

## 2. Understanding Poverty in Pakistan

2.1 Though having abated in the 1980's, poverty in Pakistan was as high at the end of the 1990's as at the beginning of the decade, and continued to be marked by sharp differences across the country's provinces, and its rural and urban areas. This stagnating and uneven development is also reflected in average consumption data and inequality measures during this time. To some extent, these trends can be seen as dovetailing the wider macroeconomic performance of the national economy, and being susceptible to the same factors that constrained its performance, as mentioned in Chapter One. A better understanding of poverty however entails a more in-depth examination of poverty and its characteristics at the level of the household, which is the focus of the analysis in this chapter. In addition to the impact of lagging macroeconomic growth and inequality on poverty, this chapter emphasizes micro-level factors as well as social determinants that have an important impact on the overall persistence of poverty in the country.

2.2 The chapter begins by examining national and regional trends and patterns of poverty over the past decade, highlighting the methodological issues that attend to poverty measurement, and comparisons across surveys, particularly in the Pakistani context. The most urgent of these is the question of how poverty is determined. Notably, though a consensus on the choice of poverty line for Pakistan is expected to emerge soon, there is currently no such agreed analytical standard for the country.<sup>1</sup> However, a sensitivity analysis shows that regardless of what standard is adopted, the pattern of poverty over the years observed remains more or less the same.

2.3 In providing a blueprint for understanding poverty, this chapter also emphasizes looking beyond its static measures, with a view of understanding and measuring income dynamics, risk and vulnerability in Pakistan. These issues are highlighted through a discussion of methods and data resources for analyzing poverty dynamics, to measure the extent of vulnerability in rural Pakistan. A large section of the rural population of Pakistan population is indeed found to be vulnerable to weather shocks – individuals who are at a high risk of becoming poor in the aftermath of a shock.

2.4 The chapter goes on to discuss the determinants that sustain the pattern of vulnerability and poverty, focusing on micro-factors such as household asset and land ownership in rural areas, the characteristics and constraints of poor households - particularly as regards health and educational attainment, and their forms of employment. In addition it also discusses the social determinants that frame these patterns, focusing on the importance of labor market discrimination, and the poor's vulnerability to weak rule of law.

### **Poverty: Measurement, Incidence and Trends for the 1990s<sup>2</sup>**

2.5 According to head count measures, 32.6 percent of the Pakistani population were currently living in poverty at the end of the 1990s. Despite improving briefly during the intervening years of the decade, this figure is now more or less the same as at its beginning. The depth and severity of poverty has also remained more or less constant, and while urban poverty fell, rural poverty stagnated, widening the gap between city and countryside. There were also persistent differences in incidence across Pakistan's provinces, linked primarily to average consumption indicators in rural areas, and to inequality in urban ones. Notably, though there is not yet a consensus on a poverty line for Pakistan, the choice of such a line does not seem to substantially affect the general patterns and trends observed here. The analysis also points to a large group of transient poor, clustered around any given poverty line, who are particularly vulnerable to adverse income and risk dynamics.

2.6 The World Bank's poverty estimates for Pakistan in the 1990s have been constructed using Household Income and Expenditure Survey (HIES) data for the year 1993-94, and PIHS for 1998-99 (see Box 2.1 and the *Annex* for a discussion on the data sources and caveats). Focusing on the findings from the 1990s, the summary tables also include poverty related statistics from 1990-91, and for the sake of tracing a historical pattern, some estimates for the years 1984-85 and 1987-88.

#### Box 2.1: Household Data Sources and Caveats

Poverty data anomalies, like the poor themselves, will always be with us. The poverty trends reported in this chapter are derived from the Pakistan Integrated Household Survey (PIHS) (1998-99) and the Household Income and Expenditure Surveys (HIES) for previous years. The HIES – designed to measure household consumption and incomes only – were conducted independent of the PIHS until 1998-99, when the two were combined into a single integrated PIHS. There exists a high degree of comparability between PIHS 98-99 and HIES for previous years, since the consumption questionnaires, sample sizes and sampling methodologies are highly comparable for both the surveys. However, there are some caveats that must qualify the comparison of poverty estimates across surveys (more details on these caveats and their implications can be found in the *Annex* to Chapter 2) :

- The sample size for HIES of 1990-91 was substantially smaller than those in subsequent years. However, comparison of poverty estimates is justifiable since the sample size in 1990-91 was large enough to be nationally and regionally representative
- In the 1998-99 PIHS, many of the food items consumed by households are reported as fortnightly figures, unlike in previous surveys where monthly consumption figures were reported for all – this may affect the comparability of household consumption estimates.
- The average household sizes, particularly for households in the lowest expenditure categories, are higher in the 1998-99 PIHS compared to the HIES from 1992-93 to 1996-97. This difference may be the result of differences in field techniques of data collection between the different surveys.<sup>3</sup>
- For specific regions within provinces, estimating poverty trends may be problematic. This is particularly true for rural Balochistan, for which the poverty estimates in 1998-99 are low enough to be out of trend with those from previous years, and also seem inconsistent with other important indicators of well-being, where Balochistan scores well below the national averages. Poverty measurements for rural Balochistan are probably undermined by sampling errors, caused by the highly dispersed nature of the population, as well as non-sampling errors due to factors like seasonality in consumption. For this reason, any conclusion based on this problem data are avoided.

While the data for *all* the aforementioned years have been analyzed (i.e. 1992-93, 93-94, 96-97 and 98-99), recognizing the problems of comparison across surveys, poverty estimates from *only certain select years* (1993-94 and 98-99) have been reported in this chapter. Moreover, poverty estimates from HIES for 1984-85, 87-88 and 90-91 have been reported, using Poverty Assessment for Pakistan (World Bank, 1995) as the source. Consistency in methodology for estimating poverty has been rigorously maintained across all the years, including 1990-91 and prior years.

The main source for national data for all *human development indicators* in this Report (Chapter 3) is also the PIHS, for the latest year available (1998-99). In some cases, for the sake of comparison over time, statistics are also reported from World Bank (1995) and official Government of Pakistan documents that report findings from PIHS of previous years, namely 1991, 95-96 and 96-97. Again, rigorous consistency in methodology is ensured between the estimates from these sources, and those computed for this Report. Designed to measure poverty and human development outcomes, the PIHS is representative at the national and regional (rural/urban) levels for all years. Moreover, the survey is representative at the level of individual provinces and regions (rural/urban) within each province for all years *excluding* 1991. As alluded to above, some questions have been raised about the representativeness of the PIHS for specific areas like rural Sindh and Balochistan, and a careful study of survey methodology and field practices is in order to examine what improvements may be necessary to address any valid concerns. That said, the existing design of the PIHS does indicate it to be a largely reliable and representative source for poverty and human development outcomes at the national, provincial and regional levels for Pakistan.

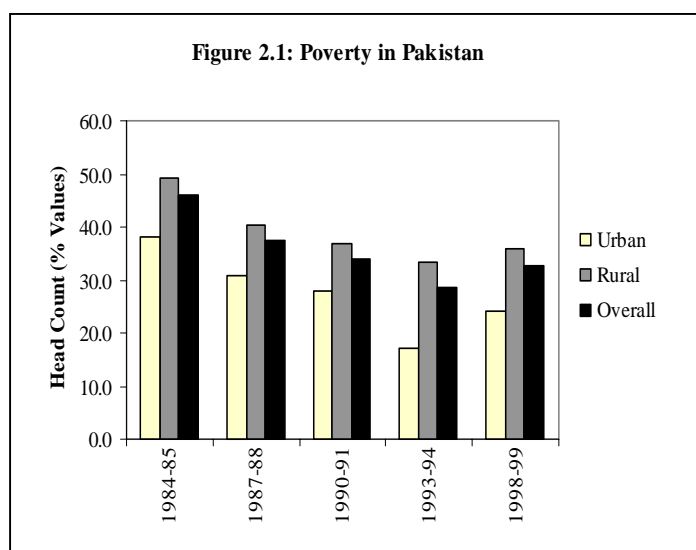
2.7 In order to get a complete picture of poverty in households, it is important to look at all three indices of poverty: the head-count ratio, the poverty gap, and the squared poverty gap. The head-count ratio counts the number of poor as a proportion of the total population. The poverty gap index measures the depth of poverty; it increases if there is a reduction in welfare - defined as a reduction in per equivalent adult expenditure - in one poor household, even if the number of the poor in the household remains the same. The squared poverty gap measures the severity, or extent of poverty. It increases if there is a transfer from one poor household to another household that is relatively better off, but still qualifies as poor, even if the average welfare of the two households remains the same.

**Table 2.1: Poverty Estimates for Pakistan**

		1984-85	1987-88	1990-91	1993-94	1998-99
<b>Headcount Rate</b>	Urban	38.2	30.7	28.0	17.2	24.2
	Rural	49.3	40.2	36.9	33.4	35.9
	Overall	46.0	37.4	34.0	28.6	32.6
<b>Poverty Gap</b>	Urban	9.2	6.1	5.7	3.0	5.0
	Rural	11.9	8.3	7.8	6.4	7.9
	Overall	11.1	7.7	7.1	5.4	7.0
<b>Severity of Poverty</b>	Urban	3.10	1.80	1.70	0.78	1.51
	Rural	4.10	2.50	2.40	1.87	2.51
	Overall	3.80	2.30	2.20	1.55	2.2

*Note:* Data source for all tables and figures in this chapter, unless otherwise specified, are PIHS (98-99) or HIES (all other years)

2.8 The national poverty head-count ratio in 1998-99 is estimated to be 32.6 percent, which is very close to the 34 percent estimated for 1990-91 in World Bank (1995). This is in sharp contrast to the previous decade, when poverty is found to have declined sharply, particularly between 1984-85 and 1987-88. Analysis for the intervening years of the 1990s – between 1990-91 and 1998-99 – show a high year-to-year volatility in poverty rates; an overall headcount rate of 29 percent is reported for one of those years, namely 1993-94. (Table 2.1 and Figure 2.1). The poverty gap and the severity of poverty also exhibit similar patterns (Table 2.2). While the estimates suggest some reduction in poverty between 1990-91 and 1993-94, by approximately 5 percentage points, followed by an upward spike of 4 percentage points to 1998-99, these movements should be qualified by some concerns about the comparability of the surveys used.



