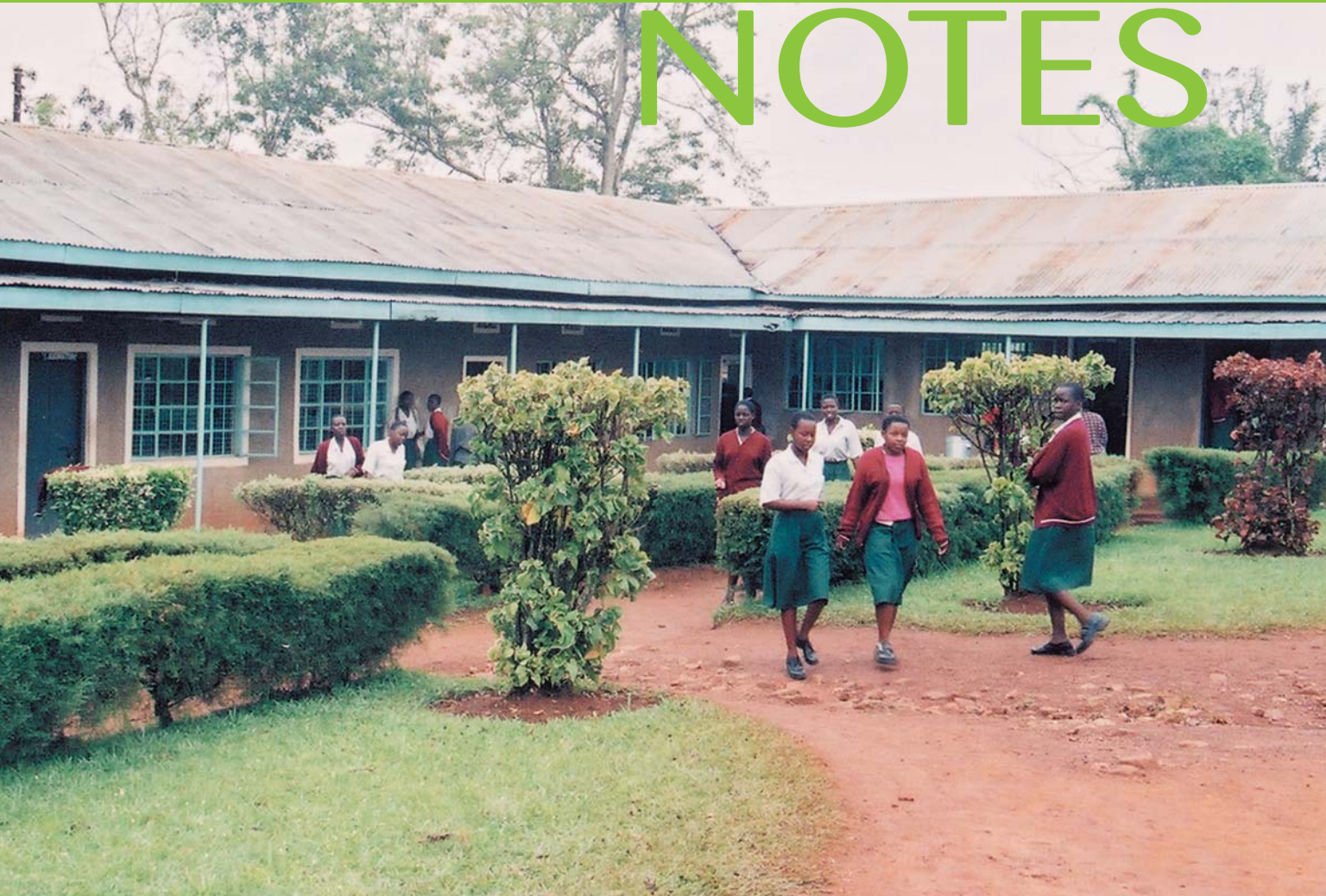


Education NOTES



Education for All: Building the Schools

Putting all children worldwide in school by 2015 will constitute, collectively, the biggest building project the world has ever seen. Some 10 million new classrooms will be spread over 100 countries. At current costs of about \$7000 per classroom in Africa, \$8000 per classroom in Latin America, and \$4000 per classroom in Asia, the total price tag for construction will come to about \$72 billion dollars through 2015, or about \$6 billion annually.

