

## CHAPTER 3

# Provinces and human development

**T**he 2008/2009 Philippine Human Development Report (PHDR) is the sixth in its series, and the fifth update of the provincial human development indices (HDIs). It covers the period 2004 to 2006, encompassing the 2004 presidential and local elections, various challenges to the President's legitimacy, and ten destructive typhoons that struck the country in 2006, affecting 2.4 million families. The gross domestic product (GDP) from 2004 to 2006 grew by 4.3 percent, higher than the country average over the previous two decades. So if performance were to be gauged based on GDP alone, the country's economic development managers would receive high marks. However, it is *outcomes* that matter from a human development perspective rather than *incomes*.

The first PHDR [1994] contained only regional estimates of HDIs. Provincial estimates for 1991 and 1994 were introduced in the second Report [1997]. Succeeding issues in 2000 and 2002 likewise compared provincial HDIs for 1994 and 1997, and for 1997 and 2000, respectively. The fifth Report [2005] then presented a provincial HDI series comparable over time covering 1997, 2000, and 2003. This series is extended to 2006 and further reestimated and refined for comparability based on new census and survey data for this sixth Report.

Other measures related to human development—Gender-related Development Index (GDI) and the Human Poverty Index (HPI)—are likewise updated in this Report.

## Human Development Index

The HDI is a summary measure of human development that seeks to measure the average achievement in a country in three basic dimensions of human development: a long and healthy life, knowledge, and a decent standard of living [UNDP, 2007]. It is motivated by the principle that income alone cannot faithfully reflect the basic dimensions of human development. Income is a *means* toward human development, not an *end*. The United Nations Development Programme (UNDP)

publishes a global Human Development Report (HDR), which quantifies these three dimensions across countries using life expectancy at birth, adult literacy and combined primary, secondary, and tertiary enrollment rates, and adjusted per capita GDP in purchasing power parity (PPP) US dollars.

In the latest edition of the HDR for 2007/2008, the Philippines ranked 90th among 177 countries, down six places since the preceding computation when it was ranked 84th. Although its ranking dropped, the country remained in the category of countries with “medium human development” and its HDI maintained its upward trend from 0.758 in 2000 to 0.771 in 2005. Functional literacy rates and gross enrollment rates continued to be above that of the medium group average by 18.7 percent and 24.2 percent, respectively, an advantage that allowed the country to rank much better in terms of HDI than in terms of per capita GDP by 11 notches. Its GDP per capita relative to the group average did improve, however, from a level slightly below the group average in 2000 to a level 5 percent above it. The Philippines also maintained its creditable record in the Gender-related Development Index (GDI), a measure that adjusts HDI for gender inequality. Among the 157 countries with a similar GDI value, the Philippines’ rank was four notches better than its HDI rank.

Its position among other countries notwithstanding, what is more useful for domestic policy purposes are the subnational disparities in the measured subcomponents of human development, which are not revealed by national averages. This chapter presents these subnational or interprovince measures and identifies which provinces have performed better or worse across time in each component of the Human Development Index.

## Longevity

A long and healthy life is proxied by achievements in life expectancy at birth. Life expectancy figures for 2006 are derived from a straight-line regression using newly computed life tables based on 2000 Census data [Cabigon, 2009] and previous life tables for 1995 [Cabigon and Flieger, 1999]. This improves

on the life expectancy estimates presented in the last five issues of the PHDR, which relied on the same straight-line interpolation using data points for years 1990 and 1995. **Table 3.1** shows the provinces with the highest and lowest life expectancy projections for 2006 while **Figure 3.1** shows provinces with the largest and smallest gains in life expectancy between 1980 and 2006.

**Table 3.1 Life expectancy (2006)\***

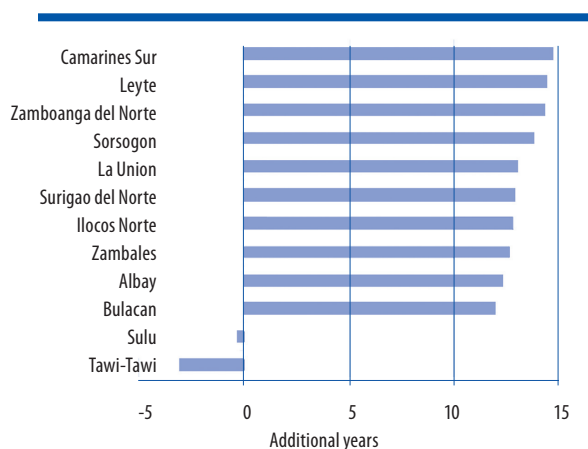
Top Ten	Years	Bottom Ten	Years
La Union	74.6	Agusan del Norte	63.6
Bulacan	73.4	Mt. Province	62.8
Ilocos Norte	73.0	Apayao	62.8
Camarines Sur	73.0	Palawan	62.7
Benguet	72.9	Kalinga	61.9
Cebu	72.6	Ifugao	61.2
Batangas	72.6	Lanao del Sur	58.7
Pampanga	72.4	Maguindanao	57.6
Cagayan	72.0	Sulu	55.5
Albay	71.9	Tawi-Tawi	53.4

\* Linear projection based on 1995 and 2000 actual estimates

Source: Statistical Annex 1

On the average, those born in 2006 in La Union are expected to live 74.6 years, the longest among Filipinos, followed closely by those from Bulacan, Ilocos Norte, Camarines Sur, and Benguet. On the other hand, those born in four provinces in the Autonomous Region of Muslim Mindanao (ARMM), four provinces in the Cordillera Administrative Region (CAR), Palawan, and Agusan del Norte are expected to live the shortest. Those in the ARMM provinces of Tawi-Tawi, Sulu, Maguindanao, and Lanao del Sur are worst off, with those in Tawi-Tawi expected to live 21 years less than those in La Union. The high disparity in life expectancy observed across provinces is likely explained by disparities in access to quality health care.

**Figure 3.1 Largest and smallest gainers:  
Life expectancy (1980-2006)\***



\*For 1980, actual estimates from Flieger and Cabigon [1994].  
For 2006, linear projection from 1995 and 2000 actual estimates

Changes in life expectancy are better manifested over long periods. Over the last 26 years from 1980 to 2006, life expectancy improved for all provinces except two—Tawi-Tawi and Sulu, where life expectancy alarmingly dropped from 56.4 years to 53.4 years (or by 10.6 percent) and 55.8 to 55.5 years (or by 0.9 percent), respectively.

Maguindanao and Lanao Sur registered small gains, as did Batanes, Palawan and, surprisingly, Pangasinan. The biggest improvements were registered in Camarines Sur, Leyte, and Zamboanga del Norte, where more than 14 years were added to life expectancy, followed by Sorsogon, La Union, Surigao del Norte, Ilocos Norte, Zambales, Albay, and Bulacan. On the national level, Filipinos born in 2006 live 70.6 years or about eight years longer on the average compared to those born in 1980, an improvement in the life expectancy of roughly three years every decade.

## Knowledge

In the PHDR, subnational achievements in knowledge are measured as a weighted average of the high school graduate ratio and the basic education enrollment rate. Introduced in the 2002 PHDR, these components modify the education index as computed by the global HDI. High school

graduate ratio, given a weight of two-thirds, is the proportion of at least high school graduates among individuals aged 18 and above and is a good approximate of adult literacy rate used by the global HDI. Basic education enrollment rate, given a weight of one-third, is the gross enrollment rates in elementary and high school (see Technical Notes).