**Table 2.2: Incidence of Poverty by Province and Region During 1990s**

	Urban			Rural			Overall		
	90-91	93-94	98-99	90-91	93-94	98-99	90-91	93-94	98-99
Punjab	29.4	18.4	26.5	38.5	31.9	34.7	35.9	28.2	32.4
Sindh	24.1	13.9	19.0	30.8	31.5	37.1	27.6	23.4	29.2
NWFP	37.0	26.5	31.2	40.6	39.8	46.5	40.0	37.9	44.3
Balochistan*	26.7	16.5	28.4	20.9	37.5	24.0	22.0	35.2	24.6
Azad J & K	.	.	14.5	.	.	15.7	.	.	15.6
N. Areas	.	18.4	22.6	.	31.9	37.9	.	28.2	36.5
FATA	.	13.9	.	.	31.5	44.5	.	23.4	44.5
<b>National</b>	<b>28.0</b>	<b>17.2</b>	<b>24.2</b>	<b>36.9</b>	<b>33.4</b>	<b>35.9</b>	<b>34.0</b>	<b>28.6</b>	<b>32.6</b>

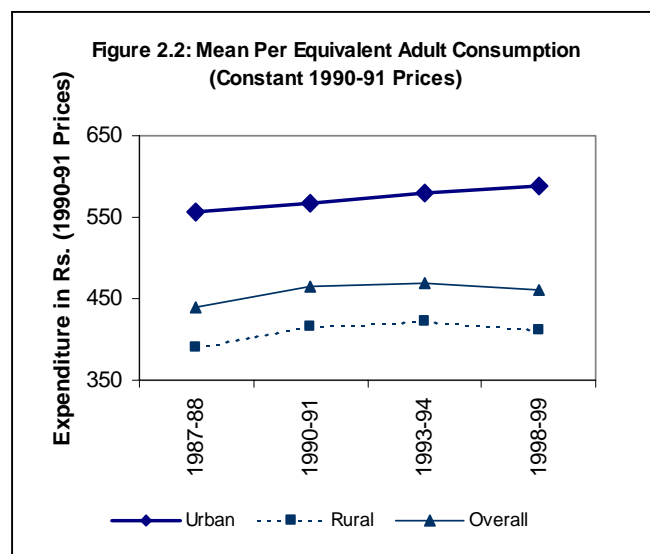
\* May be less reliable than other estimates in table due to low density of population (See Annex 2.3)

2.9 Comparability of surveys across the years is largely ensured by the fact that the questionnaires on consumption and sampling methodology changed very little across surveys, and that the analysis maintained complete methodological consistency across the years. Some specific issues however limit comparability – perhaps most importantly, the average household sizes, particularly for poorer households, are somewhat higher in the 1998-99 PIHS compared to previous HIES years, which may reflect differences in survey field practices (see Box 2.1). While this is important to note, it is found unlikely to seriously compromise the estimated poverty *trends*. Changes in household size *could* affect trends through the impact of economies of scale in household consumption on poverty estimates. But, as shown in Annex 2.2 (and referred to in the next section), overall poverty trends are *robust* to reasonable adjustments of consumption expenditures for economies of scale in consumption arising from household size.

2.10 The caveats notwithstanding, one can thus draw the general conclusion that poverty in Pakistan remained unchanged between the beginning and the end of the decade. Moreover, indications are that after declining during the intervening years, poverty increased rapidly towards the later part of the decade. Such findings are also broadly consistent with those from other poverty studies in Pakistan, which employed different poverty lines and methodologies.

2.11 In all the years studied, rural poverty is found to be much higher than poverty in the urban areas. Comparing 1990-91 and 1998-99, it also seems that while urban poverty has fallen, rural poverty has remained stagnant, with the result that the rural-urban gap has increased somewhat over the decade.

2.12 Mean per equivalent adult expenditures at constant prices seem to be consistent with the stagnation in poverty that is observed (Figure 2.2), remaining almost unchanged from 1990-91 to 1998-99. Consistent with the poverty trends in urban and rural areas, mean expenditure has increased in urban areas more than in the rural areas. In rural areas it actually fell slightly from



1990-91 to 1998-99. Analysis of intervening years also shows relatively high volatility of mean per equivalent adult consumption across years in rural areas, compared to stable consumption with an increasing trend in urban areas.

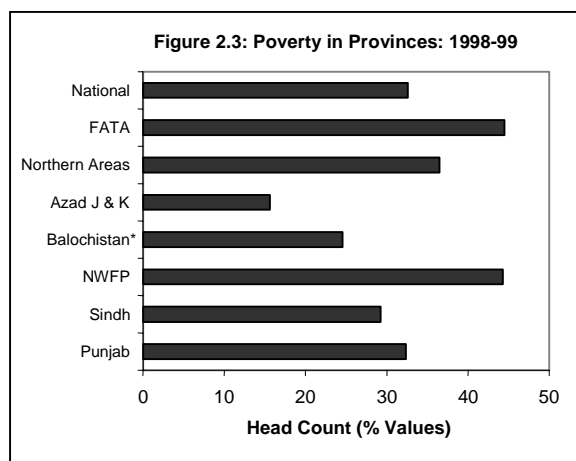
2.13 The lack of growth in rural consumption and poverty reduction during the 1990s is in sharp contrast to rapid growth in rural consumption during the later part of the 1980s – a period that also saw sharp fall in rural poverty. Moreover, the 1990s also saw growth in value added in agriculture, to the tune of a compounded average of 4.5% annually, which compares well with agricultural growth in the 1980s. This raises the important question as to why agricultural growth in the 1990s did not lead to the kind of growth in rural consumption and reduction in poverty as it did in the 1980s. While increasing inequality in rural Pakistan in the 1990s could provide an explanation for this puzzle, as a later section will show, inequality in consumption as measured by gini coefficients in fact did not increase in rural Pakistan in the 1990s.

2.14 Addressing this puzzle, which necessarily involves reconciling the findings from household data with those from macroeconomic sectoral data, would require understanding how the benefits of growth were distributed among the rural population.<sup>4</sup> In doing so, for one thing, it will be imperative to identify the sources of income, farm and non-farm, of the rural population and to measure the changes in productivity and incomes over time. Such analysis has not been attempted in this report due to lack of credible micro-data for the time horizon of the 1990s on rural incomes and their sources. An agricultural strategy paper planned for the future will have to undertake such detailed analysis in addressing this issue of apparent disconnect between agricultural growth and rural consumption during the 1990s.

#### *Poverty in the Provinces*

2.15 A regional breakdown of poverty also reveals persistent differences across its major provinces, with the southern Sindh province, and the northern North West Frontier Province faring the best and worst, respectively. With some qualification, rural-urban differences in the incidence of provincial poverty persist across all survey years. Regional mean consumption figures appear to be quite a good indicator of exigency, particularly in rural areas, but inequality in consumption plays a greater role in explaining differences in urban poverty between provinces.

2.16 According to most recent estimates, at the provincial level, NWFP is the poorest of the major provinces, Punjab is poorer than Sindh, and Balochistan has the lowest poverty rate (Figure 2.3). This pattern is also reflected to some extent in estimates from 1990-91 and 1993-94 (Table 2.2). The notable difference is that Balochistan has a higher poverty rate than Punjab or Sindh for two of those years. NWFP appears to be the poorest among all provinces during these years, with rural poverty especially, remaining very high throughout the period. The pattern of poverty in Punjab and Sindh over the years is more or less in keeping with that of the country as a whole.



\*May be less reliable than estimates for other provinces due to low density of population (See Annex 2.3)

2.17 It is instructive to look at mean consumption and inequality figures (Table 2.3), to see if any consistent patterns emerge that explain differences in poverty incidence across provinces. While the variation in mean consumption across provinces is broadly consistent with poverty rates, in both urban and rural areas, there is much greater variation in inequality of consumption across provinces in urban areas as compared to rural areas, suggesting that inequality plays a greater role in explaining differences in urban poverty between provinces, than it does differences in rural poverty.

**Table 2.3: Mean Per Equivalent Adult Expenditure (Monthly, 1990-91 Prices) – 1998-99**

	Punjab	Sindh	NWFP	Balochistan*	Azad J & K	N. Areas	FATA	National
Urban	599.4	592.4	535.2	464.7	620.2	541.8	.	589.1
Rural	420.6	398.8	372.4	440.1	494.9	382.4	355.6	410.8
Overall	472.1	482.7	396.3	443.3	504.9	397.5	355.6	460.9
<b>Inequality (Gini): Mean Per Equivalent Adult Expenditure – 1998-99</b>								
Urban	37.0	33.0	34.6	25.5	28.9	29.4	.	37.0
Rural	25.7	24.6	24.5	22.5	21.7	20.9	20.3	25.7
Overall	30.6	30.4	27.1	22.9	22.6	22.7	20.3	30.6

\* May be less reliable than other statistics in table. See Annex 2.3

2.18 A case in point is the Punjab and Sindh – two large provinces that are home to 55 and 35 percent of the country’s urban population, respectively. While the two states have very similar urban mean consumption, the consumption gini coefficient that measures inequality, is about 12 percent higher for urban Punjab. This partly explains why the incidence of poverty in urban Sindh is substantially lower than that in Punjab. Azad J & K, with the highest mean consumption and lowest inequality, naturally exhibits the lowest urban poverty incidence. At the other end of the spectrum is NWFP, where substantially lower than average mean consumption, and a high consumption gini, translates into the highest urban poverty rate in the country.

2.19 Since the gini coefficient for per equivalent adult consumption in rural areas shows little variation across provinces in 1998-99, the incidence of rural poverty across provinces varies consistently with mean consumption. The rural areas of Sindh, NWFP, the Northern Areas and FATA are characterized by mean consumption levels well below the national rural average, which translate into poverty rates above the national average.

2.20 Rural-urban differences in incidence of poverty persist in the major provinces across all survey years, with the notable exception of Balochistan in 1998-99.<sup>5</sup> Sindh by far exhibits the largest rural-urban gap in poverty incidence, with a rural head count that is 1 percent above the national rural average, and an urban head count that is 5 percentage points below the urban average. While Balochistan stands out as the only province with a rural poverty head count lower than the urban on in some years (including 1998-99), this finding should be qualified. Indeed, there are difficulties in measuring poverty in Balochistan – arising out of difficulty in sampling a vast area with highly dispersed population, as well as possible large seasonal variations in consumption – that affect the comparability of its estimates across years, with those of other provinces (see Box 2.1 and Annex 2.3).

#### *Methodological Issues in Measuring Poverty<sup>6</sup>*

2.21 The measurement of poverty in Pakistan is slightly complicated by difficulties in establishing a consensus on a poverty line for the country. These are not considered to have impaired the utility of the analysis in this report, but some discussion of the methodological concerns surrounding the measurement of poverty is therefore particularly important.

2.22 Generally, the measurement of poverty follows the well-known notion of comparing household consumption expenditures with a pre-decided poverty line defined in terms of aggregate household expenditure. This includes expenditures on all non-durable goods and services, and expenses on services and repair charges of household effects.<sup>7</sup> The household expenditures thus obtained are adjusted for price differences between urban and rural regions, making it possible to compare expenditures used separate urban and rural poverty lines that are also defined in terms of expenditures.

#### Adjustments for Household Size and Composition

2.23 In order to measure welfare at an individual level, household expenditure should be adjusted according to household size and composition. In the Pakistani case, the correction for composition was done via a correction by the per adult equivalent in the household.<sup>8</sup> However, in calculating poverty estimates, the expenditures were not corrected for household size, which implies that the estimates do not make any allowance for economies of scale in household consumption. By itself, this would be a cause for concern, particularly with relation to any analysis about the demographics of poverty.<sup>9</sup> However, since this report will not attempt such examination of demographics as related to poverty, a detailed investigation of the kind of scale adjustment suitable for the current PIHS data Pakistan is not conducted for this report.

2.24 That said, it is important to explore the sensitivity of the poverty measures, and more importantly the poverty trends, to adjustments for the “scale effect” in consumption. Such investigation, using a reasonable range of parameters, reveals that poverty trends during the 1990s remain almost unchanged – for rural and urban Pakistan alike – with scale effects (see Annex 2.2). Although poverty estimates for individual years tend to decrease with such scale adjustment, the movement of poverty rates from year to year are similar to that in the absence of such adjustments. In the light of these results, the estimates without such adjustments are considered to provide a satisfactory picture of poverty trends. Moreover, these estimates are comparable with the historical estimates of poverty in the years preceding 1992-93 – which were computed without taking into account scale effects – that makes it possible to look at poverty trends over the entire time horizon starting in the mid-1980s.

