

# **The Shrinking Urban-Rural School Attendance Gap – 1990-2006**

EPDC No. 08-03

Summer 2008

# The Shrinking Urban-Rural School Attendance Gap – 1990-2006<sup>1</sup>

The Education Policy and Data Center (EPDC) is a partnership of the United States Agency for International Development (USAID) and FHI 360. The mission of EPDC is to improve information and policies for education through better access and use of data and policy-oriented evaluation and research.

## ABSTRACT

Urban and rural attendance disparities in many countries are significant, and most children out of school come from rural areas. However, in the period 1990-2006, this gap was declining in most of 43 developing countries in Asia, Africa and Latin America. However, progress is not uniform between countries. There are also some countries with a worsening rural to urban attendance gap according to the household survey data, namely Bolivia and Kenya. In these countries both urban and rural attendance declined over the observation period, but rural declined faster. However, *within* countries, progress is often not uniform; the speed with which the urban/rural gap is declining varies across sub-national regions. The study is based on data from 130 household surveys in 43 countries.

---

<sup>1</sup> This report has been prepared by the Education Policy and Data Center (EPDC) staff, Annababette Wils, Karima Barrow, Ania Chaluda, Joe Goodfriend, HyeJin Kim, Sarah Oliver, and Ben Sylla, and reviewed by George Ingram. The first draft of this paper was prepared as one of a series of reports the EPDC provided as background for the 2008 EFA Global Monitoring Report. The EPDC team is grateful to the GMR team for excellent guidance and commentary and for the collegial spirit in which this work was conducted. However, the views presented in this report are those of the EPDC only and do not necessarily reflect those of the Global Monitoring Report or any other organization.

Working papers disseminated by the EPDC reflect ongoing research and have received limited review. Views or opinions expressed herein do not necessarily reflect the policy or views of the FHI 360 Development or of any of the EPDC sponsors.

## INTRODUCTION

As the 2008 Education for All Global Monitoring Report (UNESCO, 2007) states, there has been general progress around the world towards education for all, but it has not been uniform between nor *within* countries. There continue to be particular groups of children who have lower chances of entering and finishing primary school than others. Often, these are: rural, female, poor, disabled children, and those from disadvantaged ethnic groups (Bruneforth, 2006a, 2006b, 2006c; Filmer, 2006; Ingram et al., 2006; Lewis and Lockheed, 2006; Nonoyama et al., 2006; UIS/UNICEF, 2005; UNESCO, 2006; UNICEF, 2005; Wils et al., 2005). The urban-rural disparity can be quite large, but the data in this report show it has been shrinking since 1990. Understanding the trends in this gap can help focus policy decisions on where to allocate resources to help all children enter school.

The data on urban and rural school attendance used here come from household surveys, an important source of information about education, and in particular, inequities between groups. Although household surveys normally are taken at irregular intervals, it is possible to compile urban and rural attendance trends from multiple surveys. There are few countries for which the Ministry of Education provides a time series of urban and rural enrolment rates based on school enrolment information. In total, 130 household surveys were accessed from 43 developing countries in Africa, Asia and Latin America.

Definitions of urban and rural vary from country to country, and, in an international comparison, some of the urban-rural differences may stem from different definitions of sub-regions. For example, if “rural” includes large villages in one country, but only very remote areas in another, the rural attendance rates in the former country are likely to be more different from the urban rates than in the latter country. This issue may also plague surveys taken in the same country but at different points in time, although one can

imagine the magnitude of the problem is smaller than between countries. The trends presented here should be interpreted as indicative, rather than precise. An inventory of the urban and rural definitions for all 130 surveys was not possible, in part because the documentation was not accessible.

Ideally, attendance rates for both urban and rural areas should be converging towards 100 and the ratio should be converging towards 1. This is often, but not always, the case, in the 43 countries studied. The survey data show that, in general, attendance in both rural and urban areas is increasing, although the growth rates differ between and within countries. A few countries experienced negative growth of attendance in urban and/or rural areas, and there are a few countries where the urban/rural attendance gap is increasing.

Within countries, growth of urban and rural attendance is seldom uniform, as sub-national attendance rates for a group of 14 countries shows. In general, the ratios of urban-rural attendance are converging towards 1 in most sub-regions of countries, but there can be considerable differences in how fast this is occurring. What factors might underlie such differences – some sub-regions have stronger rural school attendance programs than others for example – is a topic to be looked at in further analyses.

### **Data for urban and rural attendance ratios for 1990-2006 from 43 developing countries**

The data for 35 of the 43 countries are EPDC extractions from Demographic Health Survey (DHS) datasets; the data for 11 countries are from work based on Lopez et al. (2007) and derived from household surveys administered by national governments collected by SITEAL<sup>2</sup>. There are three countries, Bolivia, Nicaragua,

<sup>2</sup> SITEAL: Sistemas de Informacion de Tendencias Educativas en America Latina (<http://www.siteal.iipe-oei.org/>)

and Peru, for which both DHS extractions and SITEAL data exist. In the case of Bolivia, both ratios (1998 and 2003) are calculated using DHS extractions; in the case of Peru, the 2000 ratio is taken from SITEAL data and the 2004 ratio is calculated from a DHS extraction. Table 1 shows the surveys which are included in this analysis and the years in which they were taken. For almost all countries at least two surveys are available; in many cases 3 or 4 surveys and, for a few countries 5 surveys. The observation period varies from country to country; for example, the surveys for Colombia span 15 years (1990-2005); those for Costa Rica 14

years; and those for Rwanda, Cameroon, Nigeria, Egypt and Chile 13 years; while there is only a 3 year observation period for Nicaragua (1998-2001).

A basic analysis of the sub-national differences in urban and rural attendance is provided for all 43 countries. For the analysis of the change over time of sub-national urban/rural attendance differences, only 14 countries are included; many countries were dropped because the sub-national regions differ from one survey to the next, or because the sample size in the surveys are too small for this fine-grained analysis.

**Table 1. Surveys included in analysis of rural and urban net attendance over time.**

Country Name	Year															
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
DHS Surveys																
Bangladesh					x			x			x				x	
Benin							x					x				
Bolivia					x				x					x		
Burkina Faso				x					x					x		
Cameroon		x							x						x	
Chad								x							x	
Colombia	x					x					x					x
Cote d'Ivoire					x					x						
Dominican Republic		x					x			x			x			
Egypt, Arab Rep.			x			x					x			x		x
Ethiopia											x					x
Ghana				x					x					x		
Guinea										x						x
Haiti						x					x					
Indonesia		x			x			x						x		
Kenya				x					x					x		
Madagascar			x					x							x	
Malawi			x								x				x	
Mali							x					x				
Morocco			x												x	
Mozambique								x						x		
Namibia			x								x					
Nepal							x					x				
Nicaragua									x			x				
Nigeria	x									x				x		
Peru			x				x				x				x	
Philippines				x					x					x		
Rwanda			x								x					x
Senegal				x												x
Tanzania			x				x			x					x	
Turkey				x					x							
Uganda						x						x				

Vietnam								X						X			X
Zambia			X					X						X			
Zimbabwe					X						X						
<b>SITEAL Surveys</b>																	
Bolivia											X			X			
Brazil		X	X											X			
Chile	X		X		X			X		X					X		
Costa Rica		X				X					X						X
El Salvador								X	X	X							
Guatemala													X				
Honduras	X												X				
México			X		X			X		X		X				X	
Nicaragua									X				X				
Paraguay						X						X					
Perú								X				X					

### URBAN AND RURAL ATTENDANCE RATES 1990-2006 IN 43 COUNTRIES

Attendance rates in both rural and urban areas of most of the 43 countries in the sample grew over the period 1990-2006, and in urban areas net attendance was almost uniformly higher than in rural areas.

