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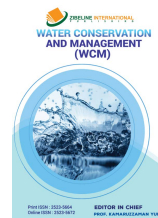
To Assess the Trends of Living and Poverty in a Desert Climate

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ARTICLE DETAILS

ABSTRACT

Pakistan is a developing country having about 17.2% of the population below poverty line and its economy mainly depends on agriculture. Cholistan desert is one of the areas with extreme dry weather conditions in the country, well known for wide spread geographical area with large not in use lands. The population belongs to the poorest areas of the province with projected population of 0.185 million up to 2015. In this study a survey of 17 villages was conducted to gather information regarding population and their economic condition. Poverty status in the area with reference to the International Monetary Fund and Bureau of Statistics of Pakistan has been assessed with inflation rate up to year 2014. The average family size of the area is 6.6 and per capita income per month was PKRs.2309, so the Official Poverty Line came out as PKRs. 15,124 per household per month. During the field survey of the targeted 17 villages, it was observed that 95% of targeted population was below the poverty. On the other hand, the rest of only 5% fall above the poverty line as their earning was above PKRs. 15,124 per month. Income of 100 percent population was below US$ 1.00 per day. Livestock is the main source of income of the targeted community, but they were unable to use it in full potential because of unavailability of water. On the other hand, the off farm income was very low due to scarcity of resources & employment opportunities. People neither able to get a proper livelihood in their settlements nor ready to leave desert area because livestock rearing is their major occupation which is depending on "Tobas" and grazing land.

1.INTRODUCTION

Pakistan is an arid country and agriculture is the backbone of its economy. In rainfed areas like Cholistan, the life is dependent on the rainfall amount collected in small ponds locally called as Tobas. Due to low income and low living standards, poverty is the main issue of Cholistan. According to FAO 2009, the hungry people on the globe are roughly 15 percent of the estimated world population. Poverty is defined as "a state or condition in which a person or community lacks the financial resources and essentials to enjoy a minimum standard of life and well-being that's considered acceptable in society" (www.studymode.com). The incidence of food poverty is higher in rural areas (35 %), than in urban areas (26 %), both in terms of per capita incomes and consumption expenditures (IFAD, 2010). The main reason of higher poverty in rural population is the unequal distribution of land and water availability. Pakistan's country partnership strategy (2009-2013) indicated that the proportion of the population living below the poverty line fell sharply from 34.5% in FY 2001 to 22.3% in FY 2006. Two poverty lines are used mostly, relative and absolute poverty line. Out of these poverty lines, the absolute poverty line is more relevant to under developed countries like Pakistan (www.thejaps.org.pk).

The Head Count Ratio (HCR) is a crude measure of poverty because it completely ignores the gap in incomes from the poverty line and the distribution of income among the poor (Khalid Zaman & Bashir Ahmad Khilji, 2014). In Pakistan the official poverty is estimated by using consumption based methodology, and the report shows that the poverty has declined from 22.3% in 2005-06 to 12.4% in 2010-11. The Government has formulated short and medium term plans of economic growth. The Vision 2025 is formulated to increase the per capita income from $1,299 to $4,200 and bring down poverty from 49% to 20%. In Pakistan official poverty line is calorie based, and consumption based absolute poverty is estimated after converting the household consumption level to adult equivalent based on recommended nutritional requirements of 2350 calories per person per day and providing almost equivalent amount for other basic needs (www.studymode.com).

South Punjab is relatively under developed and poor part of the Punjab province. It has lower population density as compared to the rest of the Punjab. As per available statistics on poverty, 43.1% of the population is below poverty line compared to 27.7% of Punjab. Cholistan falls in southern part of Bahawalpur Division with majority of household extreme poor depending exclusively upon livestock for their livelihood. The two most serious constraints faced by Cholistan communities and their herds are the lack of water and shortage of fodder which cause their poverty. Cholistan, in general, is a sandy desert with erratic rainfall, high temperature, high evaporation rate etc. There are patches of arable lands, but agricultural activities are very rare due to non availability of any permanent or dependable sources of water supply and livestock is the main source of income. Groundwater is brackish and cannot be used even for animal drinking. However, along the periphery of Cholistan, where surface water sources are available, agriculture is the major occupation. The location map is shown in Figure 1.

Figure 1. Cholistan location map.

