

Structure and Extent of Poverty status in Cholistan: An Analysis

Imran Sharif Chaudhry

Abstract:

Poverty, particularly rural poverty, has been one of the enduring policy challenges especially in remote areas of Pakistan. In this respect, Poverty estimates are a vital input in the design, implementation, and monitoring of antipoverty policies. The aim of the paper is to study the structure and extent of poverty status in the settled areas of Cholistan. This study is significantly based on the primary source of data collected from a cluster sample of Cholistan of Bahawalpur district consisting of four villages in 2002. According to the results it is concluded that poverty estimates are more severe in the context of population than households, based on the two poverty lines. On average extreme poverty is more severe among the landless than landholding households in a total cluster sample. Status of economic infrastructure is very poor as no roads; no electricity and any health and education facilities are available in the areas of a cluster sample of Cholistan. The improvement in the household's employment opportunities, livelihood conditions, drinking water and sanitation environment, economic infrastructure, access to landholding and health, and education facilities in the areas of Cholistan can, at best, be considered to reduce extreme poverty.

Economists and social thinkers have tried to define and describe the process of economic development in the past. The prime objective of economic and human development is to reduce the extent of poverty and vulnerability in well-being. Nevertheless the existence of widespread extreme poverty makes its removal the region's greatest development challenge and reliable estimates of poverty have an important role to play in meeting this challenge. So Poverty estimates are a vital input in the design, implementation, and monitoring of antipoverty policies. The issue of poverty in Pakistan has its significance for sustainable development. Long run development is not possible without protecting the rights of the vulnerable groups of masses and the participation of the entire population in the development process. Although Pakistan's economic growth has been quite respectable for much of the last four decades but it has failed to trickle down to the masses. The country has experienced poverty and stagnation in 1950s, increasing poverty and growth in the 1960s, stagnation of growth but declining poverty in the 1970s, increasing growth and declining poverty in the 1980s and finally, increasing poverty and falling growth in the 1990s [MHCHD/UNDP (1999)].

A fair number of studies have been undertaken so far in Pakistan to assess the extent and nature of poverty. Majority of the studies are primarily based on data generated by the Household Income and Expenditure Surveys (HIES). There is ample evidence that poverty, which declined rapidly in Pakistan in the 1970s and 1980s, has returned in the 1990s [Amjad and Kemal (1997); Ali and Tahir (1999); Jafri (1999); Arif et al. (2001)]. A perusal of these studies indicates that majority of these research efforts have explained the extent of national and provincial poverty but very little has been done on the regional poverty and poverty of remote areas. Khan et al. (1996) have conducted a study on Cholistan. They concluded that majority of the Cholistani people is extremely poor. There are severe productivity constraints of Cholistani farmers.

Malik, and Chaudhry (1996) analyzed the rural poverty on the basis of a village study. A large number of socio-economic and demographic variables were undertaken in the data and methodology, and for the econometric and decomposition analysis. They found that the household groups with less education were not only often relatively poor, but poverty in these households was also more severe. Patterns of poverty differ by province, and between rural and urban areas. The data consistently shows that poverty is considerably higher in rural as compared to urban areas. Punjab province accounts for almost 56 percent of the country's population. 36 percent of its rural population is poor which is the second highest in all the provinces of Pakistan. Moreover, poverty is more severe (40 percent) in the lower Punjab than the other parts [PIHS (2002)].

* The author is Associate Professor of Economics at Bahauddin Zikria University, Multan

Bahawalpur district is the largest district in terms of area in Southern Punjab. The large part of the Bahawalpur district is the desert area named Cholistan. So far, Cholistan has received little attention not only at the level of policy but also at the level of empirical inquiry. The major objective of the study is to highlight the extent and structure of poverty status in Cholistan. The present study is organized as follows. In section II, we outline the data and methodology used. Section III describes the poverty lines used in the present study. In section IV we present results and estimates. Section V will present some conclusions.

Data and Methodology

The present study is based on the primary source of data. For this purpose, the author has developed the questionnaire for Household Survey Data. The household survey was conducted and information recorded from the 415 households in a cluster sample of Cholistan consisting four villages during April-September, 2002. Sampling techniques like, area sampling, cluster sampling and simple random sampling were under taken for the selection of a sample.

Bahawalpur district forms one of the Southern parts of the province of Punjab and is situated almost in the center of the country at the eastern border at an elevation of 152 meters from the sea level. It is also one of the largest districts of the Punjab covering an area of 24830 sq. K. M. The district is bounded on the north by Multan, Lodhran and Vehari districts, on the east by Bahawalnagar district and India, on the South also by India and on the west by Rahimyar Khan and Muzaffargarh districts. It has peculiar demographic, topographic and geographical characteristics. Bahawalpur district consists of five Tehsils namely Ahmadpur East, Bahawalpur, Hasilpur, Khair Pur Tamewali and Yazman. Tehsil Yazman is the largest Tehsil of Bahawalpur district in term of area covering 18489 sq. K. M. that makes 75% of the total because it includes the large desert area namely Cholistan.

The Pakistan census organization gives the population of Bahawalpur district in 1998, as 2.433 million with population density 98 persons per square K.M. and average household size 6.8. Average annual population growth rate is 3.08 percent in the district. About 73 percent of the total population is residing in rural areas. Overall literacy rate in the district, according to 1998 census is 35% (57 percent in urban areas and 26 percent in the rural areas). Male literacy rate is 45 percent while females have 24 percent. Agriculture and related sectors like livestock is the backbone of the economy of Bahawalpur district because it provides the source of earning for almost entire 78 percent rural population directly or indirectly. Bahawalpur district is well known and producing 14 percent of cotton and 4 percent of wheat of the total Punjab's production. Rice, sugarcane, gram and pulses are also the other major crops. Bahawalpur district has significant importance due to its geographical position in the communication and defense matters of Pakistan, as main railway and national highway tracks from Karachi to Peshawar pass through this district, and a long border line with India also occurred along this area. The district can be divided into three parts i.e. riverain area, the plain area, and desert area. The riverain area lies close to the Sutluj River that flows in the north along with its boundary with Lodhran and Vehari districts. The area is inundated during the floods. However, flow of water remains very low for the past some years and it dries up when reaching to the tail. The plain area is cultivated area and it is higher than the riverain area.

