
Poverty Reduction Without Human Development in Pakistan: Money Doesn't Buy You Everything

Susan Joeques, Nuzhat Ahmed, Aly Ercelawn
and S. Akbar Zaidi*

Introduction

Pakistan was chosen as a case study in the DFID-funded research into the prospects of meeting the International Development Targets for two main reasons. It is part of the region (South Asia) which contains the highest concentration of extremely poor people within the developing world and Pakistan itself includes an absolutely large number of poor people. It also presents an intriguingly contradictory picture, since its poverty and human development indicators are at variance with each other.

Pakistan has a relatively strong record in bringing down income poverty, and its current poverty levels are below the average for countries of its GDP level. According to a World Bank 1995 poverty assessment, in around 1990, the reference year for the IDTs, Pakistan (with GDP per capita of \$420) fell into the low-income country group (average income \$390 per capita), but had a relatively low incidence of 'extreme poverty' (US\$1 a day per person at 1985 prices) at 18% (World Bank, 1995).¹ The distribution of income was also relatively equal, in international terms, with a Gini coefficient of approximately 0.40.

The long-term downward trend in poverty incidence up to 1990 might seem to suggest that the 1990 poverty level could be halved by 2015, i.e. that the poverty reduction IDT is attainable. However, although the available data are far from satisfactory, they suggest that the incidence of poverty did not continue

*Susan Joeques is a Fellow of the Institute of Development Studies, University of Sussex, Brighton, UK; Nuzhat Ahmed is Director of the Applied Economics Research Centre, University of Karachi; Aly Ercelawn and S. Akbar Zaidi are independent consultants in Pakistan.

1. According to the World Bank's later method of calculation, in 1991, Pakistan's incidence of extreme poverty was even lower at 11.6%, compared with 31% in Nigeria (GDP per capita of \$340), 44% in Nicaragua (GDP per capita of \$460), and 12% in Indonesia (GDP of \$610) at around the same date (World Bank, 1998).

to decline after 1990.² Projections specifying the growth rate and inequality conditions necessary for the poverty reduction target to be reached show that the conditions are extremely tight. We conclude that, on the most plausible scenario, the target is unlikely to be achieved, even if experience of the most recent years is reversed and there is a return to the earlier trend reduction in income poverty.

Past reductions in poverty came about largely exogenously and do not give rise to detailed lessons for future policy. Moreover, over the past 30 years or so, Pakistan has experienced an apparently unusual inverse relationship between changes in poverty and changes in inequality. This experience suggests that it will be difficult for policy both to secure reductions in poverty and to maintain a low level of inequality in the distribution of income. But the projections show that this is the only way that, on current low growth forecasts, reduction of poverty incidence can be secured on the scale necessary to attain the international target for the halving of income poverty by 2015.

We turn then to the human development indicators. These are uniformly bad. Pakistan lags badly behind other countries of comparable income level in the quality of life available to its citizens, as measured by their health and education status. At the beginning of the 1990s, the infant mortality rate was 30% higher, the fertility rate was 65% higher and gross primary and secondary school enrolment ratios were only just above half the average level in other low-income countries (World Bank, 1995). Overall health and education outcomes are kept down by marked biases against females. In respect of child survival, in particular, Pakistan displays the greatest bias against females of any country in the world. While the international norm for child mortality is for parity or a slight excess of male mortality, in Pakistan female child mortality is more than 50% higher than male child mortality (*ibid.*).

There has been a long-standing failure on the part of the government of Pakistan both to sustain levels of expenditure on the social sectors to international norms and to ensure properly functioning health and education systems. Moreover, the low level of public expenditure on the social services is accompanied by low levels of private expenditure on health and education. There have been some trend improvements in human development outcomes,

2. Although Pakistan has well-established institutions for statistical data collection and analysis, examination of the published data soon shows that they are of varying scope and quality and that no adequate national time series data on poverty exist. It follows that the analysis presented in this article does not pretend to be a definitive account of the level of, or trends in, poverty in Pakistan. The projections of future poverty incidence are to be taken only as illustrative of how future events may work themselves out, on what we judge to be a coherent interpretation of past events. A methodology for making the projections is chosen that is as far from 'extrapolative' as possible, to minimise dependence on past data as a guide to future outcomes.

but projections show that Pakistan is likely to fall far short of meeting infant mortality reduction and educational improvement IDTs. The Human Development Index targets, particularly the health targets, are out of reach unless there are immediate large increases in total social sector expenditures and expansion of capacity in social services provision in both the public and private sectors, which we think unlikely.

The article examines why so few public and private resources have been allocated to health and education in Pakistan over such a long period. Two possible reasons are discussed. The first is the high level of defence expenditure which, given the country's weak fiscal structure,³ precludes other types of expenditures. The second reason is that a strongly patriarchal gender order in society works against the expression of private demand for social services (for both males and females). This may help account for the small size of the private sector in Pakistan (both market and non-market (NGOs)).

The article concludes with two policy suggestions. The first relates to the level and character of defence spending. Secondly, the analysis shows, perhaps paradoxically in view of the dismal record to date, that there may be scope for public policy to bring about significant improvements in at least some aspects of health. Recent changes in public sector resource allocations have succeeded in reducing some gender disparities in education. The introduction of similarly anti-discriminatory policies within an increased public health sector expenditure allocation could also be expected to show good results, for both female-specific and overall health indicators.

Poverty trends

People in Pakistan suffer from lower levels of income poverty than people in other countries with similar per capita income levels. Levels of poverty in Pakistan declined steadily from the 1960s onwards over a long period. According to one account, the incidence of poverty more than halved over the 20 years from 1970. As Table 1 shows, the proportion of households living below the poverty line fell from 46% in 1969-70 to 17% in 1987-8 (Amjad and Kemal, 1997).

3. Issues of governance are not addressed here, although they are clearly crucial to interpreting Pakistan's development experiences and particularly germane to reform of the fiscal structure. For instance, fewer than 1% of Pakistanis, and almost none of the 6,000 big landowners, pay any tax. The ousted Prime Minister, Nawaz Sharif, is reported to have paid only £7 in taxes for the period 1994-7 (Bennet Jones, 1999; also *Financial Times*, 2 November 1999).

