There is a vast amount of literature on the link between education and the above population

TABLE VII.1. FERTILITY AND WOMEN'S EDUCATION: AVERAGE NUMBER OF CHILDREN PER WOMAN AGED 40-49 BY THE HIGHEST LEVEL OF EDUCATION COMPLETED

			Highest level of education completed			
Region and country	*Year of survey*	*Total*	*None*	*Primary*	*Secondary or higher*	*Difference (None-secondary or higher)*
Sub-Saharan Africa						
Burkina Faso	1998/99	7.4	7.5	6.6	4.5	3.0
Ghana	1998	5.7	6.5	6.2	4.5	2.0
Kenya	1998	6.6	7.1	6.8	4.9	2.2
Senegal	1997	7.1	7.2	7.1	5.4	1.8
Latin America/Caribbean						
Bolivia	1998	5.1	6.4	5.8	3.3	3.1
Guatemala	1998/99	5.7	7.0	5.1	3.3	3.7
Nicaragua	1997/98	5.6	7.3	5.4	3.4	3.9
Dominican Republic	1996	4.3	5.8	4.8	2.5	3.3
Asia						
Bangladesh	1996/97	6.0	6.1	6.0	4.6	1.5
Nepal	1996	5.7	5.8	5.3	3.7	2.1
Philippines	1998	4.4	5.4	5.5	3.6	1.8
Vietnam	1997	3.8	5.1	4.5	3.3	1.8
Arab States						
Jordan	1997	6.8	8.1	7.8	5.6	2.5
Yemen	1997	8.4	8.5	5.6	3.8	4.7

Source: Demographic and Health Surveys, Macro International.

2. *The role of population dynamics in education*

Demography is especially important in the realm of education planning, with population statistics serving as the basis upon which to develop education plans. Indeed:

- The structure or age composition of the population determines the size of the school-age population, i.e. the potential demand for education, which is clearly the starting point for any education policy. For the greater the number of children, the greater the need to create classroom space and recruit teachers. The proportion of school-age children in most developing countries is very high, bringing enormous pressure to bear on traditional education systems.

- Density and geographic distribution—which hinge both on fertility rates that can vary depending on the region and on migratory flows—affect education costs, choice of school types, and their size and location (school mapping).

- Knowing the distribution of the working population by economic sector and by levels of qualification helps assess the labour needs and, hence, determine the goals of technical, vocational and higher education.

- Finally, the pace and dynamics of population growth, mainly determined by birth rates, is crucial to education planning. Indeed, the number of future births will affect the number of pupils or students to be accommodated at every level of the education system each year and, hence, on the rate of construction of new educational infrastructure. A fall in the number of pupils due to falling birth rates or to migration is just as important to planners. Such patterns can lead to a policy shift in regard to school closure or redeployment.

Demographic changes are not, of course, the only factor affecting education. The success or failure to achieve educational and other goals depends on a diverse range of other economic, social, political and cultural factors. For instance, the 1990s were marked by significant changes—political upheavals in Central and Eastern Europe, successive economic crises in East Asia, the HIV/AIDS epidemic and all manner of conflicts in sub-Saharan Africa—which have had an impact on education systems (UNESCO, 2000). Nonetheless, the demographic component remains a variable that must be taken into account in every education policy equation. Depending on the context (high or low fertility), population growth has either furthered individual countries' progress towards UPE or, on the contrary, hindered the ability of others to finance education and to provide the infrastructure needed to ensure quality primary education.

B. Demographic Pressures and the Achievement of UPE

Population growth, especially the fertility rate, has repercussions on the potential demand for education. It determines the number of children to be accommodated in school each year. That number is all the greater when fertility is high, and can make the development of education much more difficult in situations marked by budgetary and resource constraints.