Figure 1 shows the net attendance rates for urban and rural areas from various household surveys from 1990-2006. The data are shown in four periods – 1990-1994 (light blue dots), 1995-1999 (medium blue dots), 2000-2004 (dark blue dots), and 2005 or later (black circles); the lighter the shade of blue, the further back the survey. The blue vertical lines connect country dots below the most recent values; red vertical lines connect country dots above the most recent value and signal a decline in attendance rates.

The countries are arranged in ascending order of the most recent value for urban net attendance rates. For eight of the countries, the most recent value was 2005 or later; and for the remainder, except Cote d'Ivoire and Turkey, the most recent values are from 2000-2004.

There are two graphs, urban net attendance (top) and rural net attendance (bottom). To enable a comparison between the urban and the rural attendance rates, the countries are arranged in the same order in both graphs. In addition, in the bottom graph the most recent urban attendance rates are added in gray.

As an example: for Chad, country furthestmost on the left, there are two surveys, one from the period 1995-1999 (medium blue) and one, the most recent, from the period 2000-2004 (dark blue). The reader can consult Table 1 for the exact years. For Chad, urban net attendance (top graph) grew from 50% in the 1995-1999 period to 57% in the 2000-2004 period. Rural net attendance (bottom graph) grew from 2% to 31% in the same interval.

In the earliest period, 1990-1994, most of the net attendance rates, even in urban areas, were below 80%; but by the most recent period after 2000, urban net attendance in the majority of these countries was above 80% and in about a third above 90%.

In the rural areas, net attendance rates in each country are almost all below the gray dots of the most recent urban net attendance rates. Noticeable is the variation in the distance between the urban gray dots and the blue points for the rural net attendance rates. For example, in Bangladesh, Kenya, and Uganda, the rural attendance rates are similar to the urban rates (clustered around the gray dots); but in Chad and Mali, on the left-hand side, the rural rates are far below the urban values. In general, the larger differences are on the left-hand side of the graph: *where urban net attendance is lower (below 80%), the gap with rural net attendance is larger.*

### **Average annual net attendance growth rates higher in rural areas**

One measure of progress, in countries where net attendance is not universal, is the average annual growth rate. To catch up with urban attendance, the growth rates of rural areas must be higher than those in the urban areas. The average growth rates are computed as the log of net

attendance in the most recent year divided by net attendance in the oldest year, divided by the length of the interval:

$$\frac{\ln\left(\frac{NAR_2}{NAR_1}\right)}{(year_2 - year_1)}$$

**Equation 1**

**Figure 1. Net attendance rates over time in urban (top) and rural (bottom) areas from 130 household surveys taken in 1990-2006 in 43 countries.**

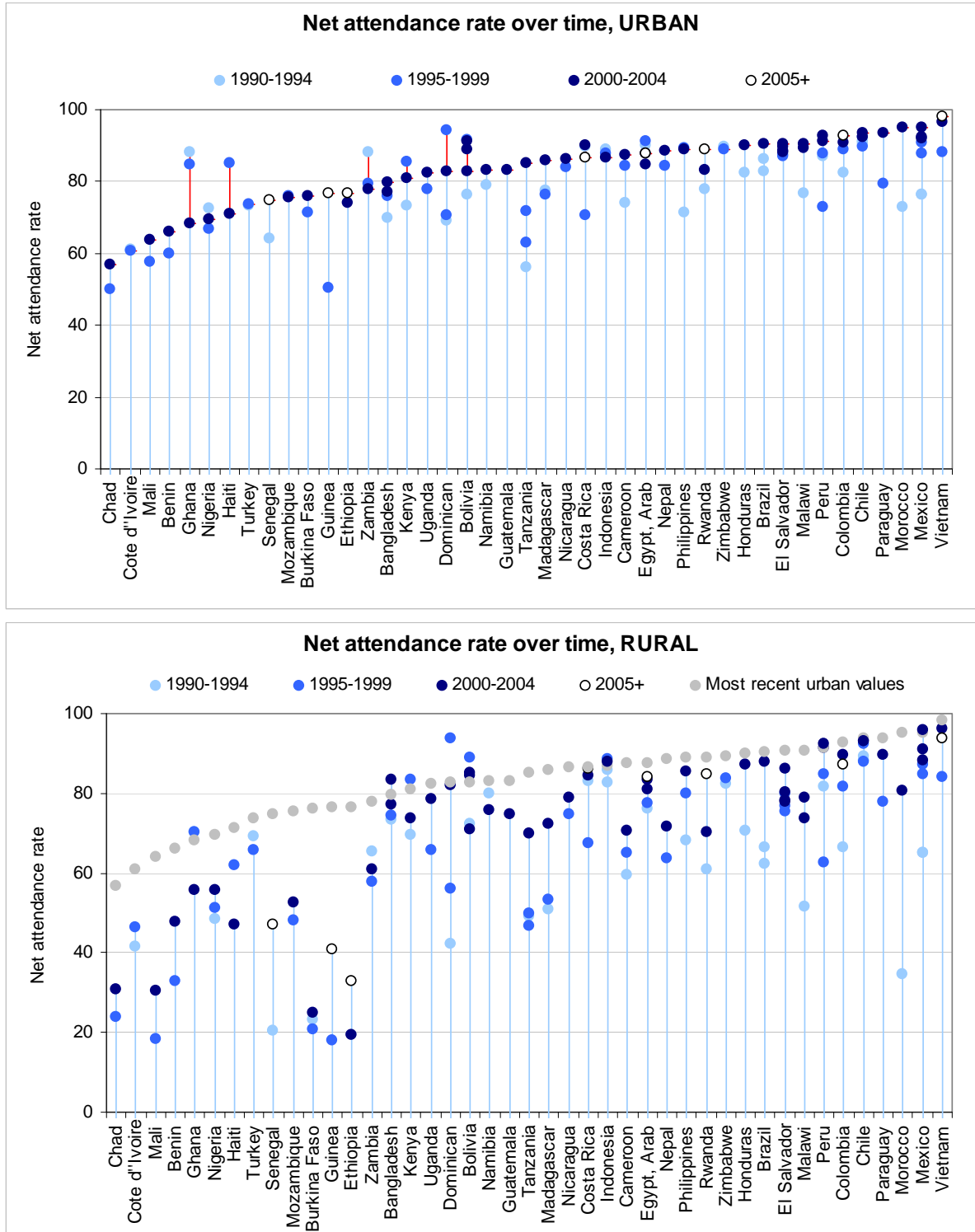
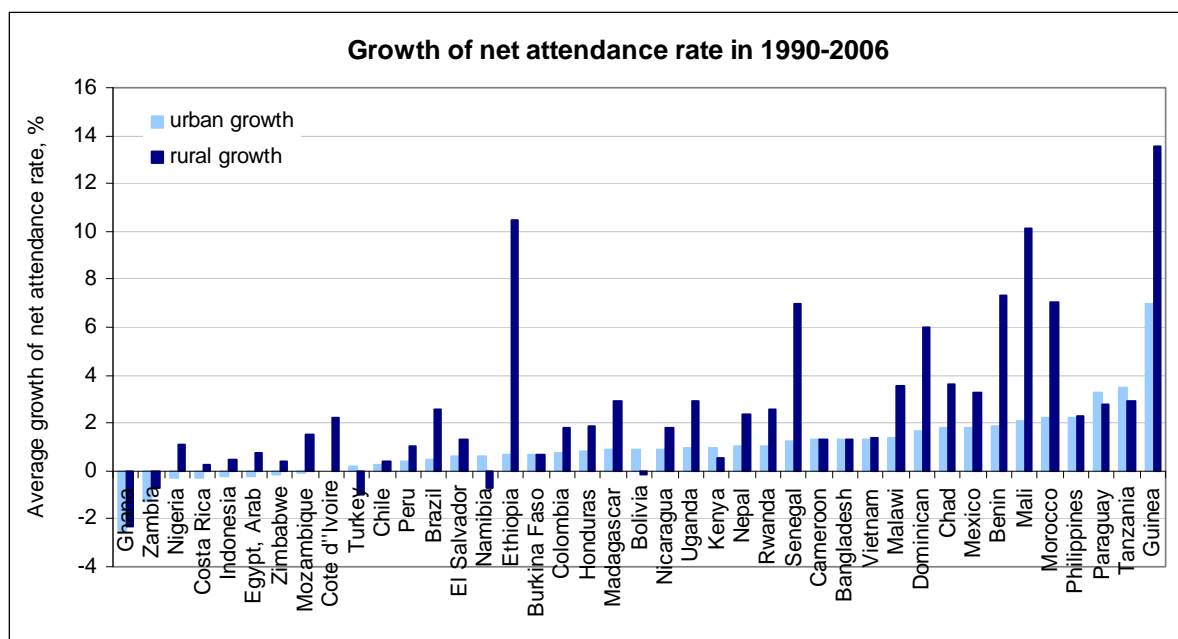


