

II. POVERTY PROFILE

Poverty characteristics in Pakistan include high levels of income and asset poverty, economic and social vulnerability, gender disparity, and low levels of human capital development.

The declining trend in poverty in Pakistan during the 1970s and 1980s was reversed in the 1990s. Most of this increase in poverty in Pakistan has taken place after Fiscal Year (FY) 1997, coinciding with the onset of a period of slow growth in the country. Poverty has consequently emerged as the central challenge of development for the Government of Pakistan. Recognizing this, the Government has prepared an Interim Poverty Reduction Strategy Paper (IPRSP) which lays down the framework for a poverty reduction strategy that ensures pro-poor growth through macroeconomic reforms, improved access to social services, governance reforms and targeted interventions.

Poverty is multidimensional, and is characterized as much by lack of

income and non-fulfillment of basic needs as by lack of access to social infrastructure and vulnerability. Although a great deal of research has estimated income or expenditure based poverty lines, there has been little systematic research on who the poor are and how they relate to private sector markets and public agencies at different levels. Perhaps most importantly, there is little understanding of how the poor perceive and react to barriers to moving out of poverty, or the circumstances determining their entry into poverty.

This chapter highlights principal findings from research on the incidence of poverty, patterns and trends of poverty in the country, and profiles key characteristics of the poor and the vulnerable in Pakistan.

A. THE INCIDENCE OF POVERTY

The most commonly used standard for the measurement of income or consumption related poverty, involves calculating a poverty line (based on some minimum acceptable level of consumption) and estimating the proportion of population below that line. While Pakistan's Planning Commission has only very recently recommended an official poverty line¹, historically there has never been a uniform methodology for estimating poverty and that has been the cause of considerable uncertainty with regard to the incidence of poverty in the country. Most studies on poverty in Pakistan are based on the Household Income and Expenditure Survey (HIES) data set. The HIES has been conducted by the Federal Bureau of Statistics (FBS) intermittently since FY1964, and with greater frequency in the 1990s.² The quality of data from the HIES is considered to be reasonably good, but because of methodological differences, each study generally

1. The Planning Commission has decided that the official poverty line for Pakistan will be estimated on 2350 calories per adult equivalent per day. This is based on an adult equivalent intake of 2150 calories in the urban areas and 2450 calories in the rural areas. The poverty line for Pakistan for FY1999 on this basis has been defined at Rs. 670 per capita per month.
2. In 1991, FBS started the Pakistan Integrated Household Survey (PIHS) incorporating a broader range of variables including education, health, fertility and family planning, and water supply and sanitation. From FY1999 the PIHS and the HIES surveys have been combined.

gives different estimates of the incidence of poverty.³ Nevertheless, while there is no consensus on the precise level of poverty in the country at any given time, there is general agreement with regard to the trends in poverty since the 1960s.

The last four decades can be grouped into two broad periods with respect to poverty trends. The first period is from FY1964 to FY1988, while the second covers the years from FY1988 to FY1999 (the last year for which data is available). During the first period, poverty declined in the urban areas until FY1970, but increased in the rural areas leading to an increase in overall poverty in the country. Subsequently, between FY1970 and FY1988, poverty declined in both rural and urban areas. A number of factors, including the green revolution, increase in employment due to a boom in the housing and construction sectors, as well as rapid

expansion of the public sector, and the inflow of workers' remittances from the Middle East contributed to poverty reduction during this period.

During the second period, data from various studies indicates that the incidence of poverty increased from 22 - 26 percent in FY1991 to 32 - 35 percent in FY1999 as shown in Table 2.1.⁴ As mentioned earlier, most of the increase in poverty in this period seems to have taken place between FY1997 and FY1999, a period of slow growth and macroeconomic instability in Pakistan. Since FY1999, growth has slowed even further, the fiscal squeeze has intensified, development spending has declined, and the country has experienced a severe drought. It is highly likely, therefore, that the incidence of poverty in Pakistan now is higher than in FY1999.

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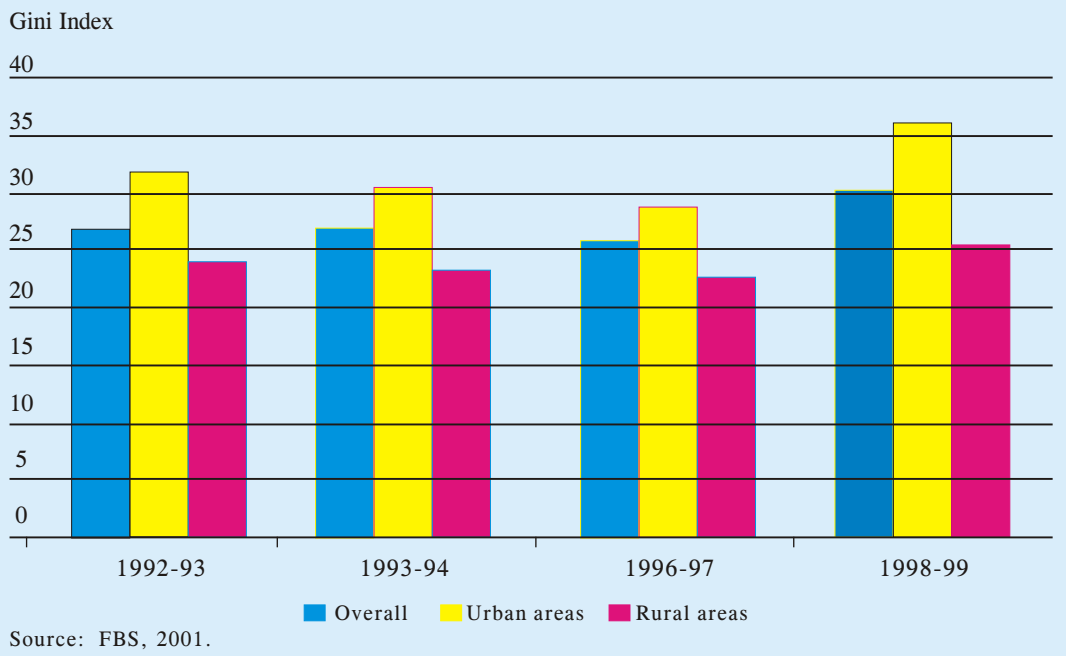
Table 2.1 Poverty Trends in Pakistan in the 1990s

Year	% below poverty line				
	Amjad and Kemal	Ali and Tahir	Jafri	FBS	Arif et al
FY91	22.1	23.0	26.1	-	-
FY93	22.4	28.1	26.8	26.6	27.2
FY94	-	27.9	28.7	29.3	27.4
FY97	-	-	-	26.3	29.6
FY99	-	-	-	32.2	35.2

Source: Amjad and Kemal (1997) Ali and Tahir (1999) Jafri (1999) Arif et.al (2000) FBS (2001)

3. The HIES data for FY1991 was based on a very small sample size, and may not provide a good comparison with data for subsequent years.
4. All of the studies reported in Table 2.1 are predicated on a minimum caloric intake based definition of the poverty line. To this end, the expenditure needed to meet the cost of the food bundle that would ensure the minimum caloric intake level is calculated; but to which is also added the average estimated non-food expenditure of households whose caloric intake is exactly at the defined minimum level. Food and non-food expenditures are then added up to arrive at the poverty line. The FBS study uses a variant to this methodology and regresses per equivalent adult total consumption expenditure against the estimated daily per-capita caloric intake to come up with the poverty line with the assumption that households that consume the minimum caloric requirement also meet their necessary non-food consumption needs. In practice, however, both methodologies measure poverty on the same definition. Most studies in the table (Amjad and Kemal; Ali and Tahir; FBS, and Arif et. al) define the minimum caloric intake level per adult equivalent at 2550 calories. Jafri's study, however, assumes this level at 2354 calories. The observed differences in poverty estimates even among the various studies that use the same minimum caloric level to define the poverty line are attributable to estimation variations.

Figure 2.1 Income Distribution in Pakistan in the 1990s

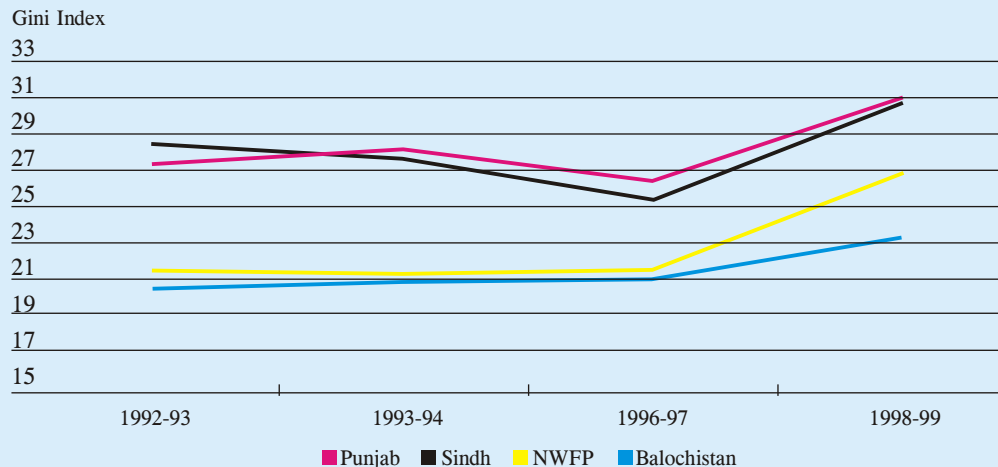


Inequality increased after FY1997, in both urban and rural areas.