#### Poverty Lines Used for the Analysis

2.25 The poverty line for every year is the “basic needs” poverty line, which was used for the estimates in the 1995 Poverty Assessment, using HIES data up to 1990-91, and was in turn based on modifications of the poverty line developed by Ahmad (1993). The poverty line was adjusted for inflation for every year in the analysis. The guiding principle behind this poverty line is to take the line “as the cost of achieving a minimum bundle of basic needs, in which calorific needs are included alongside other purchasable needs such as fuel, housing and clothing”.<sup>10</sup>

2.26 This report arrived at a poverty line – which was necessary for purposes of its analysis -- while recognizing that Pakistan does not yet have such an officially recognized standard. The line adopted is consistent with two important conditions that poverty lines should satisfy, and on which consensus has however been reached. First, holding the poverty line constant in terms of purchasing power across the years covered in the analysis ensures comparability over time. Second, poverty is defined not only by household members’ (lack of) calorie intake, but also by the ability of the household to meet its basic non-food needs. The poverty line was established following an exhaustive analysis of available options, as a part of background work undertaken for the World Bank’s preceding Pakistan Poverty Assessment.<sup>11</sup>

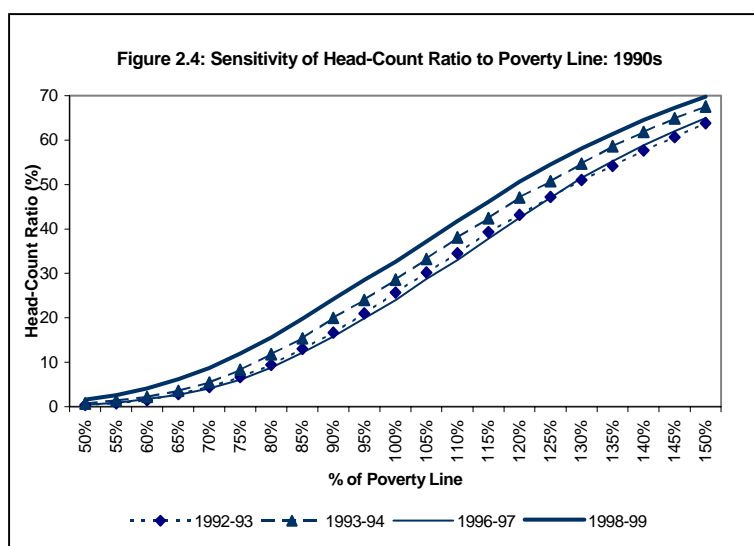
2.27 Importantly, for the sake of consistency across future studies, and in order to facilitate the monitoring of poverty trends over time, it will be imperative to eventually establish an informed consensus on a poverty line for Pakistan. To this end the report welcomes the considerable progress that has been made towards reaching a consensus on this issue in recent times. Having said that, it is also the

case that given the subjective judgments that invariably inform the choice of poverty lines, such measures should best be employed in comparative contexts. Relative rankings, rather than absolute numerical values, should be used to gauge changes and differences in poverty across different times and locations. Thus, even if there are disagreements over the suitability of the poverty line adopted by this report, this should not detract from its central story. It is also worth noting that the estimates and trends of poverty in Pakistan reported here are broadly consistent with those of other works employing the same data, but different poverty lines.

### *Sensitivity of Head Count Ratios to Choice of Poverty Lines*

2.28 Since the choice of poverty line is essentially subjective, it is useful to examine how poverty estimates respond to adjustments of this line. A sensitivity analysis illustrates this clearly and also shows that the observations of this report appear quite robust to any adjustments. Figure 2.4 graphs the head count ratio for urban and rural Pakistan in 1998-99 against different levels of poverty lines.<sup>12</sup> It shows as

evident the fact that rural poverty is greater than urban poverty, irrespective of the level of the poverty line. However, it turns out that the rural head count is more sensitive to the choice of poverty line than the urban head count, as evident from the steeper slope of the line corresponding to rural head-count. The sensitivity analysis also validates the comparison across years. From Figure 2.4, the head-count ratio in 1993-94 is always higher than those in 1992-93 and 1996-97, irrespective of any choice of poverty lines between 50 and 150 percent of the actual lines. By the same token, the head-count ratio in 1998-99 is unequivocally greater than in the other three years.



2.29 A broad picture of the extent and nature of poverty in Pakistan is also obtained by looking at the distribution of the population around the poverty line. It turns out that as much as 43 percent of the Pakistani population is distributed between 75 and 125 percent of the poverty line. Given this proximity to the poverty line it is possible that small shocks could translate into large changes in the observed static poverty rate. This may explain, at least in part, the large movements in the rural poverty rate over the 90's, a decade characterized by substantial exogenous weather shocks. A following section on vulnerability examines this in more detail.

## **Poverty, Growth and Inequality**

2.30 In light of the fact that Pakistan enjoyed positive if low to moderate rates of growth during the 1990's, it is worth asking how growth and its distribution affected poverty. As detailed in this section, there is evidence of a significant link between economic growth and poverty in the country - as measured in terms of consumption - and between inequality and poverty. While growth promoted poverty reduction in urban areas, some of the gains were wiped out by rising inequality. In rural areas on the other hand, stagnation in growth between the beginning and the end of the decade, combined with volatility during the intervening years, sustained poverty. While growth is therefore likely to be important for poverty

reduction in Pakistan, its direct benefits to many poorer constituencies has been curtailed by volatility and inequality.

*The Role of Growth and Inequality in Explaining Poverty*

2.31 Though economic growth has largely failed to translate into commensurate development of human capital in Pakistan, as discussed in Chapter 1, growth and consumption poverty appear to be strongly and immensely linked. This is consistent with the international evidence reviewed in the same chapter. In addition, the evidence below links poverty to income inequality, which worsened appreciably in urban areas during the 1990's, but saw only moderate changes in rural areas. The latter however experienced considerably more volatility in consumption.

2.32 It is instructive to look at poverty trends in relation to macroeconomic growth patterns. As mentioned before, the period between 1984-85 and 1987-88, and that between 1987-88 and 1990-91, saw poverty reduction make large inroads. These also coincided with periods of high growth in *per capita* GDP, at average annual per capita rates of 4.1 percent and 2.8 percent respectively. In the nineties, annual average per capita growth was around 2 percent between 1990-91 and 1993-94, when poverty declined by 5 percentage points. In contrast, poverty *increased* by 4 percentage points over the period 1993-94 to 1998-99, when per capita GDP grew only at an annual average rate of 1.4 percent. Further analysis shows that even within this period, the largest increase in poverty took place between 1996-97 and 1998-99, when per capita GDP grew at an annual rate of less than 1 percent. This evidence supports the point made in Chapter 1: growth and poverty reduction tend to go together in developing countries, and Pakistan is no exception.

2.33 While macroeconomic growth seems to be associated with observed movements in aggregate poverty rates, regional trends can be better understood by looking at growth in *consumption* from *household data*. Consumption data reveals that urban areas have experienced relatively higher growth in mean consumption than rural areas (see Figure 2.3). Notably, rural areas are also subject to much greater volatility in adult consumption, which translates into correspondingly larger fluctuations in rural poverty rates.

2.34 Associations between inequality and poverty are also important to explore. Nationwide, inequality worsened slightly between 1990-91 and 1998-99, as measured by the gini coefficient of per equivalent adult consumption (Table 2.4).

**Table 2.4: Inequality – Gini Coefficients (Per Equivalent Adult Consumption Expenditures)**

	1984-85	1987-88	1990-91	1992-93	1993-94	1996-97	1998-99
Urban	31.4	31.6	31.6	31.6	30.2	28.4	35.3
Rural	26.3	24.0	26.7	25.2	24.6	23.8	25.1
Overall	28.4	27.0	28.7	27.6	27.6	26.3	29.6

However, the aggregate figures mask substantial differences in the evolution of rural and urban inequality. Irrespective of whether one takes 1990-91 or 1996-97 as the reference period, urban inequality had worsened considerably by 1998-99, while rural inequality fell slightly between 1990-91 and 1998-99.

2.35 Analysis based on standard methodology confirms that growth in average consumption, as well as changes in distribution has had significant impact on changes in poverty levels in Pakistan. Based on a method developed in recent literature, growth-redistribution decomposition of changes in poverty estimates are conducted for various periods between surveys.<sup>13</sup> The small decrease in poverty incidence over the entire period, between 1990-91 and 1998-99, is found to be almost entirely due to a slight redistribution of consumption from higher expenditure groups to lower expenditure groups. In any case, the change in poverty over this period is quite small, and not much can be inferred from the results.

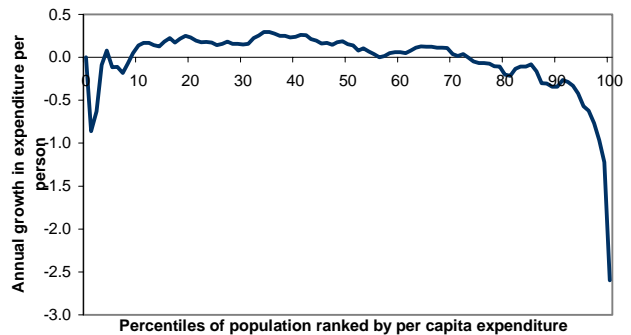
2.36 However, the decompositions for urban and rural regions separately are more informative. For urban areas, the observed decline in poverty over the period is entirely due to the consumption growth component, and the redistribution effect has in fact had the opposite effect. If the distribution of consumption in urban Pakistan could be held constant at the 1990-91 level, growth that actually occurred would have reduced the poverty headcount by around 8 percentage points, compared to the observed 4 points. The opposite is true for rural Pakistan, where a slight reduction in inequality, along with no growth in consumption, resulted in a small net reduction in poverty of around 1 percentage point.

2.37 Consistent with the picture of stagnant poverty for Pakistan as a whole, growth incidence curves (GICs) drawn for the country reveal almost no change in consumption for most expenditure centiles between 1990-91 and 1998-99 (Figure A-2.2, Annex). Even the largest change in consumption that occurred in the form of a reduction among the bottom decile, amounted to a rather low average annual rate of less than 0.4 percent.

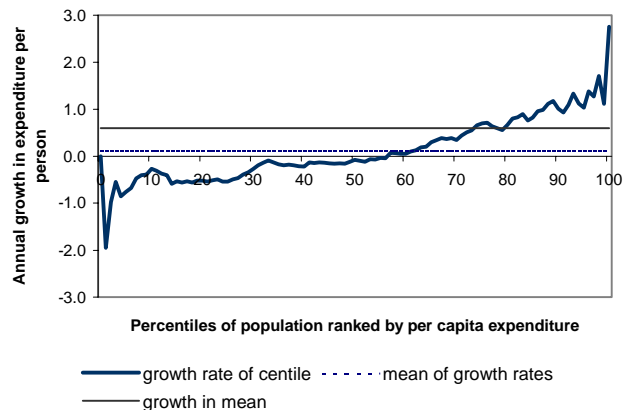
2.38 The aggregate picture however, just as it is with the growth-inequality decomposition, masks the considerable differences between the rural and urban regions. The GICs drawn separately for urban and rural Pakistan paint a picture consistent with the above decomposition exercise (Figures 2.5 and 2.6). For rural Pakistan, the curve indicates that very little growth in per capita consumption occurred for all expenditure groups between 1990-91 and 1998-99. While all expenditure groups between the 10<sup>th</sup> and the 70<sup>th</sup> percentile experienced slight growth, growth was negative for the very poor as well as the relatively well off. For urban regions, the GIC indicates clearly that growth occurred primarily among the relatively well off over the decade. The average annual growth rate in consumption among the bottom 20 percent and the middle 20 percent (between 40<sup>th</sup> and 60<sup>th</sup> percentile) of the distribution were negative 0.6 percent and 0.1 percent respectively; in contrast, the average annual growth for the top 20 percent was 1.2 percent. Thus while rural Pakistan suffered from lack of growth in consumption, urban regions experienced consumption growth that was not pro-poor during the 1990s.