Figure 2 shows the average annual urban and rural net attendance growth for 41 countries, arranged in ascending order by annual average rate of change in the *urban* areas. In most countries, the average growth in both urban and rural areas is positive. Rural growth is generally higher than urban attendance growth. Easily visible are the extremely high rural growth rates

in some countries, namely Ethiopia, Senegal, Dominican Republic, Benin, Mali, Morocco, and Guinea. In 35 of the 41 countries, rural growth rates exceed those of urban areas, and, in an additional two where there was negative attendance growth, the rural declines were less than the urban.

**Figure 2. Average annual urban and rural net attendance growth rates in 41 countries in the period 1990-2006.**



**RATIO OF RURAL TO URBAN ATTENDANCE GENERALLY IMPROVED SINCE 2000**

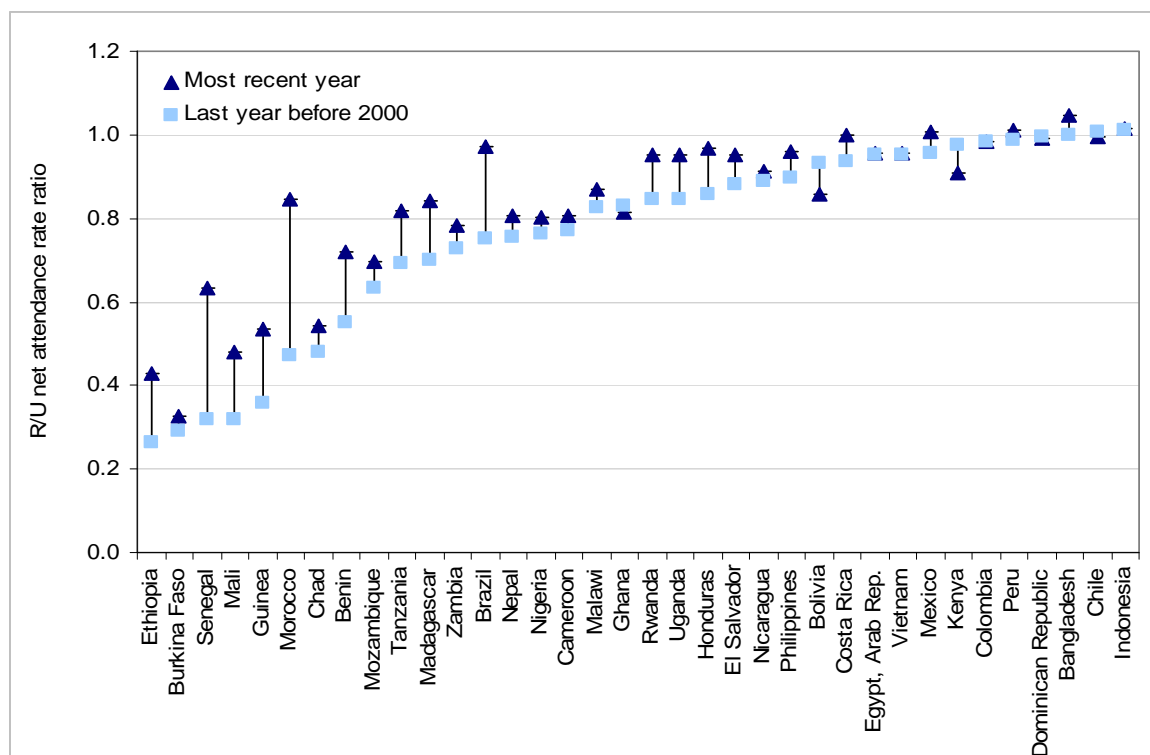
As a result of the differences between urban and rural attendance growth rates, the urban-rural gap changes also. A succinct measure of the urban-rural gap is the *ratio of rural to urban attendance rates*. Ideally, if urban and rural attendance is equal, this ratio is one, or is approaching one.

Of particular interest to those monitoring progress towards the Education for All goals declared at the global summit conference in Dakar, 2000, is the change in the urban-rural gap since 2000. Therefore, the remainder of this

analysis focuses on selected surveys, one from the last pre-2000 year (including 2000); the second, the most recent post-2000 observation. Of the 42 countries analyzed above, there are 36 for which these two data points exist.