Information on income distribution, often regarded as an indicator of relative deprivation, suggests that inequality increased after FY1997, in both urban and rural areas, with income distribution in urban areas being consistently more unequal than rural areas (Figure 2.1). Inequality also increased in all four provinces (Figure 2.2), except for a transitory decline in Punjab and Sindh between FY1994 and FY1997, with FY1999 being clearly the most unequal year

in all provinces. In FY1997, the income share of the bottom 20 percent of households had declined to 6.9 percent, from 7.9 percent in FY1987, and the income share of the bottom 40 percent of households declined from 20 percent to 18 percent. During the same period, the ratio of the share of the top quintile to that of the bottom quintile also increased to 6.5 from 5.2 for all areas.

Figure 2.2 Income Distribution Trends by Province



B. SPATIAL DIMENSIONS OF POVERTY

Poverty in Pakistan has historically been higher in rural areas than in urban areas. In terms of the number of poor, about 35 million out of the total of 47 million people estimated to fall below the poverty line, live in rural areas. Poverty rose more sharply in the rural areas in the 1990s, and as a result the difference in the incidence of poverty between the urban and the rural areas increased from about 5 percentage points in FY1991 to 8 -14 percentage points in FY1999 (Table 2.2).⁵ In the presence of robust agricultural growth in the 1990's (section 1), this increase in the poverty differential between the rural and urban areas could be attributed to a possible disproportionate impact of the economic slowdown in the rural areas caused by low economic growth, decline in public sector

development spending and lower worker remittances in this period.

1. Rural Poverty Links with Agricultural Growth

The disparity in incidence of poverty in urban and rural areas, and the higher rate of increase of poverty in the rural areas has prompted debate on growth and productivity trends in the agriculture sector. Although growth in agriculture averaged over 4 percent per year from FY1993 to FY1999, the incidence of poverty in rural areas is estimated to have increased by over 7 percentage points in this period. Thus growth in the primary sector on which rural livelihoods are based did not actually translate into a sustained increase in average rural incomes.

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One possible reason for this anomalous

Table 2.2 Poverty Trends in Rural and Urban Areas

Year	% below poverty line				
	Amjad and Kemal	Ali and Tahir	Jafri	FBS	Arif Nazli and Haq
Rural Areas					
FY91	23.6	24.5	25.2	-	-
FY93	23.4	30.5	24.6	28.9	29.4
FY94	-	31.2	25.4	34.7	29.9
FY97	-	-	-	30.7	31.6
FY99	-	-	-	36.3	39.8
Urban Areas					
FY91	18.6	19.8	26.6	-	-
FY93	15.5	22.9	28.3	20.7	23.1
FY94	-	20.9	26.9	16.3	23.1
FY97	-	-	-	16.1	27.4
FY99	-	-	-	22.4	31.7

Source: Amjad and Kemal (1997), Ali and Tahir (1999), Jafri (1999), Arif et.al (2001), FBS (2001)

5. The difference between the two studies {Federal Bureau of Statistics (2001). *Pakistan Integrated Household Survey-Poverty in the 1990s*, Second draft. Islamabad. and Arif, G.M., Hina Nazli and Rashida Haq (2000). *Rural Non-agriculture Employment and Poverty in Pakistan*, PDR, Islamabad.} In the estimated level of urban poverty in FY1993 is not very large, but the implied trends are very different.

Incidence of poverty increased in all provinces during the 1990s.

finding is that although annual average growth in agriculture was relatively high in the period under discussion, the standard deviation of agricultural growth rates was also high at 5.3, relative to a mean of 4.7.⁶ The volatility in the agriculture sector is likely to have caused considerable fluctuation in consumption in rural areas, as well as depletion of assets of the rural poor. The persistence of poverty in rural areas in spite of periods of robust growth is also closely linked to the pattern of distribution of assets, particularly land (see section on Vulnerability below and Chapter III for a discussion on impacts of inequality in land tenure).

2. Regional Differences in Poverty

At the province level, the incidence of poverty increased in all provinces during the 1990s (Table 2.3).⁷ Inter-provincial comparisons indicate that, in FY1999, urban Sindh had the lowest level of poverty (16 percent), but differences between urban areas of other provinces (24 to 29 percent) were not statistically significant. In the rural areas, North West Frontier Province (NWFP) had the highest incidence of poverty (45 percent), while the difference between Punjab and Sindh was not statistically significant.⁸ In addition, intra-provincial data available for Punjab

Table 2.3 Poverty Trends by Province

Province	FY93	FY94	FY97	FY99
Urban Areas	20.7	16.3	16.1	22.4
Punjab	22.0	18.1	16.9	25.5
Sindh	17.3	11.8	12.0	16.1
NWFP	25.3	26.9	27.2	29.2
Balochistan	31.8	16.8	23.0	24.3
Rural Areas	28.9	34.7	30.7	36.3
Punjab	26.5	33.9	28.3	36.0
Sindh	29.5	31.8	19.6	34.7
NWFP	37.0	40.0	43.4	44.9
Balochistan	28.1	37.9	42.5	22.5
Overall	26.6	29.3	26.3	32.2
Punjab	25.2	29.5	25.0	33.0
Sindh	24.1	22.6	15.7	26.6
NWFP	35.5	38.1	41.2	42.6
Balochistan	28.6	35.5	38.4	22.8

Source: FBS, 2001.

- 6 Agricultural production was particularly adversely affected in FY1993, a year characterized by the incidence of widespread devastating floods; and FY1997, characterized by widespread pest attacks on the cotton crop.
- 7 The poverty estimates for certain years (for example, urban Balochistan FY1993, rural Sindh FY1997, and rural Balochistan FY1999 among the provinces, and rural Northern Punjab FY1993 and urban Central Punjab FY1997 among the regions) are ignored in the discussion because they seem to be obviously affected by sample selection.
- 8 Social Policy Development Center (2001) [*Social Development in Pakistan Towards Poverty Reduction. Annual Review, 2000.* Oxford University Press] estimated 53 percent poverty in rural Sindh in FY1997, compared to 24 percent and 29 percent in NWFP and Punjab respectively, using a poverty line for Sindh which was 45 percent and 16 percent higher than those used for NWFP and Punjab respectively.

(Box 2.2) indicates significant variations in poverty levels among the various regions of the province.

C. GENDER DIMENSIONS OF POVERTY

The gender discriminatory practices prevalent in Pakistani society shape men's

and women's choices and life opportunities differently. Prevalent gender role ideologies in Pakistan define women's roles primarily within the arena of the home as mothers and wives, and men's as bread-earners. The dichotomy between these roles has material implications for women as the family and the society invests far less in women than men, due to their perception of

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Box 2.1 Regional Pattern of Poverty in Punjab

There is considerable diversity in the level of poverty in the rural and urban areas within provinces as well, but only the sample for Punjab is large enough to generate poverty estimates for regions within the province. Punjab has been divided into three regions: Northern Punjab (including Islamabad, Rawalpindi division, and the district of Mianwali), Central Punjab (including Sargodha, Faisalabad, Gujranwala, and Lahore divisions), and Southern Punjab (including Multan, Dera Ghazi Khan, and Bahawalpur divisions). There are substantial differences in poverty levels in the three regions. The incidence of poverty is consistently the lowest in Northern Punjab and the highest in Southern Punjab, both in the rural and urban areas. In FY1999, urban poverty was the highest in the country in Southern Punjab (35 percent), and almost three times more than in Northern Punjab. Urban areas in Northern Punjab had the lowest level of poverty in the entire country, while rural Northern Punjab had the lowest level of poverty (29 percent) among the rural areas of the country. Poverty in rural Southern Punjab (39 percent) was not significantly lower than NWFP, while rural Central Punjab had the same level of poverty (35 percent) as rural Sindh.

Important lessons can be drawn from this pattern. Northern Punjab, which has the lowest level of poverty in the country, is agriculturally a poor region with the lowest cultivated area per capita, and no irrigation. On the other hand, Southern Punjab, despite its highest cultivated area per capita and 100 percent irrigation, is one of the poorest regions in the country. One reason for this seemingly contradictory outcome is that rural areas in Northern Punjab on the other hand, are closely integrated with their urban centers, and have strong linkages with the services sector. Also the people of the region have a long tradition of employment in the public sector, particularly in the armed forces, as well as in-country and overseas migration. In contrast, Southern Punjab is the least urbanized region in the province, and mobility of local people in search of jobs outside the region or overseas has traditionally also been limited. It appears that, even more than agriculture production, non-farm employment opportunities, urban-rural linkages, agrarian structure, and labor mobility, in which literacy can play an important role, are amongst the key determinants of rural poverty in the country.

