PROVINCE
1980
JERIBS (Thousands)
450
400
350
300
250
200
150
100
50
0
ARGHANDAB
ARGHESTAN
KANDAHAR
DAMAN
DAND
GHORAK
KHAKREZ
MAIWAND
MARUF
NESH
PANJWAI
SHAHWALIKOT
SPINBOLDAK
SHEGAH
FALLOW
CROPPED
FOREST
PASTURES


CULTIVABLE LAND BY CROP
KANDAHAR PROVINCE 1980
JERIBS (Thousands)
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
ARGHANDAB
ARGHESTAN
KANDAHAR
DAMAN
DAND
GHORAK
KHAKREZ
MAIWAND
MARUF
NESH
PANJWAI
SHAHWALIKOT
SPINBOLDAK
SHEGAH
IRRIGATED GRAINS
NON-IRRIG GRAINS
VEGETABLES
INDUSTRIAL
OTHERS
FRUITS

3. Land tenure in Afghanistan.

Like in other developing countries, the land tenure system in Afghanistan is an important socio-economic indicator. Before 1978 arable public lands were frequently let on long-term lease for cash rent by the government, although no law exists that authorizes these leases. By contrast, private land is rarely leased for fixed rent. A portion of privately owned land, previously about one-third, currently one-sixth, is sharecropped. A considerable portion of privately owned land is mortgaged, with payments that are quite similar in function to rent in that the land actually is transferred to the lender and the borrower pays the lander for its use. Other private lands are cultivated by laborers under supervision of the landowner or by the landowners themselves.

Despite the state's claims, many of the state lands, especially forests and pastures are, in fact, communal lands, controlled and used by long-accepted custom by one or another tribal group with rights to exclude others.(Nathan Berger: 21)

Afghan private landholdings even in 1978/79 were small and fragmented and their distribution unequal. Private landholdings patterns have changed considerably since then. In general there has been a decrease in owner operation and an increase in sharecropping.
Afghanistan's total arable land area of 8 million ha had to support a 1976/77 population of 14 million. If 10 million people were in rural areas this would give a per capita figure of 0.8 ha. A 1967 land survey indicated that some 2.2 percent of landowners owned 42 percent of the cultivated area, whereas 40 percent of all landowners held less than 4 percent of the cultivated land. Surveys conducted during the 1970s indicated a mean farm size of 2.5 to 3.5 ha with the majority of the 1.2 million farm households having holdings ranging from 0.5 to 6 ha. Recent reports indicate that the average size of landholdings has increased since 1978. A close examination of the figures from the SCA shows that the average farm size is now about 4 ha but that the variation in size is quite large.(Nathan Berger: 22)

Vast expanses of cultivated land have been abandoned. According to the SCA Survey in 1988, the number of abandoned farms increased threefold between 1978/79 and 1987/88. Many of the abandoned farms were owned by relatively large landowners who are now refugees. The average amount of land that had been owned by refugee farmers is 47 percent larger than the average holding of farmers who remained in Afghanistan.(p.41)

	1978/79	1987/88
owner-occupier	74%	50%
share-cropper	20%	23%
abandoned farms	6%	27%

source: SCA: Agricultural Survey of Afghanistan, First Report, May 1988.

About half a million people were estimated to be landless and working primarily as sharecroppers and farm laborers before 1978. These sharecroppers and farm laborers typically worked for large farmers. Sharecroppers in particular were estimated to have cultivated 40 to 50 percent of the country's land. They were referred to by various names: *dehqan* if they

cultivated field crops, *baghban* if they cultivated horticultural crops, *kishtagar or bazgar* in the west of the country, depending on whether they supplied oxen and implements or only labor. Different categories of sharecroppers received one-third to one-seventh of the crop, depending to some extent on whether they supplied their oxen and implements.(p.22)

Leasing farmland on cash rent was on a much smaller scale than sharecropping. It was estimated that 3 percent of the total land farmed annually was leased. Government and other institutions typically leased on the basis of open bidding, whereas private owners generally did not. Government leases were formal and written, whereas private leases were often informal and oral. The government also leased non-irrigated wasteland for periods of up to 20 years to provide incentives for investment in irrigation.(Nathan Berger: 23)

According to Dupree (1980, p.148), agricultural production in Afghanistan involves five elements: land, water, seed, animal or mechanical power, and human labor. Theoretically, whoever contributes one of the elements receives one-fifth of the crop. Land and water rights go together. Water rights are as important as land rights in rural areas. Although karezes and wells are sometimes privately owned, canals are typically owned and maintained by the community or sometimes individuals.

Water from canals is managed according to farm size and historical rights by numbers of hours or days per week. Allocation is typically biased in favor of large landholders. Upstream users tend to overuse and waste water, so less is available for those farther downstream. The system is not adjusted to cultivation needs.