Figure 3 shows the urban and rural attendance rates at the time of the most recent survey and the last pre-2000 survey. The countries are arranged in ascending order of the earlier ratio. The light blue squares are the values from before 2000; the dark blue triangles the values post-2000; and the vertical lines show the extent of the progress (or regression). Many of these 36 show considerable gains in closing the gap between rural and urban net attendance rates.



**Figure 3. Rural to urban attendance ratio in two years, pre- and post-2000, for 36 countries.**

The most dramatic improvements are observed in Morocco, Brazil, and Senegal, each of which increased their ratios by more than 0.20 points. Nine countries show improvements of between 0.10 and 0.19 points, 16 countries showed improvements of between 0.01 and 0.09 points, and eight countries showed either no change or an increase in the gap between rural and urban net attendance rates. Losses are observed in Kenya (minus .07 points) and Bolivia (minus 0.08 points).

As a general rule, countries which started with a relatively low ratio in the 1990s tend to post the most dramatic gains, whereas countries which had high ratios in the 1990s are more likely to show either losses or a very small change in the ratio of rural to urban attendance.

### Average annual change in the ratio of rural to urban attendance

The absolute changes in rural to urban attendance ratios are not entirely comparable

because they represent changes over varying periods of time. The widest range of years represented in the table is 12 years for Morocco (1992-2004) and Senegal (1993-2005), and the shortest range of years is three years, for Nicaragua (1998-2001) and Bolivia (2000-2003). The median and mean number of years between measurements are both approximately six.

A more comparable indicator, again, is the average annual rate of change from Equation 1 (page 6). Figure 4 shows the average annual rate of change for 36 countries and, for comparison, the average annual growth rate of urban and rural areas separately, arranged in ascending order by annual average rate of change.

The figure shows Senegal, Guinea, Mali, and Ethiopia as the four countries with the most rapidly improving ratios of urban and rural attendance. It also shows that Morocco, Senegal, and Brazil have high average annual rates of change (even when the long intervals are

accounted for). In Bolivia, Haiti, Kenya, and Namibia, the rural areas are quickly falling behind the urban areas. In the case of the first three countries, this rural/urban ratio decline is paralleled by an overall slow decline of attendance rates.

### Role of urban and urban growth in changing urban/rural attendance ratio

Because the ratio of rural to urban net attendance ratios is a composite of the rural and urban net attendance rates, change in the NAR ratios can be driven by change in rural net attendance, change in urban net attendance, or change in both. An improvement in the ratio of rural to urban attendance occurs 1) when both rural and urban attendance rates rise, but rural more quickly than urban; 2) when both rural and urban attendance rates decline, but urban more quickly than rural; 3) when rural rates increase *and urban rates decline*. The bottom panel of Figure 4, which is similar to Figure 2, shows the

change in urban NAR and in rural NAR between pre- and post-2000 observations to show the components that together influence changes in the ratio of urban to rural NAR.

Most countries - 20 out of 36 - experienced increases in rural *and* urban attendance rates, but larger increases in rural rates. The five countries where the rural/urban ratio rose most quickly are ones where the growth of rural attendance was very rapid (more than 5% annually), while urban growth was much slower, except in Senegal, where both rural and urban attendance rates rose quickly. In eight countries where the rural/urban attendance ratio improved, rural enrolment increased while urban enrolment declined or stagnated.

In a minority of five countries, rural/urban ratios worsened. In six of these countries, both urban and rural rates declined, but the rural rates declined more quickly.

**Figure 4. Average annual change in ratio of urban and rural attendance for 36 countries (top) and change in urban attendance and in rural attendance between pre- and post-2000 (bottom), arranged in ascending arrangement by the average annual rate of the ratio of rural to urban attendance.**

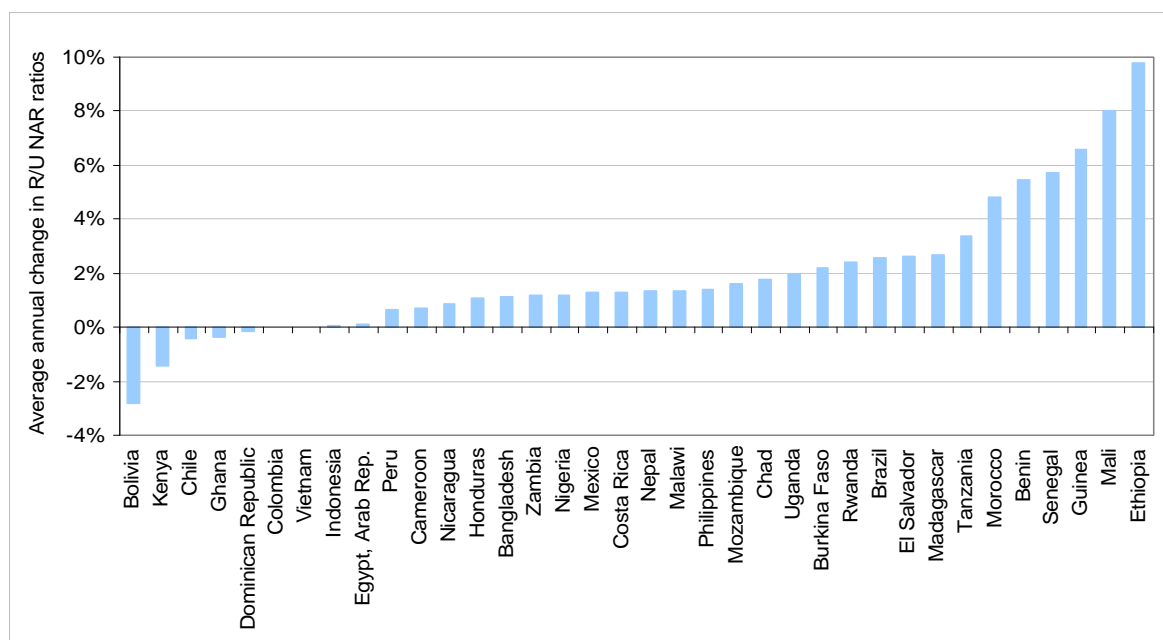
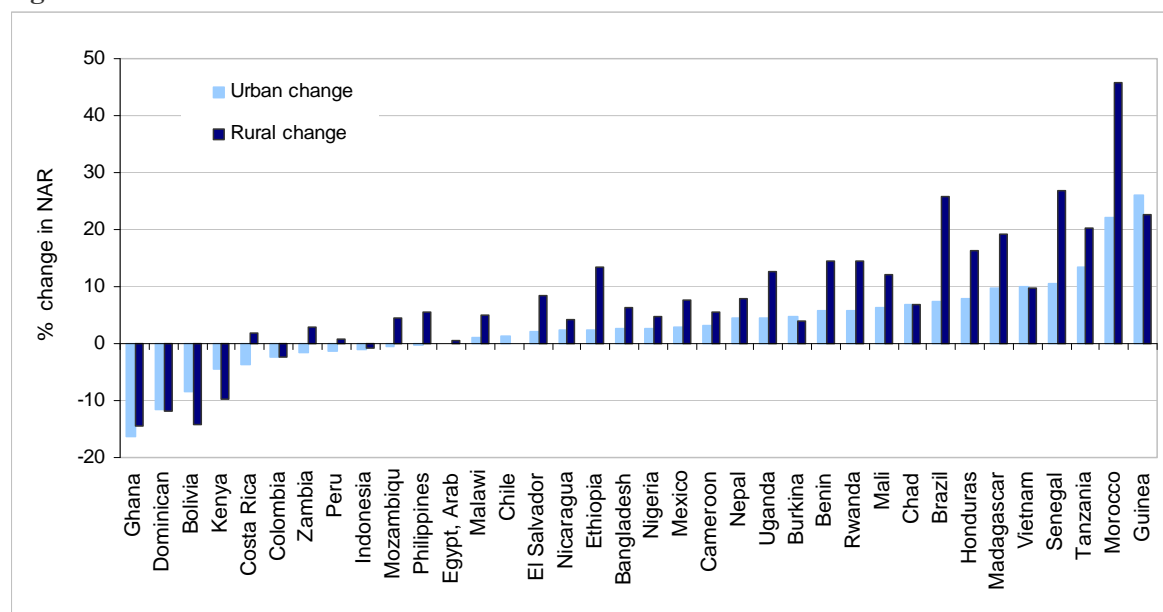