2.39 The decompositions of poverty changes for successive time periods for which household data were available, during the 1990s throw further light on the role of growth and inequality in influencing poverty (Figure 2.7). In urban areas, both growth in mean consumption and changes in the distribution had sizeable impact on poverty, often in opposing directions.<sup>14</sup> In rural areas, it is noticeable that rise and fall in poverty in intervening years have pretty much followed movements of the growth component, with the redistribution component remaining relatively small.

**Figure 2.5: Growth Incidence Curve (Rural): 90-91 to 98-99**



**Figure 2.6: Growth Incidence Curve (Urban): 90-91 to 98-99**



2.40 Thus both growth and distributional changes were important during the 1990s, particularly with respect to differing patterns of poverty in rural and urban areas. While growth promoted poverty reduction in urban areas, some of the gains were wiped out by rising inequality. In rural areas on the other hand, stagnation in growth between the beginning and the end of the decade, combined with volatility during the intervening years, were the main factors impeding poverty reduction. Notably, in the light of the experience in rural areas, a primary objective of public policy aimed at mitigating poverty and vulnerability, should be to promote growth and reduce fluctuations in rural consumption. In urban areas, a major challenge would be to ensure that the benefits of growth are distributed more broadly among the population.

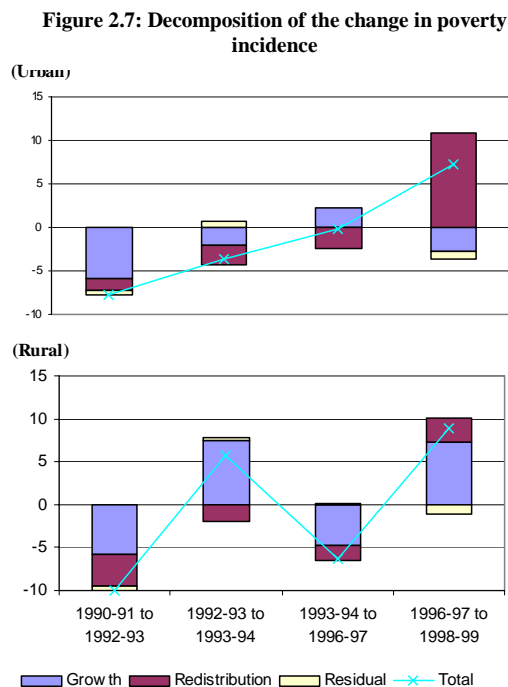
2.41 An important corollary of this section is that although there is a relationship between growth and poverty in Pakistan, it is also clear that even rapid growth does not touch many poor, in part because of changes in inequality and fluctuations in income. Understanding these dynamics and the manner in which they prevent households from benefiting from growth should be an integral part of a poverty analysis if it is to provide concrete recommendations for future policy initiatives. However, the static measures of poverty hitherto employed in this chapter do not tell us much in this regard. The following sections attempt to bridge this gap.

### Income Dynamics, Risk, and Vulnerability

2.42 Income volatility is a defining feature of life for many citizens in developing and transitional economies. While its precise causes differ among countries and over time, it imposes many substantial and often unavoidable risks. Private and social efforts to mitigate these risks can also be quite costly in the absence of well-developed markets for credit and insurance. Indeed, a number of recent studies using panel data have suggested considerable “churning” under the surface of aggregate poverty and income statistics. This movement of households into and out of poverty suggests that a substantial proportion of observed poverty at any given time might be ‘transient’ in nature. The clustering of households around the poverty line described in a preceding section is certainly indicative of such a possibility in the context of Pakistan. However, our real interest is in the extent to which uninsured risk plays a causative role in creating or sustaining welfare losses and in the policy levers which might be most effective at reducing such losses.

2.43 While there are many possible ways to identify uninsured risk and, consequently, more than one possible definition of “vulnerability”, it seems useful from a policy perspective to obtain a measure based on the variability of consumption expenditures, since it is the inability to smooth consumption in the face of income fluctuations which is, to a substantial degree, at the heart of concerns about the role of vulnerability in creating or sustaining poverty. Notably, if households were able to adequately smooth expenditures, static poverty measures would tell us most of what we need to know about the poor.

2.44 However a measure of vulnerability based on consumption variability entails two general difficulties. First, one must estimate the extent of consumption variability due to exogenous income shocks, as distinct from the variability due to measurement error, preference shocks, and endogenous



adjustments to shocks (e.g., labor supply, transfers). Second, one must formulate a meaningful measure of ex-ante vulnerability based on the result of step 1.

#### *Examining vulnerability to weather- induced shocks*

2.45 The first issue is addressed by combining household consumption data with 20 years of monthly rainfall measurements to estimate the exogenous component of consumption variability. Rainfall shocks are not only exogenous to households, but because they are covariate, i.e. tend to cause and accompany general declines in local incomes, they are difficult to insure in local markets. Using information on household farm assets, the exogenous component of the consumption variance is therefore allowed to vary by household (e.g., because households with more irrigated land may have lower consumption variability). The second issue is addressed by developing a measure of household vulnerability that can be used to ascertain vulnerability ex-ante, i.e. before the shock in question. Vulnerability is accordingly defined as the *probability* that a household experiences at least one episode of poverty over a defined time period, and vulnerable households as those for whom that probability exceeds a threshold value.<sup>15</sup>

2.46 In the context of rural Pakistan, the focus on weather-related shocks is of particular importance since these were by far the most important adverse events reported by communities sampled by the recent representative rural survey (PRHS 2001). Over 63 percent of all villages in the survey experienced at least one severe drought over the past five years. Many experienced repeated droughts, with 2000 being the worst drought year. A third of all villages experienced floods, most in 1998. This year saw a drought in the monsoon season being followed by late rains and floods. Since a disproportionate fraction of the poor reside in rural areas, these weather shocks are a particularly useful focus for the study of rural vulnerability in Pakistan, and can form the basis for thinking through concrete policy measures to reduce such vulnerability.<sup>16</sup>

2.47 The vulnerability estimates, derived from the IFPRI panel survey data (from 1986 to 1991), are used to examine the characteristics of vulnerable households and to compare vulnerability with notions of chronic and transient poverty.<sup>17</sup> A household is classified as chronically poor if its mean expenditure level is below the poverty line. Transient poverty is then the variation of observed expenditure around its time mean (both chronic and transient poverty are defined using the squared poverty gap as the empirical poverty measure).<sup>18</sup>

2.48 First, it is important to note that the measure predicts actual episodes of poverty extremely accurately (see appendix) This implies that expenditure volatility induced by weather shocks had a substantial impact on household welfare, even in areas with canal irrigation. In fact, winter rainfall in the season preceding the agricultural year, which we use as a rough proxy of expected water levels in the canal system, has a substantial effect on expenditures, highlighting the importance of rainfall for canal water supplies.

**Table 2.5. Vulnerability and Poverty by agro-climatic zones  
(using IFPRI panel; poverty line=Rs. 2580, TimeHorizon =2 years)**

	Percentage Households			
	Vulnerable	Poor: using measured expenditure	Chronically poor	Transiently poor
<b>Northern irrigated plains</b>	29.1	47.2	34.3	12.9
<b>Barani plains</b>	46.1	42.0	25.9	16.1
<b>Dry mountains</b>	67.3	58.1	46.7	11.4
<b>Southern irrigated plains</b>	71.0	61.0	46.4	14.6
<b>All</b>	56.1	53.4	39.7	13.7

2.49 Second, there is a strong variation in levels of vulnerability (Table 2.5). While less than a third of all households in the northern irrigated plains of the Punjab, essentially the canal colony areas, were classified as vulnerable, over two-thirds were classified as vulnerable in the southern irrigated plains of

Sindh province and the dry mountains of the North-west. These regional patterns look much less stark, however, if one relies only on observed poverty levels. The picture is not much changed if one focuses on the chronic component of poverty, although differences in observed poverty appear to be largely a result of differences in chronic poverty levels rather than in transient poverty. The vulnerability measure thus seems to capture something quite distinct from the static poverty measure as well as from the measure of transient poverty.

2.50 This exercise also highlights the importance of making an analytical distinction between vulnerability, chronic poverty, and transitory poverty. Box 2.2 brings out these distinctions sharply, and goes on to show that vulnerability to poverty in rural Pakistan is very much a product of both low mean expenditure levels and variation in expenditure due to shocks. Moreover, the analysis indicates that a significant fraction of the total variation in expenditure can be explained by exogenous weather shocks.

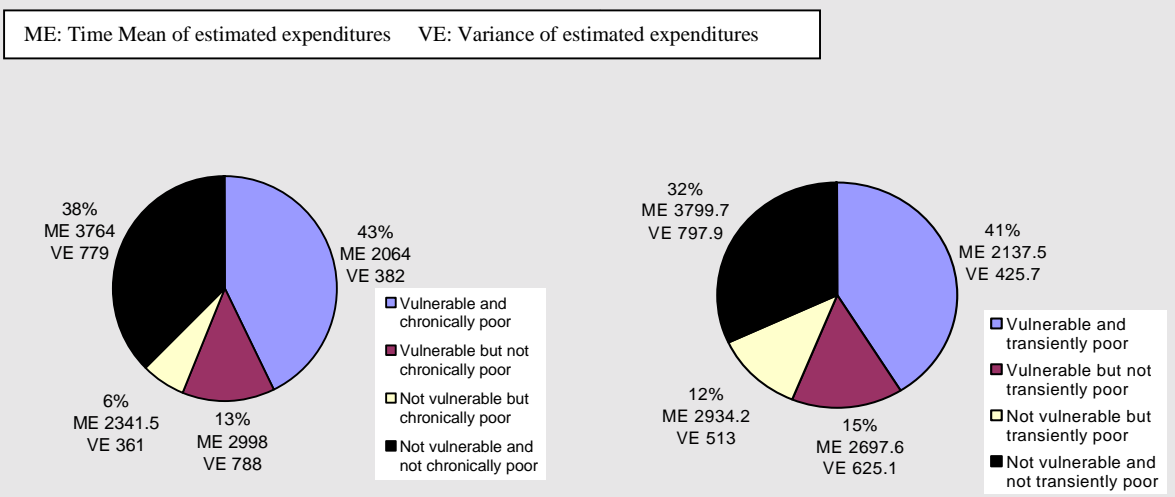
**Box 2.2: Vulnerability, Chronic Poverty, and Transitory Poverty**

The difference between vulnerability and chronic poverty becomes clearer from looking at the figure below. It is found that close to a quarter of all vulnerable households are not chronically poor. These households are vulnerable mainly due to the high variance of expenditure relative to its mean. In contrast, among the chronically poor, some 13 percent are not vulnerable. These households are poor mainly because of low mean expenditures with very little variance around this low mean.

Looking now at vulnerability and transitory poverty, chart 2 shows that among households classified as vulnerable, more than a quarter experienced no transitory poverty over the time period of the panel, while among households classified more than a quarter of those who experienced transitory poverty in a given year were not classified as transiently poor, over a quarter were not classified as also vulnerable. Once again, households who were classified as vulnerable had relatively low mean expenditure levels, combined with a high variance of expenditure, while those who experienced transitory poverty had higher mean expenditure levels and a lower variance of expenditure. This difference points to the key difference between poverty and vulnerability. Vulnerability is the *ex-ante* risk of falling into poverty, while any poverty outcome, chronic or transient, is an *ex-post* measure of household well-being.

To better understand the significance of this, it is instructive to compare vulnerability and transient poverty levels for households grouped by distance from the poverty line. It is found that a large fraction of households (57 percent) are clustered just around the poverty line (.75-1.25 times the poverty line). Among these households, as one might expect, a very large fraction (69 percent) are vulnerable. On the other hand, only 2 percent of households with mean expenditure levels larger than 1.25 times the poverty line are classified as vulnerable, though some did experience an episode of transient poverty. Finally, as one might also expect, all households with mean expenditure levels below .75 percent of the poverty line were classified as vulnerable although they had a substantially smaller variance of estimated expenditures. This suggests that vulnerability to poverty in rural Pakistan is very much a product of both low mean expenditure levels and variation in expenditure due to shocks.