Table 1
Trends in poverty in Pakistan

Panel 1A: Proportion of Poor (Headcount %)

<i>Year</i>	<i>Total</i>	<i>Rural</i>	<i>Urban</i>
1963-4	40.24	38.94	44.53
1966-7	44.50	45.62	40.96
1969-70	46.53	49.11	38.76
1979	30.68	32.51	25.94
1984-5	24.47	25.87	21.17
1987-8	17.32	18.32	14.99
1990-1	22.11	23.59	18.64
1992-3	22.40	23.35	15.50
1998-9	26.00	n.a.	n.a.

Panel 1B: Official Poverty Headcount (%)

<i>Year</i>	<i>Total</i>
1990-91	22
1998-9	26

Source: Panel 1A: Amjad and Kemal, 1997, except for the year 1998-9, which is an estimate by the Planning Commission (1999). Panel 1B: Government estimates of the incidence of poverty presented in the Planning Commission (1999), on the basis of Pakistan Integrated Household Survey data.

These data, although the best available, are far from definitive. They are problematic in several ways. First, they relate to household rather than individual poverty levels (Gazdar, 1998). If, as is likely, poverty is concentrated in larger households, this measure understates the extent of individual poverty and overstates the decline in poverty to 1990. Secondly, the poverty line used to derive the estimates of poverty incidence from income data is the government's preferred poverty line, not the international extreme poverty line in which most discussions of the IDTs are couched. At Rs265 per capita in 1990/91 prices, this poverty line was much higher than the Rs158 per capita which was the equivalent of the \$1 a day per person value of the international poverty line in 1990 prices. Although we refer to this line henceforth as the 'national poverty line', and it is arguably the more relevant to discussion of policy options, it is not to be taken as an 'official' poverty line, for, corresponding to the absence of an anti-poverty strategy in Pakistan, no such standard has been adopted. In any event, it follows that the incidence of poverty was much less in 1990 in terms of the international \$1 per person per day measure than of the national measure. It is not possible to know whether a long-term trend reduction in poverty also obtained under this definition.

Taking the data as indicative of real trends, what explains the history of poverty reduction in Pakistan to 1990? In the 1980s, two separate factors worked to reduce poverty and inequality. Migration was probably the main factor. Up to 2 million workers went abroad, the majority from rural areas, making remittance payments which at their peak in 1982–3 amounted to almost 10% of GDP (Addleton, 1992). Secondly, the 1980s saw governments in power — the military regime of General Zia from 1977 to 1985, and the elected government of Muhammad Khan Junejo from 1985 to 1988 — which successfully implemented strongly pro-rural and anti-poverty, pro-social and development spending programmes (Zaidi, 1999c). These programmes went too far in incurring a prospective increase in the amount of public debt without at the same time ensuring the buoyancy of future tax revenues through reform of the fiscal structure. They thereby sowed the seeds of their own demise and provoked Pakistan's passage, from late 1988 onwards, into a period of harsh retrenchment under a series of structural adjustment programmes.⁴ The marked reduction of poverty during much of the 1980s was nevertheless testimony to the effectiveness and perhaps the long-lasting effect of reallocative policies, in conjunction with the wide distribution of remittance incomes within rural areas.

The situation has changed recently. In contrast to the previous long downward trend, poverty levels began to rise sharply from the late 1980s or early 1990s. The latest official estimate is that by 1998–9 more than one in four (26%) of the population fell below the national poverty line. This level of poverty was back to the levels of the early 1980s, contrasting with the low of 17% reached in 1987–8.

4. The history of Pakistan's adoption of the structural adjustment policy package remains rather obscure. Compared with other countries, Pakistan's record of macroeconomic growth and management was not so poor as to make it an obvious candidate for adjustment. One fundamental problem is that tax revenues are not now (and perhaps were not then) sufficient to meet both the expenditure for debt repayments and the defence budget, and the trade balance is weak (*Financial Times*, 20 December 1999). Nevertheless, adjustment programmes have failed to address the fiscal structural problem — tax revenues have continued to fall as a proportion of GDP and the ratio of total debt has risen from around 80% of GDP in 1995 to approaching 100% in 1999–2000 (*Financial Times*, 20 December 1999) (but this is not, even now, a high figure in international terms — many highly indebted poor countries have a debt burden two to three times this level). The main budgetary impacts of adjustment were cuts in total expenditure, defence expenditure and the current deficit during the 1990s (all proportional to GDP). But the largest fall proportionally was in social sector spending (cut from 4% of GDP in 1992–4 to 3% in 1996–7) (all data from Government of Pakistan, *Economic Survey*, various issues). A rigorous analysis of the country's macroeconomic prospects in the mid-late 1980s and an examination of the events surrounding the adoption of adjustment policies and their distributional and poverty impact is badly needed.

Income inequality, growth and poverty reduction

The global study conducted by ODI, which is the centrepiece of this research project, has highlighted the key role of income distribution in affecting the rate of poverty reduction in developing countries. The elasticity of poverty reduction with respect to per capita growth is -0.93 on average for countries with values of the Gini coefficient less than 0.43, compared to -0.34 on average for countries with Gini coefficient values greater than 0.43 (Hanmer and Naschold in this volume). Given this striking result, it is important to examine the level and character of income inequality in Pakistan and to consider how it affects the prospects of attaining the IDTs.

Table 2 gives detailed data on annual values of the Gini coefficient from 1963–4 to 1996–7, for rural and urban populations and overall.⁵ Pakistan appears to have a relatively egalitarian distribution of income compared with other countries. In most years for which data exist, the value of the Gini coefficient was well below Hanmer and Naschold's international dividing line of 0.43. Only in 1991–2 did the high value of the Gini put Pakistan into the high inequality group, and in 1984–5 it was a borderline case. This suggests that Pakistan would have experienced a relatively high elasticity of poverty reduction with respect to income growth. Inadequacy of the data does not allow the econometric (historic) elasticity of consumption to changes in per capita GDP to be calculated reliably, but for the record that elasticity was -1.299 (on 8 observations). This value is significantly greater than the Hanmer and Naschold estimate of -0.93 for the low inequality group of countries. It indicates that historically growth in Pakistan may have led to reduction in income poverty to an even greater extent than elsewhere. Low inequality may therefore help to explain the first part of the puzzle of Pakistan's developmental experience, namely, how it has achieved its low level of income poverty for its GDP level.