Figure 4 Continued.



## LARGE SUB-NATIONAL DIFFERENCES IN THE URBAN TO RURAL GAPS

Even while a country as a whole might measure progress in reducing the gap between urban and rural attendance, progress is unlikely to be uniform within the country. The gap between urban and rural attendance rates varies considerably within countries. Figure 5 plots ratios of urban to rural attendance for sub-national regions or provinces within 42 countries in the most recent year before 2000 (top) and the most recent post-2000 year (bottom panel). These graphs show that, in general, there is a wide spread of rural/urban ratios across and between countries.

The graphs show the countries arranged in order of their national net attendance ratio, which is shown on the graphs as the ascending black line. The ratios of urban and rural attendance within the sub-national regions are shown by points on the graph. Each vertical arrangement of points represents the ratios of urban and rural attendance in one country. Each point shows the rural/urban attendance disparities within a particular region or province. The *spread* of one

country's collection of ratios shows the differences in rural/urban attendance disparities within the country.

The figures reveal some general trends:

1. In all countries shown, the rural/urban ratios vary from region to region;
2. The smallest disparities in rural/urban ratios correlate with very low and near universal net attendance rates;
3. The higher the overall net attendance rate, the higher most of the sub-national rural/urban ratios.

The total range of ratio values for sub-national units is considerably broader than it is for national units – sub-national ratios ranged from a low of 0.08 in one province of Benin to a high of 1.25 in a region of Zambia, while national ratios (Figure 3) ranged from 0.26 in Ethiopia to 1.05 in Bangladesh. But also *within* countries, the range of rural to urban attendance ratios can be almost as large as the total international range.

The sub-national regions in the two figures are not necessarily the same, because for some countries the sub-national units changed from one survey to the next. Having said that, the

rural/urban ratios in the graph with the more recent data are generally higher than those in the graph with the data from before 2000; sub-national data reflect the same upward trend in rural to urban attendance ratios as observed in the national data. The average pre-Dakar sub-national rural to urban attendance ratio was 0.83; the average post-Dakar ratio was 0.86. The inter-quartile range (middle 50%) of sub-national rural to urban attendance ratios for the pre-Dakar period was 0.74-0.99; the inter-quartile range for the post-Dakar period was higher at 0.78-0.99.

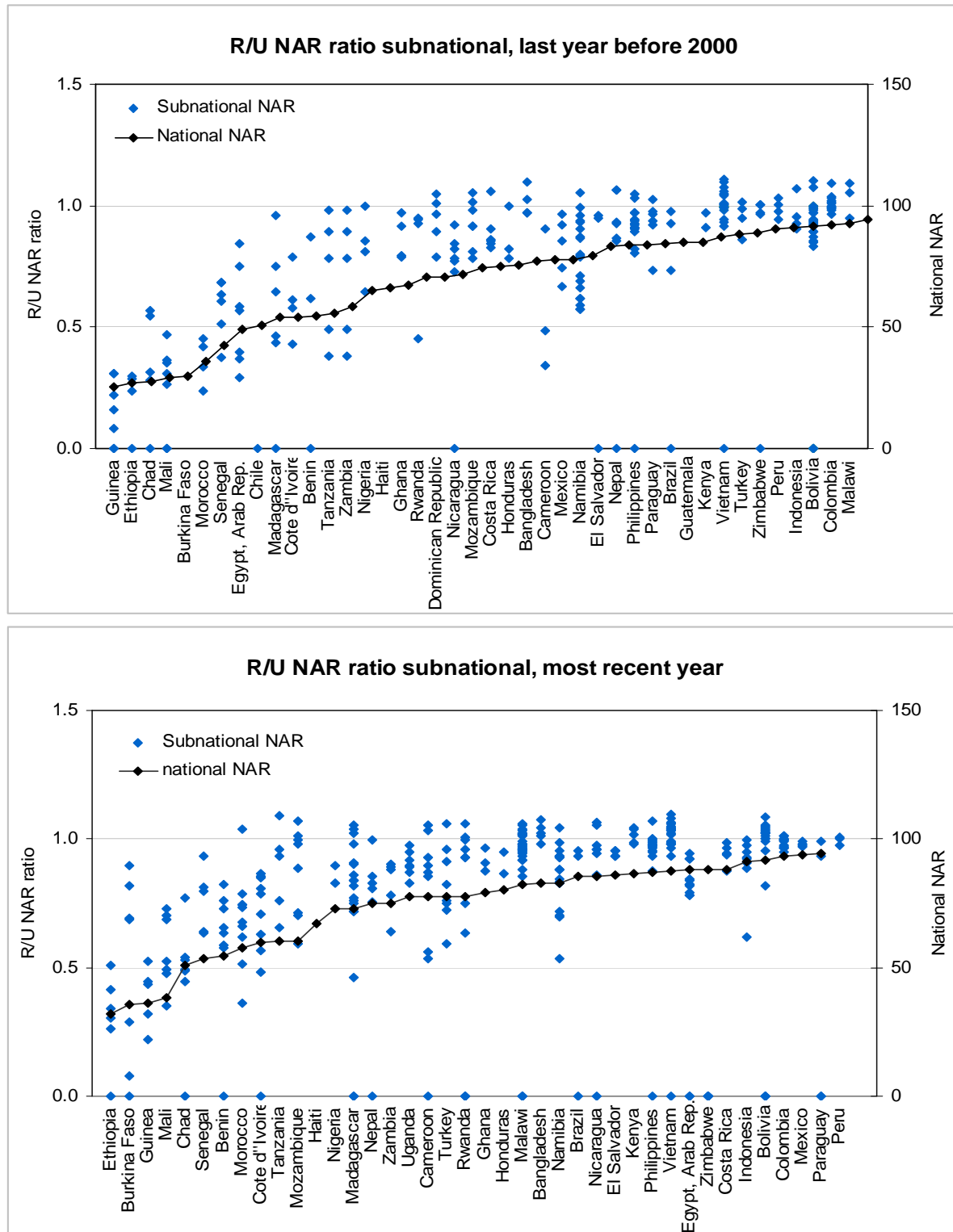
The data in the top panel of Figure 5 (pre-2000) exhibit a slight bell-curve pattern, with wide disparities in the middle, but coming to a narrow tail at either end. It appears that countries with either very high or very low overall net attendance rates tend to have relatively low variation in rural to urban attendance ratios across sub-national groupings. In Ethiopia, the country with the lowest pre-Dakar NAR, the difference between high and low rural to urban attendance ratios was 0.08; at the high attendance end of the graph, in Chile, the difference was 0.19. By contrast, countries which fall in the middle of the chart tend to be characterized by larger rural/urban disparities across sub-national groupings. For Nicaragua and Uganda, for example, the two countries with mid-range NAR in the pre-2000 period, the differences between highest and lowest