The third and large part of the Bahawalpur district is the desert area. Now a day it is famous with the name of Cholistan. Cholistan lies to the South and East of the irrigated track and North of the desert of Bikanir and Jaisalmir in India. It extends along the entire Eastern boundary of Bahawalnagar district in the north and Rahimyar Khan district in the South. The surface of the desert consists of a succession of sand dunes rising in some places to a height of 150 meters. It is also covered with the vegetation peculiar to the sandy tracks. Total area of Cholistan is a vast arid tract of sandy desert of about 6,55, 360 acres spreading 10,399 square miles. It is 2/3rd of the whole Bahawalpur division inhabited by some 118,000 people. Though, the population of Cholistan cannot easily be arrived at because of the migration factor. The whole Cholistan desert is about 480 K.M. long and its width varies from 32 to 192 KM. About 60 percent of the total Cholistan area lies in the Yazman Tehsil of Bahawalpur district [NRSP (2002)].

The Hakra River, once a source for irrigation and ancient settlement, is now only a dry bed, running from the Northeast through the North central part of the Bahawalpur Division [Khan, N., Ali, Karamat and Anania (1996)]. The Hakra roughly divides the Cholistan into the semi arid, called Lesser Cholistan in the North

covering an area of nearly 7,770 Sq. K.M., and the arid area called Greater Cholistan, covering an area of nearly 18,130 Sq. K.M. in the south with abundance of big sand dunes, ridges and depressions [NRSP (2002)]. The Hakra River was also known as river "Saraswati" or "Ghagra" and flowed through this region. The Cholistan was also given the names of "Thal" and "Rohi" but Cholistan became more common. The people of Cholistan are generally pastoral spreading the entire area in small groups who, with their livestock, are on constant move along the rainwater catchments called "Toba" (Kacha surface reservoir dug in flat areas/Dahars), "Kunds" (underground covered masonry structure) and open dug wells. As Tobas dries up and the grasses vanish, the Cholistanies move northwards, reaching the fringes of irrigated areas, many casualties of men and animals occur, particularly in drought during their long quest for water. According to a survey conducted by Pakistan council of research in water resources, only 3 percent area of Cholistan has sweet underground water and sweet water zone mostly lies on the fringes of Lesser Cholistan adjoining the settled area. In rest of the area, sub-soil water is generally brackish found up to 300 feet below the surface. So the only source of water for human and animal consumption is the rainwater collected in Tobas.

The climate of Cholistan is too cold in winter and too hot in summer. The mercury sometimes rises up to 120° F in summer. The failure of rain leads to drought in the area. The annual rainfall varies from 100 mm in the north to 200 mm in the south and may reach 250 mm along the indo-Pakistan international border. The mean summer temperature ranges from 35°C to 38°C while the maximum temperature during May and June, the hottest months, may shoot up to 50°C or more. Similarly the mean winter temperature ranges between 14°C to 16°C. The mean relative humidity varies from 40 percent to 60 percent. The strong winds, especially during the summer blow across the desert, which may at times blast as awesome sandstorms with a consequent acceleration of wind erosion in most of the sandy terrain. Density of human population in Cholistan is only 9 percent per square kilometer. Animal population is around 1.2 million, which comprises cows, sheep, goats and camels [NRSP (2000)]. Through the pastoral culture and an extended family system, the pastorals of Greater Cholistan are inextricably linked with the inhabitants of Lesser Cholistan, this study's scope of inquiry is limited to the settled areas of Lesser Cholistan¹, where many of the families have farm parcels of land given on lease arrangement by the government institution, Cholistan Development Authority (CDA)². According to the CDA, there are 54 settled Chaks/Abadies in Cholistan in Yazman Tehsil of Bahawalpur district. No Chak or Abadi of other Tehsils of Bahawalpur district lies in the Cholistan. Households in the most recently settled areas of Lesser Cholistan are often found scattered over a wide area. However, some Chaks in the area of Cholistan are of a composite type village but they are very less in numbers and mostly are situated on the north belt of Cholistan.³

The Bahawalpur Rural Development Project (BRDP) was launched on 1997 with the financial assistance of Asian Development Bank in Bahawalpur division (former name of the collective three districts namely, Bahawalpur, Bahawalnagar and Rahim Yar Khan) and particularly in the areas of Cholistan. The project aims at reducing rural poverty by enhancing rural households' income and generating employment through: infrastructural development interventions, promotion of value added production, fostering economic and marketing activities, and capacity building and skill development of beneficiary rural communities. A lot of work is done under this project and so for it is continuing its projects to alleviating poverty and providing better infrastructural facilities to the masses of rural Bahawalpur division (now defunct). Many projects were completed with the collective working of the national rural support program (NRSP).

Households in Cholistan predominantly are engaged in grazing the livestock and they move to the Greater Cholistan after rains from the settled area of Lesser Cholistan. The exact information of population and number of households in Cholistan is very difficult. In addition to this, government or any other institution could not identify the exact number of villages so far. However, the CDA has published and listed 54 identified Abadies and Chaks in the area of Cholistan of Bahawalpur district. Moreover, the population density is very much low in Cholistan and on the other hand, there is no any physical infrastructure in that desert area to reach one area to another. It is very much difficult and costly to contact households even randomly. That is why, the

¹ The terms Lesser Cholistan and simply Cholistan are interchangeable, in the present study.