The data reveal two other distinctive features. First, alongside the relatively low trend level of inequality of income distribution, inequality seems to have been unusually volatile in Pakistan. Over the period 1966–7 to 1996–7, the Gini coefficient fluctuated sharply (for total national values) within the band 0.30 – 0.47. For the year 1963–4 (for which, unlike the longer series, all the observations come from the same data source), the variability is not as great, but it is still considerable, ranging from 0.328 to 0.428. The 1990s have apparently seen a sharp lessening in the degree of inequality at the national level to an unprecedentedly low level of 0.30 in 1996–7.

5. The data seem to be reliable, with most of the observations (up to 1992-3 as the latest observation) coming from a single source and the remainder (covering the years 1991-2, 1995-6 and 1996-7) not obviously inconsistent with it.

Table 2
Changes in the Gini coefficient

Gini Coefficient

<i>Year</i>	<i>Total</i>	<i>Rural</i>	<i>Urban</i>
1963–64	0.355	0.348	0.368
1966–67	0.351	0.314	0.388
1968–69	0.328	0.293	0.370
1969–70	0.330	0.295	0.361
1970–71	0.326	0.273	0.359
1971–72	0.344	0.309	0.381
1979	0.375	0.319	0.380
1984–85	0.428	0.345	0.379
1985–86	0.355	0.330	0.354
1986–87	0.346	0.312	0.357
1987–88	0.348	0.307	0.366
1990–91	0.407	0.410	0.390
1991–92	0.47	n.a.	n.a.
1992–93	0.390	0.367	0.384
1995–96	0.38	n.a.	n.a.
1996–97	0.30	n.a.	n.a.

Sources: 1963–4 to 1990 and 1992–3: MHCHD, 1999: 85; 1991–2, 1995–6 and 1996–7, AERC calculations from HIES datasets.

Overall volatility may have been increased by the fact that changes in inequality have always occurred in the same direction in both rural and urban areas. Moreover, in the early 1990s (1990/91 to 1992/93), the decline in rural inequality was so sharp that, notwithstanding a fall in urban inequality over the same period, the level of rural inequality fell below that of urban inequality for the first time (see Table 2).

It is difficult to reconcile these figures with the standard understanding that structural adjustment policies increase inequality, notably by causing a reduction in real income among poorer groups through cuts in food subsidies (which were introduced in Pakistan as elsewhere). Could the reallocative policies of the mid-late 1980s have been sufficiently strong to lay the ground for resumption of the decline in inequality a decade later following an upward surge at the end of the 1980s? That is, could they in themselves have amounted to a kind of structural reform of the asset base and productive capacity of low-income groups? The issue warrants further examination. There is a particular need for the changes over time in agricultural production to be examined as a

possible cause of observed changes in distribution. The reliability of the data themselves also needs to be assessed, perhaps especially with reference to the distributional significance of activity in the black (unrecorded) sector and the expatriation of capital by the rich.

Nevertheless, the existing data on income distribution and poverty for Pakistan indicate that historically there has been a stable, *inverse* relationship between changes in poverty and changes in income distribution. This experience is exceptional in international terms. Unlike in other countries, *falls in poverty levels* in Pakistan have mostly *coincided with increases in inequality*.⁶ When the poor became better-off (in the 1970s and 1980s), the rich tended to get richer in even greater measure. Conversely, in the two decades (the 1960s and 1990s) when poverty increased, the incomes of the poor fell, but so too, and evidently too — on these data — to a proportionally greater extent, did the incomes of the rich. Changes in income have thus tended to be experienced similarly across the whole spread of the income distribution in Pakistan. Reductions in the level of poverty have not been brought about with redistribution, but — whether in periods of faster or slower growth — in circumstances in which gains in income have also been experienced by the non-poor.

Poverty projections: methodology and results

The ‘global’ projections part of this project first estimated a model of the relationship between the incidence of poverty according to the international ‘extreme’ poverty line of \$1 per day at 1985 PPP and real GDP per capita, using pooled international data consisting of 121 observations of poverty incidence and per capita income for 58 countries between 1985 and 1995. Then, on the basis of the poverty elasticities calculated for three sub-groups of cases, categorised according to the inequality of income distribution, projections of future poverty incidence in 2015 were calculated on a regional basis using growth rate forecasts produced by the World Bank (Hanmer and Naschold in this volume).

The approach taken here to assessing the likelihood of meeting the IDTs at the level of one country is different. The projections are a form of sensitivity analysis using various growth and income distribution scenarios, starting off from the situation in the latest year for which household income observations have been made. This makes it possible to identify the growth rates and distributional pattern needed to reach the target levels in the target year (2015). A time series elasticity-based estimate is not possible or desirable: first, only 8

6. The only exception to this is again the period around 1984-8, when falling poverty coincided with improvement in income distribution.

past observations of poverty incidence and income levels are available, too few for a reliable estimate to be derived. Secondly and more fundamentally, the history of structural economic change and imposition of different policy regimes is so complex in Pakistan that the assumption of structural constancy which is implicit in the application of elasticities is invalid in this case.

The IDTs set 1990 as the reference year for the targets. Thus the poverty reduction target for Pakistan is calculated from the estimated incidence of poverty in national household survey data covering the year 1990/91. (The data on which the actual projections are based comes from a later survey carried out in 1996/97, to the same specifications as the 1990/91 survey.) The projections are performed for two poverty lines: the poverty line that has been adopted in the most recent official documents, called here the 'national poverty line', and the poverty line used in the IDTs list itself, that is, the 'one dollar per person per day' line espoused by the World Bank (where the 'one dollar' refers to the US dollar at 1985 prices). In Pakistan rupees, the national poverty line was Rs 265 per month and the international poverty line Rs 185 per month in 1990.

Alternative growth rates used in the projections are in the range 1–3.5% per capita per annum. This sets an equivalent range to past aggregate growth rates of 6.8% in the 1960s, 4.8% in the 1970s, 6.5% in the 1980s, and 4.6% between 1990 and 1997, once Pakistan's high population growth rate of 3% and above is taken into account. The population growth rate is coming down, but remains very high in international terms. The latest intercensal population growth rate (1981-8) is estimated at 2.58% (*Economic Survey* 1998-9).⁷ In relation to the IDTs, the high rate of population growth means that the target real economic growth rates needed to attain the per capita growth rate requirements presented in the poverty and human development projections below are correspondingly high.