rural/urban attendance ratios were 0.47 and 0.50, respectively.

In the bottom panel of Figure 5 (post-Dakar), the sub-national differences in the ratio of rural to urban attendance are still small at high attendance levels, but clustering in the lowest-attendance countries on the left of the figure is not evident. The reason for the disappearance of the low-end rural/urban ratio clustering may be that there are no longer countries with the extremely low attendance levels typical of low-end rural/urban ratio clustering. Pre-2000, the five lowest-achieving countries (Ethiopia, Burkina Faso, Guinea, Mali, and Chad) had an average overall NAR of 28%; post-2000, the same five countries were still the lowest-achieving, but now had an average overall NAR of 39%, a difference of 11 percentage points. In other words, even the lowest-achieving countries represented in the post-Dakar figure are in the NAR range that (in the pre-Dakar figure) is characterized by greater rural/urban disparities.

The overall range of rural/urban ratios across the full sample of countries has not changed much. In the pre-Dakar group, the average difference between the highest and lowest rural to urban attendance ratio for each country was 0.30, with an inter-quartile range of 0.16 to 0.48. In the post-Dakar group, the average difference between the highest and lowest rural to urban attendance ratio for each country was 0.28, with an inter-quartile range of 0.09 to 0.41.

**Figure 5: Subnational rural to urban attendance ratios for 42 countries pre-2000 and for 40 countries post-2000. Data is grouped by country and arranged in order of ascending national net attendance ratio.**



## Comparison of rural to urban attendance ratios in specific sub-national regions

It is possible to look even closer at the sub-national changes in rural/urban attendance ratio, tracking the progress of individual sub-national regions, but only for a smaller sub-set of 14 countries because not all of the data are available for all regions for two time points. Some regions in some countries had to be eliminated due to small sample sizes. In some surveys, there are some regions with only rural respondents, or with only urban respondents (for example, in a region that is a large city). Finally, for many countries, the regions change from one survey to the next, so no comparison can be made.

Figure 6 presents graphs of the 14 countries with rural/urban ratios by sub-national region for the same pre- and post-2000 years as used in the previous section. The first year's data is represented by light blue circles and the second year by dark blue triangles. Where there are two years of data available and there are significant differences between the ratios, there is a line drawn between the two points to help visualize the magnitude of the change. Urban to rural attendance parity is marked by the bold horizontal line at 1.00. The further the symbols for the ratios are from this line, the larger the gap is between urban and rural net attendance rates in each region. If points are below 1.00, urban net attendance rates are higher than rural net attendance rates. The converse is true for ratios above 1.00: rural NAR is higher than urban NAR.

The trends shown in the graphs are mixed and can be divided into three groups.

### *Countries where there has been very little change.*

In most of the regions in these countries, the ratio of rural to urban attendance starts close to 1.00 in all regions. This group includes: Bangladesh, Chile, Colombia, Malawi, and Mexico. However, even among these countries where the majority of the regions are doing well, the stock graphs help to reveal the regions that may be behind the others and require more targeted programs.

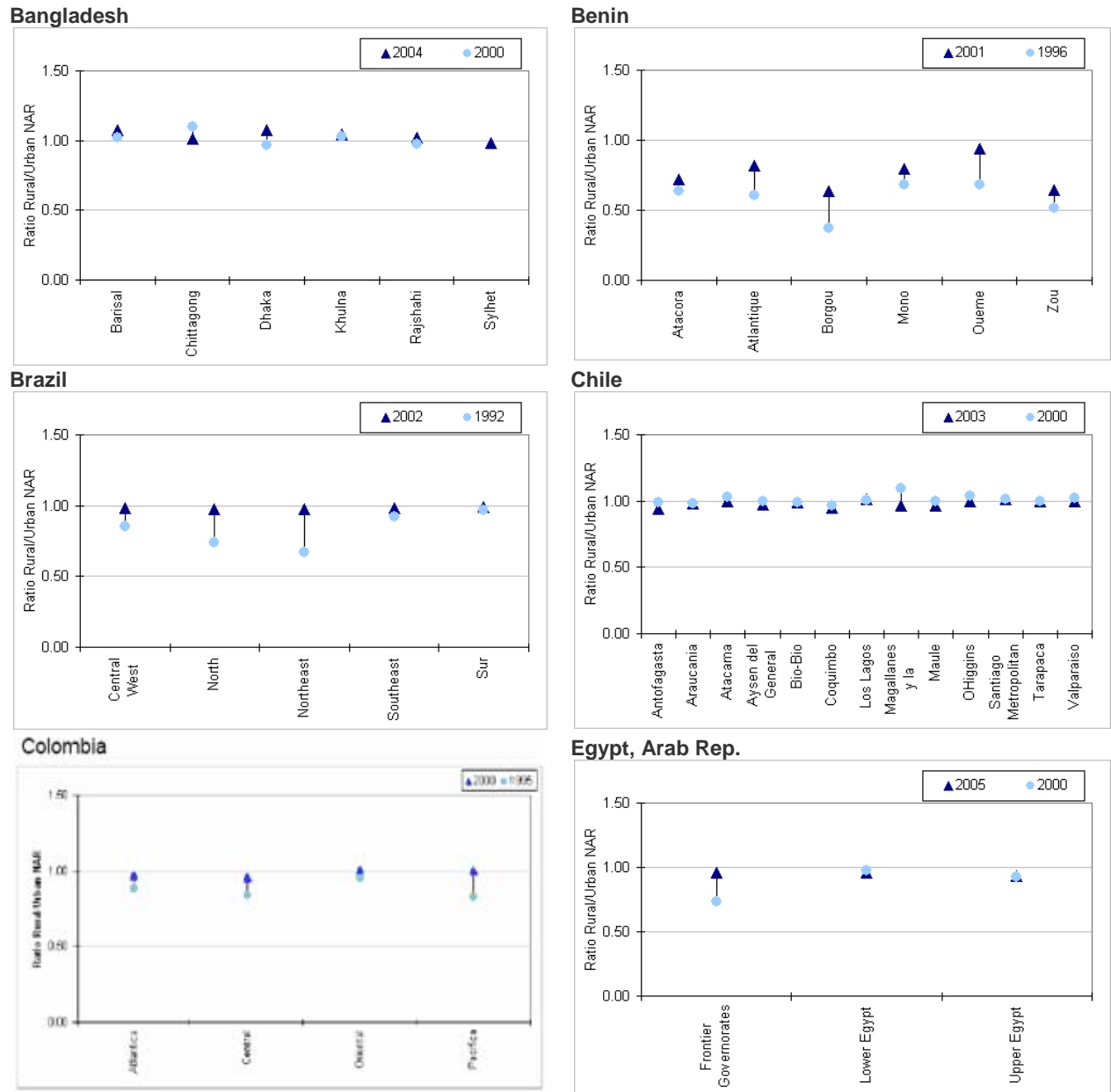
### *Countries with across the board progress eliminating rural/urban disparities in attendance*