**Table 3.2 High school graduate ratio (2006)**

Top Ten	Percent	Bottom Ten	Percent
Benguet	76.6	Basilan	38.9
Rizal	73.9	Western Samar	37.4
Cavite	73.7	Tawi-Tawi	37.4
Laguna	72.5	Northern Samar	34.9
Bataan	72.0	Zamboanga del Norte	34.0
Pangasinan	69.8	Negros Oriental	33.6
La Union	66.5	Masbate	32.3
Batanes	65.5	Davao Oriental	29.9
Pampanga	65.3	Sarangani	28.4
Abra	64.7	Sulu	23.1

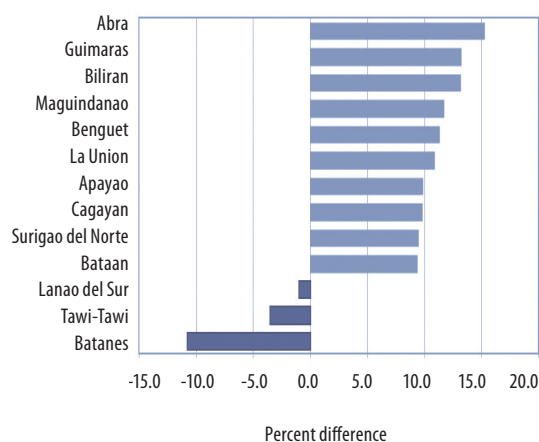
Note: Metro Manila 81.1  
Source: Statistical Annex 1

For the country as a whole, the proportion of high school graduates among adults in 2006 was 55 percent, an improvement of three percentage points and about nine percentage points from its 2003 and 1997 levels, respectively. Metro Manila tops the rankings with about four in every five adults finishing high school. Benguet follows closely with about seven in every nine adults completing secondary education (**Table 3.2**). As expected, provinces contiguous to the metropolis such as Rizal, Cavite, and Laguna have relatively high ratios as do provinces along the northern Luzon corridor of Bataan, Pampanga, Pangasinan, La Union, and Benguet.

Abra registered the greatest improvement, with an increase of 15 percentage points from its value in 2003, followed by Guimaras and Biliran with a

13 percentage point increase (**Figure 3.2**). Other provinces with gains of at least nine percentage points include Maguindanao, Benguet, Apayao, and Surigao del Norte. Only three provinces out of 78 registered drops in ratios, led unexpectedly by Batanes, which had the highest ratio in 2003 but registered a decrease of almost 11 percentage points in 2006. Tawi-Tawi and Lanao del Sur also slid by 3.5 and 1 percentage point, respectively.

**Figure 3.2 Largest gainers and losers:  
High school graduate ratio (2003 vs. 2006)**



Source: Statistical Annexes 1 and 2

Unlike the high school graduate ratio, basic education enrollment rates hardly improved in the overall, staying steady at 91 percent between 2002 and 2004. Alarming, enrollment rates actually dropped in three quarters of all the provinces.

The province of Batanes remained on top spot, as it did in 2002, with all primary school-age children enrolled, followed closely by Mt. Province, Camiguin, and Benguet (**Table 3.3**). New entries to the top list were Aurora, Rizal, Ilocos Sur, Antique, Surigao del Sur, Camiguin, and Misamis Occidental, which replaced Zambales, Misamis Oriental, Kalinga, Ifugao, Aklan, Ilocos Norte, and Southern Leyte, which ranked high in 2002. The bottom list was still dominated by Mindanao provinces, including Lanao Sur, Bukidnon, Davao Oriental, North Cotabato, Tawi-Tawi, and Zamboanga del

**Table 3.3 Basic enrollment rate (2004)**

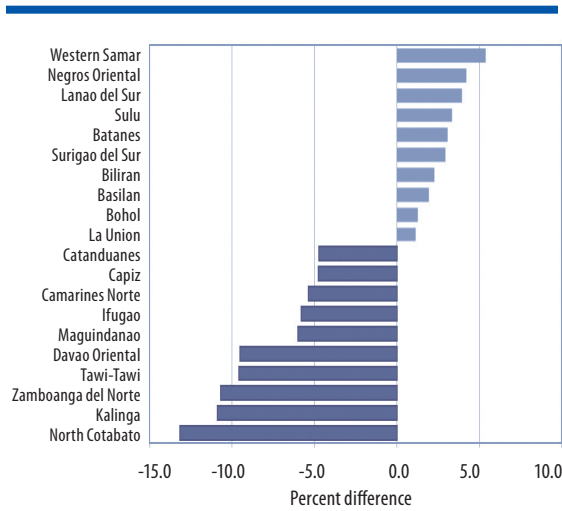
Top Ten	Percent	Bottom Ten	Percent
Batanes	100.0	Lanao del Sur	85.0
Mt. Province	94.6	Bukidnon	84.6
Camiguin	94.3	Kalinga	83.2
Benguet	93.8	Davao Oriental	81.9
Misamis Occidental	93.4	Tawi-Tawi	81.8
Surigao del Sur	93.4	Negros Oriental	81.0
Antique	92.8	North Cotabato	79.6
Ilocos Sur	92.8	Zamboanga del Norte	79.4
Rizal	92.5	Sarangani	78.7
Aurora	92.5	Maguindanao	75.2

Note: Metro Manila 92%  
Source: Statistical Annex 1

Norte. Basilan and Sulu moved out of the bottom list, however, as did Camarines Sur, Biliran, and Western Samar.

Among the largest gainers in basic enrollment were Western Samar, Negros Oriental, Lanao del Sur, Sulu, Batanes, and Surigao del Sur, each registering at least three percentage points more from 2002 levels (**Figure 3.3**). These improvements were enough for Western Samar and Sulu to move out of the bottom list within the last two years. Very worrisome declines are observed in provinces such as North Cotabato, Kalinga, Zamboanga del Norte, Tawi-tawi, and Davao Oriental, which experienced a drop of 10 percentage points or more.

**Figure 3.3 Largest gainers and losers:  
Basic enrollment rate (2002 vs. 2004)**



Source: Statistical Annexes 1 and 2

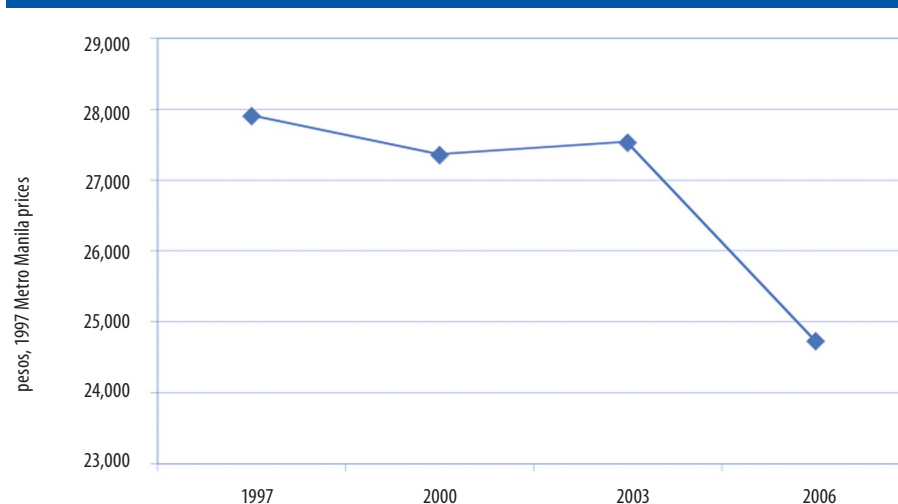
## Standard of living

In the HDI, a decent standard of living is proxied by an income measure, which serves as a surrogate for all the dimensions of human development not reflected in a long and healthy life and in knowledge [UNDP, 2007]. Ideally, a decent standard of living per province would be measured by provincial

per capita GDP. However, per capita GDP data is disaggregated up to the regional level only. Thus, estimates for provincial per capita income are based on the Family Income and Expenditures Survey (FIES), albeit with two adjustments introduced in the 2002 PHDR to ensure comparability over time and space. First, nominal income is adjusted to 1997 price levels using published regional consumer price indices. Second, income estimates are adjusted using provincial cost-of-living indices estimated by Balisacan [2001].