The choice of inequality alternatives in the projections needs to be explained. Three scenarios are specified, each with a level of inequality (Gini coefficient) experienced in the recent past (and thus not utopian):

- The low inequality or best-case scenario. As it happens, the most recent official national (PIHS) household survey dataset, 1996/97, shows the lowest level of inequality experienced over the past 35 years. The Gini coefficient measured 0.30 in that year (see Table 2).
- The moderate level of inequality scenario uses the value of the Gini coefficient observed in 1995/96, i.e. 0.38. This is also comparable to the levels prevailing during the 1970s and 1980s.

7. This estimate is based on the results of the 1998 Census (deferred from 1991), which are considered unreliable and an underestimate by many observers (Husain and Ercelawn, 1998).

- The worst-case scenario is taken to be the high level of inequality experienced in 1991/92, with a Gini coefficient of 0.47.

The method of making the poverty projections is as follows. First, current (1999) levels of poverty and income are estimated, as the baseline for the projections. This is done by grossing up the entire income distribution about the mean observed in the last available year of the PIHS dataset (1996/97) (with its Gini value of 0.30). The grossing up is by real growth rate of GDP posited in the national accounts for the intervening period.

Once this baseline profile is established, the next stage is to project the mean income level forward from 1999 to the specified year (2015) (and for selected intermediate years) for each of a range of given annual growth rates.⁸

Next, the alternative inequality scenarios are incorporated in the projections by imposing about the projected mean the characteristics of the distribution of the PIHS dataset associated with each of the three chosen inequality scenarios (i.e. 1996/67 for the low inequality scenario embodied in the grossing up procedure, or 1995/96 for the moderate inequality scenario, or 1990/91 for the high inequality scenario, as noted above). The incidences of poverty associated with each projection scenario are then estimated for the two poverty lines, using the World Bank's POVCAL software.⁹

Tables 3 and 4 give the poverty incidence projections in 2015, for a range of six projected growth rates, with three income distribution scenarios, for two poverty lines.

These projections demonstrate that it is very far from certain that the poverty reduction IDT will be met by Pakistan, even though this is the dimension in which its performance has been relatively good until recently. The recent upturn in poverty under adjustment has compromised the country's ability to reduce poverty in line with international aspirations. Now, attainment of the target is strongly contingent on a combination of favourable growth and low inequality

8. In fact a slightly lower rate of increase in personal consumption is imputed than the aggregate growth rate. The past relationship between growth in national income and in average consumption indicates that a ratio of 0.90 is appropriate to capture this divergence. The grossing up of 1996-97 values to 1998-99 also follows this procedure. If Pakistan should succeed in raising its extremely low rate of private savings (6% of GDP) then this divergence might even widen over time, but this is not allowed for in the projections.

9. Note that the POVCAL software is used for calculating poverty incidence, not for the income projections *per se*. Use of POVCAL for the actual projections is highly sensitive to the curvature of the income distribution line, i.e. to the precise choice of poverty line. It also implicitly assumes stability in the income distribution line over time, which is clearly inappropriate to Pakistan; and in general, the longer the projection period the more untenable this 'blanket' restriction becomes. The projections technique used here is not vulnerable to criticism on either point and it is much more flexible than POVCAL in allowing for various combinations of growth and income distribution.

levels. Moreover, there is a risk that the incidence of poverty will rise, rather than fall, relative to 1990 values. That is to say, *the change in income poverty may well be away from, not towards, the target*. A shift to any higher inequality than the low level of inequality (Gini value 0.30) associated with the base year, will bring about this outcome in the short term.

Table 3
Projections of poverty incidence in 2015 in Pakistan (%)
(National Poverty Line)
1990 level: 22%, hence target: 11%

<i>Real GDP Growth Per Capita (%)</i>	<i>Inequality Scenarios</i>		
	<i>Low</i>	<i>Moderate</i>	<i>High</i>
Low			
1.0	16	28	39
1.5	12	24	35
Moderate			
2.0	<11	20	32
2.5	<11	16	28
High			
3.0	<11	13	25
3.5	<11	<11	22

Note: Figures in italics represent a *rise* in poverty incidence compared to the reference year (1990). Figures in plain typeface represent a fall in poverty incidence compared to reference year (1990). Entries in **bold** meet the target.

The projections show that the target of halving poverty incidence by 2015 will only be achieved (in relation to the national poverty line) if real per capita GDP growth is substantial, with at least *2% per capita growth on average over the whole period* and at *low inequality* levels (see Table 3). If growth falls below 2% per capita and inequality shifts to the moderate or high, rather than the best case, scenario, by 2015 poverty will have *risen* in Pakistan relative to the reference year, not fallen at all. On past trends, a return to a downward trend in poverty, consequent on growth, is most likely to be accompanied by *increases* in inequality which will counteract the poverty-reducing effects of

growth.¹⁰ Adherence to the best-case scenario (with high growth rates and low inequality) may not be a realistic possibility. No feasible rate of growth can lead to attainment of the target if the worst case, high inequality scenario prevails. Taking all these possibilities into account, our best judgement is that the target will not be attained.

Table 4
Projections of poverty incidence in 2015 in Pakistan (%)
(International Poverty Line)
1990 level: 18%, hence target: 9%

<i>Real GDP Growth Per Capita (%)</i>	<i>Inequality Scenarios</i>		
	<i>Low</i>	<i>Moderate</i>	<i>High</i>
Low			
1.0	<9	<9	22
1.5	<9	<9	18
Moderate			
2.0	<9	<9	16
2.5	<9	<9	13
High			
3.0	<9	<9	11
3.5	<9	<9	9

Note: Figures in italics represent a *rise* in poverty incidence compared to the reference year (1990). Figures in plain typeface represent a fall in poverty incidence compared to the reference year (1990). Entries in bold meet the target.

Table 4 shows the projected levels of poverty in Pakistan in 2015 for the international extreme poverty line of \$1 a day at 1985 prices. Poverty incidence under this definition of poverty was 18% in 1990, and the target level for 2015 is thus 9%. Given the lower base line incidence of extreme income poverty, the outcome is relatively more sensitive to distributional change than to growth rates in this case.

10. The methodology for the projections precludes projections on the basis of interactive shifts in the inequality level over time within the projections period. The projections are limited to a given equality level for each projected poverty trajectory. Therefore no 'composite' trajectory, entailing changes in inequality within the projection period, can be quantified. But the general effect is clear.