In a second group of countries, all regions show notable progress in eliminating rural/urban disparities. The countries in this group are: Benin, Brazil, Ethiopia, Madagascar, Mali, Nigeria, Rwanda, and Uganda. Within this group, though, not all progress was equal. For example, in the North-East region of Brazil the rural/urban ratio increased from 0.67 in 1992 to 0.97 in 2002, but in the Central-West, South-East, and South regions, there was little change over time – these three regions had rural/urban ratios close to 1.00 in both years. In the Oueme region of Benin the rural/urban ratio increased 0.26 points from 0.68 to 0.94, but in the Zou region the change was only 0.13 points from 0.51 to 0.64.

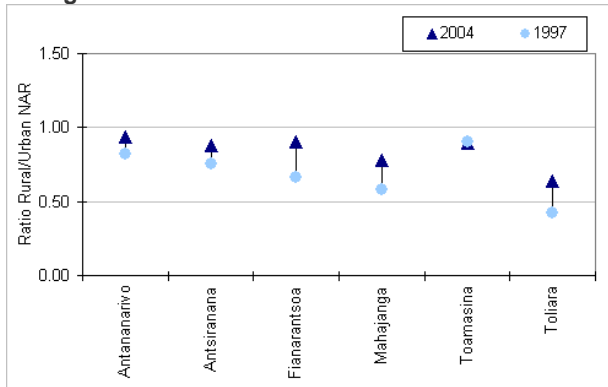
### *Countries with mixed progress*

In the third group of countries, progress in eliminating rural/urban disparities is unequal – there are some regions where there has been progress and other regions that are moving backwards. The countries in this group include: Mozambique, Nicaragua, Mali, and Zambia. In Inhambane, Niassa, and Tete in Mozambique, there was a decline in the rural/urban ratio, with the worst change in Niassa from 0.77 in 1997 to 0.48 in 2003. The other regions in Mozambique show improvements.

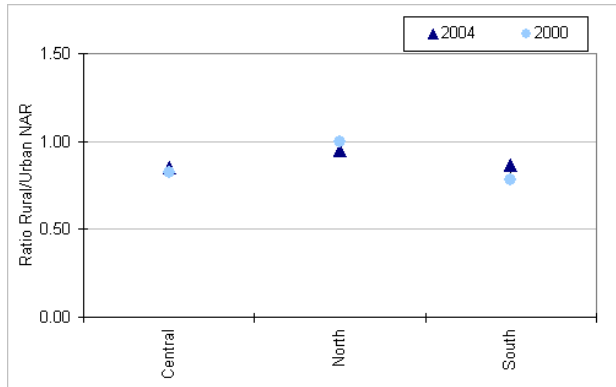
**Figure 6. Changes in rural/urban attendance ratios in sub-national regions pre- and post-2000.**