**Figure: Vulnerability and Poverty (using IFPRI data)**



2.51 It is clear that the vulnerability measure based on weather related shocks is able to predict welfare shocks quite accurately, and allows one to distinguish between observed poverty at a point in time, and the risk of a welfare shock due to income variability. In addition, some insights the coping strategies available to vulnerable are available from the qualitative survey (QPS). The discussion in Box 2.3, drawn from the QPS, underscores the ways in which coping strategies vary across income groups and regions. In regions where agricultural production is less significant (Barani or rainfed areas), and income diversification is a necessary condition of survival among the asset poor, weather shocks appear to increase reliance on wage work outside agriculture. In contrast, credit played a key role in sustaining consumption in areas where agricultural production was a substantial component of the rural economy. Agricultural wage workers and tenant farmers survived mainly by taking credit from their landlords or from shopkeepers, and landlord credit was largely available only in areas with high inequality in land ownership. Other than non-farm wage work in the village and credit, sales of livestock and out-migration in search of wage work also appear to be key coping strategies.

### Box 2.3: Drought-Related Shock: Insights from Case Studies of Two Villages

The qualitative survey allowed insights into the effects of the drought in two very different types of agro-climatic zones. The village of Raheema in Attock district relied on rain-fed (*barani*) agriculture. Shah Alam in Nawabshah, on the other hand depended almost entirely on canal-irrigated farming. Both areas suffered from the effects of the drought in the year of the survey. The failure of the rains during the *rabi* 2000-2001 season had severely reduced the wheat crop in Raheema. This shock was compounded with another – a hailstorm destroyed much of the following *khariif*'s maize crop. Shah Alam felt the effects of the drought through a sharp reduction in the supply of canal water. The shortage was particularly severe in 2001, though it had persisted since around 1998. Both Raheema and Shah Alam had relatively unequal agrarian structures. The poorest in Raheema were landless families, who depended on tenant farming and casual wage labor for their livelihoods. The twin adverse shock of drought and hailstorm had negative impacts on both types of activities. Wheat yields were around a quarter of their usual levels, and the maize crop was entirely destroyed, and was good only for green fodder. The loss of the crops also affected the casual labor market. There was no harvesting labor to be found during the year. The poor had coped largely by working at casual wage labor jobs, mostly in construction, and some away from home. They had borrowed food from shopkeepers in the village and in the nearby market towns. Some had been forced to part with their assets, mostly livestock.

In Shah Alam, the poorest were landless sharecroppers and laborers, as well as small landowners. The main impact of the on-going water shortage on agriculture was a decline in the sown area. There was also a change in cropping patterns as water-intensive sugarcane was replaced with wheat and cotton. A positive impact (on future productivity) was that land previously made uncultivable by waterlogging had been reclaimed for future use. Landlords had shifted their tenants around in order to make optimal use of the canal water that was available. Most tenants were getting less land than before, and some were not given any land at all. Tubewells had been installed and these had raised the cost of crop production. It was widely believed that tubewell water was saline and that it was going to ruin the land after two or three years of cumulative increases in the salt content of the soil. This had not yet kicked in and yields on the lands that were cultivated remained close to their historic averages. Those among the poor who remained tenants saw their earnings decline as a result of getting less land, and due to the higher costs of production. Many of them borrowed grain from the landlords against future crops. There were some who no longer worked as tenants, and were mostly seeking work as casual laborers. Harvest time work was still available for both wheat and cotton. There were reports, also, of families migrating to work for landlords who had managed to secure water supplies. Even within the area of Shah Alam there was evidence in one area of out-migration and in another of in-migration.

The drought affected the conditions of the poor very differently in the two areas. The differences were partly due to the technology of irrigation – rain-fed in one and canal-based in another. Differences were also due to the initial conditions in which the poor found themselves. The poor in Raheema were mostly low caste wage laborers, relying on diverse agricultural and non-agricultural activities for sustenance. The diversity of their pre-shock livelihoods was understandable, given that agricultural productivity is relatively low and varied in the *barani* areas. The livelihoods strategies, therefore, had already internalized the environmental hazards. There was no strong credit or insurance relationship with the landlords. In Shah Alam, large land holdings provided a cushion against a total collapse in productivity. Large landlords attempted to use their water allocations optimally by restricting cultivation to part of their holdings, and moving tenants around in order to achieve this goal. They also managed the allocation of water to their different tenants optimally. Landlords retained an interest in holding on to their tenants in anticipation of future improvements in water supply, and therefore were willing to extend consumption-smoothing credit.

Source: Gazdar (2002). "A Qualitative Survey of Poverty in Rural Pakistan: Methodology, Data, and Main Findings"

## Household Determinants of Vulnerability and Poverty

### *Household Determinants of Vulnerability*

2.52 In order to ask how household vulnerability correlates with household characteristics, it is important to understand whether the correlates of vulnerability are in any way distinct from the correlates of 'transient' or 'chronic' poverty. Accordingly, vulnerability, chronic poverty and transient poverty were regressed on a range of household assets, household composition and education variables, and location and year dummies.

2.53 The focus is mainly on 4 types of assets; land, livestock, farm assets like tractors, and other durables, which included vehicles, refrigerators and sewing machines. The evidence shows all four types of assets significantly reduce vulnerability, however there are important differences across asset types. First, while land ownership has a negative effect on vulnerability, its effect on vulnerability and transient poverty is much smaller than its effect on chronic poverty. This suggests, as expected, that land is less likely to be used to protect consumption in the face of covariate shocks, and is consistent with a relatively thin market for the purchase and sale of land in rural Pakistan. In contrast, the ownership of farm assets like tractors and other vehicles has a significantly negative effect on both vulnerability and chronic poverty, but appears to have no effect on transient poverty. This suggests that the effect of farm assets on vulnerability works through its effect on chronic poverty. Finally, livestock ownership has a much larger negative effect on vulnerability as compared to both chronic and transient poverty. This seems to provide some evidence that households use livestock sales to buffer consumption.

2.54 It is also apparent that household composition has an effect; households with young kids and dependents are more likely to be vulnerable. Interestingly however, qualifying observations from cross sectional data noted below, it also appears that education lowers vulnerability only if at least one household member has a post-secondary education.

2.55 Finally, as expected, location has a significant effect on vulnerability, according to the pattern evident from Table 2.5. Households in district Badin in Sindh, and district Dir in the dry mountain region, have a significantly higher probability of being vulnerable as compared to households in district Faisalabad (in canal colony Punjab). In contrast, location has much smaller effects on both chronic and transient poverty.

2.56 The noted differences in the sample between Sindh and Punjab throw into some relief earlier observations from previous section. As noted, the lowest level of vulnerability was in the northern irrigated plains, essentially the canal colony areas of Punjab, while the highest levels were in the southern irrigated plains, the province of Sindh. While a large fraction of cultivated area in both regions is canal irrigated, the regions are substantially different in several respects. Importantly, these include sharp differences in the degree of inequality in land ownership. While land is held in small and relatively equal holdings in the canal colony areas of the Punjab, much of Sindh is characterized by a high degree of inequality in land ownership.

2.57 Another notable difference is that there is substantial diversification of income across farm and non-farm sources in central and *Barani* Punjab while there are few, if any, opportunities for non-farm employment in much of Sindh. In addition, external transfers appear to play some role. As expected, the rainfed plains of northern Punjab have a higher percentage of vulnerable households. Nonetheless, levels of vulnerability there are lower than in southern Sindh. This appears to be due in large part to remittance income from migrants to the Gulf, and again, increasing levels of diversification out of agriculture. These characteristics are discussed in more detail in the rural poverty chapter of this report.

2.58 While much more remains to be understood about the dynamics of poverty and the coping strategies used by households, the analysis thus far is at least suggestive of the importance of risk induced shocks to household welfare and underscores the need for forward-looking and pro-active policies that focus on poverty prevention, at least partially through reducing exposure to income risks. The analysis indicates that programs that increase income diversification, particularly through the development of non-farm enterprises, and increase opportunities for wage labor, are likely to be quite important. It also underscores the importance of a rational and efficient use of available assets like land and irrigation water. These issues are explored in greater detail in Chapter 4. Finally, the analysis also points to regional differences in exposure to weather related shocks, and available coping strategies, which should influence the targeting of poverty programs.

### *Poverty and Associated Household Characteristics*

2.59 While the previous subsection examined the determinants of *vulnerability* among households, this part of the analysis explores the range of characteristics associated with *poverty* among households, using cross-section data from the nationally representative PIHS survey. These include lack of land ownership in rural areas, employment characteristics of household head, lack of educational attainment by the head of the household, as well as various indicators of human development.

### Employment, and the informal sector

2.60 PIHS data illustrate some aspects of the relationship between poverty and employment status (Table 2.6). In urban and rural areas alike, the incidence of poverty is relatively high in categories that are largely comprised of owners of small enterprises or providers of services in the (non-agricultural) informal sector. This points to the importance of addressing factors that constrain incomes and induce vulnerability in the informal sector, as an integral part of public policies aimed at reducing poverty. This would be especially critical in urban areas, since about 29 percent of the urban population live in households whose heads are self-employed or own-account workers. These numbers do not even fully reflect the importance of the informal sector, as they exclude the large proportion of the population which is comprised of households whose heads are categorized here simply as “paid employees”, or who are likely to be employed in the non-agricultural informal sector.<sup>20</sup>

**Table 2.6: Incidence of Poverty by Employment Status of Household Head (1998-99)<sup>19</sup>**

Employment Status of Head	Urban		Rural		Overall	
	Head Count	% of Population	Head Count	% of Population	Head Count	% of Population
Not working	22.6	19.0	33.9	16.0	30.3	16.9
Employer	4.0	3.9	31.5	1.0	14.9	1.8
Own account worker	25.5	10.4	44.6	6.3	37.2	7.5
Self-employed	27.7	18.2	39.7	13.1	35.5	14.6
Paid employee	25.3	44.9	39.6	27.0	34.0	32.0
Owner cultivator	.	.	27.5	25.0	27.2	18.7
Sharecropper	.	.	40.7	10.3	39.9	7.7

### Land Ownership

2.61 The fact that in rural areas, the incidence of poverty is relatively low among households whose head is an owner-cultivator or employer also underscores the crucial link between land ownership and rural poverty, particularly when coupled with the fact that the highest poverty rates in rural areas are found among households headed by paid employees (comprised largely of agricultural wage workers) and sharecroppers.

2.62 As prefigured by the earlier discussion of variations in vulnerability between the Punjab and Sindh, the ownership of assets, particularly of land, can be a critical means of alleviating poverty and buffering economic shocks. Indeed, land ownership in most developing countries, including Pakistan, is one of the most important factors associated with the economic status of rural households.<sup>21</sup> This is starkly

Land Ownership (Hectares)	Urban		Rural		Overall	
	Head Count	% of Population	Head Count	% of Population	Head Count	% of Population
No land	24.6	91.1	40.3	61.4	34.6	69.6
>0 to 0.4	15.9	0.9	31.8	8.1	31.1	6.1
>0.4 to 1	21.1	2.0	35.4	10.3	34.4	8.0
>1 to 2	14.4	1.4	29.5	5.9	28.2	4.6
>2 to 4	9.8	1.8	22.4	7.0	21.3	5.5
>4	16.3	2.9	12.8	7.4	13.2	6.1

shown in Table 2.7. At 40 percent, the poverty head count ratio among rural households that do not own any land is much higher than the 32 percent of even those who belong to the lowest category of landowners. Tellingly, the ratio falls sharply as land ownership increases.