Extracting provincial-level estimates from the FIES has been highly problematic through the years, and the estimation using the latest FIES in 2006 is no exception. In the course of computing real per capita incomes using the 2006 FIES, unusually large income variances were observed within each province, higher in fact than those encountered using the 2003 FIES [Box 3.1]. Further, the problem could not be addressed by computing for 1 percent *trimmed mean* of per capita income across all provinces (which was the rule applied to the 2003 FIES data) or, for that matter, any uniform trimmed mean up to 5 percent. Instead, a *non-uniform* trimming rule was applied: Data from each province was trimmed up to the point where within-province variances came as close to the variances observed in 2003. Because of this, the

**Figure 3.4 Mean per capita income (1997-2006)**



Source: Statistical Annexes 1 to 4

## Box 3.1 The Family Income and Expenditure Survey: Indispensable but how reliable?

The Family Income and Expenditure Survey (FIES) is the most comprehensive source of information on household incomes used in computing human development indicators. This nationwide survey has been undertaken every three years by the National Statistics Office (NSO) since 1985 (prior to 1985, it was undertaken in 1957, 1961, 1965, 1971, and 1975), during which time the questionnaire design, procedure, and processing systems have largely been maintained.

The FIES is designed to be representative to the regional level, as are other household surveys of the NSO. Because regional estimates are of little use for policy purposes, however, practitioners, including the Human Development Network, have extracted provincial-level income estimates. Used with caution, these estimates have been deemed acceptable for getting a picture of relative trends in welfare over time.

Beginning 2003, however, unusually large income variances within provinces were observed.<sup>1</sup> Specifically, when the FIES 2003 was used to estimate provincial per capita incomes for the 2005 Philippine Human Development Report (PHDR), it was observed that most coefficients of variation (CVs) of mean provincial per capita incomes were extremely high compared to CVs computed in the previous FIES years [Box Table 11]. This problem was addressed by the *trimmed means* technique, which entailed excluding samples at the extreme ends to obtain the true mean income of each province (see Technical Notes). However, when the same 1 percent—or 0.5 percent from both ends—trimming rule used on the 2003 FIES was applied to the 2006 FIES data for this Report, CVs for majority of the provinces did not substantially improve.

**Box Table 11** Per capita income coefficient of variations across time

Year	Minimum	Maximum
1997	98.1	16.7
2000	178.9	9.9
2003	272.8	16.6
2006	128.6	19.6

Further, the 2003 and 2006 FIES nonresponse rates—the percentage of unsuccessful interviews to target sample size—increased **fivefold** to 16 and 22 percent, respectively, from previous averages of 3 percent from 1985 to 1994 and 3.5 percent for 1997 and 2000 [Box Table 12].

**Box Table 12** FIES nonresponse rates (1985–2006)

Survey year	Target sample size*	No. of successful interviews	Nonresponse rate
1985	17,495	16,971	3.0
1988	19,897	18,922	4.9**
1991	25,516	24,789	2.8
1994	25,516	24,797	2.8
1997	41,000	39,520	3.6
2000	41,000	39,615	3.4
2003	50,000	42,094	15.8
2006	50,000	38,483	23.0

\* Target sample size was adjusted in each survey round to account for population growth and ensure reliability of estimates derived from the survey data.

\*\* All records for the province of Rizal were lost to a fire and counted as nonresponse.

The reasons for nonresponse included refusals, critical peace and order condition in survey areas, and migration. It is difficult to attribute such a large increase in nonresponse solely to these reasons, however. More than likely,

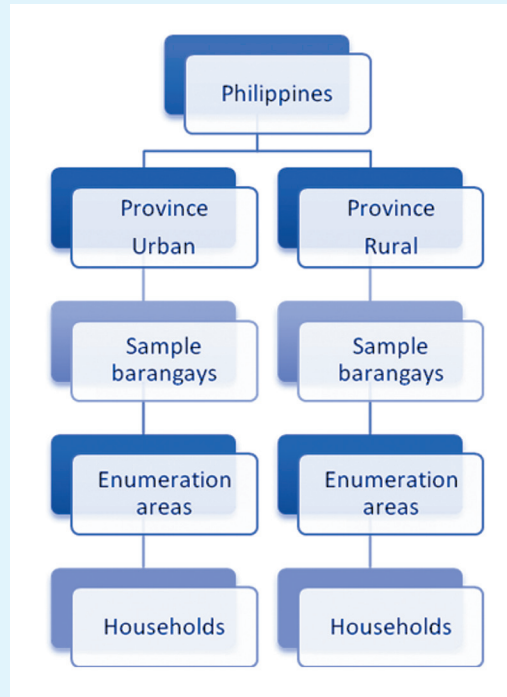
significant modifications to the FIES sampling design and data collection procedures that were introduced in 2003 played a part. What were these modifications?

## Sampling design

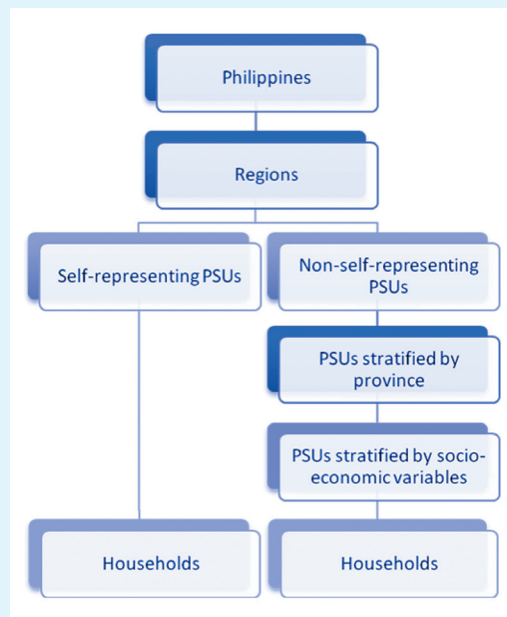
The FIES sampling design adopts the integrated survey of households sampling scheme. From 1985 to 2000, this has been a multistage design consisting of barangays as *primary sampling units* (PSUs) and urban and rural areas of each province as *domains*. The first stage involved the selection of sample barangays within each domain followed by the selection of sample households within the sampled barangays at the second stage. In 1997, an additional stage identifying *enumeration areas* was added before the selection of sample households [Box Figure 2]. Further, 23 more domains were included and more samples—41,000 households from 25,000 previously—targeted.

A totally different sampling design was introduced in 2003 as a result of the new master sample being implemented in all household surveys conducted by the NSO [Box Figure 3]. Now, the regions are the domains, and barangays (or a group of contiguous barangays within the municipality) with at least 500 households are the PSUs. The PSUs are then classified as either *self-representing* or *non-self-representing*. Self-representing PSUs are large PSUs where the certainty of being sampled is high. Non-self-representing PSUs undergo further stratification by province and then by proportion of strongly built houses, proportion of households engaged in agriculture, and per capita municipal income. Enumeration areas are then sampled from the sampled PSUs in each explicit stratum. The final stage is the selection of sample households within the enumeration areas.

**Box Figure 2** Integrated survey of households sampling scheme (1985-2000)



**Box Figure 3** Integrated survey of households sampling scheme (beginning 2003)



## Rotation of samples

All the household surveys of the NSO identify respondents from the master sample. To avoid respondent fatigue, a rotation scheme is devised to avoid the possibility of interviewing a set of samples repeatedly in a short period of time. Previous to 2003, one-fourth of the samples were replaced every quarter. Since the FIES is conducted every three years, there were no sample overlaps between two survey rounds.