² The CDA was established about 18 years ago to provide land allotments to Cholistani people of the desert. Various settlement and allotment schemes were established in different years. The CDA is also responsible for the physical infrastructural facilities in Cholistan. However, according to CDA's scheme, the land to be irrigated is initially leased to individual families for a period of 20 years after which ownership rights are bestowed on some terms and conditions.

³ In this section, figures are drawn from the district census report of Bahawalpur (GOP) 1998, Islamabad.

present study is concentrating on the settled area of Lesser Cholistan through majority of villages have the dispersed population in this area also.

Keeping in view these difficulties and problems of the study area, simple random sampling and stratified sampling techniques are not appropriate for the data collection. So the cluster sampling and its form, area sampling technique are deemed relevant, less expensive and time saving. Geographically, we divide the whole area of Lesser Cholistan into 13 clusters on the map. There is heterogeneity within the clusters because some households are poor, some are non-poor, some have the land and some are the landless, and homogeneity between the clusters because in all clusters, poor, non-poor, landless and landholders are residing. Clusters are not of the equal size, however it is tried to keep more or less the equal number of households in them. However, the clusters vary in terms of size with a little variation. We use single-stage clusters in designing area samples.

We may select households from some or all clusters by using simple random sampling but there was a great risk and chance to select all landholding households or landless households. Just to remove that risk and chance of homogeneity of the characteristics of the households, we select single area cluster by using the goldfish bowl procedure method of simple random sampling as a sample. Each cluster area has the 4 villages except the two that have 5 villages or Chaks. However, an area cluster sample is selected/randomly from the sampling frame consists of four Chaks namely 144/DB, 145/DB, 146/DB, and 147/DB. For simplicity, we name them village A, B, C, and D respectively in this study.

In this study, our major emphasis is on the analysis of the poverty estimates in Cholistan. For the incidence of poverty in Cholistan, the Headcount Ratio (H) method has been used in the present study. The headcount ratio method is the oldest and most widely used measure is the proportion of people below the poverty line as the index of poverty. This method is symbolically expressed as:

$$H = \frac{q}{n}$$

Where, **q** represents numbers of persons/households below the poverty line and

n represents total number of persons / households.

This index has been widely used-explicitly or by implication-ever since quantitative study and measurement of poverty began [Booth (1889), and Rowntree (1901)]. It seems to be still the mainstay of poverty statistics on which poverty programs are based [Orshansky (1965, 1966), Abel-Smith and Townsend (1965)]. It has been extensively utilized recently both for inter-temporal comparisons as well as for international contrasts [Sen (1981), P. 32].⁴

Poverty Lines Used in the Study

As mentioned in the methodology that Headcount ratio will be used as an index of poverty. Now we need to determine and identify the poverty lines. The poverty lines are actually the cut-off points separating the poor from the non-poor. A poverty line is ideally a level of income or expenditures required to satisfy a minimum level of consumption basket of goods and services that is though an individual should be able to purchase to be considered not in poverty. A poverty line is normally a country specific and the level of income or expenditure that used as a proxy varies from one country to another. However irrespective of countries, households or individuals with per capita income falling below this line are considered poor, however; and households with per capita income above this line are considered non poor. Synonymously, a poverty line is an income level, which separates poor from non-poor. In some countries, difference is made between poor and extreme poor as in the present study, calling for coexistence of multiple poverty lines.

Instead of calculating a new poverty line to be used in this study we decided to follow to majority of studies written about poverty in Pakistan. So, we have used and followed the poverty lines originally proposed by Alauddin (1975) followed by Mujahid (1978) and Choudhary (1982) and subsequently adopted by Malik,

⁴ See, for example, the lively debate on the time trend of poverty in Pakistan: Naseem (1973), Allaudin (1975), Naseem (1977), Mujahid (1978), Irfan and Amjad (1984), Kruijk and Leeuwen (1985), Malik (1988), Akhtar (1988), Ercelawn (1988, 1989), Havinga et al. (1989), Ahmad and Ludlow (1989), Malik (1990), Ahmad & Allison (1990), Ercelawan (1990), Malik (1991), Mahmood et al. (1989), Malik, S. (1992), Ahmad (1993), Gazdar (1994), Malik (1994), Jaffri & Khattak (1995), Amjad and Kemal (1997), Ali and Tahir (1999), Jafri (1999), Jamal and Ghaus-Pasha (2000), Qureshi and Arif (2001), Arif et al. (2001) and FBS [GOP (2001)].

Shahnawaz (1992). Since the two poverty lines for rural areas were Rs. 20.83 and Rs. 25.00 per capita per month at constant (1959-60) prices. These poverty lines represent the minimum cost of a nutritionally adequate diet for 2100 calories and 2350 calories respectively. However, the same poverty lines were updated by Malik, (1992) and were Rs. 192.65 and Rs. 215.62 per capita per month.

TABLE 1 POVERTY LINES ESTIMATE, PA KISTAN (CURRENT RUPEES PER CAPITA PER MONTH)

YEARS	Poverty line I (2100 calories)	Poverty line II (2350 calories)
	Extremely poor	Moderately poor
1990-91	217.04	242.92
1991-92	240.00	268.62
1992-93	263.60	295.03
1993-94	293.31	328.28
1994-95	331.50	371.02
1995-96	367.27	411.05
1996-97	410.61	459.55
1997-98	442.68	495.44
1998-99	468.09	523.88
1999-2000	484.85	542.63
2000-2001	507.59	568.08
2001-2002	520.53	582.57
2002-2003	550.00	605.00

Source: Author's calculations, based on Malik, S. (1992)

For working out the poverty incidence the base year poverty line needs to be updated by using a suitable price index. The corresponding rural poverty lines for 1990-91 to 2002-2003, to be used in the present study, are obtained by adjusting the base year poverty lines by the consumer price index (Pakistan Economic Survey, 2001-2002 and 2002-2003). In short, we took the poverty lines adopted by Malik (1992) and inflated them using the CPI of annual changes in prices (Pakistan Economic Survey, 2002-2003).