POVERTY TRENDS IN PUNJAB BY REGION

Region	FY93	FY94	FY97	FY99
Urban Areas				
Northern Punjab	10.0	9.7	13.3	12.8
Central Punjab	25.6	23.7	15.9	24.5
Southern Punjab	28.0	17.8	21.7	35.3
Rural Areas				
Northern Punjab	10.5	29.3	21.4	29.3
Central Punjab	27.9	31.6	26.2	34.5
Southern Punjab	33.2	41.1	32.9	39.7
Overall				
Northern Punjab	10.3	19.1	19.0	24.4
Central Punjab	27.5	29.9	22.6	31.0
Southern Punjab	31.6	34.6	30.7	38.9

Source: FBS 2001

women's future roles primarily in the reproductive sphere. Women suffer from poverty of opportunities throughout their life cycle. This is evident from gender disaggregated statistics whereby female literacy is only 29 percent in Pakistan as compared to a literacy rate of 55 percent for men. In higher education women form only 28.9 of the student body in the 26 public sector universities. There are only 10 vocational colleges for women out of a total of 172 in the country. Only 47 percent of girl children are fully immunized compared to 52 of boys. Forty percent of adult women in Pakistan suffer from anemia. Pakistan is also one of the few countries in the world where the sex ratio is biased in favor of men and there are 108 men to every 100 women. In legislative bodies, women have never constituted more than 3 percent of the strength of the legislature elected on general seats.⁹

Gender inequalities in education, skill attainment, and in the legal, economic and political sphere tend to shape women's access to productive resources and employment opportunities. In particular, women's participation in the labor market in Pakistan is determined by rigid gender role ideologies, social and cultural restrictions on women's mobility and occupational segregation, a segmented labor market and employers gender biases of employees that attach a lower value to female labor due to their family responsibilities. This explains why female labor force participation rates in Pakistan are exceptionally low at just 13.7

Women suffer from poverty of opportunities throughout their life cycle.

percent, compared to 70.4 percent for men.¹⁰

In general, the experience of poverty by men and women is different and unequal. In the absence of gender-disaggregated, poverty-related data, a systematic gender analysis of poverty processes remains elusive in Pakistan. However, it is increasingly evident from the studies on feminization of poverty that women bear a disproportionately high share of the burden of poverty within the family and the society. Women become impoverished through two distinct processes (a) when the family based household becomes poor through deterioration in its collective entitlements and (b) when the family unit breaks down.¹¹ In the former situation women and girl children experience intra-household discrimination in food distribution, health care and education. In the latter situation when the family unit breaks down, female headed households tend to regress into poverty due to low earning capacity of women resulting from the economic and cultural constraints on their labor.¹²

D. VULNERABILITY

The identification of vulnerable elements within the poor has also received little attention in earlier poverty assessments in Pakistan. Similarly, the different aspects of vulnerability have not been analyzed. This section focuses on two different facets of vulnerability, economic and social vulnerability.

9 The 1973 Constitution allowed reserved seats for women in both houses of parliament for a period of 20 years, thus ensuring that women would be represented in parliament regardless of whether or not they are elected on general seats. This provision lapsed in 1993, so parliaments elected subsequently did not have reserved seats for women. Reserved seats for women have been restored in the elections scheduled for October 2002, and will constitute 17 percent of the strength of Parliament.

10 Federal Bureau of Statistics, 2001: *Labour Force Survey 1999-2000*.

11 Kabeer, Naila (1994), *Reversed Realities*, Verso, London, p.141.

12 The universalization of the association between female headship and poverty has been contested by some researchers. Nevertheless, the tendency of female headed households to be poor does exist in Pakistan.

1. Economic Vulnerability

Vulnerability in its traditional sense is understood as the underlying susceptibility of economically deprived people to fall into poverty as a result of exogenous random shocks. Thus vulnerability is the ex-ante risk of falling below the poverty line (see Box 2.3 for a discussion of ex-post measures of household poverty). In this context, vulnerable households are generally found to have low mean expenditure levels coupled with a high variance of expenditure. Essentially households are vulnerable if they do not have the means to smooth out consumption expenditure in response to fluctuations in income.

Estimating income or consumption related vulnerability is a complex task, requiring an analysis of household consumption patterns over a period of time in relation to the occurrence of exogenous shocks. In general, vulnerability is likely to be high in households clustered around the poverty line. Coping strategies for vulnerable households depend primarily on

their sources of income. Thus, in areas where income sources are relatively diversified, exogenous shocks can increase reliance on non-agricultural wages. In areas where such diversification has not occurred, credit may be an important mean of sustaining consumption.

2. Social Vulnerability

While economic vulnerability is a key characteristic of the poor in Pakistan, there is increased recognition of the fact that vulnerability, in a broader and more encompassing sense, arises also from social powerlessness, political disenfranchisement, and ill-functioning and distortionary institutions, and that it is important to understand these factors as being among the primary causes of the persistence of vulnerability faced by the poor. This is evident from the fact that the poor rarely speak of just lack of income per se as being the key factor contributing to their vulnerability, but tend to focus more in this regard on the constraints that they face in managing their assets, whether human,

Households are economically vulnerable if they do not have the means to smooth out consumption expenditure in response to fluctuations in income.

Box 2.2 Chronic and Transient Poverty

While economic vulnerability is an ex-ante measure of the risk of becoming poor, ex-post measures of household poverty cause households to be classified as either chronically or transitorily poor. Thus a household is defined as chronically poor if its mean expenditure level falls below the poverty line, and household expenditures have little variation. On the other hand, households that experience transitory poverty may have mean expenditure levels higher than the poverty line, but their expenditure levels fall below the poverty line a defined number of times in the period under consideration. According to at least one study,¹ based on a five-year panel data, which defined a household as transitorily poor if mean expenditure dropped below the poverty line at least once in the period under study, 74 percent of the poor households in the sample were transitorily, rather than chronically poor, and on average transitorily poor made up 54 percent of the poor in any one year covered by the study. The study also found that smoothing of incomes across just two years resulted in a 66 percent reduction in transitory poverty.

1 McCulloch, Neil., and Bob Baulch: *Distinguishing the Chronically from the Transitorily Poor: Evidence from Rural Pakistan*, IDS Working Paper 97, University of Sussex.

material, social or political. In addition, highlighted in the poor's perceptions of vulnerability is increasing insecurity arising from sectarian violence, communal clashes and deteriorating law and order. Vulnerability, in this broad sense, therefore, may be defined as the lack of capacity in the poor to access public entitlements, particularly political processes or goods and services which determine human development, where human development is defined as enlarging people's choices in a way that enables them to lead longer, healthier and fuller lives.

Vulnerability in Pakistan manifests itself in at least four ways. First, it is exacerbated by the everyday harassment, under-performance, exclusion and denial of basic rights by public officials of people who are disadvantaged by virtue of gender, ethnicity, and economic and political powerlessness. That citizens have started reacting to such treatment is evidenced by the number of complaints filed against key government departments in Pakistan, which more than tripled between 1985 and 1998.¹³ These complaints could be placed in five categories: delay, inattention, neglect, arbitrary decisions and corruption. While alarming, these trends say nothing of those who cannot or do not file formal complaints but silently suffer nevertheless on account of the dysfunctionality and non-responsiveness of public institutions.

Second, vulnerability is much increased by local officials responsible to license and regulate economic activities who typically extract rent from informal sector workers, by imposing or manipulating regulatory controls over their livelihood activities. This is particularly marked with law and order entitlements: budgetary allocations to meet recurrent costs of police stations are so meager that it is accepted practice to solicit

contributions from the public to meet these expenditures.

Third, and well known, the vulnerability of the poor is continually reaffirmed by the corruption of local cadre/officials that hampers access to public goods/services such as health, education and land management. For example, it is common in Pakistan to find the poor turning to private sources of health care because they fear that a visit to a public facility would be unproductive. In this regard, the perception of the poor is that although private care is considered expensive, public sources may be no less expensive when there is a possibility of having to pay illegal fees, being serviced with expired drugs and dangerous diagnoses, and undergoing long delays in obtaining medical consultation due to frequent absenteeism of the concerned staff. Access to public services is also hampered by the need to provide documents such as national identity cards or domicile certificates, which are difficult to obtain.

Finally, the failure of state institutions to provide law and order and security is a function of the inefficiency in existing police, legal, and judicial structures. Studies suggest that the poor more frequently remark on the impact of a brutalizing police force and a corrupt judiciary than is apparent from official accounts of indicators and causes of poverty.

The poor recognize that the state has a responsibility to provide affordable, equitable and effective public goods and services, but feel that the state has failed to deliver. Dysfunctional institutions do not just fail to deliver services - they disempower, and even silence the poor through humiliation, exclusion and corruption. The persistent inability of the

Highlighted in the poor's perceptions of vulnerability is increasing insecurity arising from sectarian violence, communal clashes and deteriorating law and order.