The latest master sample follows the same frequency of replacement in a given year (quarter replacements). However, half of selected samples are common for a quarter in consecutive years (i.e., if respondent X was sampled for the January round of Labor Force Survey or LFS in year Y<sub>1</sub>, then he will be interviewed again for the January round of LFS in the following year Y<sub>2</sub>). In the case of FIES, a quarter of the respondents in the 2003 survey round were also respondents in the 2006 survey round.

## Manner of data collection

The survey rounds of 1985 to 2000 adopted the “shuttle type” of data collection: The respondents were interviewed twice in separate survey operations but using one questionnaire to record all responses. The first visit, conducted in July, used January 1 to June 30 of the same survey year as reference period, while the second visit, conducted in January of the year following the survey year, used July 1 to December 31 of the survey year as reference period. This scheme was designed to minimize memory bias among respondents and to capture seasonality of household income sources and expenditure patterns.

Starting in 2003, the shuttle questionnaire was no longer used. Rather, responses of the same household were recorded in two separate questionnaires, one per visit.

Clearly, the high CVs and nonresponse rates observed of the FIES are alarming enough to merit an immediate evaluation by the NSO of its survey methodology, particularly the innovations undertaken in recent years. If the country is to meet its goals as regards reducing income poverty and improving human development outcomes in the overall, policy makers need to be able to locate the poor and monitor the impact of programs and policies at a fine level of disaggregation and with some degree of confidence. However, if the reliability of the FIES continues on its downward trend, this information will not be forthcoming.

<sup>1</sup> The CVs are relatively high to begin with because these are computed at per capita levels of incomes while the FIES is a household survey. If CVs are computed for household incomes, the values are actually low as can be seen in official data publications of per capita incomes.

**rankings** of provinces with respect to levels of per capita income and changes in these levels between 2003 and 2006 cannot be viewed as precise.

On the average, real per capita incomes have been declining [Figure 3.4]. The national estimate for 2006 is P24,727, or about 10 percent lower than the estimate in 2003. Curiously, the national income accounts reported a steady positive growth in per capita GDP over the same period, indicating a disconnect between the behavior of the macro economy (its expansion) and per capita income levels.

The decrease in mean per capita income is reflected in per capita income declines in 50 provinces between 2003 and 2006. Table 3.4 shows the top gainers and losers (again, these relative rankings must be viewed with caution). Tawi-Tawi experienced the sharpest decline with an almost 42 percent decrease in real per capita income. Other provinces that experienced dramatic declines are Lanao del Sur (33 percent), Apayao (24 percent), and Abra (24 percent). The top gainer is the island province of Siquijor whose average per capita income increased by 43.6 percent from 2003 levels, followed closely by Biliran with an increase of 27.5 percent. The provinces of Guimaras, Lanao del Norte, and Iloilo experienced an increase of between 10 and 16 percent in annual per capita incomes.

Table 3.5 shows the top and bottom provinces in terms of real per capita income levels for 2006 (NCR 1997 pesos). These top-ranked provinces also topped the 2003 list, with the exception of Ilocos Norte, which replaced Tarlac. Likewise, the bottom-ranked provinces largely remained unchanged from 2003, with the exception of Sorsogon and Lanao del Sur, which replaced Guimaras and Marinduque.

**Table 3.4 Top gainers and losers:  
Real per capita income (2003 vs. 2006)\***

Top gainers	Percentage change	Top losers	Percentage change
Siquijor	43.6	Tawi-Tawi	-41.7
Biliran	27.5	Lanao del Sur	-32.7
Guimaras	15.8	Apayao	-23.9
Lanao del Norte	10.8	Abra	-23.5
Iloilo	10.2	Sorsogon	-21.8
Palawan	9.0	Eastern Samar	-20.0
Southern Leyte	7.7	Camiguin	-18.5
Batanes	6.8	Camarines Sur	-17.1
Surigao del Sur	6.6	Oriental Mindoro	-17.1
Zamboanga del Norte	6.2	Antique	-16.9

\*Using non-uniform trimming for 2006

Note: Metro Manila -6.9%

Source: Statistical Annexes 1 and 2

**Table 3.5 Real per capita income  
(2006, in NCR 1997 pesos) \***

Top Ten	Real per capita income	Bottom Ten	Real per capita income
Benguet	36,355	Sarangani	15,801
Nueva Vizcaya	36,120	Maguindanao	15,681
Batanes	33,578	Romblon	15,186
Bataan	31,640	Zamboanga del Norte	15,156
Laguna	30,838	Sorsogon	14,858
Pampanga	30,647	Lanao del Sur	14,281
Cavite	30,539	Masbate	13,624
Rizal	30,525	Basilan	12,206
Ilocos Norte	29,953	Sulu	7,594
Quirino	29,564	Tawi-Tawi	6,664

\*Using non-uniform trimming

Note: Metro Manila P37,309

Source: Statistical Annex 1

## HDI levels

As explained in the Technical Notes, the HDI is calculated as a simple average of indices for each of the three dimensions discussed above.

The PHDR computes two sets of HDIs. The first, **HDI-1**, is used to compare performance across provinces and employs the modified measures for knowledge and standard of living described above. The second, **HDI-2**, is used to compare provinces with other countries and thus follows the global HDI methodology for comparability. **Table 3.6** compares the computations of the three HDIs: global, HDI-1, and HDI-2. In each case, an index of 1 signifies a perfect HDI.

Because of the refinements to the data and methodology, the results in this Report should not be compared to the results featured in the 2005 PHDR. Rather, comparable indices for all the previous provincial HDI years (1997, 2000, and 2003) are presented in **Statistical Annexes 2 to 4**. Unless otherwise indicated, any reference to the HDI in the following text refers to HDI-1.

The top and bottom ten provinces based on HDI for 2006 are displayed in **Table 3.7**. The top

HDI provinces are all in Luzon. Based on the recomputed HDI for 2003 (**Statistical Annex 2**), these top provinces also topped the list in 2003, with the exception of La Union which is new to the top list, dislodging Bulacan. The bottom four provinces in 2006 were likewise the bottom four in 2003, but three provinces that were not there in 2003 moved into this year's bottom list: Lanao del Sur, completing the list of ARMM provinces, Eastern Samar, and Romblon. These provinces replaced Surigao Sur, Agusan del Sur, and Northern Samar. As it was in 2003, seven out of the ten bottom provinces in terms of HDI are from Mindanao.

A positive value when comparing a province's ranking based on per capita income to its ranking based on the HDI indicates greater achievements in human development outcomes relative to incomes. That is, gains in per capita income are effectively leveraged into equivalent or better gains in human development. This is true for all provinces in the top list with the exception of Batanes and Nueva Viscaya, which have a negative difference in ranking of five and seven notches, respectively. Maguindanao, Sarangani, and Eastern Samar, which are in the bottom list, also registered negative differences.

**Table 3.6** Indicators used in HDI computation

HDI	Long and healthy life	Knowledge I	Knowledge II	Standard of Living
Global HDI (For intercountry comparisons)	Life expectancy	Simple literacy	Combined elementary, secondary, and tertiary enrollment rate	GDP per capita in purchasing power parity US\$
Maximum	85	100	100	40,000
Minimum	25	0	0	100
HDI-1 (For interprovincial comparisons)	Life expectancy	% of adult high school graduate	Combined elementary and secondary enrollment rate (7-16 yrs)	Real per capita income in NCR 1997 prices
Maximum	85	100	100	Highest income across time from 1997 to 2006
Minimum	25	0	0	Lowest income across time from 1997 to 2006
HDI-2 (For international comparisons)	Life expectancy	Functional literacy	Combined elementary, and secondary enrollment rate (7-16 years)	Per capita income in purchasing power parity US\$
Maximum	85	100	100	40,000
Minimum	25	0	0	100

**Table 3.7 Human Development Index-1 (2006)**

Top Ten	Index	Per capita Income Rank minus HDI rank	Bottom Ten	Index	Per capita Income Rank minus HDI rank
Benguet *	0.787	0	Romblon	0.487	2
Rizal*	0.725	6	Zamboanga del Norte	0.487	2
Cavite *	0.718	4	Eastern Samar	0.484	-3
Bataan *	0.716	0	Sarangani	0.475	-3
Laguna	0.708	0	Masbate	0.457	2
Pampanga	0.706	0	Lanao del Sur	0.445	0
Ilocos Norte	0.700	2	Basilan	0.434	1
Batanes	0.699	-5	Maguindanao *	0.430	-6
Nueva Vizcaya	0.699	-7	Tawi-Tawi *	0.332	1
La Union	0.692	4	Sulu *	0.326	-1

\*Rankings robust all trimming rules applied to 2006 FIES data shown in Statistical Annex 11. The other provinces are robust to other rules' top and bottom lists but without their rankings.