The resultant poverty line I (for the extremely poor) and poverty line II (for the moderately poor) are given in the table 1. We have also inflated the poverty lines using CPI price changes for the year 2002-2003, adopted by Amjad and Kemal (1997) and Jafri (1999), just for the purpose of cross checking and comparisons, Rs. 600.00 (for poverty line-II) and Rs.607.09 (for poverty line-II based on basic needs) respectively. So, we concluded that our poverty lines are almost the same poverty lines adopted in the recent studies on poverty in Pakistan.

Estimates and Results

The present study is significantly based on the primary source of data collected from a cluster sample of Cholistan⁵ of Bahawalpur district consisting four villages in 2002. The multi-topic household survey was conducted and information was recorded from the 415 households in a cluster sample of Cholistan. The household survey data indicates that households in the surveyed villages are mostly Siraiki speaking with a small minority of Punjabi speaking. So, the ethnic make up of the surveyed households is 98 percent Siraiki and 2

⁵ The word "Cholistan" is used here instead of Lesser Cholistan, because as it is the focus area of this study. So the word Cholistan is used for the Settled areas of Cholistan or Smaller Cholistan or Lesser Cholistan. All are interchangeable in the present study.

Status of Economic Infrastructure in the Surveyed Areas

Economic infrastructure in a broad sense is the underlying amount of physical and financial capital embodied in roads, railways, waterways, airways, and other forms of transportation and communication plus water supplies, financial institutions, electricity and public services such as health and education. The level of infrastructural development in a country is a crucial factor determining the pace and diversity of economic development. In other words, existence of an efficient physical infrastructure for development of any geographical area is deemed as a basic requirement like Cholistan. Inadequate infrastructure, on the other hand, does not only limit the access of village communities to agricultural inputs and produce markets, but also adds to cost of transportation of marketable surpluses from farm to market and procurement of farm inputs and other household essentials. Economic infrastructure is being observed and discussed in terms of electricity, roads, hospitals, educational institutions, telephone, irrigation system, animal husbandry and veterinary services, markets for farm inputs and outputs, wheat procurement centers and livestock market in a cluster sample of Cholistan.

Rural electrification plays in fact, a pivotal role in accelerating the pace of socio-economic development by way of fostering economic, social, community and individual activities. In Bahawalpur district, of the total 1,216 Mouzas (a smallest revenue unit), 507 (42 percent) were reported having the facility of electricity in 1998. So there are 709 Mouzas of Bahawalpur district still await this facility [FBS (1998)]. The surveyed area is one of those where there is no electricity. Hence it is observed and recorded that electrification has not made so far in four villages of a cluster sample of Cholistan. Metalled road is at a distance of 3-5 kilometers from the main settlements. So the road communication is a significant constraint to economic development in Cholistan. There is no telecommunication facility provided in the surveyed villages.

Incidence of disease and other health problems are very common in the areas of Cholistan. The people have to travel long distance to get treatment with no proper conveyance and roads. According to the Punjab Development Statistics (1998), there are only 12 rural health centers in Bahawalpur district but no single one is in the surveyed areas. The people have to travel to Yazman Tehsil that is more than 50 kilometers away from the surveyed area. According to the household survey findings, relatively more female family members were found suffering from serious diseases than male members. About 5 percent male and 7 percent females suffered from serious diseases in the surveyed area. The common problem of the surveyed households is the diarrhoea due to the high production of mosquitoes. It is observed that it is all due to the poor sanitation conditions.

Each village has one primary school for only boys. There is no primary school for girls. However, a local NGO is running a school for both boys and girls in village D. It is also observed that physical infrastructure of schools is very much poor. There was no secondary and high schools even in the adjacent areas. After passing fifth class, students have to go to Kud Wala Bangla that is 12-18 kilometers away from the surveyed villages. Nevertheless, the households of Cholistan are facing economic problems along with the poor physical and social infrastructure facilities. That is why, about 70 percent households are extremely poor and they always remain in a vicious circle of poverty.

Improvement of the irrigation water supply infrastructures is a key measure envisaged to increase production and income of the farmers in Cholistan. But among others, one major deficiency towards achieving sustainable break-through in agricultural production has been the general deficiency of canal water supplies particularly in Cholistan. Deficiency of canal water supplies is further aggravated by way of losses from canal head to the farmers' fields mainly because of ill-maintained watercourse structures and desert area. Underground water is brackish and not fit for irrigation and even for drinking purposes in the surveyed villages. There is no provision of animal husbandry and veterinary service facility in the surveyed villages. There is poor marketing system and markets for farm inputs and outputs. Ease of access of Cholistan households to the market places depends upon the spread of farm to market and rural link roads. Here distances traveled to fetch and produce household essentials and disposal of farm outputs greatly affects cost and efficiency.

Before discussing the structure of poverty status, it is necessary to present the estimates of moderate poor and extreme poor in some detail. The estimates based on the two poverty lines poverty line-I (Extremely poor) and poverty line-II (Moderate poor) are reported in table 2