Any positive rate of per capita growth will be sufficient to lift half the affected numbers of poor out of extreme poverty by 2015 and thus lead to attainment of the target, so long as the pattern of income distribution conforms to either the best-case or the moderate inequality scenario. If inequality worsens to the worst-case scenario, and a low per capita growth rate obtains, then progress towards the income-poverty reduction target is unlikely. But overall, the chances of both moving towards and actually attaining the income-poverty reduction target are considerably greater in relation to the international target for halving of 'extreme' poverty than for halving of poverty incidence according to the nationally promoted definition of poverty.

These projections encapsulate another simplification which also tends to overestimate the rate of poverty reduction. Higher-than-average population growth among the poor would increase poverty incidence, *ceteris paribus*. For example, if the poor population grows at 0.5% points more than the total (say, at 3.0 versus 2.5%), then poverty incidence in 2015 would be 10% higher than that in 1998. It is known that fertility is higher among lower income groups. The number of children ever born was 6.9 among women in the first (lowest) quintile compared with 5.8 among women in the fifth quintile in 1991 (World Bank, 1995: 63). We have been unable to model this impact, but it must depress the prognosis for attaining the poverty reduction targets according to both the international and the national poverty lines.

The Human Development Indicators and HDT projections

The infant mortality rate

The infant mortality rate is the only one of the human development health indicators for which data on Pakistan are adequate to support a projections exercise. As with income poverty data, there are various sources of data on different aspects of health, but the data series are inconsistent and incomplete. An adequate dataset for the projections is given in the government's *Economic Survey*, which is generally a reliable source, only for the infant mortality rate. It is unfortunate that this is so because, as we discuss below, the need for progress on some other health indicators is even more urgent and may be a feasible objective for public policy.

Since 1972 there has been only slow progress in bringing down the infant mortality rate in Pakistan. From a value of 140 in 1972, the current level is just below 100. This is significantly worse than the South Asian average rate of 83 (Hanmer and Naschold in this volume). It is also significantly (30%) higher than the average for countries of similar GDP levels (World Bank, 1995).

Many factors are likely to affect the IMR at different levels. First are household and personal factors, including income per household (i.e. growth

and poverty), food intake by expectant mothers, availability of and access to contraception (to space child births allowing for a better survival rate and health status for mother and child), literacy (especially female literacy), access to drinking water and sanitation facilities, and communications.

There would seem to have been little progress in Pakistan in this area. While per capita real incomes have risen significantly over time, household income should be decomposed to identify that portion controlled by those individuals whose expenditure decisions are most important to child survival, i.e. women. Although standard data sources are quite inadequate to capture this refinement, it is likely that the share of household income controlled by women remains very low in Pakistan, given the patriarchal nature of society and the extremely low participation rate of women in wage employment.¹¹ At any rate food intake by expectant mothers is worse than in other comparable countries (World Bank, 1995). Contraceptive use remains extremely low, with only 12% of married women of childbearing age using contraception in 1989 (World Bank, 1993) and only 21% of all currently married women having used contraception at any point (Husain and Ercelawn, 1998). Adult female literacy has doubled over the past 25 years, but is still extremely low at less than 40%. Pakistan does, however, rank relatively well among low-income countries with respect to the proportion of the population with access to safe water: 74% of the population had access to safe water in 1990–96 (UNDP, 1998).

Other explanatory factors relate to access to services, including basic health facilities, particularly to mother and child health centres and other services aimed at control of diarrhoeal disease, management of acute respiratory infection and nutrition (PDHS, 1992). Performance on these counts has been better and is probably responsible for most of the improvement in the IMR. The proportional numbers of doctors, hospitals, rural health centres and basic health units have seen two- to three-fold increases over the last three decades. For example, the doctor/population ratio rose from 1:14,343 in 1971 to 1: 1,880 in 1994 (Zaidi, 1999b).

The single most important factor to have had a positive affect on the IMR is probably the donor-funded immunisation programme, which began in 1982. In 1980 only 9% of one-year-olds in Pakistan were fully immunised against tuberculosis, a figure which rose to 78% in 1990–94; similarly, only 3% of one-year-olds were fully immunised against measles in 1980, compared to 65% in 1990–94 (MHCHD, 1998). The IMR declined faster in the 1980s than in either the 1970s or the 1990s, probably for this reason. Government campaigns for

11. The 1986–7 Labour Force Survey gave the female ‘labour force participation rate’ as 11.9% for both rural and urban areas in Pakistan. While totally inadequate as a measure of women’s contribution to the economy (World Bank, 1989), this may not be too far off the mark as a measure of women’s contribution to involvement in paid work, which is the relevant indicator for the point being made here.

immunisation (particularly against polio) have continued to be heavily advertised over the last five years, which suggests that the trend improvement in the IMR is likely to be maintained in future.

The immunisation programme encapsulates for Pakistan the ‘technological shift’ included in the global HDTs model (Hanmer and Naschold in this volume). If donor support for the programme continues, then it is likely that the IMR will continue to fall over the next two decades, whatever the performance of the economy. The IMR has fallen in the first half of the 1990s, even with a recession, and even if predictions are for slower growth in the next decade, progress in the IMR should continue independently of these trends.

For projecting future values of all the HDIs, simultaneous equations models were specified with the respective indicators as the dependent variable and GDP, total aid, sectoral expenditure and service infrastructure variables, as appropriate, as the independent variables. The equations for the IMR are as follows:

$$\text{IMR} = \alpha_0 + \alpha_1 (\text{PGDP}) + \alpha_2 (\text{HEXP}) + \alpha_3 (\text{BEDS}) + \mu$$

$$\text{PGDP} = \beta_0 + \beta_1 (\text{INV}) + \beta_2 (\text{TRADE}) + \beta_3 (\text{AID}) + \beta_4 (\text{HEXP}) + \beta_5 (\text{DOC}) + \beta_6 (\text{BEDS}) + \mu$$

where IMR = Infant mortality rate; PGDP = Predicted per capita GDP; HEXP = Government expenditure on health as a proportion of GDP; BEDS = Hospital beds per 1000 population; INV = Investment/GDP ratio; TRADE = Trade/GDP ratio; AID = Total foreign aid; DOC = Doctors per 1000 population.