Note: Metro Manila .795

Source: Statistical Annex 1

**Table 3.8 Top HDI gainers and comparative gap improvements**

HDI-1 rank		Province	HDI 1	Gap improvements per dimension		
2003	2006			Life expectancy index	Education index 1	Income index 1
1	1	Benguet *	17.1%	13.6%	28.9%	9.8%
61	29	Biliran *	15.9%	4.5%	21.1%	18.1%
58	31	Siquijor *	14.8%	4.6%	5.2%	24.4%
8	4	Bataan	12.2%	5.5%	22.3%	10.0%
19	12	Iloilo	11.3%	7.6%	13.5%	11.6%
57	39	Guimaras	10.5%	4.9%	17.3%	8.9%
33	23	Lanao del Norte	9.8%	5.1%	12.0%	11.0%
37	25	Cagayan	9.0%	14.7%	15.1%	3.0%
9	7	Ilocos Norte	8.7%	10.1%	14.9%	3.4%
23	19	Ilocos Sur	7.2%	4.4%	16.4%	3.0%

\*Robust to all trimming rules applied to 2006 FIES data shown in Statistical Annex 11, but without rankings. The other seven provinces are robust to other rules' top 11 lists.

Source: Statistical Annexes 1 and 2

## Changes in the HDI

Between 2003 and 2006, HDI levels increased for 51 provinces and declined for 27, including Metro Manila. Changes are based on an estimate of a **gap improvement**, or how far a province is from the perfect HDI of 1.0, computed by the formula:

$$\text{Gap improvement} = (\text{HDI}_t - \text{HDI}_{t-1}) / (1 - \text{HDI}_{t-1})$$

**Table 3.8** shows the top gainers in HDI-1 between 2003 and 2006. The gainers are led by Benguet, Biliran, and Siquijor, which moved between 15 and 17 percent closer to the perfect HDI score of 1 from their previous level in 2003. It is noted that this list is quite stable, with the three provinces remaining on top, regardless of the trimming rule applied to the 2006 FIES data.

Others in the top ten are Bataan from Central

Luzon, Iloilo and Guimaras from Panay, Lanao del Norte from the south, and Cagayan, Ilocos Norte, and Ilocos Sur from the north.

**Table 3.8** also gives some indication of what may have propelled these provinces into the top list. For instance, for all provinces except Siquijor, gains in education seem to have driven gap improvements. For Siquijor, as well as for Biliran and Lanao Norte, improvements in the income index are notable. Benguet, Cagayan, and Ilocos Norte may have also been helped by improvements in life expectancy.

Of course, it is difficult to isolate the exact reasons behind a province's change in relative standing. Since sub-indices of all provinces moved between 2003 and 2006, it could very well be that a province was pushed to the top of the list because other provinces were pushed down for various reasons.

The corresponding bottom list of HDI gainers is shown in **Table 3.9**. Note that this list is less stable than the top gainers list. Specifically, only six out of these ten bottom provinces remain in the bottom lists generated by other trimming rules applied to FIES 2006 data.

Given earlier observations about positive trends in life expectancy and high school graduation ratios (which comprise two-thirds of the education index),

it is no surprise that the negative HDI gap changes for these bottom provinces are largely driven by decreases in the income index drive.

## International comparisons

If provinces were countries unto themselves, how would they fare against other countries? To answer this question, HDI-2 computations are juxtaposed against selected 2006 country figures from the global HDR for 2007/2008 [**Table 3.10**]. Note that there is less variation in the HDI-2 estimates across provinces compared to HDI-1 estimates. This is because of the relatively high interval in income thresholds (difference between the minimum and maximum) set in computing the international HDI.

Unlike in the 2005 Report, all provinces now fall under the "medium" human development category, defined in the 2007/2008 Global Human Development Report as countries with HDI levels between 0.799 and 0.500. At the top of the list, Metro Manila finds itself between Lebanon and Peru, higher than Thailand, but lower than Turkey. Benguet's HDI-2 is roughly equivalent to that of Armenia, while Cebu's is equal to that of the Palestinian territories. Davao del Sur, Abra, and Bohol lie between Nicaragua and Uzbekistan.

**Table 3.9** Top HDI losers and comparative gap changes

HDI-1 rank		Province	HDI 1	Gap changes per index		
2003	2006			Life expectancy index	Education index 1	Income index 1
36	50	Antique*	-4.9%	3.9%	6.1%	-18.6%
31	47	North Cotabato*	-5.4%	7.4%	-6.6%	-10.9%
2	5	Laguna	-5.6%	4.8%	19.4%	-39.2%
44	64	Apayao	-6.6%	2.5%	11.4%	-28.0%
46	65	Kalinga	-7.2%	2.8%	-5.0%	-15.7%
16	22	Zambales	-7.3%	3.7%	2.8%	-19.4%
29	45	Ifugao*	-8.1%	2.6%	-2.1%	-23.6%
24	40	Capiz*	-8.2%	2.5%	1.9%	-26.0%
76	76	Tawi-Tawi*	-8.5%	3.0%	-13.1%	-13.5%
65	73	Lanao del Sur*	-9.9%	3.5%	1.5%	-27.2%

\*Rankings aside, robust to other trimming rules' bottom lists.