According to Agricultural Census Report (2006), the population of Cholistan was 0.155 million, and further projection up to 2015 at a growth rate of 2.0% per annum, the total population of Cholistan was estimated to be 0.185 million. Cholistan has a peculiar nomadic and transhumant culture. The nomadic people stay in the desert till the depletion of water collected in Tobas during the monsoon. The Tobas (shallow excavated water ponds) provide an important focus for temporary settlements, where people along with their animals congregate for a period of 3 to 4 months. Tobas are located

throughout the area and consequently, there is a wide dispersion of both people and animals. Traditional housing of the population is the "Gopas" which are made of leaves and branches, trees etc. Sanitation and drinking water supply are rudimentary in nature or non-existent at the Toba settlement as shown in **Figure 2.** The population in the area belongs to the poorest areas of the province. Irrigated agriculture development in the area shall bring prosperity to this downtrodden population.

Figure 2. Features of Cholistan.

Many scientists have worked to calculate poverty lines in Pakistan in rural and urban areas (Jafri and Khattak (1995), Malik (1988), Shirazi (1993), Anwar and Qureshi (2002), Chaudhry (2003), Sabir et al, (2006)). Akhtar et al., (2015) determined the incidence, depth and severity of rural poverty in Punjab. Ali et al. (2015) used Poverty Equivalent Growth Index (PEGR) to study poverty levels among non-farming and farming rural households. The main objective of this study was to assess the initial poverty status and the major constraints in improving the socio-economic status of the inhabitants of Cholistan.

2.MATERIALS AND METHODS
To assess poverty status both primary & secondary data was used.

2.1   Collection of primary data
To assess the socio-economic condition of the people living on the periphery and the interior of Cholistan desert, a field survey was carried out in the year 2015. Group discussions with nomads, local representatives and farmers were held to capture the social and economic standards. Moreover, to record the information a structured questionnaire was developed and pretested in the field.

2.2   Collection & review of secondary data
Secondary data was collected from Punjab Irrigated Agriculture Investment Program (PIAIP). Literature and publications available on the socio-economic status of the people and information related to the study area were reviewed.

2.3   Sampling procedure
Permanent settlements in the desert area of Cholistan are limited. Most of the population is settled around the periphery and interior desert is only used for nomadic lifestyle. Keeping in view of the objectives of the study and to get the representative sample, 20 settlements were selected by the simple random sampling method. Out of total 3 (30%) villages selected from the interior desert, 11(55%) from periphery while 3 (15%) villages from the irrigated area of Cholistan. The purpose of selecting 3 villages from the irrigated area was to compare the circumstances with the desert area. The detail of villages selected for the study is shown in the Table 1.

Table 1. Sampled villages of the study area.

3.RESULTS AND DISCUSSION

3.1 Poverty situation in South Punjab

There are three divisions named as Bahawalpur Division, Dera Ghazi Khan Division and Multan Division in southern Punjab. Southern Punjab is relatively underdeveloped and poor part of the Punjab province with lower population density as compared to the rest of the Punjab. As per the available statistics on poverty, 43.1% of the population of South Punjab is living below the poverty line compared to 27.7% of Punjab which is below the poverty line.

3.2 District indicates multiple deprivations
A measure of deprivation is related to how the people live. The relative deprivation approach to poverty examines the indicators of deprivation, which are then related back to income levels and resources. According to the Districts Indices of Multiple Deprivations report for Pakistan 2011, Bahawalpur, Bahawalnagar and Rahim Yar Khan Districts are classified in the high deprived against the selected indicators. The report considers 17 indicators into five groups of composite indicators reflecting deprivation in education, health, housing quality, housing services and economic.

3.3 Population and demographic characteristics
According to the results of the survey, total households of the sample villages and its surroundings were 2355 with total

population of 16345 persons. The average family size was founded as 6.9. The key informants mostly were the Lambardars and the detail of the selected villages is provided in the **Table 2**.

Table 2. Overall population and average family size of the selected villages.

3.4 Poverty situation in Cholistan
The economy of Cholistan depends on non-sustainable and non-dependable source of rainwater. Economically, people are not well off. For about six months, when their "Tobas" come dried up they have to move to periphery of the desert or irrigated area. Animals have to be sold in nearby towns as cattle markets are not available nearby and therefore they could not get the right price of their cattle and milk. Furthermore, drought and long summer add misery to their lives. During this period, some of the family members look for some additional jobs to supplement income of their family. Daily paid labour is the best choice for them. For additional income to, animals are sold, and at the end of the day they are left with next to nothing. The survey indicates that there has been a change in the attitudes towards earning. Some adult family members, visit cities and town regularly for daily labour and some do farming.