The equations were estimated by two-stage least squares and the elasticity of the dependent variable to growth in GDP per capita then calculated. The elasticity of IMR to GDP was estimated at -0.484 (a much lower value than the analogous elasticities reported in the global study) (Hanmer and Naschold in this volume).

The results of the IMR projections are set out in Table 5. Several per capita growth scenarios are given; but for all of them, constant levels of government expenditure on health as a proportion of GDP, and no future changes in the characteristics of the health sector (encapsulated in numbers of beds proportional to population), are assumed.

Although the IMR declines steadily over the period of the projections, the various scenarios show clearly that the outcome is related only weakly to growth in per capita GDP. This is a consequence of the low IMR-per capita GDP growth elasticity. The range of the IMR value for the target year varies between 87 and 65. This is much less, proportionally, than the range of growth rates (ranging from 1.5 to 4% per capita in real terms — a high upper end for the growth rate projection is tried to explore whether the target might be within

reach on the most favourable growth scenario imaginable). This is consistent with the understanding, as discussed above, both that other factors have far more influence on the IMR than does economic growth, and that the IMR, like other mortality and health variables, is subject to an autonomous (downward) shift over time, independently of growth, representing continued technical progress in the bio-medical field.

The target that needs to be reached is for reduction of the IMR from the 1990 rate of 107 by two-thirds to 36 by 2015. These projections suggest that reaching the target is completely unattainable in Pakistan, even if the economy grows at an extremely high rate. Drastic changes in sectoral policy and/or the level of efficacy of expenditure would be needed to change the outcome.

Table 5
Projections for the infant mortality rate in 2015 in Pakistan
1990 level: 107 hence target: 36

<i>Real GDP Growth</i>	<i>Per Capita %</i>	2005	2010	2015
Low Growth	(1.5)	94	91	87
Moderate Growth	(2)	92	88	83
High Growth	(3)	88	82	74
Very High Growth	(4)	84	74	65

Education indicators

Modelling primary enrolments and progress towards the targets

Many developing countries, including some from among the poorest countries, have moved forward quickly towards universal primary education and are well on course to attain the IDTs in this regard. Not so Pakistan. In 1978 Pakistan's 15-year Perspective Plan set 1988 for achieving universal primary education (SPDC, 1998) but it failed to meet this. Later a new target was set to increase primary enrolment to 76.5% by 1995 (the end of the Social Action Programme Phase I; see below). For boys the target was 89.3%, and for girls, 63.3%. This new target has not been achieved either.

However, enrolment rates for both boys and girls did grow more rapidly in the 1980s and early 1990s than in earlier years. The new policy to increase primary education — particularly for girls, in order to redress the gender imbalance in primary enrolments and overall shortcomings in social development — has had a significant effect (SPDC, 1998).

Table 6
Net primary enrolment rates in Pakistan 1948–95 (%)

<i>Year</i>	<i>Total</i>	<i>Boys</i>	<i>Girls</i>
1948	19.9	32.5	6.0
1950	21.7	35.8	6.0
1960	28.1	42.5	11.8
1970	38.8	54.2	21.6
1980	41.9	55.1	27.6
1990	54.0	69.4	38.4
1995	61.9	73.6	49.3

Source: SPDC, 1998:19.

The elasticities of these various education indicators to GDP per capita was calculated in the same way as for the IMR. The model used to calculate the elasticities of primary and secondary enrolment ratios with respect to per capita GDP growth, estimated by two-stage least squares, is as follows:

$$\text{PTE or PFE} = \alpha_0 + \alpha_1 (\text{PGDP}) + \alpha_2 (\text{PEXP}) + \mu$$

$$\text{PGDP} = \beta_0 + \beta_1 (\text{INV}) + \beta_2 (\text{TRADE}) + \beta_3 (\text{AID}) + \beta_4 (\text{PEXP}) + \beta_5 (\text{TEXP}) + \mu$$

where; PTE = Net enrolment rate (PTE – total and PFE - female separately); PGDP = Predicted per capita GDP; PEXP = Government expenditure on primary and secondary education as a proportion of GDP; INV = Investment/GDP ratio; TRADE = Trade/GDP ratio; AID = Total foreign aid; and TEXP = Total government expenditure on education as a proportion of GDP. This gives the following results.

Table 7
Education elasticities

<i>Variable</i>	<i>Elasticity to GDP per capita</i>
Net primary enrolment rate (total)	1.16
Net female primary enrolment rate	1.72
Net secondary enrolment rate (total)	1.80
Net female secondary enrolment rate	3.16

As with the IMR elasticity, these are all extremely low values of the elasticities compared to the international averages estimated by Hanmer and

Naschold (article in this volume).

The application of these elasticities to future GDP growth generates projections for the future values of the various indicators, for growth rates varying between 1 and 3%. As before, the structural sectoral features are held constant in the projections (i.e. the expenditure variable is unchanged). Tables 8-10 give the projections. They show that achieving universal primary enrolment by 2015 appears to be possible, if moderate real per capita growth is achieved, at just over 2% in real terms. However, if there is no improvement on the average per capita growth rate of the 1990s (approximately 1.6%) before 2015, the primary education target will not be met.

Table 8
Projections for net primary enrolment rate – total; %
Target: 100 by 2015

<i>Real GDP Growth</i>	<i>Per capita % growth</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>
Low Growth	(1.5)	80	86	93
Moderate Growth	(2)	83	91	99
High Growth	(3)	91	100	100

However, this relatively optimistic forecast needs to be qualified. First, the model does not allow for non-linearity. Getting the final third of children into school is going to be much harder than the previous two-thirds, since these will be children from generally the poorest (and remotest) of families, and, for females, the most conservative of families. Secondly, the model makes no explicit allowance for levels of poverty. If poverty does not reduce appreciably, then GDP growth may not be as effective in increasing enrolments as the model predicts. Thirdly, the forecasts do not allow for falling real public expenditure on education. Sharp reductions may occur in social sector expenditure if the current political situation leads inward resource flows (donor aid) to be cut back.

The gender equality targets in primary and secondary education

The projections indicate that the target for eliminating gender inequality in primary and secondary education by 2005 is not attainable under any scenario. Table 9 shows that there is a positive but weak relationship between gender equality and growth at primary level. Gender convergence is only slightly more rapid at higher growth rates. Yet even in the most optimistic scenario, with the very highest GNP growth rate, at primary level the gender gap is not eliminated by 2005, with a 7 point difference remaining between the female and total

enrolment rates. Even in the very high growth scenario, female and total enrolment rates are not equalised till 2015, ten years after the target date. In the low growth rate scenario, there is a gender gap of 8 percentage points between girls' and total enrolment in 2005 and full equality is not attained even by 2015.