13 Asia Foundation 1999: *Pakistan Legal and Judicial Reform Project, ADB, Integrated Report*, September, p. 145. Islamabad.

Government to rectify these conditions is arguably the most important constraint on long term growth prospects and inequality.

E. HUMAN DEVELOPMENT

ADB's Poverty Reduction Strategy¹⁴ describes poverty as a deprivation of essential assets and opportunities to which every human being is entitled. In this respect, the importance of building up human capital assets and enjoying access to basic education and primary health services is a given. The Mahbub-ul-Haq Centre for Human Development (MHCHD) has developed a broad index of poverty in Pakistan that takes into account deprivation in education and health, in addition to income.¹⁵ Trends in this index (poverty of opportunity) for the period 1970 to 1995, as well as the three indices on which it is based, i.e., poverty of opportunity of health, education, and income, are presented in

Table 2.4. Poverty, according to all indices, declined throughout the period, (with the exception of income related poverty in the 1990s which has been on the increase), but the poverty of education opportunity index has always lagged behind the other indices. In 1990, at 62 percent, poverty of education opportunities was almost three times the poverty of income opportunities. The data also shows that, while poverty of opportunity declined for both men and women during this period, the decline for the latter has been slower than for the former. As a result the gender gap has increased consistently since 1980.

Another measure to evaluate the progress made by a country in achieving human development, as well as to make cross country comparisons, is the United Nations Development Program's (UNDP) human development index (HDI). To provide a context for past achievements and

The poverty of education opportunity index has always lagged behind the other poverty of opportunity indices for Pakistan.

Table 2.4 Trends in Poverty of Opportunity Indices

	Poverty of Health Opportunities (%)	Poverty of Education Opportunities (%)	Poverty of Income Opportunities (%)	Poverty of Opportunity (POPI) (%)	Male Poverty of Opportunities (%)	Female Poverty of Opportunities (%)	Male-Female Disparity in POPI Index
1970	55	77	40	61	56	67	100
1975	49	74	35	58	52	64	102
1980	46	73	38	56	51	62	101
1985	42	67	25	51	46	59	107
1990	36	62	20	46	41	56	114
1995	30	58	30	44	37	52	116
Reduction 1980 to 1995 (%)	35	21	21	21	27	16	

Source: Mahbub-ul-Haq Centre for Human Development, 1999.

14 ADB, 1999: *Fighting Poverty in Asia and the Pacific: The Poverty Reduction Strategy* p.5.

15 Education deprivation is a composite of the percentage of illiterate adults and percentage of primary school age children out of school. Health deprivation is percentage of people not expected to survive to 40, percentage without access to safe water, and percentage of malnourished children under 5. MHCHD / UNDP 1999. *A Profile of Poverty in Pakistan*, Islamabad.

Pakistan's level of human development is low for its level of income.

the current state of human development in Pakistan, it is useful to compare changes in HDI in the 1990s for the South Asian countries. It is clear from Table 2.5 that the HDI improved in all South Asian countries in the 1990s.¹⁶ In 1999, the HDI for Pakistan was marginally above Bangladesh and Nepal, but substantially below India. Also, it is evident that Pakistan's level of human development is low for its level of income as indicated by the fact that its GDP per capita rank is higher than its HDI rank. In comparison with other South Asian countries, Pakistan did not appear to be worse off in terms of the health (life expectancy) index relative to most countries, but the education index for Pakistan was the lowest in South Asia. The fact that the education index in Nepal and Bangladesh, two countries with significantly lower per capita incomes than Pakistan, was 10 to 20 percent higher than

Pakistan is a clear indicator of the low priority accorded to education in Pakistan's development policies.

Trends in the key components of human development, such as literacy, education, basic health, and population welfare in the 1990s are discussed below.

1. Literacy

Literacy rates increased for both men and women in the 1990s, and according to the 1998 census, the adult (15 years and above) literacy rate was 42.7 percent (55.3 percent for men and 29 percent for women). During the period from FY1991 to FY1999 the gap in literacy rates between men and women was reduced somewhat according to the PIHS data, although it remains significant, especially in the rural areas.

An analysis of the current literacy age

Table 2.5 Human Development in South Asia

	Pakistan	Bangladesh	India	Nepal	Sri Lanka
Education Index	0.43	0.51	0.56	0.47	0.84
Life Expectancy Index	0.58	0.57	0.63	0.55	0.78
GDP per capita index	0.49	0.45	0.52	0.42	0.58
HDI Index					
1999	0.50	0.47	0.57	0.48	0.74
1990	0.44	0.41	0.51	0.42	0.72
1980	0.37	0.35	0.43	0.33	0.70
GDP per capita rank minus HDI rank*-1999	-5.00	-2.00	0.00	7.00	19.00

Source: UNDP, 2000.

* A negative figure indicates that the human development rank is lower than the GDP per capita rank, a positive figure indicates the opposite.

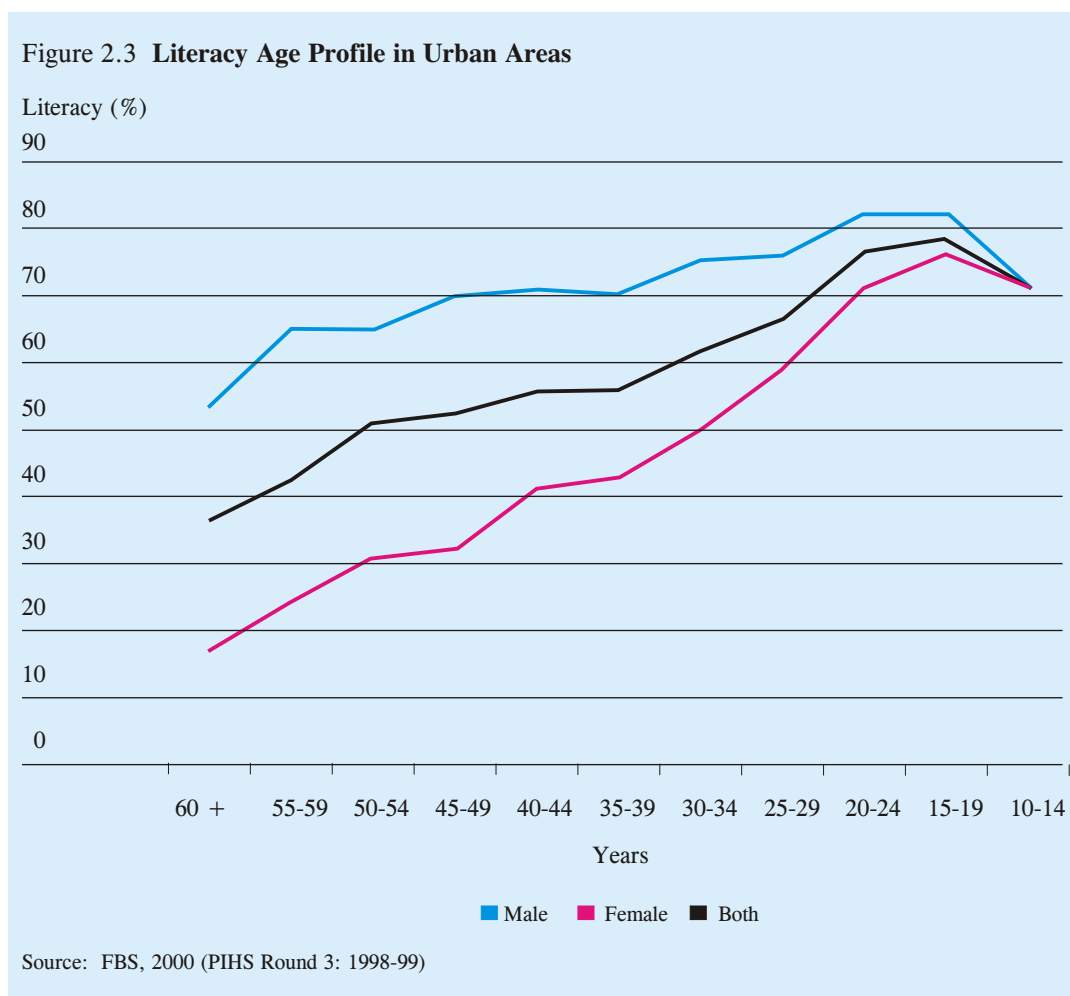
16 Sri Lanka, which has a level of human development comparable to a middle income country, is not included in these comparisons.

profile for Pakistan can provide very useful insights into the progress that has been made in improving literacy in the last 50 years.¹⁷ The trends for urban and rural areas for both men and women are shown in the following two figures (Figures 2.3 and 2.4 respectively). In urban areas, literacy decreases with age (higher literacy in younger age groups). The female literacy rate increases at a much faster rate than that

for males, such that the gender disparity is almost eliminated for the 15 to 19 age group.¹⁸ However, the male literacy rate seems to have leveled off at just over 80 percent, which may have important implications for future improvement in the overall literacy rate.¹⁹