Poverty Status in the study area with reference to the international Monetary Fund (IMF) and Bureau of Statistics of Pakistan, inflation rate up to year 2014 has been assessed. The average family size of the project area was 6.6 and per capita income per month was PKRs.2309, the Official Poverty Line (OPL) came out as PKRs. 15,124 per household per month. During the field survey of the targeted 17 villages, it was observed that 95% of the population was below the poverty line (PKRs.15124). On the other hand, the rest of only 5% fall above the poverty line as their earning was above PKRs. 15,124 per month. Income of 100 percent population is below US$ 1.00 per day. The detail of income level of people living in different parts of Cholistan is shown in **Table 3**. Livestock was the major source of the income of the targeted community, but they were unable to bring it in use is full in a potential way because of unavailability of water. On the other hand, the off farm income was very low due to scarcity of resources & employment opportunities. People neither able to get a proper livelihood in their settlements nor ready to leave desert area because livestock rearing is their major occupation which is depending on "Tobas" and grazing land of Cholistan. While, the situation in the irrigated is Cholistan is better where 89% people are below poverty line.

Table 3. Income level of the villages selected for survey.

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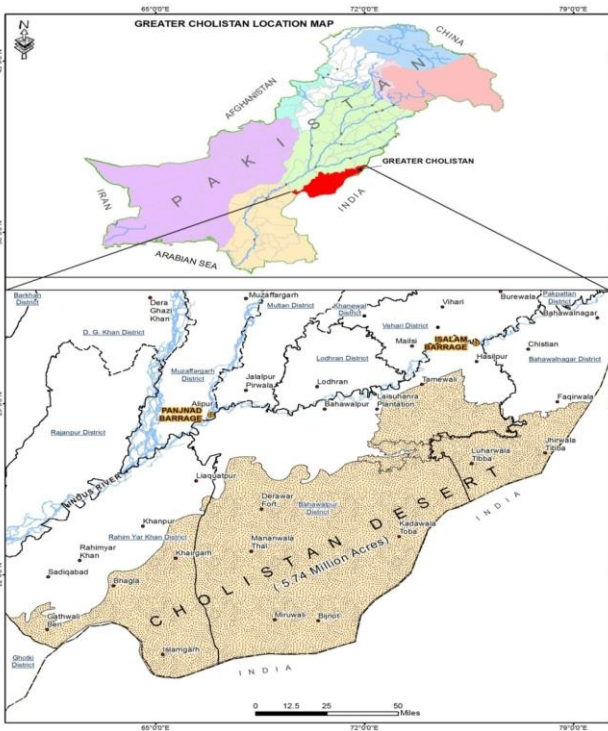
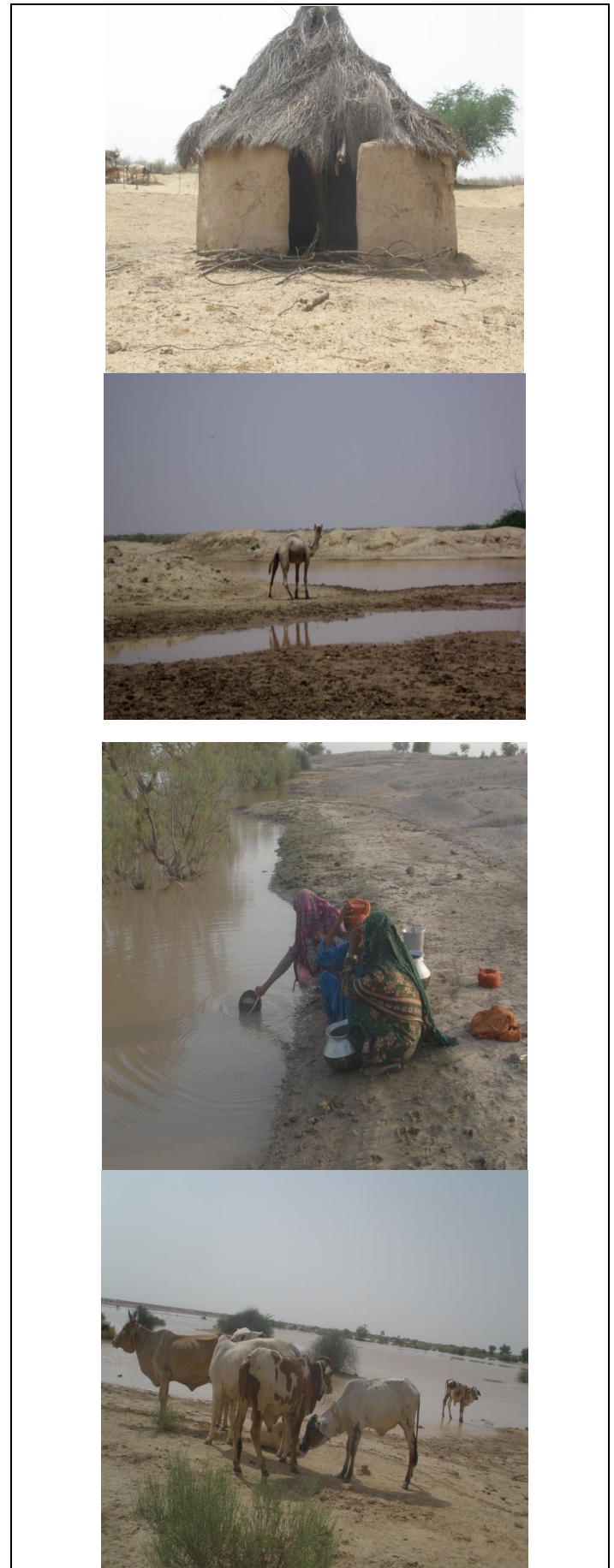[15]   www.studymode.com