Table 9
Projections for net primary enrolment rate – total and female; %
Target: 100 by 2015

<i>Real GDP Growth</i>	<i>Per capita % growth</i>	<i>Total 2005</i>	<i>Female 2005</i>	<i>Total 2010</i>	<i>Female 2010</i>	<i>Total 2015</i>	<i>Female 2015</i>
Low Growth	(1.5)	80	72	86	79	93	87
Moderate Growth	(2)	83	76	91	85	99	97
High Growth	(3)	91	84	100	99	100	100

Table 10
Projections for net secondary enrolment rate – total and female; %
Target: 100 by 2015

<i>Real GDP Growth</i>	<i>Per capita % growth</i>	<i>Total 2005</i>	<i>Female 2005</i>	<i>Total 2010</i>	<i>Female 2010</i>	<i>Total 2015</i>	<i>Female 2015</i>
Low Growth	(1.5)	24	17	27	20	29	24
Moderate Growth	(2)	26	19	29	23	33	27
High Growth	(3)	28	22	33	28	39	35

For secondary education, the picture is similar. In this case, the gap between total and female enrolments is almost invariant to the growth rate. At the target date of 2005, it is around 6 percentage points. This represents a gap of approximately 10 points between female and male rates, meaning that male enrolment rates are about 50% higher than female at the low overall rates experienced in Pakistan. Even at the highest growth rates, gender equality is not attained at secondary level even ten years after that, in 2015.

Specific additional policies to promote women's economic and political empowerment will clearly be needed in Pakistan to advance gender equality. There is no hope of attaining the gender educational equality targets without continued special policy efforts directed at increasing girls' access to education.

Causes of poor past HDI performance

Examination of the reasons behind past events is essential if the projections to 2015 are to be placed in context and the plausibility of drastic policy change is to be assessed. In relation to the human development targets, this reduces the question to: Why are Pakistan's human development indicators so poor? The answer is related, but not straightforwardly, to the low levels of total expenditure (public and private) that have been allocated to the social sectors over many years.

Pakistan's level of total *public* expenditure is not low by international standards. Public expenditure has been around 25% of GDP since the mid-1980s (*Economic Survey*, various years), and by this measure the 'size of the state' in Pakistan conforms to the norm for its income level (World Bank, 1996). But within this total, there has been a long history of unusually low levels of public expenditure on the social sectors. For example, expenditure on health compares badly with most other developing countries. In 1990, it amounted to 1.8% of GDP, compared with an average of 2.5% for sub-Saharan Africa, 2.4% for Latin America and 2.4% in North Africa, the Middle East and Central Asia (World Bank, 1993). In absolute terms, it was approximately \$6.5 per capita in 1990, compared with the \$12 per capita estimated by the World Bank as the annual cost of provision of minimum preventive and essential clinical services (*ibid.*).

The low level of public social expenditure is attributable in part to extremely high levels of defence spending in Pakistan, which is one of the most militarised countries in the world. Annual defence expenditure amounted on average to 6.6% of GDP between 1985 and 1992, 5.6% from 1993 to 1995–6, and 5.0% in 1996–7 and 1997–8.¹² Defence expenditure accounts for more than a third of public expenditure. In conditions of fiscal constraint, as in Pakistan, a high level of defence expenditure — against which sovereign borrowing cannot be undertaken — has knock-on effects on the resource-raising capacity of the state for other purposes.

Defence expenditure has complex consequences for development. While it is believed to have had a neutral effect on economic growth in Pakistan (Looney, 1995, 1994), its poverty impact has not been analysed in the literature. It may have contributed to the relatively equal distribution of income, through the employment effect of having a large standing conscript army (of 580,000 men (IISS, 1999), many of whom are drawn from poor rural areas).

On the other hand, the high share of public expenditure devoted to defence has undoubtedly, in the context of a weak fiscal structure, held back the level of social sector and other developmental spending in Pakistan over a long period (Looney, 1994) and thus contributed to the country's poor human development

12. This reduction may have been a factor behind the military coup of October 1999.

performance. Over time, and as other developing countries improve their human development indicators, this particular consequence of high levels of defence expenditure will become increasingly significant and damaging to Pakistan's development record.

As a result of low levels of spending on health and education, social service facilities in both health and education in the public sector are few in number, particularly in rural areas. Their poor operational efficiency means that the services they provide are of poor quality and not geared to meet the demands of the local population (World Bank, 1995). Furthermore, in Pakistan, in contrast to many other countries, the private sector fails to make up for any deficiencies in the public sector. In relation again to health, the comparison with India is revealing: while in Pakistan the private sector is slightly smaller than the public sector, in India the private sector is about three and half times larger than the public sector in expenditure terms. In consequence, total per capita health expenditure is almost twice as high in India (\$21) as in Pakistan (\$12) (World Bank, 1993). Moreover, the private sector in Pakistan consists largely of commercial operations, which do not address public health needs. The NGO sector is exceptionally weak in Pakistan (Zaidi, 1999a). In many other developing countries, NGOs often provide preventive as well as curative services which supplement the public sector to a greater or lesser extent. Private sector health services in Pakistan address needs for curative care for the most privileged populations in urban areas, and are scarcely present at all in rural areas.

As suggested above, Pakistan ranks very poorly on most indicators of women's relative health status. This includes, most graphically, as noted, a 50% higher mortality rate among female children than male, and low food intake for pregnant women, but it also encompasses lower female than male life expectancy, a sex ratio of the population skewed towards men (with only 91 females for every 100 males in the population in 1985), a very high rate of female deaths from childbirth-related causes, high incidence of low birth weights (World Bank, 1989), and huge unmet needs for contraception (by an estimated 40% of married women) (Husain and Ercelawn, 1998). These outcomes reflect inadequate health provision for women across the whole range of preventive and curative services in Pakistan, but they have a wider significance.