In many systems water is allocated by a *mirab* or watermaster selected by the farmers, who manages the system. Theoretically, the watermaster is supposed to protect everyone's rights but is usually heavily influenced by the larger and upstream users.(Nathan Berger: 45-46)

3.1. Land tenure in Southwest Afghanistan.

In South Afghanistan, especially in Pashtun, large areas of land were communally owned. The 1963 survey indicated that 60.5 percent of land was owner-operated versus 19.3 percent sharecropped and mortgaged, which is a form of lease in Afghanistan. In Helmand Province the percentage of owner-operated land was less than 20 percent, where 70 percent was held in some peculiar form of tenure.

Distribution of agricultural land by form of tenure in 1964.

province	sharecropped	mortgaged	owner operated	other
Kandahar	9.1%	7.5%	54.1%	29.3%
Helmand	6.4%	5.7%	18.7%	69.2%
Uruzgan	13.3%	5.8%	79.8%	1.1%
Farah	24.1%	11.2%	60.1%	14.3%
average	13.8%	5.5%	60.5%	20.2%

source: (Nathan Berger: 23)

According to the SCA Survey of 1988, there had been a relative increase in sharecropping and decrease in owner operation since 1978/79. The precise factors involved are hard to identify, but among several possibilities are:
1. the seizure of land by mujahidiin commanders;
2. displacement of owner-operators within the country as they fled to safer areas;
3. the lack of capital that would permit owner operators to cultivate land to which they have title.(p.32)

In Southwest Afghanistan, the *bazargar* (sharecropper) cultivate the land of a landlord and get a share of the production at harvest time. In most districts of Southwest Afghanistan, the sharecropper get only 1/5 of the produce and 4/5 goes to the landlord. The landlord provides seeds and fertilizers, and the sharecropper is responsible for cultivating the land and cleaning the irrigation system. Sometimes the sharecropper takes 1/3 and the landowner 2/3 of the produce, but they split the cost of material inputs on the same basis. The *kashtagar* is not the landowner, but he provides seeds, fertilizer, tractors or bullocks and does the cultivation work himself or hires a *bazargar*. He gets 50% of the production and the other 50% goes to the landowner. (UNIDATA (August, 1991): 42; SCA (August, 1992):)

The SCA Survey of 1988 mentions the following figures about changes in land tenure between 1978/79 and 1987/88:

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Southwest: - owner-occupiers:  -48% (Kandahar, Helmand, Uruzgan, Paktika, and
                                     Nimroz)
           - sharecroppers:      0%
           - abandoned farms:  292%

Eastcentral: - owner-occupiers:  -20% (Zabul, Ghazni, Bamian, Wardak, Logar,
             - sharecroppers:     28%  Parwan, and Kapisa)
             - abandoned farms:  575%

National average: - owner-occupiers:  -30%
                  - sharecroppers:     24%
                  - abandoned farms:  342% (Nathan Berger: 33)
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Agricultural population and land ownership, 1978/79.

PROVINCE	AGRICULT. POPULATION (1978/79)	CULTIVATED AREA (HA) (1971)	LAND PER PERSON	NUMBER OF LANDOWNERS (1971)	AVERAGE SIZE OF HOLDING (1971)
HELMAND	441,890	157,852	0.36	27,450	5.75
KANDAHAR	349,889	152,549	0.44	48,430	3.15
TOTAL	9,982,354	4,147,633	0.40	1,186,110	3.50

source: (Nathan Berger: 44)

TABLE : Distribution of cropped irrigated farm land. (percent)

DISTRICT	1-10	11-20	21-30	31-40	41-50	51-60	61 AND MORE
BUST	27	23	9	14	9	5	14
REG	39	36	14	4	7	0	0
SARBON QALA	39	35	9	13	4	0	0
MOSA QALA	33	43	14	10	0	0	0
KAJAKI	37	58	5	0	0	0	0
NAUZAD	24	41	15	9	0	3	6
NADI-ALI	10	21	36	19	4	1	6
NAWAE BARAKZ	7	38	24	17	7	3	3
BAGHRAN	73	15	4	8	0	0	0
AVERAGE HELMAND PROVINCE	32	34	14	10	4 (8*)	1	3
KANDAHAR PROVINCE	24	35	17	11	12*		

* for Kandahar Province only the figure for 41 jeribs and more is available.

sources: SCA (August, 1992) and UNIDATA (August, 1991).

A SCA study about the farming systems in Nad Ali District, Helmand Province, indicates that 40% of the households are landless.

The majority (80%) of land is cultivated by sharecroppers; 68% of the landowners sharecrop their land to another, and 32% are owner-occupiers, who cultivate their own land.

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