1. *State of education*

Overall global figures show some progress in terms of enrolment, with an increase in the net enrolment ratio (NER) in primary education from some 82 per cent in 1990 to 84 per cent in 2001 (table VII.2). Yet the number of out-of-school children by

TABLE VII.2. PRIMARY NERS AND NUMBER OF OUT-OF-SCHOOL CHILDREN BY REGION, 1990 AND 2001

	Primary NERs (per cent)								*Number of out-of-school children*							
									(Thousands)				*(Thousands)*			
	1990				*2001*				*1990*				*2001*			
	Total	*Boys*	*Girls*	*GPI*	*Total*	*Boys*	*Girls*	*GPI*	*Total*	*Boys*	*Girls*	*Per cent G*	*Total*	*Boys*	*Girls*	*Per cent G*
World	81.7	86.8	76.4	0.88	84.0	86.5	81.5	0.94	109 904	40 498	69 433	63	103 466	44 985	58 481	57
Sub-Saharan Africa	54.5	58.4	50.5	0.86	62.8	66.4	59.2	0.89	38 404	17 613	20 817	54	40 291	18 301	21 990	55
North America/Western Europe	97.0	97.0	97.1	1.00	95.4	95.1	95.7	1.01	1 439	747	693	48	2 386	1 301	1 085	45
Latin America/Caribbean	86.4	86.9	85.8	0.99	95.7	95.6	95.9	1.00	9 768	4 746	5 022	51	2 468	1 300	1 168	47
Central Asia	84.8	85.2	84.4	0.99	94.1	95.0	93.2	0.98	912	449	463	51	390	169	222	57
East Asia and the Pacific	95.9	97.7	94.0	0.96	93.7	93.7	93.6	1.00	7 243	2 113	5 130	71	11 993	6 159	5 835	49
South and West Asia	72.7	86.6	57.8	0.67	79.0	84.7	73.0	0.86	39 990	10 153	29 838	75	35 808	13 518	22 289	62
Arab States	74.8	82.4	66.9	0.81	81.1	85.1	76.9	0.90	8 976	3 200	5 776	64	7 441	2 992	4 450	60

Source: Database of the UNESCO Institute for Statistics.

with other socio-economic, cultural and political factors. In the 1990s, for example, some countries managed to expand children's access to school in spite of high population growth. These countries include Malawi, Laos, Uganda and Kenya, where the increase in enrolment has mainly been due to a political will to achieve the goal of UPE.

That said, in countries where high population growth often goes hand-in-hand with low enrolment levels, demographic trends—which can have a negative impact on the state of education—represent a factor that absolutely must be taken into account in any strategy aimed at achieving UPE. Indeed, because high population growth risks hindering the development of education, it may prevent the role of education in facilitating the demographic transition and improving people's health and well-being. Where there is high population growth, UPE strategies must coexist with population programmes that tend to reduce fertility. They are not interchangeable but, given the mutual relationship between education and demography, they are complementary.

3. *The need for population education*

While demographic statistics may serve as the underpinnings of education plans, enabling planners to reckon with the ways in which population growth could hinder achievement of the goal of UPE, it should also be stressed that population education is a key aspect of population policies and programmes whose aim is to bring population growth under control. The ICPD Plan of Action recommends education about population issues which, to be most effective, must begin in primary school and continue through all levels of formal and non-formal education taking into account the rights and responsibilities of parents and the needs of children and adolescents.

What is population education? In a nutshell, population education can be seen as an

D. Impact of Population Data on the Education Indicators

In the monitoring of the Millennium Development Goals (MDGs), population data serve as the basis for calculating the net enrolment ratio (MDG 2, target 3: UPE). This indicator uses two types of

than the national estimates. When one compares the age distribution of that population in the two series, however, the national estimates appear less consistent. They suddenly fall at the ages of 6 years and 9 years, opening up gaps in comparison with the UNPD data of 6.7 per cent and 7.5 per cent respectively (figure VII.2).

Source: Database of the UNESCO Institute for Statistics.