In the rural areas as well, the long-term trend is for literacy to increase inversely with age for men and women, but the rate of

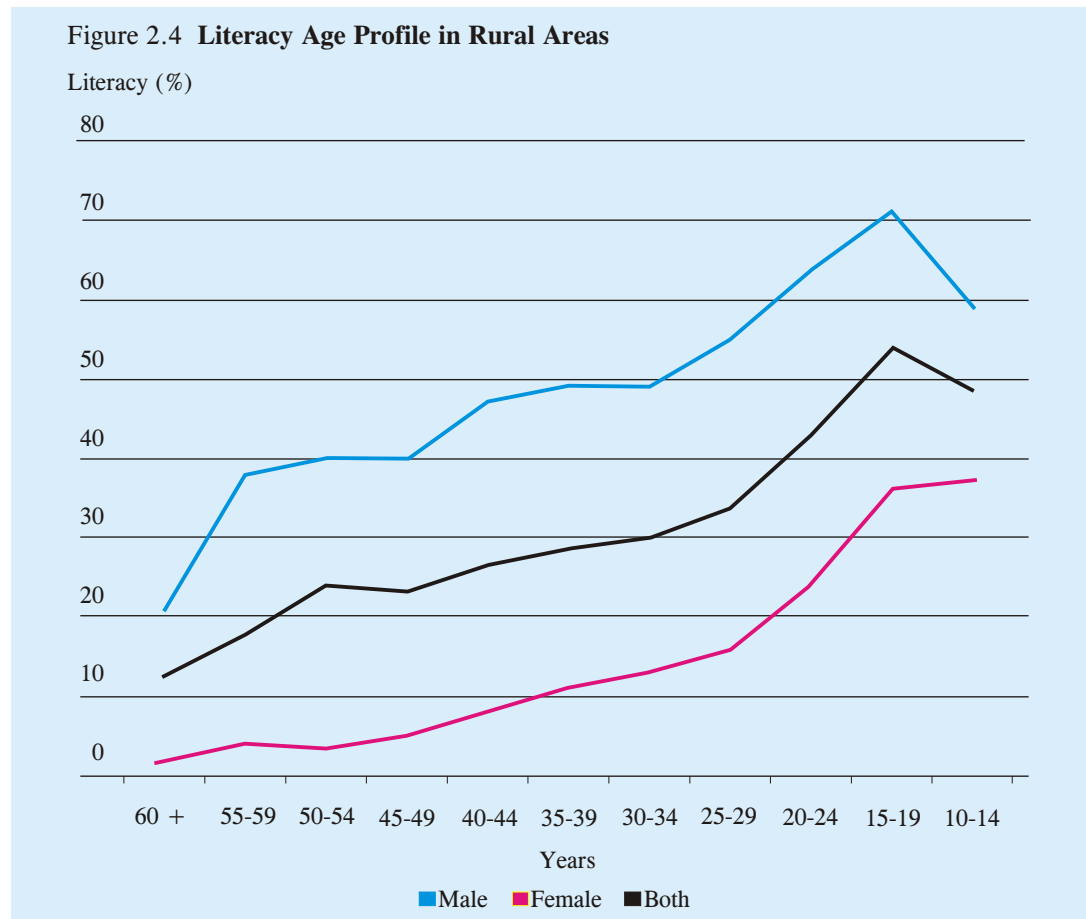
In urban areas, the female literacy rate increases at a much faster rate than that for males, such that the gender disparity is almost eliminated for the 15 to 19 age group.



17 This unusual but effective method is used in ADB's Program Performance Audit Report on the Social Action Program (SAP).

18 There is no significant difference between males and females in literacy among 10 to 14 years olds.

19 It is difficult to interpret the fact that the literacy rate for 10 to 14 years is significantly lower than that for the 15 to 19 age group across all categories (rural, urban, male and female) in all three rounds of PIHS, except for rural females in 1998-99. However, this finding probably indicates the inefficiency of the school system. In 1998-99, 69 percent of 10 to 14 year olds in Pakistan had been to school, but only 56 percent were literate. On the other hand, literacy skills may be acquired by a substantial proportion of the 15 to 19 age group outside the formal school system.



increase for women only accelerates in the last few age groups. The gender gap, which is the largest for the 20 to 24 age group (40 percentage points) remains substantial, but declines to 33 percent for 15 to 19 year olds and further to 22 percentage points for 10 to 14 year olds. It is increasingly clear that the gender gap in education exists not only because of parent's reluctance to send girls to school but also because of the non-availability of appropriate facilities for girls. Making educational facilities more easily accessible to girls and women may therefore result in significant gains in reducing the gender gap.

A similar pattern is observed for the urban-rural gap in literacy rates. While this gap for men declined from 27 percentage points for the 55 to 59 age group to 11

percentage points for the 15 to 19 age group, the urban-rural gap in the case of women first widened from the highest age group downwards before narrowing from 47 percentage points for the 20 to 24 age group to 34 percentage points for the 10 to 14 age group.

Pakistan today has 41 million adult illiterates and more are being added every year. Less than 50 percent of the girls in the 10 to 14 year age group in the rural areas are in school, and over 30 percent of all children will never go to school. Unless the issue of adult illiteracy is addressed through informal education programs, particularly for women, a target of 90 percent literacy will not be reached even in fifty years. Similarly, unless the number of children not attending school is reduced drastically, it

Gender gap in education exists not only because of parent's reluctance to send girls to school but also because of the non-availability of appropriate facilities for girls

will be almost impossible to increase the literacy rate beyond 70 to 80 percent.

2. Education

Despite the Social Action Program (SAP), primary enrolment in Pakistan has tended to stagnate, if not decline, during the 1990s. In FY1999, the primary school gross enrolment rate (GER) was 71 percent, as against 73 percent FY1991 (Table 2.6), while the net enrolment rate declined from 46 to 42 percent. However, some progress was made in reducing gender disparities in education over the period. The female GER increased from 59 percent to 61 percent, while the male GER declined from 87 percent to 80 percent. Thus the decline in the gender gap (from 28 percentage points to 19 percentage points) was largely because of declining boys' enrolment. Also, no progress was made in reducing rural-urban disparities. The gap in the case of girls

widened marginally over this period, and in FY1999 girls' GER was 50 percent in rural areas compared to 92 percent in urban areas. At the same time, the gap in the case of boys widened significantly, because the decline in boys' GER in the rural areas (from 83 percent in 1991 to 75 percent in FY1999) was much greater than the decline (from 97 percent to 95 percent) in the urban areas. The inescapable conclusion is that, apart from a welcome increase in girls' GER, little progress was made in expanding primary education coverage, particularly in rural areas, during the 1990s.

Little progress was made in expanding primary education coverage, particularly in rural areas, during the 1990s.

Mirroring trends observed at the overall national level, GERs in the two big provinces also witnessed a decline between FY 1991 and FY 1999. As is evident from Table 2.6, GER in Punjab fell from 80 percent to 75 percent; and in Sindh from 65 percent to 64 percent. GERs, in NWFP and Balochistan, however, increased during the

Table 2.6 Gross Primary Enrollment Rate - 1991 and 1999

	FY91			FY99		
	Overall	Boys	Girls	Overall	Boys	Girls
Pakistan	73	87	59	71	80	61
Urban	92	97	87	94	95	92
Rural	66	83	47	63	75	50
Punjab	80	91	69	75	82	68
Urban	98	100	95	94	91	97
Rural	74	88	57	69	79	58
Sindh	65	77	53	64	75	54
Urban	87	90	84	94	100	88
Rural	50	68	31	47	59	33
NWFP	67	92	44	70	84	54
Urban	82	109	58	90	97	83
Rural	64	89	41	66	82	49
Balochistan	46	69	27	64	77	43
Urban	62	81	42	88	99	76
Rural	44	67	25	61	77	42

Source: FBS, 2000 (PIHS Round 3, 1998-99) and Oxford Policy Management, 2001.

same period from 67 percent to 70 percent, and from 46 percent to 64 percent respectively. The main source of this increase in both provinces was the significant increase in GERs of girls, which increased from 44 percent to 54 percent in NWFP, and from 27 percent to 43 percent in Balochistan. GER of girls in Sindh marginally increased as well. The disparity in GERs between urban and rural areas also increased in all four provinces, but most notably so in Sindh, where urban enrollment rates increased but rural enrollment decreased during the FY1991-FY1999 period.

Enrolment statistics have to be considered together with the dropout rate to get a true picture of the magnitude of the problem of inadequate education coverage. The dropout rate is determined primarily by the quality of education imparted, and by parent's estimation of the stream of future benefits likely to accrue from time spent in school. For low income households, the opportunity cost of having a child in school are fairly high, and parents cannot be persuaded to bear this cost if they perceive that the quality of education is low, or that no significant benefits are likely to accrue from keeping children in school. A strong relationship exists, therefore between household income and the dropout rate. According to the PIHS 1998-99 data, 47 percent of children from the poorest quintile dropped out before completing primary education as compared to 23 percent from the richest quintile.