Source: Statistical Annexes 1 and 2

**Table 3.10 Provinces versus countries\***

Country/Province	HDI-2	Country/Province	HDI-2	Country/Province	HDI-2	Country/Province	HDI-2
Bosnia and Herzegovina	0.802	Syrian Arab Republic	0.736	Biliran	0.689	Davao Oriental	0.635
Turkey	0.798	Ilocos Norte	0.736	Lanao del Norte	0.689	Masbate	0.635
Dominica	0.797	Palestinian Territories	0.731	Quirino	0.688	Namibia	0.634
Lebanon	0.796	Cebu	0.731	Vanuatu	0.686	Kalinga	0.632
Metro Manila	0.792	Gabon	0.729	Tajikistan	0.684	Ifugao	0.628
Peru	0.788	Turkmenistan	0.728	Quezon	0.684	Catanduanes	0.627
Colombia	0.787	Indonesia	0.726	Camiguin	0.681	Congo	0.619
Thailand	0.786	Guyana	0.725	Surigao del Norte	0.681	Bhutan	0.613
Ukraine	0.786	Bolivia	0.723	Oriental Mindoro	0.678	India	0.609
Benguet	0.778	Zambales	0.721	Zamboanga del Sur	0.677	Lao PDR	0.608
Armenia	0.777	Cagayan	0.721	Aklan	0.673	Sarangani	0.606
Iran	0.777	Misamis Oriental	0.721	Aurora	0.673	Lanao del Sur	0.602
Tonga	0.774	Iloilo	0.721	Southern Leyte	0.673	Basilan	0.592
Grenada	0.774	Mongolia	0.720	Leyte	0.673	Solomon Islands	0.591
Rizal	0.773	Moldova	0.719	Davao del Norte	0.671	Myanmar	0.585
Jamaica	0.771	Viet Nam	0.718	South Africa	0.670	Cambodia	0.575
Belize	0.771	Albay	0.718	Bukidnon	0.669	Comoros	0.572
Suriname	0.770	Isabela	0.717	Sultan Kudarat	0.664	Yemen	0.567
Jordan	0.769	Equatorial Guinea	0.717	Botswana	0.664	Pakistan	0.562
Dominican Republic	0.768	Egypt	0.716	Agusan del Norte	0.663	Sulu	0.560
Saint Vincent	0.766	Nueva Vizcaya	0.716	Romblon	0.661	Mauritania	0.557
Bulacan	0.763	Honduras	0.714	Capiz	0.660	Swaziland	0.542
Cavite	0.763	Sorsogon	0.714	Guimaras	0.658	Maguindanao	0.535
Georgia	0.763	Pangasinan	0.714	Surigao del Sur	0.653	Ghana	0.533
China	0.762	Cape Verde	0.705	Mt. Province	0.651	Madagascar	0.533
Tunisia	0.762	Nueva Ecija	0.705	Negros Oriental	0.650	Kenya	0.532
Samoa	0.760	Ilocos Sur	0.704	Siquijor	0.650	Nepal	0.530
Azerbaijan	0.758	Camarines Sur	0.703	Apayao	0.649	Sudan	0.526
Batanes	0.757	Uzbekistan	0.701	North Cotabato	0.647	Bangladesh	0.524
Laguna	0.754	Bohol	0.701	Northern Samar	0.647	Haiti	0.521
Bataan	0.754	Abra	0.700	Antique	0.647	Papua New Guinea	0.516
Batangas	0.754	Davao del Sur	0.699	Morocco	0.646	Cameroon	0.514
La Union	0.753	Nicaragua	0.699	Sao Tome and Principe	0.643	Djibouti	0.513
Pampanga	0.753	Negros Occidental	0.699	Palawan	0.642	Tanzania	0.503
Paraguay	0.752	Guatemala	0.696	Eastern Samar	0.640	Senegal	0.502
Maldives	0.749	South Cotabato	0.695	Occidental Mindoro	0.639	Tawi-Tawi	0.500
Algeria	0.748	Kyrgyzstan	0.694	Western Samar	0.638	Nigeria	0.499
El Salvador	0.747	Misamis Occidental	0.694	Camarines Norte	0.637	Lesotho	0.496
Fiji	0.743	Tarlac	0.693	Agusan del Sur	0.636	Uganda	0.493
Sri Lanka	0.742	Marinduque	0.692	Zamboanga del Norte	0.636	Angola	0.484

\*Province HDI-2 figures for 2006, country figures for 2006

At the bottom, Tawi-Tawi is sandwiched between Nigeria and Senegal, Maguindanao with Ghana, and Sulu with Mauritania and Pakistan.

## Gender-related Development Index

Averages are usually insufficient in representing the characteristics of ethnic, gender, or income subgroups where larger disparities may exist. The Gender-related Development Index (GDI) is a composite indicator of human development that adjusts the HDI for the inequality in achievements between men and women. It is the HDI discounted for gender inequality. If, on the average, human development is the same for both genders, then the GDI and the HDI will be identical.

Like the HDI, two sets of estimates are computed for the GDI. GDI-1 uses the same data as the HDI-1 and is used for interprovincial comparisons. On the other hand, GDI-2 uses the same data as HDI-2 and is used for international comparisons.

**Table 3.11** shows the top and bottom provinces in terms of GDI-1. Except for Bulacan which replaced Pampanga, all the provinces in the top ten are also in the top ten for the HDI. For these two provinces, this means that while human development is on average better in Pampanga, Bulacan is actually better off discounting for inequalities in achievements between men and women.

Further, a positive value for HDI rank less GDI rank, such as for La Union and Bataan, indicates that a province is on average better off in terms of human development discounting for gender inequalities. **Statistical Annex 5** shows positive values for 42 out of 77 provinces. Relatively large improvements in ranking were recorded for Nueva Ecija (+10), Antique (+8), and Marinduque (+7).

With the exception of Davao Oriental, all provinces in the bottom list for GDI are also in the bottom list for HDI. Davao Oriental replaced Zamboanga del Norte, which moved up in ranking by three notches when moving to its GDI ranking. Provinces which registered relatively large downward adjustments when moving to their GDI rankings include Davao del Norte (-16), Guimaras (-14), Quirino (-10), and Palawan (-9).

**Table 3.11 Gender-related Development Index-1 (2006)**

Top Ten	Index	HDI rank minus GDI rank	Bottom Ten	Index	HDI rank minus GDI rank
Benguet	0.696	0	Davao Oriental	0.472	-2
Bataan	0.660	2	Eastern Samar	0.471	1
Cavite	0.656	0	Romblon	0.469	-2
Rizal	0.651	-2	Masbate	0.446	1
Laguna	0.648	0	Lanao del Sur	0.436	1
La Union	0.645	4	Sarangani	0.435	-2
Batanes	0.640	1	Maguindanao	0.409	1
Nueva Vizcaya	0.631	1	Basilan	0.387	-1
Ilocos Norte	0.629	-2	Tawi-Tawi	0.344	0
Bulacan	0.626	1	Sulu	0.328	0

Note: Metro Manila 0.710  
Source: *Statistical Annex 5*

**Table 3.12 Selected internationally comparable provincial GDI\***

Country/Province	GDI-2	Country/Province	GDI-2	Country/Province	GDI-2	Country/Province	GDI-2
Mauritius	0.795	Bataan	0.652	South Cotabato	0.592	Pakistan	0.537
Thailand	0.785	La Union	0.650	Tarlac	0.591	Occidental Mindoro	0.537
Peru	0.784	Pampanga	0.646	India	0.591	Yemen	0.535
Lebanon	0.783	Batanes	0.646	Biliran	0.591	Palawan	0.533
Turkey	0.780	Ilocos Norte	0.631	Myanmar	0.581	Kenya	0.531
Iran	0.769	Cebu	0.630	Quirino	0.579	Ifugao	0.528
China	0.760	Namibia	0.629	Southern Leyte	0.571	Swaziland	0.527
Indonesia	0.719	Morocco	0.620	Cambodia	0.571	Catanduanes	0.526
Viet Nam	0.717	Cagayan	0.620	Oriental Mindoro	0.571	Sarangani	0.506
Uzbekistan	0.698	Iloilo	0.619	Bukidnon	0.569	Cameroon	0.505
Metro Manila	0.686	Nueva Vizcaya	0.614	Comoros	0.565	Djibouti	0.504
Nicaragua	0.684	Congo	0.612	Sultan Kudarat	0.565	Lanao del Sur	0.504
Palestinian Territories	0.678	Sorsogon	0.608	Capiz	0.563	Nigeria	0.485
Benguet	0.669	Pangasinan	0.606	Romblon	0.558	Maguindanao	0.471
Rizal	0.665	Bhutan	0.604	Mauritania	0.550	Basilan	0.466
South Africa	0.663	Nueva Ecija	0.604	Northern Samar	0.550	Gambia	0.465
Bulacan	0.662	Lao PDR	0.601	Siquijor	0.549	Togo	0.460
Botswana	0.660	Camarines Sur	0.600	Zamboanga del Norte	0.545	Sulu	0.459
Cavite	0.659	Abra	0.600	Eastern Samar	0.544	Guinea	0.412
Batangas	0.654	Ilocos Sur	0.599	Davao Oriental	0.541	Tawi-Tawi	0.410
Laguna	0.653	Bohol	0.595	Western Samar	0.541	Mali	0.382

\*Province GDI-2 figures for 2006, country figures for 2006  
 Source: Statistical Annex 5 and UNDP [2007]

Using GDI-2, **Table 3.12** indicates how provinces compare to other countries in terms of gender-related human development.