2.63 While the implications of skewed land ownership will be discussed in further detail in Chapter Four, two observations are worth briefly rehearsing here. On the one hand, persisting inequality in land ownership could help explain the recent stagnation in rural poverty and the volatility in rural expenditures and poverty observed in this chapter. As noted above, expenditure volatility is likely to be higher among landless households because they lack assets to sell or to use as collateral in the event of distress. Also, vulnerability can itself perpetuate inequality, if volatility in rural incomes leads to distress selling of land by poor farmers, leading to greater ownership concentration.

#### Poverty and Household Composition

2.64 As noted earlier, evidence indicates that households with young children and dependents are more likely to be vulnerable. Not surprisingly, the incidence of static poverty is also higher among households with higher dependency ratios, i.e. a higher number of dependents as compared to the number of earners in the household: 1.52 for the poor, compared to 1.04 for the non-poor.<sup>22</sup> Moreover, such differences are robust to adjustments for economies of scale in household consumption (for a reasonable range of the scale parameter – see Table A-2.10, Annex). Fertility data reveals that the difference in dependency ratio between poor and non-poor households is partly explained by the presence of more children in former households. The average number of births occurring to a married woman of age 15 to 49 belonging to a poor household is measured to be 4.9, compared to 3.9 for similarly aged women in non-poor households. The presence of a relatively large number of children may also reduce the ability of poor households to invest in the development of every child, with long-term negative consequences for their welfare.<sup>23</sup>

#### Expenditure Composition of the Poor

2.65 It is also instructive to note that one characteristic of poverty that tends to perpetuate it over time is the set of systematic differences that distinguish the expenditure patterns of poor and non-poor households. Table 2.8 shows that the poor in Pakistan allocate a relatively large share of their expenditures towards food, and especially in urban areas, towards fuel and lighting. At the same time, the poor spend less on goods and services that might constitute investment in physical or human capital, including medical care, education, housing and transport.

2.66 These expenditure patterns also give a rough idea of the vulnerability of the poor to income and price shocks, translated for instance through food and fuel prices. Though this is not mapped by the analysis based on the IFPRI panel, cross sectional evidence clearly show that the high share of food in consumption expenditure of the poor, especially in rural areas, underscores the impact that changes in the

former in particular can have on rural consumption and poverty. In urban areas, the large share of their expenditure that is allocated to fuel points up another vulnerability.<sup>24</sup>

**Table 2.8: Share of Selected Expenditure Categories in Household Consumption (1998-99)**

Important Expenditure Categories	Urban			Rural			Overall		
	Non-Poor	Poor	All	Non-Poor	Poor	All	Non-Poor	Poor	All
Food	40.89	48.06	42.18	50.17	53.81	51.17	47.12	52.51	48.49
Housing	18.40	13.08	17.39	8.72	7.29	8.28	11.76	8.42	10.86
Clothing & Footwear	6.46	7.96	6.73	8.16	9.35	8.49	7.60	9.05	7.98
Fuel & Lighting	6.61	8.14	6.89	7.23	7.71	7.36	7.02	7.77	7.21
Medical Care	3.67	2.98	3.54	4.67	3.97	4.46	4.35	3.76	4.19
Educational/ Professional	6.03	4.69	5.78	3.21	2.74	3.07	4.26	3.23	4.00
Transport & Travel	4.01	2.56	3.82	3.08	2.43	2.92	3.40	2.45	3.20

### Educational attainment

2.67 The incidence of poverty is highly correlated with the literacy, and education attainment of the head of the household (Table 2.9) - further also to the findings of the IFPRI panel data on the importance of post-secondary education for mitigating vulnerability. This has serious implications for long-term poverty reduction, since poor educational attainment tends to be passed on to children. 42 percent of the population living in households with illiterate heads is poor, compared to 21 percent of those in households with literate heads. Notably, the difference in poverty rates between households with literate heads and those with illiterate heads is greater for urban households than for rural households, consistent with the idea that literacy is likely to have higher returns in urban areas. The poverty rate also decreases progressively as the education of the head increases. While households whose heads have never been to school account for 52 percent of the population, 68 percent of the total number of poor of Pakistan live in these households.

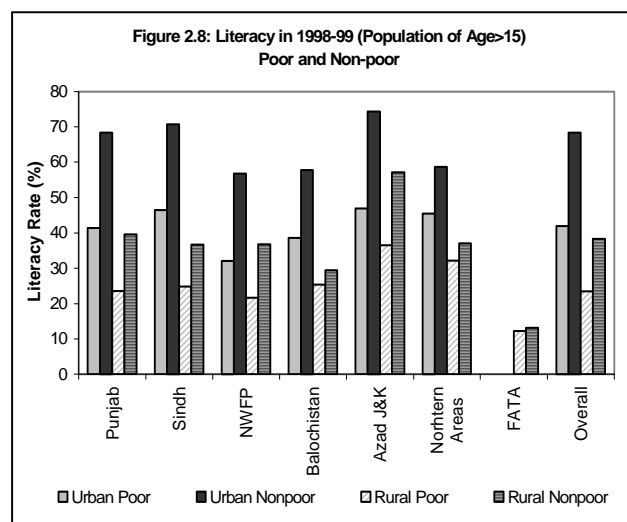
**Table 2.9: Incidence of Poverty by Education of Household Head (98-99)**

	Urban		Rural		Overall	
	Head Count	% of Population	Head Count	% of Population	Head Count	% of Population
Non-Literate	39.5	36.4	42.9	61.4	42.3	54.4
Literate	15.4	63.6	25.1	38.6	21.3	45.6
No Schooling	38.8	34.1	43.3	59.0	42.5	52.0
Cl. 1-5 (Primary)	26.8	17.4	30.7	18.4	29.6	18.1
Cl. 6-9 (Middle)	18.7	14.6	25.8	10.5	23.3	11.6
Cl. 10-11 (Matric)	13.0	16.5	20.0	7.5	16.8	10.0
Cl. 12 (Intermed.)	8.2	6.3	17.6	1.7	12.1	3.0
College and above	4.5	10.9	6.5	2.7	5.3	5.0

### Poverty and Human Development

2.68 Poverty in all countries is generally associated with low levels of human development, as evidenced by various indicators of health, education and access to services. These indicators express both to the multiple dimensions of poverty, and the concrete constraints that perpetuate it. By all evidence, Pakistan is no exception. Illiteracy, primary enrollment rates, basic health indicators and access to infrastructure are markedly lower for the poor. While the issue of human development will be addressed in detail in subsequent chapters, it will be relevant here to briefly describe how it correlates with consumption poverty.

2.69 It is not only the case that overall literacy rates in Pakistan are low in relation to countries with similar incomes per capita. In addition, the poor fare particularly badly compared to the rest of population (Figure 2.8). The overall literacy rate among the poor is 28 percent, well below the rate of 49 percent for the non-poor. An added important aspect of this is the extremely low level of literacy among poor rural women (9 percent), in comparison to 21 percent for the non-poor. This has wide-ranging adverse implications, given the importance of a mother's education for the educational attainment and health of children. Figure 2.8 shows that gaps in literacy rates between the poor and the non-poor persists across all provinces, but are slightly lower for rural areas than for urban areas.



2.70 Net primary enrollments also follow a similar pattern (Table 2.10). While net primary enrollment rate in Pakistan is 37 percent for the poor, it is 59 percent for the non-poor. This pattern persists across rural and urban regions of all provinces.<sup>25</sup> And again,

**Table 2.10: Net Primary Enrollments of Poor and Non-Poor**

	Urban			Rural			Overall		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Poor	48.4	50.7	49.6	41.7	25.0	33.4	43.0	30.2	36.6
Non-Poor	77.3	70.8	74.0	61.7	44.8	53.6	66.0	52.3	59.3

enrollment is particularly low among poor female children in rural areas – 25 percent compared to 45 percent for the non-poor. This highlights the enormous constraints the poor face in developing skills that might enable them to move out of poverty. While it is difficult to distinguish cause and effect in the relationships between low educational attainment and economic status, the evidence suggests that the poor are trapped in a cycle of low income and low human capital that perpetuates their deprivation.

2.71 A similar story can be told about health indicators. Numerous studies have ranked Pakistan quite low in terms of various health outcomes, even among comparable developing countries.<sup>26</sup> Both infant mortality (mortality at age 1 or less) and child mortality (at age 5 or less), at 83 and 116 per 1000 live births respectively, are high compared to other developing countries in the region. Furthermore, 41 percent of births are unattended by any trained or professional personnel, such as doctors, nurses or trained dais, which is associated with a high risk to the health of the mother and the child. An important aspect of all of these indicators is the large gap between rural and urban areas, suggesting much higher health risks for the former.

2.72 In regards to the vulnerabilities associated with poverty, which are further discussed in Chapter 3 of this report, it is also worthy of notice that the poor are found to be exposed to higher degrees of health risk, even in comparison to the rest of the country. They have less access to safe water, sanitation and drainage facilities compared to the rest of the population (Table 2.11). As much as 24 percent of the poor rely on potentially unsafe sources for drinking water, compared to 19 percent of the non-poor. Only 8

**Table 2.11: Access to Drinking Water and Sanitation for Poor and Non-Poor**

	Source of Drinking Water			Drainage System			Toilet	
	Piped	Outside Closed	Open Source	Under-ground	Open Drain	No Drain	In Home	Outside Home
Poor	18.7	57.3	24.0	7.8	29.8	52.4	40.9	59.1
Non-Poor	28.2	53.1	18.6	17.2	34.3	48.5	61.0	39.0

percent of the poor have no drainage facilities, compared to 19 percent of the non-poor. Only 8

percent of the poor have access to underground drains, compared to 17 percent for others; 59 percent of the poor live in households with no toilets, compared to 39 percent for the rest of the population. The numbers also show that access to safe water, drainage and sanitation is inadequate for the country as a whole and that the poor, as expected, fare even worse than the rest of the population. The general lack of amenities translates into health risks that result in considerable losses in terms of human capital and productive potential, and adversely impact the ability of future generations to better their situation.

2.73 Lack of access to infrastructure is indeed a general problem for the poor, with likely direct consequences for both their direct well-being and productivity. While access to electricity is inadequate for all sections of the population, especially in rural areas, only 52 percent of the poor have electricity connected to their household, compared to 76 percent of the non-poor (Table 2.12). Similar large gaps are also observed in regards to access to gas and phone facilities.

**Table 2.12: Connectivity to Electricity, Gas and Phone**

	% of Population Living in Households Connected to		
	Electricity	Gas	Phone
Poor	52.2	10.9	7.4
Non-Poor	76.0	22.9	22.2

### **Social Determinants of Poverty: Labor Markets and the Rule of Law**

2.74 Economic mobility and income dynamics are not driven solely by economic shocks, and vulnerability to risk is not merely a function of the economic attributes of a household or individual; they are also outcomes of social processes, shaped by the nexus of informal and formal legal and social institutions. The following section considers these social determinants of poverty, including issues related to labor markets highlighted in the previous section, as well as the broader impact of the rule of law. The latter is important firstly because it to a great extent frames and circumscribes other social dynamics, and second because while issues such as graft, government effectiveness and rule of law are commonly discussed in the context of growth and private sector development, they also directly impact the poor, especially due to the regressive nature of the costs they impose. While these problems are not as easily quantifiable as other concomitants of poverty, a rich and fairly compelling set of qualitative data provides considerable insight about their relevance to the dynamics of poverty in Pakistan.

#### *Economic Mobility and Social Grouping*

2.75 Individuals and households are part of wider social groupings that can be critical determinants of the opportunities and vulnerabilities to which an individual or a household is exposed. Quantitative data, especially relating to purely economic characteristics such as income, consumption or wealth are not very useful in understanding these social dynamics of poverty. Qualitative data, on the other hand, can be very instructive in this regard.