The percentage of children aged 10 to 18 years who left school before completing primary education declined slightly from FY1991 to FY1999, from 17 percent to 15 percent. Except for Balochistan where the percentage of children leaving school before completing primary education perceptibly increased from 2 percent to 12 percent

between FY1991 and FY1999, the dropout rate also decreased in the other three provinces. Nationally, the male - female gap in the dropout rate narrowed from 5 to 1 percentage points, while the urban/rural gap widened from 7 to 9 percentage points. The gender gap in dropout rates of all provinces declined as well, with the exception of NWFP where it increased as a result of a significant increase in the dropout rate for girls. The urban-rural gap in all the provinces increased in accordance with the national trend.

The education system is beset with learning deficiencies and low achievements (Box 2.4). Detailed statistics from one province, Punjab, reported in a World Bank document,²⁰ further illustrate problems in educational standards. From 1989 to 1998, the proportion of children passing from the first to the second grade in the province remained constant at 59 percent. Only 20 percent of children in the age cohort of 10-12 years were enrolled in middle schools, and of those who entered grade 6, only 56 percent went on to complete grade 8. Of every thousand children enrolled in primary school, only 264 completed middle school. In 1999, only 41 percent of public school students in Punjab who took the matriculation (or grade 10) examination got a passing grade. Since only 16 percent of the age cohort 15 to 19 reached the 10th grade, such a low pass percentage has disquieting implications.

Notwithstanding the generally disappointing situation noted above, significant changes are taking place in the education sector in Pakistan. Increasingly, parents prefer to enroll their children in private schools, even in rural areas. Consequently, the share of primary school enrolment in government schools (excluding kindergarten) fell between FY1991 and FY1999 from 86 percent to 75

Increasingly, parents prefer to enroll their children in private schools, even in rural areas.

20 World Bank (2001): *Pakistan: Reforming Punjab's Public Finances and Institutions*. Poverty Reduction and Economic Management Unit, South Asia Region.

percent. Even in rural areas, government primary school enrolment share fell from 95 percent to 86 percent; in this period. During the same period, in urban areas, the share of government primary schools in enrollment fell from 70 percent to 53 percent; that is, by FY1999, almost half of all primary education in urban areas was being delivered by private schools. It is also clear that both male and female students have been shifting from public to private schools.²¹

These are major shifts of great importance but the reasons why these are occurring are poorly documented. It is possible to speculate, however, that parents' decisions of educating their children in private schools are influenced by a combination of factors. These include the generally poor standard of government primary education (including high level of teacher absenteeism), problems of access and security (for girls), preference for English as a medium of instruction (generally offered by private schools), and lack of accountability in public schools (or a perception that private schools will be more accountable because services are paid for). A Multi-Donor Support Unit (MSU) survey on grade 5 student attainment

compared results from private and government schools in rural areas. The survey showed better performance by private school pupils: boys in private schools scored 13 percentage points more than boys in government schools while for girls the improved performance was even greater at 18 percentage points. The report notes the better performance of private schools is not due only to the presence of more competent teachers but also because better learning conditions and better management.

The fact that the shift towards private schools is occurring is especially noteworthy in light of the fact that the gap between average household expenditure per child for private and Government schools is significant, as shown in Table 2.7. For example, for primary education, the mean annual expenditure in private schools was about four times higher than that in Government schools in FY1999. For middle education, average annual expenditure in private schools is three times higher than in Government schools. The demand for private education indicates that there is a willingness to pay for education, provided that the quality of education is considered to be adequate.

Better performance of private schools is not due only to the presence of more competent teachers but also because of better learning conditions and better management.

Box 2.3 Learning Deficiencies and Low Achievement in Education

Other measures indicate that there are serious problems in the quality of teaching and education. A one-time assessment of primary education achievement conducted in 1995 showed learning deficiencies in grade 5 students.¹ The study posed 22 basic mathematics and general knowledge questions to 11,563 students and 914 teachers from 527 schools. Results show that boys and girls were not able to answer 41 percent of the mathematics questions and 38 percent of the general knowledge questions correctly. Almost 20 percent of 10-14 years old, who had been to school were still illiterate.

1 Multi Donor Support Unit (1995). *Social Action Program: Determinants of Primary Students' Achievement: National Survey Result*. The survey sample included 782 teachers and 9901 students from 462 schools. Survey results had to be discarded for Sindh because of survey irregularities.

21 An estimated 3 percent of enrolled students (mainly boys) are also studying in madrassas or religious schools. However, it is not clear from the PIHS survey if these are included in private schools or not. Some madrassas also receive public funding.

Table 2.7 Household Annual Expenditure Per Student on Education, 1998-99

Parameter	Mean Annual Expenditure in Rupees					
	Government School			Private School		
	Fees	Other	Total	Fees	Other	Total
Overall	295	1,381	1,675	2,219	2,259	4,477
Primary Level	70	737	808	1,612	1,733	3,345
Middle Level	236	1,555	1,792	2,600	3,111	5,711
Secondary Level	441	2,456	2,898	2,705	3,052	5,756
Higher Level	2,039	4,673	6,712	7,183	5,154	12,337

Source: FBS, 2001.

Primary includes classes 0-5, Middle includes classes 6-8, Secondary includes classes 9-10, and Higher Level includes class 11 and all other higher education codes reported.

Health indicators in Pakistan have shown some improvement over the past decade although they remain lower than indicators in other low income countries.

Greater private sector involvement in primary education was part of the purpose of the SAP launched by the Government in 1992 (see Chapter IV for details). Therefore, the increased private sector share of provision is a very positive result. However it is evident that SAP did little or nothing to facilitate or encourage this development. While some relatively insignificant level of funding was directed to education foundations to promote NGO participation, this had almost no effect. A greater awareness of the importance of education is about the only possible cause and effect relationship between SAP inputs and greater private sector involvement in education. Almost certainly SAP would have had a much greater and more cost-effective impact had it promoted greater parental choice, genuine public-private partnerships (for example use of school buildings by the private sector), and direct support to private education providers to improve their already better quality service provision.

3. Health

Health was also one of the sectors targeted in the SAP. Health indicators in

Pakistan have shown some improvement over the past decade, although they remain lower than indicators in other low-income countries. The infant mortality rate (IMR) was estimated to have declined from 122 per 1000 live births in FY1991 to 89 per 1000 live births by FY1999 (Table 2.8). The IMR was 93 per 1000 live births for males and 85 for females, while for urban areas it averaged 73 per 1000 live births as opposed to 95 per 1000 live births for rural areas.

IMRs in the individual provinces also displayed a declining trend as is evident from Table 2.8. The IMR for Punjab fell from 116 per 1000 live births in FY1991 to 95 per 1000 live births in FY 1999; in Sindh from 124 to 95; in NWFP from 130 to 62; and in Balochistan from 172 to 86. By FY 1999, the IMR for females was less than the IMR for males in all provinces. IMRs declined in both urban and rural areas in the four provinces. Further, as per the trend at the national level, IMRs in urban areas were significantly lower than in the rural areas in all provinces except NWFP where the urban IMR was significantly higher.

Health data also shows a correlation between mother's level of education and infant mortality, and brings forth evidence

Table 2.8 Infant Mortality Rate - FY91 and FY99

	FY91			FY99		
	Overall	Male	Female	Overall	Male	Female
Pakistan	122	129	114	89	93	85
Urban	103	112	92	73	77	68
Rural	129	136	122	95	99	91
Punjab	116	130	102	95	100	91
Urban	92	108	73	70	78	61
Rural	125	138	111	106	109	102
Sindh	124	119	128	95	97	93
Urban	102	97	108	69	63	76
Rural	137	134	131	114	122	106
NWFP	130	143	116	62	67	57
Urban	156	177	135	79	101	57
Rural	125	136	113	59	61	57
Balochistan	172	138	204	86	90	81
Urban	206	217	195	134	143	124
Rural	166	124	205	80	83	76

Source: FBS, 2000 (PIHS Round 3, 1998-99) and Oxford Policy Management, 2001.

that infants born to the least educated mothers have twice the risk of dying within the first year after birth compared to those born to more educated women.²² A similar relationship exists for the incidence of malnutrition, for which PIHS data shows that there is 60 percent more chance of finding malnourished children in households where the mother is illiterate compared to households where the mother has at least had high school education. Overall, there has reportedly been little improvement in the average nutritional status of children over the last twenty years.

Maternal mortality rates are also very high at about 300-400 per 100,000 births, largely because over 80 percent of total births take place at home, under the care of traditional birth attendants. Less than a third

of expectant mothers typically undergo prenatal checks, while only one in ten mothers have post natal checks and consultation.

The PIHS for 1996-97 reports some improvement in the Total Fertility Rate (TFR), which had declined from 6.8 births per woman in the mid 1980s to about 4.5 births per woman by 1997. In this regard, fertility rates were estimated to have declined in all provinces except Balochistan. However, the PIHS study cautions that this data is prone to reporting error and the TFR is likely to be higher. Nevertheless, information from multiple sources does indicate that fertility is on the decline. Once again, the bulk of the reduction appeared to have taken place in urban areas, and has been largely attributed to an increase in the average marriage age,

There is 60 percent more chance of finding malnourished children in households where the mother is illiterate.