## Income poverty and human poverty

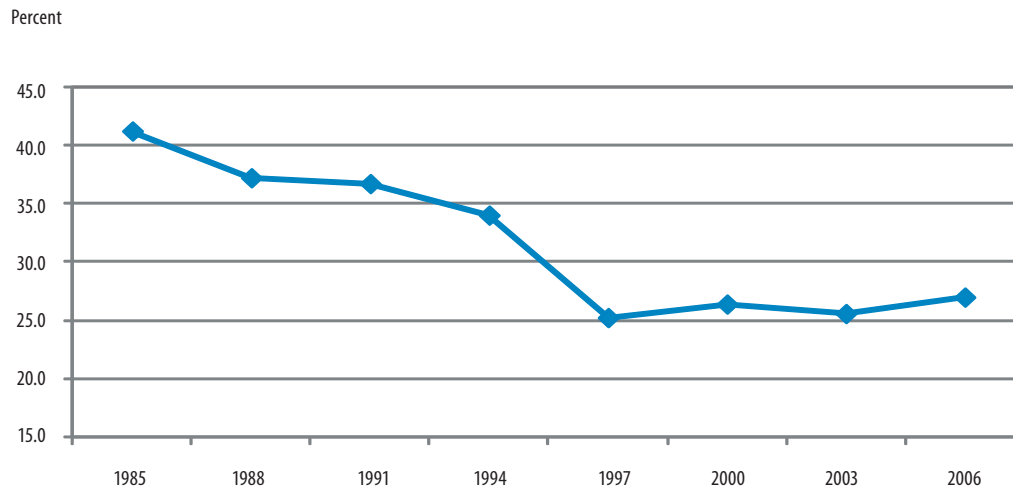
Poverty incidence is a general measure of well-being, more popular than the HDI or the GDI. It is defined as the proportion of the population whose income falls below a specified poverty line. The poverty line is the amount of money just sufficient to meet a person's most basic food and nonfood needs.

The Report uses poverty lines developed by

Balisacan [2001] in calculating poverty incidence. These lines are adjusted for inflation as well as for cost of living differences to be more appropriate for interprovincial comparisons. Following his methodology, the Report also uses per capita expenditure instead of per capita income because theory suggests that it is more reflective of permanent income and is likely more accurate given the level of detail at which it is obtained.

The household income and consumption data used for poverty estimation were only available beginning 1985 [Figure 3.5]. From that time until 1997, results show a relatively impressive decline in poverty incidence of about 3 percent average per year. Beginning 1997, poverty incidence slightly fluctuated, increasing from 25.2 percent in 1997 to 26.4 percent in 2000, then declining to 25.6 percent

**Figure 3.5 Poverty incidence (1985-2006)**



in 2003. In the most recent period between 2003 and 2006, poverty incidence rose again from 25.6 percent to 27 percent. The poverty incidence after the nine-year period from 1997 to 2006 is now higher than the rate in 1997.

Aside from poverty incidence, **Statistical Annex 6** shows the levels in the *depth* and *severity* of poverty for all provinces for the years 1997, 2000, 2003, and 2006. Poverty depth is an indicator of the incidence of poverty adjusted for how far the poor are, on average, from the poverty line. For two provinces with the same incidence, one with a higher poverty depth means that, on average, its poor are poorer (or farther from the poverty line). Poverty severity is similar to poverty depth, except that it also accounts for the inequality among the poor.

Poverty measures are presented for completeness only; the extensive data transformations applied to 2003 and 2006 FIES data thwart a precise comparison. Specifically, the data trimming done for FIES 2003 and 2006 (see Technical Notes) might have corrected the problem in averaging indicators, but it did not necessarily address problems in estimating other indicators such as measures of poverty.

## Human Poverty Index

The Human Poverty Index (HPI) captures deprivation beyond that of income poverty alone. While the HDI measures overall progress in three dimensions of human development, the HPI, in contrast, measures deprivation in these same dimensions: longevity, as measured by the probability at birth of not surviving to age 40; knowledge, as measured by the adult illiteracy rate; and overall economic provisioning both public and private, as measured by the percentage of people not using improved water sources and the percentage of children under five who are underweight (both receiving equal weights). The indicators used in the Report are the same as those used by the UNDP to compute the global HPI. An HPI closer to 0 indicates greater progress in reducing relative deprivation.

**Table 3.13** shows the top and bottom provinces in terms of HPI and—again, for completeness—how provinces fare when moving from their income poverty rank to their HPI rank in 2006. A positive value indicates that the province may be doing relatively better in terms of addressing deprivations in basic economic provisioning, knowledge, and longevity than what incidence of income

poverty may suggest. A negative value indicates the opposite. Among the provinces with the least HPI, all show gains in ranking when moving from income poverty to human poverty outcomes, except Pampanga, which shows a loss in ranking. Catanduanes, Guimaras, and Sarangani do worse when moving from income poverty to human poverty outcomes, registering huge downward adjustments in ranking.

**Table 3.13 Top and bottom provinces in HPI (2006)**

Top provinces (least poor)	HPI	Income poverty rank minus HPI rank	Bottom provinces (most poor)	HPI	Income poverty rank minus HPI rank
Laguna	8.2	5	Western Samar	24.8	0
Bataan	8.3	5	Catanduanes	25.3	-24
Bulacan	8.3	7	Basilan	26.9	4
Batangas	8.7	19	Guimaras	27.3	-45
Cavite	8.9	0	Masbate	28.0	1
Rizal	9.1	3	Lanao del Sur	28.9	-1
Zambales	9.2	8	Sarangani	30.0	-24
Pangasinan	9.6	16	Sulu	33.3	2
Pampanga	9.7	-8	Maguindanao	33.4	-10
Misamis Oriental	9.9	20	Tawi-Tawi	42.4	-1

Note: Metro Manila 6.9  
Source: Statistical Annexes 6 and 7

## Inequality

Measures of inequality are another set of welfare indicators. These are often referred to as distribution measures of income, although for consistency, per capita consumption is used in this Report. The simplest indication of the distribution is the share of certain population percentiles (normally the extremes) to the total. Ratios shown in these report are shares of the poorest and richest deciles as

well as shares of the richest and poorest quintiles. Another common measure (but more complicated to measure) is the Gini coefficient. This index takes on values between 0 and 1. A low value implies a more equitable distribution of income.

Examining the indices, ARMM provinces appear to be the most equitable in all the inequality measures (Table 3.14). Indeed widespread poverty may be a great equalizer. Interestingly, newly created provinces—Guimaras, Sarangani, and Apayao—also figure in these three lists.