TABLE 2 POVERTY ESTIMATES BASED ON TWO POVERTY LINES

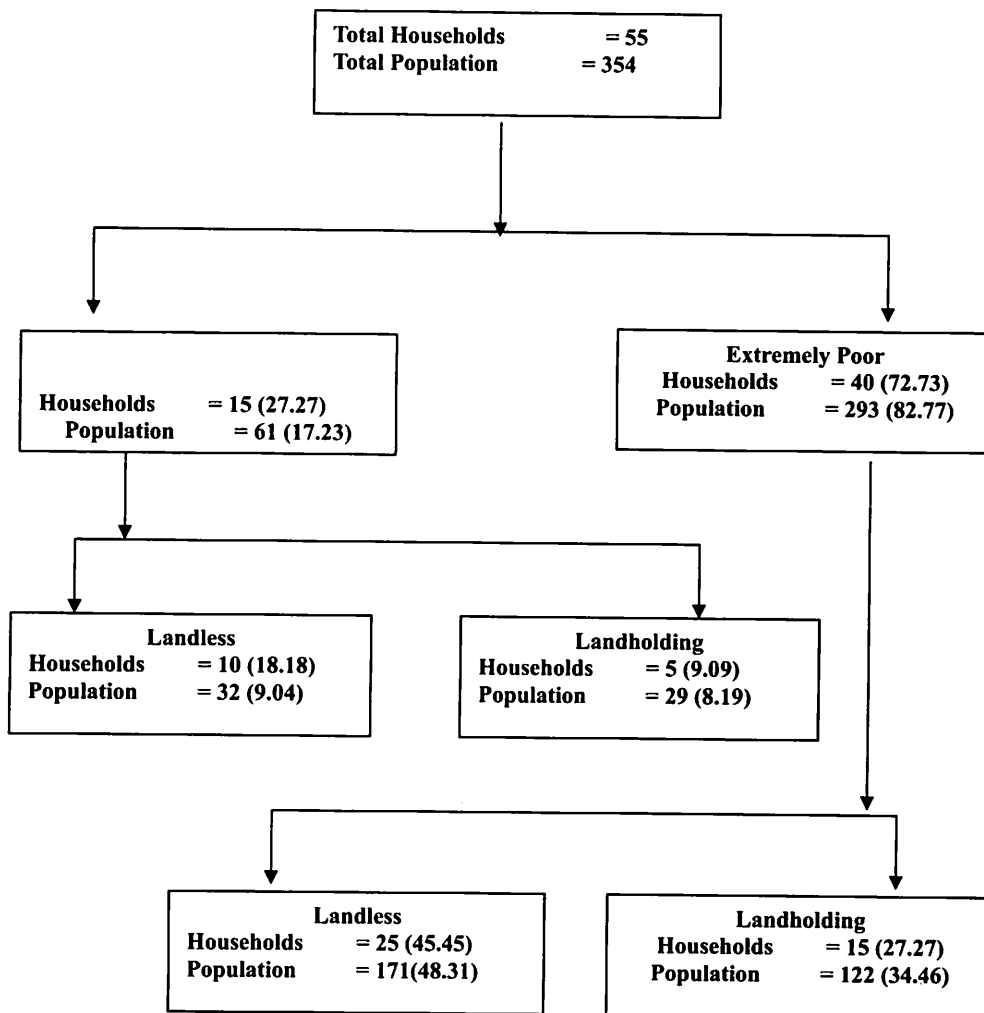
Region	Extremely Poor [Poverty line-I (RS. 550)]		Moderately Poor [Poverty line-II (RS. 605)]	
	Households (percent)	Population (percent)	Households (percent)	Population (percent)
Village A	72.73	82.77	72.73	82.77
Village B	73.91	78.96	78.26	82.12
Village C	68.23	74.92	76.47	83.07
Village D	66.25	71.43	76.25	79.45
Total Cluster Sample	69.64	75.77	76.39	81.47

Source: Calculated from the Household Survey Data, 2002.

The results of table 2 show that village A has the same incidence of poverty according to both poverty lines. In village A, 72.73 percent households and 82.77 percent population are classified as extremely poor. Extremely poor households are 73.91 percent and 78.26 percent are moderate poor in village B. However, 78.96 percent population is extremely poor while 82.12 percent is moderately poor or simply poor of village B. 68.23 percent are the extremely poor households and 76.47 percent households are moderately poor in village C. The population estimates are 74.92 and 83.07 for extremely poor and moderately poor respectively. The village D has 66.25 percent extremely poor households and 76.25 percent poor households. While, 71.43 percent population is below the poverty line-I and 79.45 percent population below the poverty line-II in village D. Overall 69.64 percent households are extremely poor and 76.39 percent households are moderately poor. While in a cluster sample, 75.77 percent are extremely poor and 81.47 percent moderately poor in term of population. However, population poverty estimates are higher than the household estimates. Moreover, our major emphasis is on the household estimates in this study.