Figure 1. Cholistan location map.

Figure 2. Features of Cholistan.

Table 1

Sampled villages of the study area.

Sr. No.	Area	Sampled Settlements	%
1	Interior Desert	6	30
2	Periphery of the project area	11	55
3	Canal Irrigated Cholistan	3	15
	Total Villages	20	100

Table 2 Overall population and average family size of the selected villages.

Sr. No.	Name of Settlement	Total Households	Total Population	Avg. Family Size
Interior Desert (A)				
1	Dolu Wala Basti	15	80	5.0
2	Toba Chadhar Wala	20	150	7.5
3	Pariharan Wala Toba	40	200	5.0
4	Jamsar	25	250	8.0
5	Toba Allah Ditta	7	35	5.0
6	Dabbir	16	130	8.0
	Total (A)	123	845	6.9
Periphery of the Desert (B)				
7	Talbani	300	1800	6.0
8	Sheikh Naseer (Basti Arain)	400	2400	6.0
9	Sheran Kot Basti	192	1000	5.0
10	Lodhar	150	800	5.0
11	Azafi Basti Chak 123	100	700	7.0
12	Chak 308	100	550	5.5
13	Colony Parihar (Chak311)	200	1500	7.5
14	Baloch Colony (Chak-319 HR)	50	400	8.0
15	Basti Sila (Chak 302 HR)	35	250	7.0
16	Colony (Chak 305 HR)	50	400	8.0
17	Chak 296-Alaf	200	1800	9.0
	Total (B)	1777	11600	6.5
Canal Irrigated Cholistan (C)				
18	Chak 146 DB	80	700	8.8
19	Chak 147 DB	250	2000	8.0
20	Chak 148 DB	125	1200	9.6
	Total (C)	455	3900	8.6
	Total (A+B+C)	2355	16345	6.9

Source: Punjab Irrigated Agriculture Investment Program (PIAIP).

Table 3 Income level of the villages selected for survey.

Sr. No	Villages	Households	Average Monthly Income(PKRs.)
Interior Desert (A)			
1	Dolu Wala Basti	15	12000
2	Toba Chadhar Wala	20	10000
3	Pariharan Wala Toba	40	8000
4	Jamsar	25	9000
5	Toba Allah Ditta	7	9000
6	Dabbir	16	9000
Periphery of the Project Area (B)			
7	Talbani	300	10000
8	Sheikh Naseer (Basti Arain)	300	15000
		100	16000
9	Sheran Kot Basti	192	10000
10	Lodhar	150	15000
11	Azafi Basti Chak 123	100	10000
12	Chak 308	100	12000
13	Colony Parihar (Chak311)	200	10000
14	Baloch Colony (Chak-319 HR)	50	12000
15	Basti Sila (Chak 302 HR)	35	10000
16	Colony (Chak 305 HR)	50	12000
17	Chak 296-Alaf	200	12000
Irrigated Cholistan (C)			
18	146 DB	70	13000
		10	16000
19	147 DB	225	14000
		25	16000
20	148 DB	110	13000
		15	16000