**Table 3.14 Most equitable provinces (2006)**

Ratio: Richest 10% to poorest 10%		Ratio: Richest 20% to poorest 20%		Gini Index	
Sulu	3.2	Sulu	2.4	Sulu	0.183
Tawi-Tawi	4.5	Tawi-Tawi	3.1	Tawi-Tawi	0.242
Lanao del Sur	4.8	Lanao del Sur	3.5	Lanao del Sur	0.263
Guimaras	5.5	Maguindanao	3.9	Guimaras	0.300
Apayao	5.7	Guimaras	4.0	Apayao	0.305
Maguindanao	5.7	Apayao	4.2	Maguindanao	0.311
Sarangani	6.6	Basilan	4.4	Basilan	0.320
Sultan Kudarat	6.8	Sarangani	4.5	Sarangani	0.323
Ifugao	6.8	Ifugao	4.7	Nueva Ecija	0.329
Basilan	7.0	Sultan Kudarat	4.7	Sultan Kudarat	0.331

Source: Statistical Annex 8

**Table 3.15 Least equitable provinces (2006)**

Ratio: Richest 10% to poorest 10%		Ratio: Richest 20% to poorest 20%		Gini Index	
Eastern Samar	20.9	Camiguin	11.7	Eastern Samar	0.513
Lanao del Norte	17.3	Eastern Samar	11.4	Lanao del Norte	0.501
Zamboanga del Norte	16.7	Lanao del Norte	10.9	Camiguin	0.501
Camiguin	16.3	Zamboanga del Norte	10.2	Zamboanga del Norte	0.495
Biliran	15.9	Biliran	9.3	Biliran	0.471
Negros Oriental	15.1	Misamis Oriental	9.0	Negros Oriental	0.456
Misamis Oriental	14.5	Negros Oriental	9.0	Albay	0.445
Cebu	13.7	Cebu	8.6	Catanduanes	0.439
Albay	13.2	Albay	8.3	Northern Samar	0.438
Iloilo	12.6	Northern Samar	8.1	Misamis Occidental	0.430

Source: Statistical Annex 8

On the other end of the spectrum, **Table 3.15** lists the least equitable provinces in 2006. High on the list in almost all the measures is Eastern Samar. Other provinces common to all the measures are Lanao del Norte, Zamboanga del Norte, Camiguin, Biliran, Negros Oriental, and Albay.

**Table 3.16** shows the provinces with most improved and worsening inequality between 2003 and 2006. Computed as a gap change, a negative value indicates a movement toward greater equality. Provinces showing greater equality include Antique, Lanao del Sur, Camirines Norte, and Capiz. Provinces with worsening equality include Northern Samar, Catanduanes, Eastern Samar, and Camiguin.

**Table 3.16 Most and least improved provinces based on Gini indices (2003 and 2006)**

Provinces showing greater equality	Percentage change	Provinces showing greater inequality	Percentage change
Antique	-28.8	Northern Samar	11.2
Lanao del Sur	-24.7	Catanduanes	9.0
Camarines Norte	-17.9	Eastern Samar	8.5
Capiz	-17.0	Camiguin	8.5
South Cotabato	-15.6	Zambales	7.5
Camarines Sur	-14.5	Apayao	3.0
Guimaras	-13.3	Biliran	2.6
Abra	-13.2	Albay	1.2
Zamboanga del Sur	-12.6	Romblon	0.9
Masbate	-12.5	Rizal	0.8

Source: Statistical Annex 8

# Other indicators

## Unemployment and underemployment

Provincial unemployment and underemployment rates in 1997, 2000, 2003, and 2006 are shown in **Statistical Annex 9**. These were estimated using definitions of the National Statistics Office which categorize as unemployed those who, during the reference period (week preceding survey), (i) actively looked for work but did not find work and (ii) those who had no work and who are not looking for work for any reason except schooling, housekeeping, young or old age, retirement, or permanent disability (any of which would exclude them from the labor force). The underemployed are people who are currently employed but who are looking for additional hours of work.

**Tables 3.17 and 3.18** show provinces with the highest and lowest rates of unemployment and underemployment in 2006, respectively. What is immediately apparent is the absence of a straightforward relationship between unemployment, underemployment, human development, or poverty. This was also observed in the previous PHDR. Low unemployment provinces include Batanes, which is a top HDI province, and Sulu and Tawi-Tawi, both bottom HDI provinces. On the other hand, high unemployment provinces include Laguna, Cavite, Pampanga, Rizal, and Bataan, all top HDI provinces.

Sulu and Tawi-Tawi, along with Siquijor, Cagayan, Apayao, Batanes, Mt. Province, and Camiguin, were also low unemployment provinces from 2001 to 2003. High unemployment provinces likewise remain the same except for Rizal and Antique, which are new to the list.

For underemployment, Eastern Samar, Catanduanes, and Bukidnon top the high underemployment list once more, as do Sulu and Tawi-Tawi for low underemployment. Provinces which moved into the high underemployment list this year are Quirino and Marinduque, which replaced Guimaras and South Cotabato. Provinces

which moved into the low underemployment list this year include Batanes, Pampanga, Surigao del Norte, and Camiguin.

**Table 3.17 Top and bottom provinces in unemployment rate (2003-2006)**

Low unemployment provinces	Average unemployment rate (2003-2006)	High unemployment provinces	Average unemployment rate (2003-2006)
Masbate	5.3	Laguna	16.2
Nueva Vizcaya	4.8	Zambales	15.6
Siquijor	3.9	Cavite	15.6
Tawi-Tawi	3.7	Pampanga	15.2
Cagayan	3.7	Aurora	14.7
Sulu	3.3	Rizal	14.1
Apayao	3.3	Pangasinan	14.0
Batanes	2.8	Antique	14.0
Mt. Province	2.4	Bataan	13.8
Camiguin	1.0	Agusan del Norte	13.8

Note: Metro Manila 17.7  
Source: Statistical Annex 9

**Table 3.18 Provinces with highest and lowest underemployment (2003-2006)**

Low underemployment provinces	Average underemployment rate (2003-2006)	High underemployment provinces	Average underemployment rate (2003-2006)
Rizal	10.1	Eastern Samar	56.9
Camiguin	9.6	Catanduanes	42.9
Lanao del Sur	9.4	Bukidnon	40.0
Surigao del Norte	8.9	Quirino	39.9
Pampanga	8.4	Albay	38.2
Zambales	8.3	Davao Oriental	37.9
Tarlac	8.3	Lanao del Norte	37.1
Batanes	7.7	Nueva Vizcaya	37.0
Tawi-Tawi	5.9	Zamboanga del Norte	36.7
Sulu	3.7	Marinduque	36.7

Note: Metro Manila 13.1  
Source: Statistical Annex 9

## Gender inequality in economic activity

**Statistical Annex 10** shows some measures of gender inequality in economic activity across provinces. These include economic activity rate (defined as the sum of the employed and the unemployed over the total population, also called labor participation rate), employment rate by economic activity (agriculture, industry, and services), and percentage contributing by household.

In all provinces the economic activity rate of women is lower than that of men. **Table 3.19** shows the top and bottom ten provinces with corresponding estimates relative to male economic

activity rates. Similar to what was observed for the GDI, a number of Mindanao provinces appear in the bottom list—Lanao del Sur, Basilan, Sultan Kudarat, Zamboanga del Sur, and Tawi-Tawi—while high female participation rates can be found in provinces such as Mt. Province, Batanes, Camiguin, Ifugao, and Bukidnon. Sulu has the lowest female economic activity rate among all provinces, with only 16.5 percent of females engaging in economic activities, compared to Mt. Province with 77 percent participating. A number of high HDI provinces in Luzon also post low female economic activity rates, namely Tarlac, Pampanga, and Pangasinan.

**Table 3.19** Top and bottom provinces in terms of female economic activity rate (average 2004-2006)

Top provinces	Female economic activity rate (%)	As % of male rate	Bottom provinces	Female economic activity rate (%)	as % of male rate
Mt. Province	77.2	87.4	Guimaras	43.8	55.2
Batanes	75.7	81.3	Zamboanga del Sur	43.8	53.7
Camiguin	70.4	79.3	Tarlac	42.6	51.8
Ifugao	70.2	81.2	Pampanga	41.4	53.9
Bukidnon	69.1	75.5	Tawi-Tawi	40.5	48
Eastern Samar	65.8	73.8	Pangasinan	38.0	48.1
Marinduque	64.6	78.2	Sultan Kudarat	35.7	42.1
Apayao	62.2	70.8	Basilan	28.9	36.6
Capiz	62.0	73.7	Lanao del Sur	25.4	31.6
Lanao del Norte	61.9	73.2	Sulu	16.5	20.1

Note: Metro Manila 52.9 percent (female economic activity rate); 69.3 percent (as percent of male rate)

Source: *Statistical Annex 10*