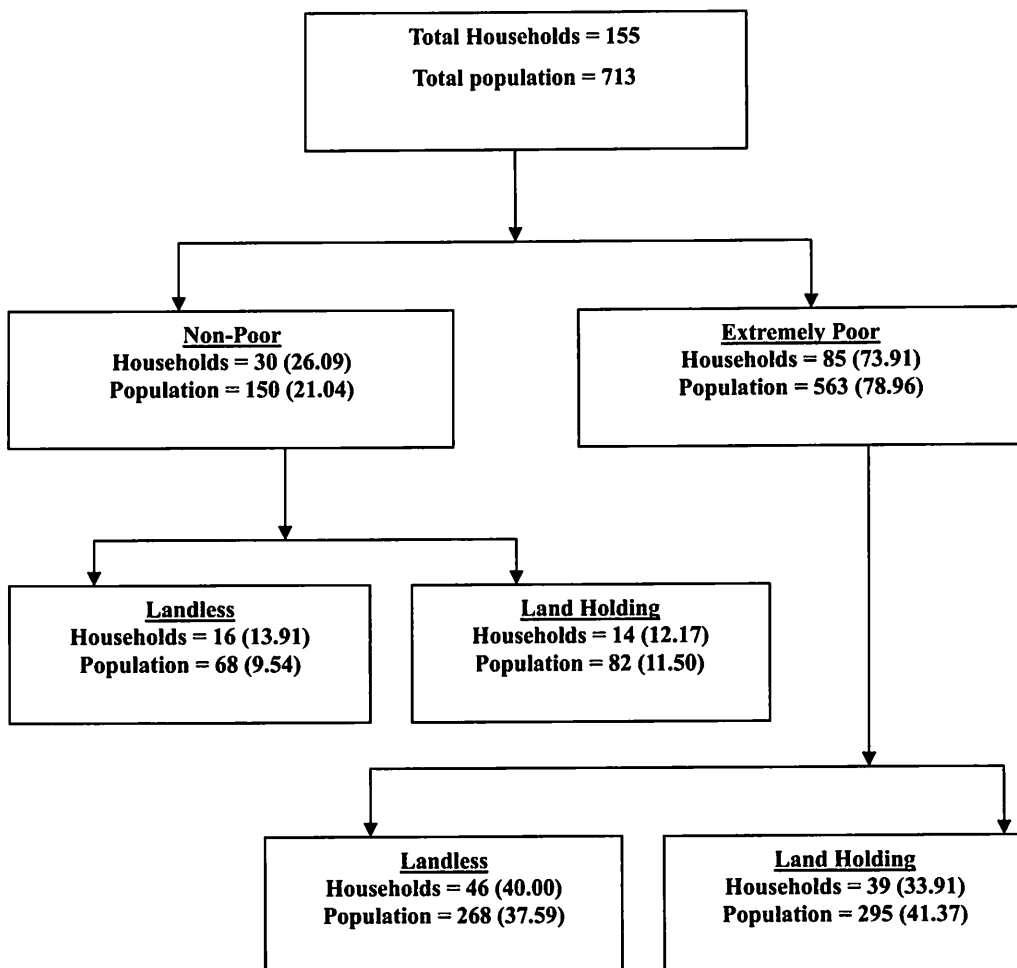
Now we present a nested structure of extreme poverty status in all villages and of a cluster sample based on the households survey data of a cluster sample of Cholistan. The results are depicted in figures 1 to 5. Figure 1 shows a nested structure of extreme poverty status in village A. Total households and total population of village-A are 55 and 354 respectively. Total 40 households are classified extremely poor and 15 non-poor. In other words, 72.73 percent households are extremely poor and 27.27 percent households are non-poor. Similarly the percentages of population about extremely poor and non-poor are 82.77 percent and 17.23 percent respectively. Further, extremely poor and non-poor are characterized into landless and landholding households. Landless extremely poor households and population have the poverty incidence, 45.45 and 48.31 percents respectively. Similarly landholding households and population have the incidence of poverty 27.27 percent and 34.46 percent respectively. However, non - poor landless households are concerned, they are 18.18 percent and landholding households are 9.09 percent non - poor. Further more, 9.04 percent population is the landless and 8.19 percent population is landholding.

FIGURE 1 A NESTED STRUCTURE OF EXTREME POVERTY STATUS IN VILLAGE "A" BASED ON THE HOUSEHOLD SURVEY DATA, 2002 ³



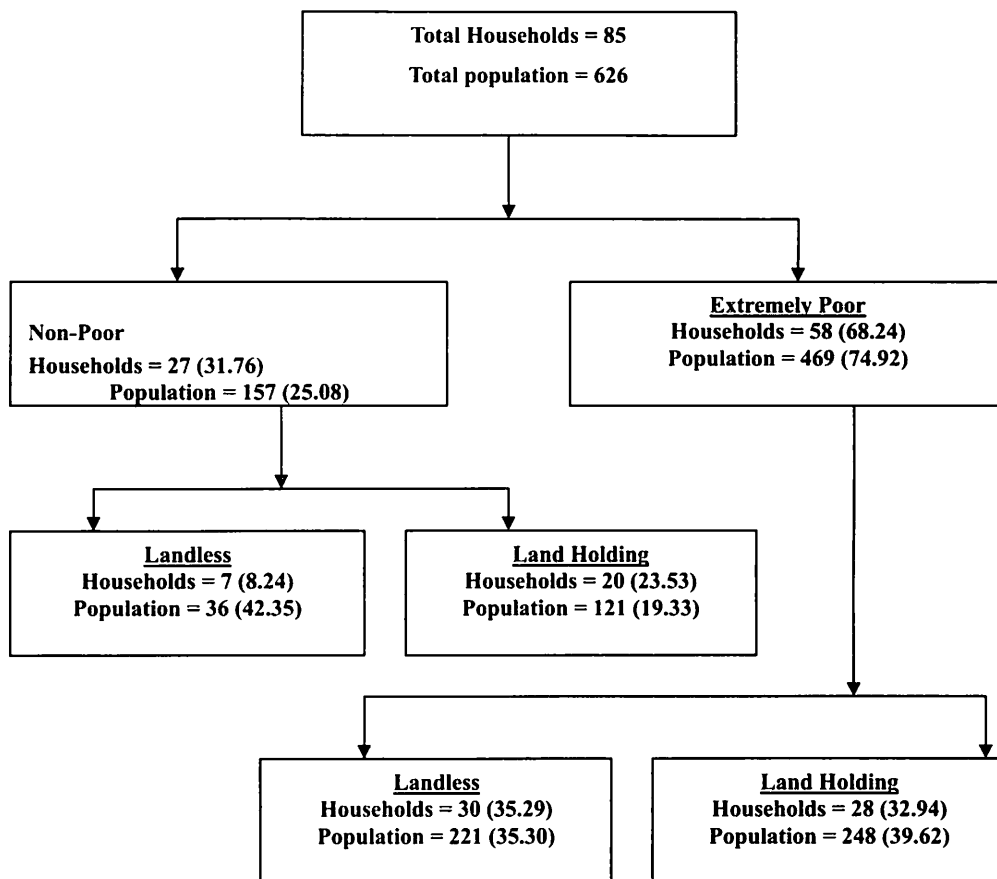
³ In this figure, values in parenthesis are the percentages of corresponding variables.

**FIGURE 2 A NESTED STRUCTURE OF EXTREME
POVERTY STATUS IN VILLAGE “B” BASED ON THE
HOUSEHOLD SURVEY DATA, 2002 ⁴.**



⁴ In this figure, values in the parentheses are the percentages of corresponding variables.