2.76 Categories such as ethnicity, caste, and kinship provide useful frames of reference for discussing the kind of social groupings that might be relevant to an understanding of poverty dynamics. There are at least three ways in which these characteristics – abbreviated for convenience as "social grouping" – might matter. Firstly, if a social grouping is hierarchical, one might expect discrimination against particular subordinated groups on the part of the state machinery, as well as market structures. Secondly, even if there is no current discrimination on the basis of social grouping, a history of past discrimination might have inscribed a correlation between social affiliation and economic opportunity. Thirdly, even horizontal social groupings may influence collective action; if such groupings are stable and strong, and act as natural loci of solidarity, they might facilitate certain types of social and economic transactions, and impede other types, influencing the distribution and quality of public goods, including those that mitigate poverty.

## *Social Norms, Groups and Labour Market Distortions*

2.77 As noted in the previous section, employment diversification, certain kinds of informal employment - and the labor market distortions they signal - are both associated and indeed correlated with vulnerability and poverty. This would lead one to ask: how might social norms and social organization affect the functioning of markets in general and labor markets in particular, and what might be the implications for poverty? There are a number of possibilities: There might be overt or hidden discrimination against certain groups, based on group-based prejudice (gender, racial or caste stereotyping, for example), and there might be official sanction for such discrimination in some cases. Or it might simply reflect widespread social prejudice. All these phenomena are evidenced in Pakistan, as in other societies. And as this section details, there is strong survey evidence that social groupings such as caste, kinship groups and *biradris* affect the functioning of its labor markets. Policy options to remedy such problems can include some combination of legal reform, cultural change, and positive discrimination in public sector employment. Notably however, the viability of such reforms would to some extent be conditioned on the broader efficacy of the rule of law.

2.78 The economics of discrimination might be understood in two ways. Firstly, if it is costly to obtain information about the characteristics of an individual worker, more easily observable group characteristics, or prejudices, might be used by employers to rank and screen employees. There might be any number of feedback mechanisms that actually encourage individuals belonging to a particular group to conform to their perceived group characteristics, or prejudices about these group characteristics. Secondly, employers might prefer to hire workers with some level of social collateral – i.e. those over whom they might be exercise some potential leverage through common social networks. The notion of social collateral - which is more commonly used with reference to credit markets - is applicable also to labor markets if employers face high monitoring costs. Notably, both these propositions - social grouping as screening signal, and social grouping as source of social collateral - relate to situations where employers value information on potential employees - i.e. where skill, effort, and trustworthiness are important.

2.79 To evaluate these explanations, a World Bank qualitative survey was undertaken in six districts in Pakistan with the aim of addressing social grouping and labor market clustering. It found that employment opportunities appeared to be closely correlated with caste, kinship or prior social grouping. This held true across a range of sectors and jobs. Notably, the active decisions leading to a clustering of economic activity around specific social groupings primarily concerned the inclusion of particular groups rather than the exclusion of others – supporting the importance of social “collateral” rather than the “screening” hypothesis noted above.

2.80 In almost every case, the use of *sifarish*, or personal recommendation and guarantees, was a significant factor in the history of job clustering. Social collateral was found to be important from the employers' point of view even in relatively low-skill, casual jobs. This revealed the weakness of the overall institutional environment vis-à-vis the prior strength and robustness of social groupings, confirmed by the fact that *sifarish* appeared to work also largely through close caste and kinship networks. The group, therefore, was clearly significant as a determinant of economic opportunity and mobility, and therefore also an important feature of poverty traps. Box 2.4 illustrates this vividly.

2.81 These findings have two types of policy implications. First, it is clear that in some cases there is scope for legal action and possibly even positive discrimination in the favor of some historically marginalized groups. Second, however it is also apparent that the labor market distortion associated with social group clustering is related to the weakness of other institutions, particularly in the realm of the rule of law and contract enforcement.

#### Box 2.4: Dogar truckers and Christian brick-kiln workers in Faisalabad

In a survey village in Faisalabad, there had been substantial diversification from agricultural livelihoods, but along lines clearly distinguishable by social grouping, which had in turn locked members of these groups into different bounds of economic opportunity.

Quite recently, a number of families belonging to the Dogar – historically one of the main local cultivating castes - had entered the transport business. The first truck worker was a Dogar man with a small holding of land, who used to drive a horse-cart to the local market town. There he had made acquaintances with other transporters and eventually acquired a job working on a truck as a *klendar* in the early 1970s. He had then gone on to acquire a share in a truck, and finally ended up with a fleet of vehicles. Since then, the Dogar have acquiring over 60 trucks among them. A number of local men, most of whom were also Dogar, work on these trucks as drivers and *klendar* – a cleaner or driver's mate. Collectively, the Dogar now run a sophisticated transport operation from Faisalabad to Karachi.

A far less advantageous part of the economic spectrum was occupied by over 20 low caste Christian families, who had until recently worked as farm servants, but whose main occupation had increasingly become working at a brick- kiln in a neighboring village. The first person from the village to work in a kiln was a Christian man. He began in mid-1980s, and was then followed by a number of other Christian low caste men. At the time of the survey there was at least one person from practically every Christian family working at a kiln, most of them as indebted piece rate workers.

*Source:* Gazdar (2002). "A Qualitative Survey of Poverty in Rural Pakistan: Methodology, Data, and Main Findings"

#### *Poverty and the Rule of Law*

2.82 As indicated in the earlier discussion about labor market distortions in Pakistan, problems such as discrimination are in many instances proscribed by the broader problem of weak rule of law – a fact that must also be addressed by any reforms that would mitigate such distortions. But weak rule of law is also in and of itself a determinant of poverty. While issues such as graft, government effectiveness and legal effectiveness are commonly discussed in the context of growth and private sector development, they also directly impact the poor, and especially due to the regressive nature of the costs they impose. In light of this, it is particularly notable that though relatively poor countries such as Pakistan rarely score high in third-party evaluations of each these issues, on a scale ranging from –2.5 to 2.5 Pakistan ranks nearly one half a point lower than would be expected, given its income per capita.<sup>27</sup>

2.83 Violations of the law affecting the poor are commonly but not systematically reported in Pakistan. They could be classified by three categories; lack of access to essential services and institutions, expropriation of assets, and vulnerability to coercion/lack of protection of rights. The first arises from the fact that the poor, like all Pakistanis, must pay for goods, services or bureaucratic approvals that are meant to be provided for free, if they are provided at all. In either case, the effect is regressive and affects the poor hardest. Such problems are particularly prevalent in the education system: schools often require documents such as birth certificates, evidence of legal residential status, or national identity cards. The first for instance, are needed to enroll in primary school, or to take its matriculation exam. Yet many poor families have no such documents, and for many, particularly urban squatters, some are simply impossible to obtain.

2.84 These are also cases whereby government officials expropriate the already meager assets of the poor; a fact rarely noted in poverty assessments, but which is at least as important as the other violations to which the poor are vulnerable. An extreme, but not uncommon example is the often-reported phenomenon of false arrests, in which bribes are demanded as a condition for a release from custody. State-officials also often demand bribes in return for providing documents, or to provide licensing allowing the conduct of economic activities. In each of these cases, the poor are by definition least able to cope with the added costs.

2.85 A third category of problem is the extent to which the poor are vulnerable to coercion in the labor market. The prototypical and extreme case is that of bonded laborers in the brick industry. Rural Sindh is frequently reported to have a large number of private jails housing rural workers – as many as 4,500.

Some argue that these jails are simply used by landlords to extract below-market wages from workers. Others argue that landlords use these jails to enforce repayment of loans that they have made to workers. In either case however, there is an obvious rule of law problem.<sup>28</sup>

2.86 There are potentially many other similar issues. For example, coercion, as well as information and transportation costs, may obstruct the entry of competitive credit providers or middlemen into rural areas. Accordingly incumbents either use force to restrict competitors, or employ force as a critical element of contractual relations, such as the case of informal credit provision in Karachi. Notably, landlord influence is sufficiently great in parts of rural Pakistan that they can avoid arrest, allowing them to exert extra-legal pressure on workers and tenants to compel them into accepting unfavorable contracts. Again, in each of the above case of legal violations, their effects are likely to most severely impact the poor.

### *Rent seeking and the rule of law*

2.87 The classical account of rule of law problems treats it primarily as one of arbitrary rent-seeking, and rent-creating, behavior on the part of state officials. Accordingly, a decline in the rule of law leads to a redistribution of resources from private citizens to state officials. This of understanding focuses on share of rent in individual citizen-official transactions. However, it is possible also to examine the problem of the rule of law at another level, namely the way in which its persistent failure might be associated with high costs of dispute resolution, which also lead to the legitimization of informal mechanisms of enforcement and arbitration. Accordingly, “bad equilibria” can be formed in which the failure of the law legitimizes informal arbitration, and the preponderance of informal arbitration makes it more difficult to establish the authority of the rule of law. Although some might welcome the existence of informal arbitration as evidence of a private response to state failure, the poverty implications of such situations cannot be ignored; informal arbitration is likely to reinforce rather than weaken existing social and political inequalities, and act as a poverty trap. Boxes 2.5a and 2.5b provide examples of this.

#### **Box 2.5a: How Informal Mediation Reproduces Inequalities (I)**

Sakeena Shaikh from the village of Nawabshah, was kidnapped and shot dead. There were contrasting views over the facts of the case put forward by the woman's family and their supporters, and by the supporters of the alleged murderer, Jan Mohammed Baloch. Sakeena's family were poor landless tenants and Jan Mohammed was connected to their landlord. A case was filed with the police against Jan Mohammad and number of his named accomplices. In parallel, a process of arbitration and negotiation ensued between the deceased woman's family and the family of the alleged killer, presided over by an influential landlord and politician from the area, one Sardar Fateh Khan. Their kinsman and village head Saleem Shaikh represented Sakeena's family. The arbitration proceeded on the premise that Jan Mohammad had a case to answer. His liability for the killing was fixed at 300,000 rupees, plus another 100,000 for the aggrieved party's costs. Jan Mohammad's family appealed to Fateh Khan to reduce the penalty on the grounds that they were very poor. Fateh Khan had spoken to Salim Shaikh about this matter and they had agreed to waive the 100,000 rupees. Some local residents were of the view that Salim had sold Sakeena's family short, while others held that under the circumstances he had got them a good deal, because Jan Mohammad Baloch's kinsmen were thought to be close allies of Fateh Khan. Clearly however, the case had legitimized and reinforced the lines of power and authority in the area. Salim's position within the community had been enhanced, and he had formed an affiliation with Sardar Fateh Khan, supporting him in recent elections on the condition that the case be expedited.

*Source:* Gazdar (2002). "A Qualitative Survey of Poverty in Rural Pakistan: Methodology, Data, and Main Findings"

### Box 2.5b: How Informal Mediation Reproduces Inequalities (II)

Wali Mohammad was from the Kammi caste of Kumhar (potter) around Hafizabad. His village was dominated economically and politically by cultivator caste Bhatti landlords, while the Kammi groups occupied its lowest social and economic positions. Modern technology and changing tastes had reduced the demand for the traditional services provided by the Kumhars. Wali Mohammad's family, however, owned some donkeys and in the 1980s they like many other Kumhars began to offer haulage services to local farmers. Though uneducated, Wali Mohammad was entrepreneurial and expanded the haulage work.