TABLE VII.3. DISCREPANCIES BETWEEN NATIONAL AND UNITED NATIONS POPULATION DATA POPULATION DATA

Country	*School age*	*Discrepancy in total population (per cent)*	*Discrepancy in school-age population (per cent)*	*Discrepancy in NER (percentage points)*
Argentina	6-11	-3.4	1.9	-2.1
Brazil	7-10	-0.7	5.1	-4.7
Chile	6-11	-0.2	-0.1	0.05
China	7-11	0.1	-4.8	4.5
Egypt	6-10	-5.6	-16.2	15.9
India	6-10	-2.0	4.7	-3.7
Indonesia	7-12	-10.4	-9.7	9.9
Jamaica	6-11	0.2	7.3	-6.5
Jordan	6-11	0.0	7.7	-6.5
Malaysia	6-11	2.2	-0.3	0.3
Paraguay	6-11	0.5	2.0	-1.8
Peru	6-11	-0.8	-0.1	0.1
Philippines	6-11	1.9	2.4	-2.2
Russian Federation	6-9	-0.1	-0.8	0.7
Thailand	6-11	5.4	-9.8	9.1
Tunisia	6-11	0.4	-1.5	1.4
Uruguay	6-11	-0.2	-0.1	0.1
Zimbabwe	6-12	-0.2	-14.7	13.0

2. *Problem of coverage*

For some countries, the enrolment data do not cover the same population groups as the population data used. This could be due to the inclusion or exclusion of refugees and other such population groups. Here are a few examples:

: The United Nations population estimates are far higher than those produced by the country itself, probably because the former have included migrant populations but the latter have not. Bhutan explains that the country's population has fallen as a result of mass emigration to neighbouring countries in 1996, and the emigrants were previously counted in the 1969 and 1980 censuses.

As shown in table VII.4, there is an enormous lack of continuity in the population data between the period prior to 1990 and more recent years. Consequently, UIS publications no longer contain any of the Bhutan indicators calculated on the basis of population data.

: The enrolment data do not include the Transnistria region, but the population data do. Transnistria represents approximately 15 per cent of the total population of Moldavia. Consequently, the education indicators for Moldavia are underestimated.

: The enrolment data do not include East Jerusalem, but the population data do. Consequently, the education indicators for the Territories are underestimated.

: The enrolment data do not include Zanzibar, but the population data do. Zanzibar represents approximately 3 per cent of the country's total population. Consequently the indicators for the United Republic of Tanzania are underestimated.

TABLE VII.4. BHUTAN: SIZE OF POPULATION ACCORDING TO DIFFERENT SOURCES

Source	*Date*	*Population*
Census	1969	1 034 774
	1980	1 165 000
	1985	1 286 276
Statistics at a Glance (1982)	1990	1 420 135
	1995	1 576 974
	2000	1 731 074
Survey (1984)	1984	1 124 100
Statistical Yearbook of Bhutan, 1985	1985	1 286 275
Statistical Yearbook of Bhutan, 1988	1987	1 343 600
Statistical Yearbook of Bhutan, 1989	1988	1 375 400
Statistical Yearbook of Bhutan, 1997	1997	618 557
Statistical Yearbook of Bhutan, 1998	1998	637 777

3. *Changes in population estimates*

UNPD regularly revises population estimates once every two years. This can affect evaluation of progress towards the achievement of UPE, given that some of the progress or decline can be ascribed to the changes to population estimates rather than to any real change. Table VII.5, which shows the change

in estimates of the 1998 school-age population between the revisions of 2000 and 2002, illustrates well how such changes can affect NER.

TABLE VII.5. IMPACT OF THE VARIOUS UNITED NATIONS POPULATION ESTIMATES ON THE VALUE OF NERs

	Primary school-age population (male and female)			*1998/99 NER in:*		
Country	*2000*	*2002*	*Percentage change from 2000 to 2002*	*2000*	*2002*	*Change in NER (percentage points)*
Armenia	218 650	184 841	-15.5			
Cape Verde	63 530	73 269	15.3	119.7	103.8	-15.9
Congo	482 600	557 084	15.4			
Gabon	172 460	197 751	14.7			
Dem. People's Rep. of Korea	2 003 280	1 613 219	-19.5			

NOTES

[1] The 1948 Universal Declaration of Human Rights recognizes everyone's right to education, stating that elementary education should be free and compulsory, and that higher education should be accessible to all on the basis of merit.

[2] Goal 2: Achieve universal primary education. Specifically, ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

Goal 3: Promote gender equality and empower women. In other words, eliminate gender disparity in primary and secondary education, preferably by 2005, and at all levels of education no later than 2015.

[3] The other intermediate factors, on top of age at marriage, are breastfeeding, contraception and abortion.

[4] Resolution 5.21 in Resolutions, Volume I, Records of the General Conference, Eighteenth Session, Paris, 17 October to 23 November 1974, p.72.

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