Learning from the past

In the 1960s, most World Bank education projects focused on construction and were managed by architects. Over time, this “hardware” approach evolved into a “software” approach, with a much greater focus on teaching and learning issues. Most projects are now managed by education specialists, but construction still represents the single largest share of World Bank lending to education (45 percent of education lending).

School construction today is heavily influenced by policy concerns: movable furniture for group learning, space for reading corners, etc. Yet it is only recently that most new school construction has included latrines. Many schools are still built without water supply, and access for children with disability remains the exception rather than the norm. These are issues requiring urgent attention by donors, who provide the bulk of financing for school construction.

The successes and failures of the past several decades provide some important lessons:

Lesson 1: If you build it, they will come—if they can. Although demand issues are important, countries have achieved far greater increases in enrollment than previously thought possible, just by building schools and providing teachers. But schools must be near where the children live. In rural areas, this means multi-grade and even one-room schools are needed. It also means that accessibility for children and teachers with disability should be the norm.

The needs of individual communities must be considered when determining the distance of a school from villages and the size of the classrooms. The government of Uttar Pradesh in India adopted a norm of 1.5 km walking distance in the plains and 1 km in mountainous areas in an effort to enroll more children from remote areas. A 2002 study in Chad found a quick drop off in attendance, particularly for girls, when schools were more than 1 km away. Schools located closer to villages will be smaller, and require a different design and teaching methodologies.

Lesson 2: Maintenance, maintenance, maintenance. Maintenance is the single most cost-effective investment a country can make, yet few countries make it a priority and few donors give it much attention. The cost of achieving EFA will already be much higher because of past failures to maintain schools properly. Of the estimated \$6 billion annual price tag for EFA construction, \$4 billion is to replace classrooms that are literally falling down. Approaches relying on the communities alone have not provided adequate results since the cost of effective maintenance is out of reach for many communities. For highly indebted countries, the debt relief initiative is a unique opportunity to provide funds for school maintenance.

Lesson 3: Simple modern technology works best. Many early projects experimented with a range of “appropriate” technologies and procurement approaches. Most of these projects met difficulties because the designs called for construction techniques unfamiliar to local craftsmen, and not easily implemented by small-scale local contractors. The cost of providing technical support often exceeded any expected savings. The most successful classroom construction programs have been based on proven modern technology, with modest architectural standards and a minimum durability of 25 years.

Lesson 4: Schools must have latrines and potable water. This should not have been a difficult lesson to learn: girls’ enrollment, in particular, is heavily affected when sanitary facilities are lacking. In Senegal, only 39 percent of the primary schools have latrines and 33 percent have access to drinking water. Programs to address water and sanitary issues should be designed in collaboration with the water sector.

Lesson 5: Community participation is the key to lower cost and higher relevance. School construction led by NGOs often promotes community participation and reduces costs. NGOs can mobilize resources and generate innovative solutions to local problems. By 2000, the unit cost of a classroom in Guinea decreased from \$13,500 to \$7,600 through reliance on NGOs.

Social Funds and Contract Management Agencies (CMAs) are also excellent mechanisms for building schools, provided there is participative community involvement. These have become the driving force behind construction in many countries in Africa. Well-defined partnerships are another key to success. Most countries receive support from a large group of donors. A clear delineation of duties and responsibilities of all partners in a community-based project is vital to its success.

Analyzing construction cost

New ways of analyzing costs can lead donors and countries to revisit their construction policies and methods. In Africa, for instance, a classroom may cost from 2.5 years of teacher salary to 11 years. (Table 1, Column 1) In other words, while construction in Zambia costs less than twice what it does in Mauritania or Senegal, the relative cost is four times as great. In Asia, countries such as Bangladesh, India and Pakistan, have construction costs equivalent to two or three times the annual teacher salary. Vietnam is exceptional—its very low construction cost is still five times the annual teacher salary. In Latin America, one classroom costs 5 to 7 years of teacher salary.