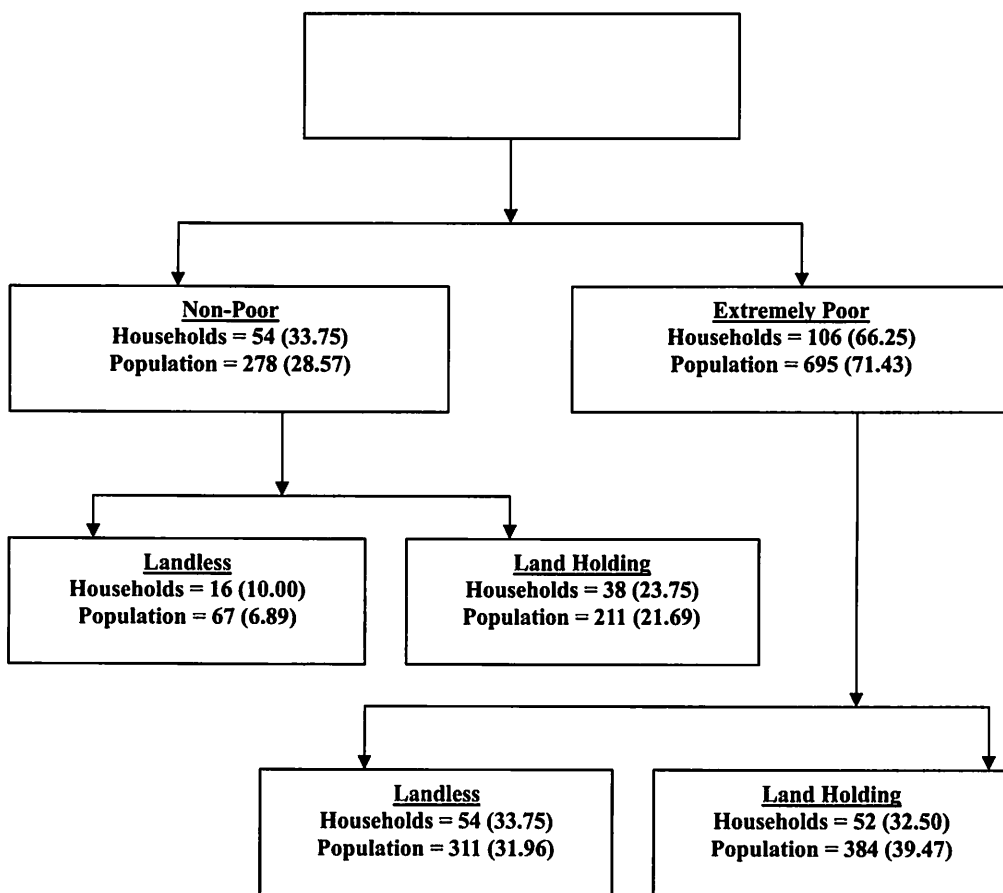
FIGURE 3 A NESTED STRUCTURE OF EXTREME POVERTY STATUS IN VILLAGE “C” BASED ON THE HOUSEHOLD SURVEY DATA, 2002⁵.



⁵ In this figure, values in the parentheses are the percentages of corresponding variables.

FIGURE 4

**A NESTED STRUCTURE OF EXTREME POVERTY STATUS
IN VILLAGE “D” BASED ON THE HOUSEHOLD SURVEY
DATA, 2002 ⁶.**



⁶ In this figure, values in the parentheses are the percentages of corresponding variables.

FIGURE 5 A NESTED STRUCTURE OF EXTREME POVERTY STATUS OF A TOTAL CLUSTER SAMPLE BASED ON THE HOUSEHOLD SURVEY DATA, 2002 ⁷.