After a few years, Wali developed a connection with a trader named Hafiz who encouraged him to also start financial intermediation with the farmers. Wali started maintaining accounts between them and Hafiz. Over eight years Wali and his brothers expanded their capital base; they bought more animals, and acquired residential land. Then one year Hafiz reneged on a payment on the pretext that someone acting on Wali's behalf had already collected that payment from him. The farmers trusted Wali and went with to see Hafiz who first refused to honor the credit, and then, when pressed, agreed to take the matter to informal arbitration – known as *deraydari*.

The case was taken to the *dera* of Javed, a well respected trader but also Kumhar by caste like Wali. Javed decided in Wali's favor and fixed Hafiz's liability at 120,000 rupees. Hafiz got upset and refused to accept the verdict, saying that he would not allow a Kammi like Javed to be his arbitrator. There was an impasse and Wali considered taking the matter to the police. They however told him to try and settle the matter again through informal channels. Wali again went to see Hafiz to negotiate. He return home after three days, extremely sick, and died soon afterwards. According to Wali's family and their Bhatti patrons, Hafiz had poisoned Wali. No police case was registered however. Notably, Hafiz was well connected with one of the main political factions of the area, from whom he received support and protection.

There was consensus in the village that Wali and his family had suffered great injustice. However, the Bhatti farmers were primarily interested in recovering their own money. They continued to pursue the case in various forums - but not the courts - and then purely as a matter of financial impropriety. Wali's family had lost their business and almost all of their assets, and was now once again working as casual laborers. Hafiz, despite the seriousness of the charge against him, continued his trading; his reputation did not appear to have suffered irrecoverable loss.

*Source:* Gazdar (2002). "A Qualitative Survey of Poverty in Rural Pakistan: Methodology, Data, and Main Findings"

2.88 All these categories of problems are of course interlinked. The poor are vulnerable to coercion in part because protection from official authorities are among the public services they are poor are often deprived of. In this regard, it is instructive to note that one close observer of policing found survey evidence detailing the prevalence of “burking”: the non-registration of cases, in order to show lower incidence of crime. This practice may be prevalent in as many as 40 percent of criminal offences in Pakistan.

2.89 As the discussion of political economy in the next chapter makes clear, common to all of these violations is the fact that serious political obstacles make it difficult for the poor to seek remedy. Relative to non-poor households, the poor are likely to have less recourse to government officials. Reports of false arrests, for example, are rarely associated with higher income individuals and almost uniformly with low-income people. In sum, there is considerable, albeit non-systematic evidence that the state, rather than mitigating the vulnerability of the poor to economic shocks, is itself the source of substantial shocks.

2.90 Accordingly, one objective of the World Bank field survey currently being conducted, as well as that of ongoing focus group interviews, is the collection of more systematic information on these vulnerabilities. The evidence from this work will enable further quantification of the gravity of the problem and facilitate the formulation of solutions. Notably, although reform of the police is far beyond the purview of this poverty assessment, there are more modest steps that could be recommended, including the removal of costly administrative hurdles, tightened administrative oversight of service delivery to the poor, and establishing ombudsmen or other parallel offices to whom the poor can turn for protection.

## Conclusion

2.91 As detailed in this chapter, the aggregate incidence of poverty in Pakistan at the end of the 1990's stood at 33 percent of the population – a figure that had hardly improved since the beginning of the decade. In addition, there is evidence that the depth and severity of poverty also persisted, along with sharp differences across the country's provinces, and its rural and urban areas. Indeed, indications are that the gap between countryside and city has only widened over the decade, reflecting a pattern of stagnant and uneven development. Notably, this pattern seems not to be too sensitive to the choice of poverty line that is applied to Pakistan, an important point given that there is not yet a consensus on such a measurement standard.

2.92 Building on this, the chapter attempts to collate evidence correlating and linking vulnerability and poverty in Pakistan to certain household attributes that both constitute and determine poverty, indicating the constraints that impede the ability of poor households to improve their economic status. As detailed above, these include household asset ownership; expenditure patterns reflecting inability to spend in ways that improve human capital, for example education and health; and employment patterns. Poverty is also associated with low literacy; perhaps even more importantly, the gap between the poor and the non-poor is equally large in case of primary enrollment rates, suggesting the enormous obstacles future generations face in improving their economic status. Health indicators for the country reflect the high degree of health risks that the population is exposed to, especially in rural areas. This is more marked for its poorer groups, on account of their limited access to infrastructure like safe water, sanitation, and health facilities.

2.93 Regional differences in levels of vulnerability as well as differences in coping strategies among households within regions, point to the importance of forward-looking and pro-active policies that focus on poverty prevention, at least partially through reducing exposure to income risks and less reliance on static poverty measures for targeting poverty reduction programs. In particular, it appears that programs that increase income diversification, particularly through the development of non-farm enterprises, and increase opportunities for wage labor, are likely to be quite important as is the rational and efficient use of available assets like land and irrigation water.

2.94 In this context, the high degree of inequality in land ownership is worth noting. As Chapter 4 will explore in some detail, lack of land ownership adversely affects access to credit and incentives to carry out productive investment, and a combination of these factors are likely to constrain productivity and incomes. Evidence in this chapter also point up the importance of diversifying incomes in agricultural areas, and also that distortions in labor markets may impede such strategies. In light of the broader societal considerations that often circumscribe both access to land and labor – e.g. the role that social groupings play in delineating economic opportunities - the chapter also devoted some discussion to the importance of social determinants of poverty, including the role of the rule of law.

2.95 Such findings reaffirm the need for greater promotion of comprehensive poverty reduction strategies in Pakistan. These should seek to improve access to education and healthcare for the poor, and critical disadvantaged groups such as women. Other policy implications owing to observations about disadvantageous land tenures, and vulnerability to corruption and abuses of power in both the public and private sector - are somewhat less apparent. As noted earlier they are also potentially fraught with controversy since they touch on questions of political economy. Yet this does not make these underlying issues any less pressing. And even within the limited purview of this poverty assessment, suggestions have been made about the kind of administrative reforms that may mitigate their impact.

2.96 The simple correlations presented here are not sufficient to establish causal relationships between poverty and vulnerability on the one hand, and the various factors associated with poverty on the other. Such causal relationships are however difficult to establish and doing so is arguably less important than

understanding how these various factors collectively determine cycles of poverty and vulnerability. The next chapter will consider in greater detail, two important elements in this cycle, namely education and health. It will examine the trends in these two vital dimensions of human development revealed by household data, along with further discussing the factors - including economic status - that help explain their relationship to the poverty outcomes observed in Pakistan.

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<sup>1</sup> The regional workshop on poverty analysis and monitoring held in March, 2002 at Islamabad made substantial progress in the direction of arriving at a consensus on the choice of poverty line.

<sup>2</sup> See Annex 2.1 for information on the household surveys used for the analysis

<sup>3</sup> Since the definition of the household members in the two surveys is exactly the same, the main reason for the differences seem to lie in the field collection techniques. One factor seems to be that while HIES data were collected by single male enumerators, interviewing mainly male household members, for PIHS there were both male and female enumerators. Whereas the PIHS data on household structure and size are very similar to the findings of the 1998 Census, the HIES data of previous years appear to be out of trend, indicating that the increase in household sizes in 1998-99 was a result of improved collection techniques.

<sup>4</sup> See Chapter 4 for a more detailed discussion on this issue.

<sup>5</sup> The poverty estimates for Balochistan in 1998-99 are curiously out of trend from what is observed during the other survey years, and also contradicts what is generally known about the province vis-à-vis other provinces. The likely problems with the Balochistan data for this year will be discussed later.

<sup>6</sup> See Annex 2.2 for detailed discussion on the methodology of constructing expenditures and poverty lines

<sup>7</sup> To ensure comparability, the expenditure aggregates for households were constructed using the same methodology used in previous poverty work by the World Bank for Pakistan. See Annex 2.2 for details on how the consumption expenditure aggregate was constructed.

<sup>8</sup> Per adult equivalent is calculated by simply weighting all household members younger than 18 as 0.8, and all other household members as 1

<sup>9</sup> See Lanjouw and Ravallion (1995), for a detailed analysis, using household data from Pakistan, of how adjustments for economies of scale crucially affect relationship between poverty and household size.

<sup>10</sup> Using this method, the poverty lines for urban and rural regions in 1998-99, are Rs. 767 and Rs. 680 respectively, in per equivalent adult terms.

<sup>11</sup> As defined in Gazdar et al (1994)

<sup>12</sup> With “100 percent” denoting the poverty lines used in the report’s calculations so far.

<sup>13</sup> The so-called growth component of poverty change measures how much of the change in poverty measures is due to the variation in mean expenditure (in per equivalent adult terms) over time, holding the distribution constant. On the other hand, the so-called redistribution component assesses how much of the variation in poverty measures is due to a change in the distribution of expenditure, holding the mean expenditure constant (see Appendix for methodology; also see Ravallion and Datt (1992).

<sup>14</sup> For example, from 1993-94 to 1996-97, the growth effect by increasing poverty, almost cancelled out the redistribution effect that reduced poverty. From 1996-97 to 1998-99, however the negative impact of the redistribution effect swamped the poverty-reducing effect of growth.

<sup>15</sup> Consider a time horizon (T) of three periods and let the initial period be t. The probability that a household’s expenditure level will fall below the poverty line at least once within the following three periods is given by:  $V_{it}$  (T, Poverty line) = P(At least one period of poverty). A household i is then classified as vulnerable at time t if the vulnerability measure,  $V_{it}$ , exceeds some threshold value  $V_0$  (which, for the analysis here, is taken as 0.5).  $V_{it}$  is obtained by conditioning future probabilities of poverty on outcomes in previous periods (see Annex 2.6 for details on how the measure was constructed)

<sup>16</sup> The analysis is based on the IFPRI rural panel study, comprising of a sample of just over 800 households in 4 districts, over a 5 year period between 1986 and 1991.

<sup>17</sup> See Annex 2.6 for details on the methodology of measuring vulnerability, and more detailed results.

<sup>18</sup> The definition follows Jalan and Ravallion (1998).

<sup>19</sup> For the categories of owner-cultivator and sharecropper, share of population in urban areas are too low to be considered separately (2.6% and 0.9% respectively).

<sup>20</sup> It should be noted that some of the employment categories as defined here are too heterogeneous, e.g. the category “paid employee”, which includes a diverse array of occupations, from wage labor to professionals. Further refinement of these categories by information on occupation would be needed for more rigorous analysis.

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<sup>21</sup> The relationship between poverty and land ownership is obviously more meaningful for the rural sector, since in urban areas only about 9 percent of people belong to households owning any agricultural land at all (Table 2.9)

<sup>22</sup> Dependency ratio is measured by the ratio of number of household members of age 14 and less or of age 65 or more, to the number of members of age 15 to 64.

<sup>23</sup> In this context, it is also useful to note that higher poverty rates tends to be associated with larger household sizes, although this is at least partly a result of household expenditures not being adjusted for economies of scale in consumption. With such adjustment, the difference in average household size between the poor and the non-poor becomes smaller. That said, for reasonable values of the scale parameter, the average poor household is still marginally larger than the non-poor household (see Table A-2.10, Annex).

<sup>24</sup> Price increases of food and fuel, given the stringent budget constraints of the poor, may lead to reduced consumption resulting in greater poverty. But even before that happens, given that the demand for essential goods like food and fuel are likely to be relatively inelastic, increase in their prices may lead to even lower expenditures on health and education, with long-term consequences for poverty and vulnerability.

<sup>25</sup> See Figure A-2.3, Annex

<sup>26</sup> See Chapter 1 of this report

<sup>27</sup> See Table 5, Easterly (2001), Background Paper for the Pakistan Poverty Assessment 2001

<sup>28</sup> Notably, the policy response that is called for is distinct: in the first case, the optimal response would be for government to demolish the jails; in the second case, the optimal response is to provide lower cost contract enforcement services in rural areas.