22 Naqvi, Zareen F. (2000). *Poverty in Pakistan: Review of Recent Literature*. South Asia Poverty Reduction and Economic Management Unit, The World Bank, Islamabad.

Although the percentage of children between 12 and 23 months who were fully immunized increased to 49 percent in FY1999, this was considerably short of the 90 percent coverage target set by the government.

although the PIHS also reports an increase, between FY1991 and FY1997, in the percentage of households that use contraceptives.

There has also been significant improvement in the rate of immunization between FY1991 and FY1999. As shown in Table 2.9, the percentage of children between 12 and 23 months who were fully immunized increased from 37 to 49 percent based on recall and record measures; however, this still fell considerably short of the 90 percent coverage target that had been set by the Government for achievement by 1998. Nevertheless, immunization rates in children significantly improved across both genders and in both urban as well as rural areas during this period.

The percentage of immunized children

was reported to have appreciably increased in all the four provinces. This percentage increased from 44 percent to 55 percent in Punjab; from 16 percent to 38 percent in Sindh; from 41 percent to 54 percent in NWFP; and from 1 percent to 34 percent in Balochistan. The PIHS data also showed a strong correlation between income and immunization as approximately three-quarters of children in the upper income quintile were fully immunized against only one quarter in the bottom quintile.

Three factors, communicable infectious diseases, reproductive health problems, and nutritional deficiencies are purported to account for almost 60 percent of the burden of disease in Pakistan, when measured in terms of life-years lost.²³ All of these are preventable or easily treatable problems, but because of the low quality of health

Table 2.9 **Immunization Trends in the 1990s**

	Percentage					
	FY91			FY99		
	Both	Male	Female	Both	Male	Female
Overall	37	40	33	49	52	47
Urban	43	47	39	64	64	36
Rural	34	37	30	45	47	42
Punjab	44	44	45	55	57	52
Urban	50	47	54	64	62	68
Rural	42	43	41	52	56	47
Sindh	16	20	12	38	42	35
Urban	33	51	20	60	66	54
Rural	5	3	6	27	31	24
NWFP	41	50	31	54	52	56
Urban	63	49	24	77	82	74
Rural	42	50	32	51	49	54
Balochistan	1	3	0	34	36	32
Urban	10	20	0	51	51	52
Rural	0	0	0	32	35	29

Source: FBS, 2000 (PIHS Round 3, 1998-99) and Oxford Policy Management, 2001.

23 World Bank, 2001. *Pakistan: Reforming Punjab's Public Finances and Institutions*. Poverty Reduction and Economic Management Unit. South Asia Region.

services is so inadequate, the incidence of such diseases and the mortality rate remains high. This is in spite the curative health care system expanding at a fairly appreciable pace over the last two decades. For example, the number of registered doctors increased by almost 88 percent over the 1990s, while the number of registered nurses more than doubled, and the number of lady health visitors increased by over 80 percent.²⁴ Consequently, the population per doctor fell from 2082 in 1990 to 1529 by 2000, while the population per nurse fell from 6374 in 1990 to 3732 by 2000, a decrease of 41 percent.

The role of the private sector in delivery of health services is quite significant, although the proportion of private health provision has not changed much over the last decade. This is evident from the fact that PIHS data shows that in FY1999 only 28 percent of patients with diarrhoea consulted a Government health practitioner first. The FY1999 PIHS also inquired why people first consulted a private practitioner. The principal reason cited by respondents was that the government facility was too far away while the private practitioner was near. This was followed by the availability of the doctor, the ability of the private practitioner to treat complications, and that staff were in private facilities were helpful.

4. Population Welfare

Population welfare was also one of the key areas addressed under the SAP, and almost 3 percent of SAP-I funds were given for family planning initiatives. A family planning and primary health care program was launched in 1994 at the national level in order to provide primary and reproductive health care services to the masses. To run the program countrywide, the government has established 1,658 family welfare

centers, 106 reproductive health services centers and 131 mobile service units.²⁵ Approximately 12,000 village based family planning workers and 43,000 lady health workers are providing basic primary health services in the urban and rural areas.

The inter-censal population growth rate for Pakistan (that is, the annual average growth rate from 1982 to 1998) was estimated at 2.6 percent, which was less than the earlier forecast of an average annual growth rate of over 3 percent in this period.

According to the PIHS, the national contraceptive prevalence rate increased from 7 percent in 1991 to 17 percent in FY1999. Contraceptive prevalence rates registered increases in all four provinces in this period: in Punjab, from 7 percent to 16 percent; in Sindh, from 8 percent to 19 percent; in NWFP, from 9 percent to 10 percent; and in Balochistan, from 5 percent to 7 percent. However, PIHS data is considered to have underestimated this indicator. The Pakistan Fertility and Family Planning Survey reports higher levels of contraceptive practice, with FY1997 levels of about 24 percent against a 1990 level of 12 percent. Despite this, contraceptive use in Pakistan still remains far below the rates in other South Asian countries. Nevertheless, married women of reproductive age who know of at least one family planning method increased overall from 78 percent in FY1991 to 94 percent in FY1999. In rural areas, this proportion increased from 59 percent to 91 percent. The IPRSP reports the awareness of one method of family planning to be around 97 percent while the prevalence rate of contraceptives is reported at 28 percent. The present fertility rate reported by IPRSP at 4.8 is still high comparing with other Asian countries.

The role of the private sector in delivery of health services is quite significant.

Contraceptive use in Pakistan still remains far below the rates in other South Asian countries.

24 Government of Pakistan, *Economic Survey 2000 - 2001*

25 IPRSP, 2001: Op cit (page 46)

The private sector is playing a major role in family planning practice. About 50 percent of family planning users received their contraceptives from a non-government supplier during the SAP - I period. The current program of family planning seeks the support of independent media and advocacy campaigns through NGO involvement to make it more effective.

F. ENVIRONMENT

As in the case of many developing countries, the environment-development nexus and consequently the environment-poverty nexus is strong in Pakistan. Growth in the agriculture sector, which contributes about 25 percent to GDP, is strongly reliant on the state of the environment, particularly on the country's land and water resources. The industrial sector, which contributes about 17 percent of GDP, is dominated by agro-industries, for which the agricultural sector provides the bulk of the raw material. However, there is general agreement that the environmental situation in the country has been deteriorating. To this end, environmental issues and concerns across all sectors need to be addressed as a matter of priority which, in turn, requires urgent attention and action on the part of all stakeholders including Government, the private sector, and NGOs and other civil society organizations.

Current environmental problems in Pakistan include land degradation due to erosion, use of agro-chemicals, water logging and salinity, depletion of forest and water resources, and pollution associated with industrial and domestic activities. On account of extensive use of agro-chemicals, with fertilizers and pesticides in the lead, pollution is constantly increasing in severity. In the industrial sector, the textile industry is a major consumer of chemicals

such as soda ash, sulfuric acid, and caustic soda. Most of the chemical waste is disposed off either into the nearby drains and/or other outlets, with obvious adverse environmental impacts. In this context, it is important to note that while adequate control measures exist for production, processing and import of fertilizers, pesticides and other chemicals, no legal instruments are available for their disposal, registration or de-registration, or their quality control. The 1997 Pakistan Environmental Protection Act excludes 'pesticides' in its definition of hazardous substances. Similarly, no legal instrument exists to manage the industrial or consumer chemicals except that by the use of Explosives Act 1884, and/or Factories Act 1934.²⁶ Moreover, there are no ambient air quality standards, air quality indices, standards for various uses of water, or water quality indices in Pakistan, an absolute must for monitoring air and water quality.

It has been variously reported that between the years 1980 and 1996, carbon dioxide emissions have more than doubled in Pakistan from 31.6 metric tons to 94.3 metric tons, doubling from 0.4 to 0.8 metric tons in terms of per capita emissions. During the same period, the discharge of organic water pollutants increased from 75,125 kg/day to 114,726 kg/day. Moreover, it has been noted that, only 39 percent of the population has access to sanitation facilities.²⁷

Investigations of toxic substances by Federal Environmental Protection Agency (EPA) in leather, automobile, battery, paint, steel manufacturing, metal cutting, steel pipes, petroleum refinery, tube lights, chemicals industries and the underground water in Karachi has revealed that all these industries do not control their waste water effluents through process control, waste

There are no ambient air quality standards, air quality indices, standards for various uses of water, or water quality indices in Pakistan.