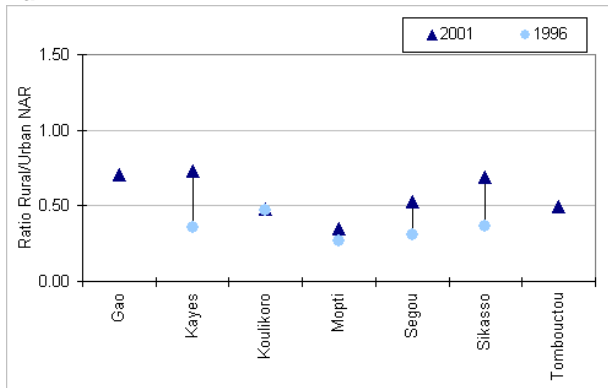
**Madagascar**



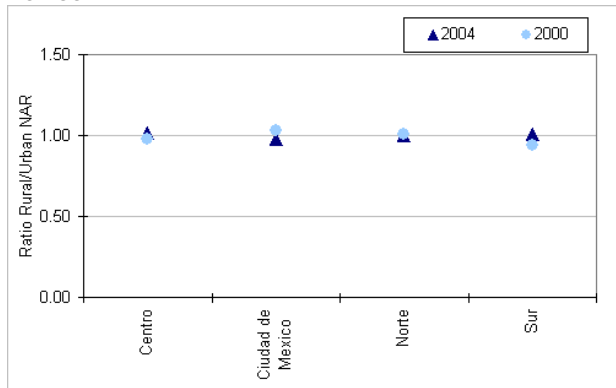
**Malawi**



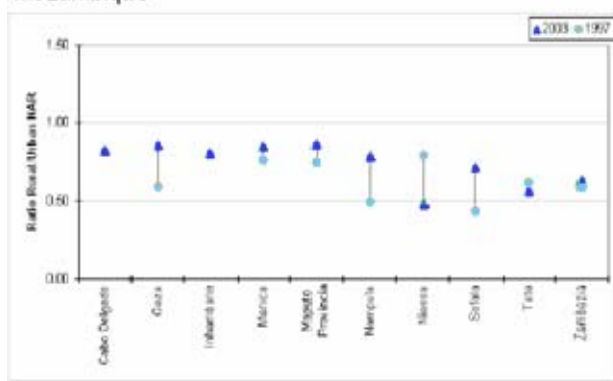
**Mali**



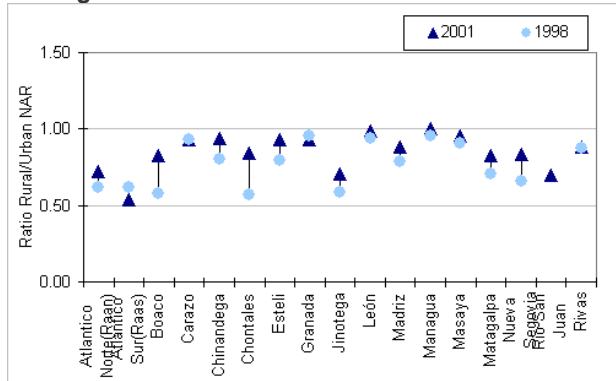
**Mexico**



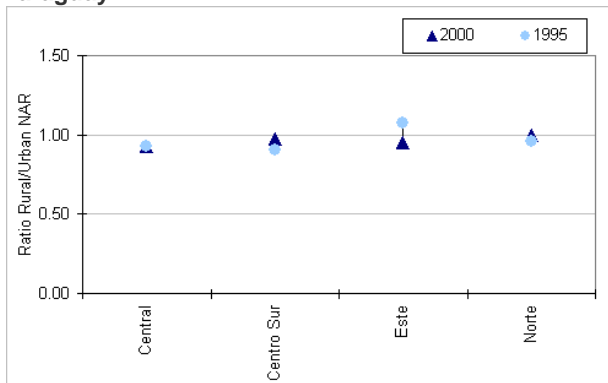
**Mozambique**



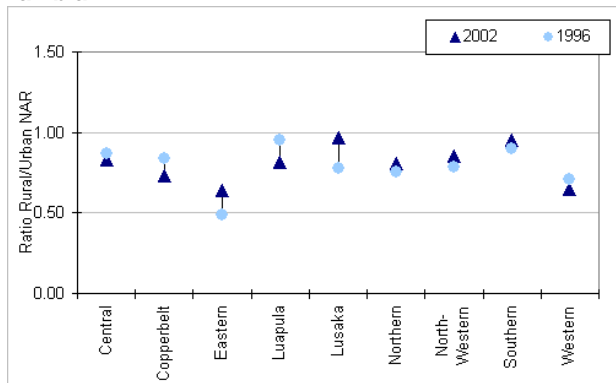
**Nicaragua**



**Paraguay**



**Zambia**





## CONCLUSION

National averages in attendance rates mask considerable differences within countries. In particular, many countries have significant urban-rural attendance gaps at the primary levels. This study investigated the extent to which urban-rural attendance gaps have changed since 1990 for 43 countries at the national and sub-national level using 130 household surveys from DHS and SITEAL (Latin America). The study shows that the attendance gap between urban and rural areas is declining, in some countries rapidly, but, that progress is not universal across all countries, and, within countries some sub-regions are making slower progress, requiring perhaps focused intervention.

In most countries where primary attendance is incomplete, rural areas are behind the urban areas. In some countries, the rural-urban attendance gap is very large (notably in Burkina Faso, Ethiopia, Mali, Guinea, Benin), while in others it is practically zero (Rwanda, Uganda, most of Latin America). In the period from the 1990s to the 2000s, urban-rural gaps declined in most countries (where they existed to begin with) – in fact, in 30 out of the 36 countries shown in Figure 3 based on pre-2000 and post-2000 data points, urban-rural gaps declined. *The decline in the rural-urban gap is largely attributable to high attendance growth in rural areas*; in just a few countries, it is the result of a slow growth in rural areas but a decline in urban areas. The declines in the urban-rural gaps are generally larger in the countries that had a large gap to begin with.

*Within countries* the urban-rural attendance gap varies, and in some countries the range of variation is quite large. In situations with extremely low national net attendance rates (below 30%), all regions show a large urban-rural attendance gap (these low rates were found only in a few countries in the 1990s). In situations with low to mid-range attendance (30-80%) there is generally a large variation in the urban-rural gap – in some regions there is near rural to urban attendance parity, while in others,

the urban/rural attendance gap is large. In situations with high national net attendance (>80%), the urban-rural attendance gap is uniformly small in all sub-regions of the countries.

A more detailed analysis of specific subnational regions at two points in time in 14 countries shows that, while there has been substantial progress in most countries in increasing attendance rates and in reducing the urban-rural gaps, that progress is not uniform within countries. There are some countries where there has been across the board progress at reducing urban-rural attendance gaps in all sub-national regions - Benin, Brazil, Ethiopia, Madagascar, Mali, Nigeria, Rwanda, and Uganda – and another group with mixed sub-national progress - Mozambique, Nicaragua, Malawi, and Zambia.

## REFERENCES

- Bruneforth, M. 2006a. Characteristics of children who drop out of school and comments on the drop-out population compared to the population of out-of-school children. Background paper for *EFA Global Monitoring Report 2007*.
- Bruneforth, M. 2006b. Interpreting the distribution of out-of-school children by past and expected future school enrolment. Background paper for *EFA Global Monitoring Report 2007*.
- Bruneforth, M. 2006c. Results from multivariate analysis on school attendance and out-of-school children. Background paper for *EFA Global Monitoring Report 2007*.
- Filmer, D. 2006 Inequalities in Children's Schooling: Poverty, Gender, Orphanhood and Disability. Presentation at the Population Council, December 13, 2006
- Ingram G., A. Wils, B. Carrol, and F. Townsend. 2006. *The Untapped Opportunity: How Public-Private Partnerships Can Advance Education for All*. Education Policy and Data Center, FHI 360. Washington, DC.
- Lewis, M. and Lockheed, M. 2006. *Who's Out-of-School? Excluded Girls in a Globalizing World*. Washington, DC, Center for Global Development.
- Lopez, N. Pereyra, A., Sourrouille, F. 2007. "Disparidades urbanas y rurales en América Latina: algunas de sus implicancias en el acceso a la educación" (Urban and rural disparities in Latin America: their implications for education access), Background paper for the *Education for all global monitoring report 2008: Education for all by 2015: will we make it?* UNESCO, Paris.
- Nonoyama, Y., Loaiza, E. and Engle, P. 2006. Participation in organized early learning centers: findings from household surveys. Background paper for *EFA Global Monitoring Report 2007*.
- UIS/UNICEF. 2005. *Children Out of School: Measuring Exclusion from Primary Education*. Montreal/New York, UNESCO Institute for Statistics/UNICEF.
- UNESCO. 2006. *EFA Global Monitoring Report 2008. Education for All by 2015: Will we make it?*. Paris, UNESCO.
- UNICEF. 2005. *Gender Achievement and Prospects in Education. The GAP Report*. New York, UNICEF.
- Wils, A., Zhao, Y., Hartwell, A., 2005a. Looking Below the Surface: Reaching the Out-of-school Children. Working Paper-02-01. Education Policy and Data Center, Washington, DC, USA.

## ABBREVIATIONS

<b>DHS</b>	Demographic and Health Surveys
<b>EPDC</b>	Education Policy and Data Center
<b>GMR</b>	Global Monitoring Report
<b>MICS</b>	Multiple Indicator Cluster Survey
<b>NAR</b>	Net Attendance Rate
	Sistemas de Informacion de Tendencias
<b>SITEAL</b>	Educativas en America Latina

## DEFINITIONS

**Average annual change in rural/urban net attendance ratio** is calculated as:

$\ln[(\text{ratio}(2)/\text{ratio}(1))] / (\text{year}2-\text{year}1)$ .

**Primary school net attendance rate** is the total number of children who said they were attending primary school in the present year and who are of primary school age, expressed as a percentage of the primary school age population.

**Rural/urban net attendance ratio** is calculated as the rural net attendance rate divided by the urban net attendance rate.