Pakistan, like many other societies but arguably to a greater degree than most, has a strongly patriarchal gender system. There is no generally agreed way of assessing the degree of gender stratification in force in a particular society. The various indices developed by the United Nations (notably the UNDP Gender Development Index, which ranks countries according to size of gender disparities exhibited in various developmental indicators) and an alternative index developed by Kishor and Neitzel (1996) each have their uses, but they focus on social and economic outcomes and empowerment rather than

the underlying determinants, in terms of the character of gender relations and ways in which gender power is routinely exercised. Two decrees introduced in Pakistan in the previous period of military rule, from 1977 to 1985, under General Zia, are egregious manifestations of a social order in which discrimination against women is routine, systematic and pervasive. They exemplify the low esteem in which women are held by elected political authorities at all levels (including the ruling president and the parliamentary representatives who endorsed the measures at the time and have acquiesced in their enforcement ever since), to the extent of its codification into law. Despite the stipulation in the 1973 Constitution that there should be no discrimination on the basis of sex, in 1979 Zia promulgated the Hudood Ordinance (covering theft, drunkenness, adultery, rape and bearing false witness) and in 1984 the Law of Evidence. (It is notable that these provisions were added so recently and not enshrined in the founding articles of the state.) Under the Hudood Ordinance, a woman who registers a case of rape can, by her own admission, be prosecuted for adultery, while the rapist goes free for lack of evidence (the required evidence is the eye-witness of four adult male Muslims of good repute). The Law of Evidence prescribes that in all other cases two male witnesses, or in the absence of two male witnesses, one male and two female witnesses, are required for proving a crime (World Bank, 1989: xxvii). These laws have not been rescinded by the civilian regimes which succeeded Zia, including that of Benazir Bhutto, and indeed in recent years governments have suggested that further restrictions against women might be introduced. It is not surprising in this context to find that, according to some commentators, overall gender disparities are widening in Pakistan (MHCHD 1999).

We suggest that the private sector (both market and non-profit) is a particularly poor basis for meeting human development needs and complementing shortfalls in public provision when society is strongly patriarchal, as in Pakistan, since gender biases affect both the expression of, and responses to, needs and the composition of household expenditure for purchased health care. A study of relative household expenditure on health in Pakistan found proportionally greater expenditure on males, even in situations where, on the basis of experience in other countries, women's agency — the effective expression of their own preferences and ability to address their own interests — would modify the outcome. In Pakistan, even where a woman (or women together) provided the bulk of household income, male health was still prioritised in health expenditure (Beall, 1995).

The evolution of human development policies: some suggestions

There is no clear argument, related to growth or poverty reduction, in favour of pressing for reduction in the level of defence spending in Pakistan. Given the

current political situation, it would be unrealistic to promote such a policy in any event. In fact, as one analyst suggests, '[a] policy of controlling defense expenditure while expanding non-defense spending and revenues might.... provide the best basis for high sustained growth' (Looney, 1994:419). On the other hand, reduction in the share of defence in total public expenditures would undoubtedly release resources for sorely needed development expenditures, which the imbalances in Pakistan's development performance suggest should, as a matter of urgency, be devoted to improvements in human development levels. A compromise solution might be a policy for the development impact of defence expenditure to be enhanced. For instance, there could be a realignment of defence infrastructure investments away from the present emphasis on roads towards construction of, for example, wells and buildings for social sector services in rural areas, and the deployment of the armed forces in vaccine delivery and other public health operations; there are precedents for such activity in other developing countries.¹³

In the past few years Pakistan has in fact made some attempt to address its dismal human development record. The Social Action Programme (SAP) now provides the framework for all social development policies (Planning Commission, 1999). The SAP is a large, umbrella expenditure programme. Although it was initiated, in 1993, with much preparatory support and public fanfare from donors, the programme involves only about 20% donor funding. It claims to cover social sector (mainly education, health, water and sanitation) service provision in an integrated way, but is in fact strongly biased in favour of education, which accounts for 75% of total expenditures (World Bank, 1994). Despite its high profile, the SAP has not had the effect of raising social expenditures in the 1990s as a share of GDP. But given the budgetary stringency of the period, it may have protected and mobilised more resources than would otherwise have been available for social sector spending. As with the IDTs, an explicit objective of the SAP — and this is perhaps its main innovative feature — is to reduce gender inequalities. This orientation was reiterated in the April 1999 national poverty reduction strategy document (Planning Commission, 1999). But to date action against gender bias has been limited, in effect, to education.

The total net primary school enrolment rate has risen only slightly since 1993. This does not inspire confidence in the potential of the SAP substantially to improve human development in Pakistan. Nevertheless, the figure for total enrolments conceals an almost 20% increase in girls' net enrolments in that period (from 49% in 1993 (itself representing a marked increase over the 41%

13. Gerald Bloom, IDS, personal communication. In early 1999, the ousted civilian regime deployed the armed forces in the collection of electricity arrears (one-third of consumers do not pay their utility bills) (Bennett Jones, 1999).

level of the previous year) to 60% in 1997). Accordingly, by 1996–7 the ratio of girls' to boys' enrolments was 42%, representing a clear improvement over time even if it seemed to presage a shortfall against the SAP target of 45% for 1998. The SAP may thus certainly be said to have contributed to an acceleration of the catch-up in girls' enrolments (SPDC, 1998). It remains to be seen whether the approach of the SAP is adequate to improve girls' rate of retention in school, relative to boys, in future.¹⁴

It is this improvement which underlies the relatively favourable projection for the attainment of gender equality in primary enrolments in Pakistan, presented in the HDI forecasts above. Further reduction of the gender gap in education is likely to be contingent on continued (external and internal) funding for the SAP. Continued efforts towards policies specifically to promote girls' access to, and success with, the education system will certainly continue to be needed.

Nevertheless, the experience of the SAP to date suggests that the public education function and corrective prioritisation of resource allocations in publicly funded social services can be quite successful in counteracting gender biases. To match the modest but real successes in the education field, public policies in Pakistan need also to develop, adopt and implement policies that explicitly target reduction in gender disparities in the health status of the population, particularly the child population, as well. The public sector must expand its lead role in addressing gender biases in human development. Only in this way can the disparity between Pakistan's poverty reduction efforts and its poor human development performance begin to be reduced more broadly.

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14. The gap between boys' and girls' enrolments at the primary level has fallen even more markedly for gross than for net enrolment rates. Between 1991 and 1996–7, the GER for girls increased from 59 to 64%, while for boys, it fell from 86 to 80%.

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