26 Federal EPA/UNITAR (2000). *National Profile on Chemical Management in Pakistan*. Islamabad.

27 IPRSP, 2001: Op cit.

recycling, or end-of-pipe treatment.²⁸ The test results of liquid effluents showed that not a single industry meets the National Environmental Quality Standards (NEQS). Significant among the toxic metals which far exceeded NEQS and imposed severe health hazard were cadmium (all industries), lead (battery), chromium (leather, chemical), mercury (leather, petroleum refinery, tube light, chemical), arsenic (all except leather, paint, tube light), and cyanide (all except leather, paint, steel). Similarly, biological oxygen demand, chemical oxygen demand, total suspended solids, total dissolved solids were also noted to far exceed NEQS in all industries. A study carried out by Japan International Cooperation Agency (JICA)²⁹ on air and water pollution in Lahore, Rawalpindi, and Islamabad concluded that urban air quality in the three cities presented an alarming situation as the levels of several critical air pollutants (CO, SO₂, NO_x, PM₁₀, and Lead) exist in higher levels than the World Health Organization (WHO) limits. Similarly, water quality analysis also showed high levels of contamination, as out of 40 samples tested, only one was found to be fit for human consumption. The study recommended setting up of ambient air quality standards, and promulgation of Clean Air and Clean Water Act.

The forests, which cover only 4.2 million of the 85 million hectares of the land, are shrinking at one of the highest rates in the world (2.5 - 3.1 percent annually), resulting in severe reduction in biological diversity, and threatening not only the ecological balance but adding to the perils

faced by threatened and endangered species. In terms of loss of biological diversity, Pakistan has 13 species of mammals, 25 species of birds, 14 species of higher plants and 6 species of reptiles classified as threatened.³⁰ These include the Greyleg Goose, Shadduck, the Indus Dolphin, Antelope, Ibex, Houbara and Markhor.³¹

The existence of the poverty-environment nexus points to the need for making concerted efforts to mainstream environmental concerns and issues in development policy given their central importance to the quality of life and the sustenance of key sectors of the economy. The need for investment in environment and natural resource management tends to be obscured because there is insufficient research on the economic costs of environmental degradation. Environmental degradation can generate strong negative externalities affecting the commodity producing sectors, including agriculture and agro-based industry. While there is limited information on the costs of such pervasive externalities, the cost of environmental disasters such as floods and droughts are now becoming increasingly apparent for the economy as a whole and for the poor in particular. Encouragingly, evidence from community based environmental programs suggests that local institutions can play an important role in mitigating the effects of environmental degradation, while instituting resource use practices that decelerate or even reverse environmental damage.

The need for investment in environment and natural resource management tends to be obscured because there is insufficient research on the economic costs of environmental degradation.

28 Federal EPA/JICA/OECC (2001). *Investigation on Actual Contaminated Conditions by the Industrial Toxic Substances in Karachi*.

29 JICA (2000). *Investigation of Air and Water Quality* (Lahore, Rawalpindi, Islamabad).

30 Asian Development Bank. 2001. *Country Strategy Program (CSP) Update*, Table A.2.2 (Environmental Indicators).

31 ADB. 2001. *Country Environmental Policy Integration Study for Pakistan*.

G. CHARACTERISTICS OF THE POOR

There are a number of attributes, besides location, which characterize the poor in Pakistan. In terms of the various attributes of poverty detailed in this chapter, one that is the most characteristic of the poor is their low education and literacy level. Other characteristics include larger than average household size, few physical assets, and a disproportionate reliance on informal sector employment opportunities. Some of the key characteristics of the poor in Pakistan are discussed in this section.

1. Education

Data on poverty indicates that there is a strong correlation between illiteracy, or the level of education, and the incidence of poverty. In FY1999, the literacy rate of the household head (27 percent) in poor households was about half of that in non-poor households (Table 2.10). The result holds for all provinces and regions. The contrast in urban Northern Punjab is particularly dramatic, where 82 percent of the heads of non-poor households were literate, compared with only 27 percent in poor households. Similarly, those households whose heads had no formal education had about three times the incidence of poverty compared to those households whose heads had completed 10 years or more of schooling (Arif, et. al., 2001).

2. Demography

Large households are more likely to be poor than small ones. As can be seen from Table 2.11, the incidence of poverty for households with 7 or more members was more than three times that for households with 4 or less members. Poor households on average had 35 percent more family members, and 75 percent more children under the age of 10 than non-poor households. With respect to age of the

household head, an inverted U shape poverty pattern is observed. The turning point seems to be somewhere around the mid-40s, and the probability of the household being poor declines with age after that. Finally as Table 2.11 shows, incidence of poverty was found to be lower among those households whose head's current place of residence was different from the place of birth. However, it is not clear if migration was a means for the poor to move out of poverty, or whether it is only the non-poor who can afford to migrate.

3. Assets and Sources of Income

The poor usually lack both income and assets. According to the FBS data for FY1999, there is a significant and large difference in the amount of land per capita owned by poor and non-poor households. Similar differences exist in the ownership of livestock, housing, and other assets. The poor also have limited access to infrastructure. For example, the data showed that only 9.4 percent of poor households had access to gas connections, and 59.6 percent had electricity connections. Asset ownership is inversely correlated with poverty in both urban and rural areas (Box 2.5). Although there are no comprehensive studies on livelihood of the poor, some data by occupation, sector, and employment status is available from the latest PIHS. In terms of occupation, the incidence of poverty is the highest among household heads with elementary occupations in both urban (38 percent) and rural (49 percent) areas. Elementary occupations, which include day labor in agriculture, construction, trade, and transport, are precarious and contain a lot of disguised unemployment. In terms of sector of employment, construction, transport and storage are sectors in which the proportion of workers belonging to poor households is significantly high, particularly in urban areas. Finally, with regard to employment status, incidence of poverty is high among

There is a strong correlation between illiteracy, and the incidence of poverty.

Table 2.10 Percentage of Poor and Non-Poor Literate Household Heads, 1998-99

Province and Region	Non-Poor	Poor
Urban Areas	69.51	36.66
Punjab	69.23	35.44
Sindh	72.06	43.74
NWFP	58.77	26.49
Balochistan	59.33	38.95
Rural Areas	42.42	24.89
Punjab	41.78	24.23
Sindh	50.04	33.09
NWFP	36.79	19.27
Balochistan	37.41	26.20
Overall	51.51	27.18
Punjab	50.43	26.58
Sindh	60.92	35.70
NWFP	40.70	19.99
Balochistan	40.00	27.85

Source: FBS, 2001

the self-employed, which includes street vendors in urban areas, and sharecroppers in the rural areas.

4. Dependence on Women's Labor

The relationship between dependence of the family on women's labor and poverty has not been explored adequately. However, studies indicate that the poorer the household, the higher is the likelihood of its dependence on female labor. At the same

time, micro-level studies in rural communities indicate that in those households where women's productive labor is critical for the survival of the family, there is more impoverishment due to the low economic value of female labor. This is in turn, due to the relatively lower skills base of women generally, and their restricted mobility, as a result of which they find it difficult to compete for access to social and productive assets on an equal footing with men.

The poorer the household, the higher is the likelihood of its dependence on female labour.

Box 2.4 "Ladder of Poverty Reduction"

The relationship between characteristics of the poor and poverty reduction was presented in the form of a "ladder of poverty reduction" in a recent publication Social Policy Development Center (2001). *Social Development in Pakistan Towards Poverty Reduction*. Annual Review, 2000. Oxford University Press. It shows that in rural areas, if a household possesses physical assets like land or livestock, the incidence of poverty tends to fall by as much as 55 percent. Access to employment reduces poverty incidence by another 18 percent. This implies that, in the short to medium term, microfinance and community works programs, which create assets and employment, can be effective instruments for addressing poverty in the rural areas. In urban areas, access to employment reduces the incidence of poverty by 45 percent, while education and physical assets contribute another 12 percent and 9 percent reduction respectively. The study thus concludes that in the urban areas there is a need to focus on promoting growth in employment generating sectors such as construction and the small and medium enterprise (SME) sector. Low-income housing and slum upgradation projects could also have a significant effect on poverty, given that they enable the poor to acquire or enhance physical assets.

Table 2.11 Demographic Characteristics of Poverty, 1998-99

Demographic group	Proportion of population	Incidence of poverty
Household size		
1-4	26.8	15.9
5-6	27.5	31.1
7-8	24.0	47.5
9+	21.6	57.4
Age of household head		
<40	28.6	36.1
40-49	24.5	43.9
50-59	23.9	33.7
60+	23.0	32.7
Gender of household head		
Male	91.8	36.9
Female	8.2	34.1
Migration		
Non-migrant	64.6	40.5
Migrant	35.4	29.6

Source: Arif, et. al., (2001)

Deterioration of the natural resource base has a devastating impact on the poor.

5. Vulnerability to Environmental Degradation

The poor are also characterized by their vulnerability to environmental degradation and deterioration of the natural resource base that has a devastating impact on the poor, given that they tend to be strongly dependent on the exploitation of such resources. As population grows, and the quantity and quality of renewable resources

decline, resource captures that occur in powerful groups alter the distribution of resources in their favor. Resources are in effect appropriated by the elite, increasing environmental scarcity among poorer or weaker groups as a result. Groups experiencing this scarcity are then often ecologically marginalized as they migrate to rural or urban regions that are also ecologically fragile.