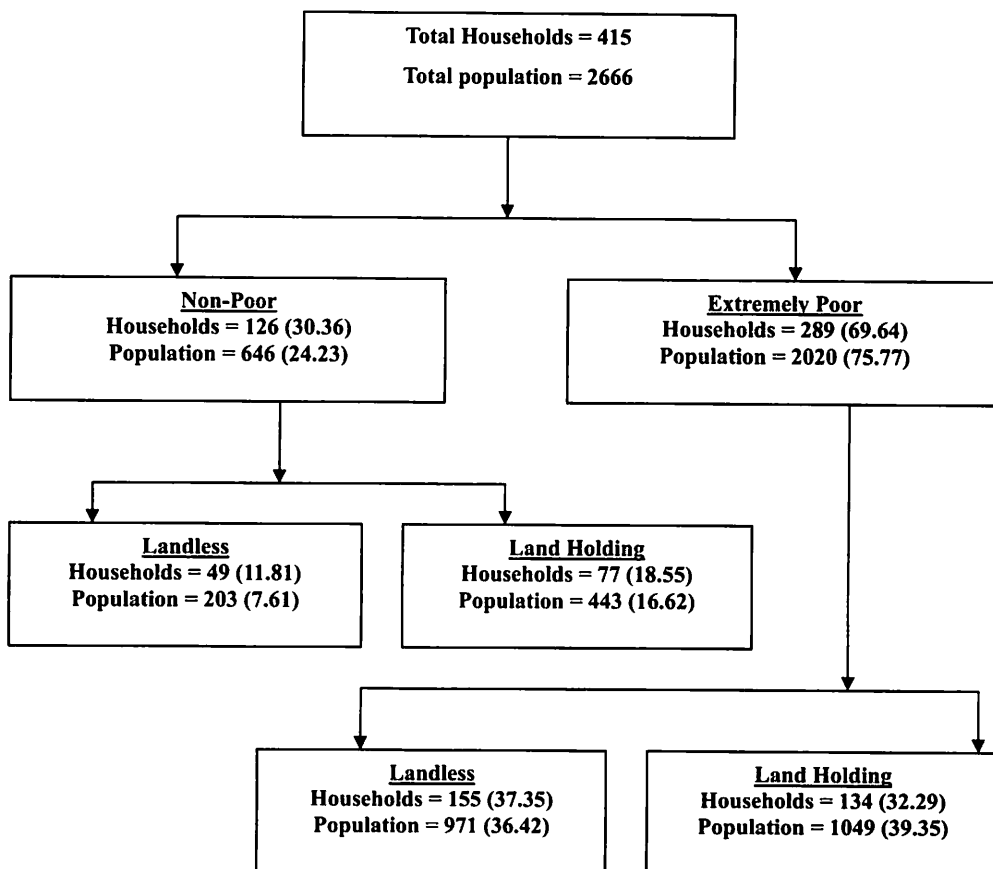


Figure 2 outlines a nested structure of extreme poverty status in village B based on the household survey data collected from a cluster of Cholistan. Total households are recorded 115 in village B with total population 713 persons. Total extremely poor households are 85 and make 73.91 percent of it. In term of population it has 78.96 percent incidence of poverty. While 30 households (26.09 percent) and in term of population 150 members (21.04 percent) are the non-poor. The status of extreme poverty is further divided into landless and landholding households and of members. Out of 85 extremely poor 46 households are landless and 39 households are landholding. Incidence of poverty is 40.00 percent and 33.91 percent among the landless and landholding households respectively. In other words, 37.59 percent and 41.37 percent are the incidence of poverty in term of population among the landless and landholding households respectively. However, 13.91 percent and 12.17 percent households are classified as landless and landholding non-poor households respectively.

Figure 3 describes a nested structure of extreme poverty status in the village C. Total households are 85 in the village C and total population is 626 persons in it. Out of 85 total households, 58 households are extremely poor, and 27 are the non-poor households. Incidence of extreme poverty among the households and population is

⁷ In this figure, values in the parentheses are the percentages of corresponding variables.

68.24 percent and 74.92 percent respectively. However, 35.29 percent landless households and 32.94 percent landholding households are extremely poor in village C. Similarly, 35.30 percent is the extremely poor landless population and 39.62 percent is the extremely poor landholding population. Incidence of extreme poverty among the landless households is more than the landholding households. In addition to it, 8.24 percent households are landless non-poor and 23.53 percent are landholding non-poor.

Figure 4 explains the nested structure of extreme poverty status in village D. Total households is recorded 160 in a village D and it has 973 members. The status of extreme poverty is calculated 106 households as the extremely poor and 54 as non - poor. Incidence of poverty is 66.25 percent among households and 71.43 percent among the population/ members. Out of 106 extremely poor households, 54 are the landless and 52 are the landholding households. Extreme poverty incidence is 33.75 percent among the landless households and 32.50 percent among the landholding households. Similarly incidence of poverty among landless population is 31.96 percent and 39.47 percent is among the landholding population. However, out of 33.75 percent non-poor households, 10 percent are the non-poor landless households and 23.75 percent are the non-poor landholding households.

Figure 5 illuminates a nested structure of extreme poverty status of a cluster sample based on the household survey data of Cholistan. A cluster sample of Cholistan has 415 households and 2666 members in population. Extremely poor households and non - poor are recorded 289 and 126 respectively in a cluster sample. Incidence of extreme poverty among households is 69.64 percent. However, 75.77 percent people are below the poverty line-I. Further, distribution of extremely poor households is among the landless and landholding households. About 37.35 percent is the landless extremely poor households and 36.42 percent landless population is poor. However, incidence of extreme poverty among landholding households is calculated 32.29 percent. About 39.35 percent population is under the poverty line-I. According to the results of a cluster sample, incidence of extreme poverty is more severe among the landless than landholding households. However, the incidence of poverty in term of population is higher among the landholding than the landless population. Out of the 30.36 percent non-poor households, 11.81 percent are the landless and 18.55 percent are the landholding households.

Concluding Remarks

A comprehensive exercise has been undertaken in this study to present an elementary data analysis of poverty in Cholistan. This study is chiefly based on the primary source of data collected from a cluster sample of Cholistan consisting four villages, in 2002, through a household survey. Structure and extent of poverty status are explained here in terms of socio-economic background of the studied areas, status of economic infrastructure, poverty estimates, and particularly nested structure of extreme poverty in Cholistan. The discussion made on the above observations suggests some useful conclusions. The main findings of the poverty analysis are summarized below:

]The results of household survey data reveal that the infrastructural facilities are very poor, as there is no electricity in the surveyed areas, no basic health units and rural health centers, sanitary conditions are very poor, no telecommunication facilities, no roads to villages, only boys primary schools, no school for the girl students. Irrigation water is not subject to the needs of Cholistan farmers. The underground water is brackish in the surveyed areas. Majority of the poor households is landless and engaged in a pastoral system. There are two main sources of income, agriculture and livestock production. There is no proper management of veterinary services in the surveyed areas for treatment or vaccination of livestock in the surveyed areas. Majority of households move to interior Cholistan with their live stocks when rainwater is available in Tobas or Ponds.

Poverty estimates are more severe in the context of population than households, based on the two poverty lines. About 70 percent households are below the first poverty line that shows the extremely poor and in term of population it is about 76 percent. Among the moderate poor, about 76 percent households are poor while, about 81 percent population in moderate poverty. According to the results of a cluster sample, incidence of extreme poverty is more severe among the landless households than landholding households. However, the incidence of poverty in term of population is higher among the landholding than the land less population. In sum, on above evidence, the improvement in the household's employment opportunities, livelihood conditions, drinking water and sanitation environment, economic infrastructure, access to landholding and health, and education facilities in the areas of Cholistan can, at best, be considered to alleviate poverty. It is depressing to

see that this area of South Punjab of Pakistan has not been able to get the sympathies and right consideration neither in the priorities of provincial nor the central governments.

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