Another way to look at construction costs is to compare the annualized cost of building a classroom and the annual cost of educating the students housed in this classroom. (Table 1, Column 2) For the African countries in our sample, the annualized cost of construction is equivalent to 38% of the recurrent educational costs for the students accommodated in the same classroom, more than twice those in Asian countries. Capital comes at a much higher price for Africa than for countries in other regions, underscoring the critical importance to Africa of donor support.

Significant cost reductions in Africa. In the 1980s, African unit costs per classroom were the highest in the world (\$13,000-\$18,000). Two decades later, these unit costs are half, and in some cases such as Mauritania, a quarter of their previous levels. Over the same period, costs in Asia were relatively stable,

Table 1. Construction cost compared to recurrent cost

Country	Classroom as multiple of annual teacher salary	Annualized construction vs. recurrent cost
Africa		
Chad	6.6	49%
Guinea	6.2	35%
Mauritania	2.5	15%
Senegal	2.6	13%
Zambia	10.9	75%
Average	5.7	38%
Asia		
Bangladesh	2.1	15%
India	2.0	13%
Pakistan	3.4	17%
Philippines	2.0	13%
Vietnam	5.3	18%
Average	3.0	15%
Latin America		
Honduras	5.0	21%
Nicaragua	6.5	29%
Average	5.8	25%

while Central and South American countries have moved closer together in costs, averaging about \$10,000 per classroom.

Remaining challenges

Renewed attention to urban construction. The rural focus of World Bank support for construction is appropriate but should not have led to neglect of urban areas. In Mauritania, during the period 1991 to 2000, the proportion of classrooms in the capital, Nouakchott, declined from 13.3% to 12.6% of the total classrooms while the population of the capital

Table 2. Evolution of classroom unit cost in US Dollars

Africa			Asia			Latin America		
Country	US\$	Year	Country	US\$	Year	Country	US\$	Year
Guinea	13,450	1989	Bangladesh	2,700	1980	Brazil	6,000	1989
	7,500	2000		3,900	1998		8,200	1993
Mauritania	17,000	1984	India	3,700	1993	Honduras	5,500	1987
	4,700	2001		3,100	2001		9,000	1995
Senegal	13,200	1982	Pakistan (NWFP)	8,700	1987	Mexico	16,000	1991
	6,400	2001		6,800	2001		10,000	1998

Note: IDA-financed projects and programs

increased from 20% to 24% of the total country population. Urban schools are too frequently overcrowded and of poor quality. In the medium-term EFA context, there is a need to support construction of classrooms in both urban and rural areas.

Simplified procurement procedures for communities. Most current procedures date from a highly centralized construction period. The recent change in procurement guidelines for projects with community involvement is an opportunity for change that should be pursued much more vigorously.

Monitoring and Evaluation. Most governments do not learn from their own experiences, since their capacity to monitor and evaluate is weak. For the same reason, donors learn little from the projects they support, and share even less. The harmonization of donor procedures under the Fast Track Initiative should start by

comparative analysis of construction experiences and establishment of ongoing, jointly-owned monitoring and evaluation.

Maintenance “packages.” Far more thought is needed to design appropriate maintenance “packages” that build on community strengths while ensuring adequate financing. A complete change in thinking is needed here. New construction should systematically include provision for financing of maintenance functions throughout the life of the school building.

Access for teachers and students with disability. All new construction should be fully accessible for those with disability; retrofitting of existing buildings is of equal importance. A change in construction norms to this effect should be explicitly agreed by the donor community.

This note series is intended to summarize lessons learned and key policy findings on the World Bank’s work in education. The views expressed in these notes are those of the authors and do not necessarily reflect the views of the World Bank. For additional copies of Education Notes, please contact the Education Advisory Service by email at eservice@worldbank.org or visit the web site: <http://www.worldbank.org/education/>

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