Case Studies in Financing Quality Basic Education

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CASE STUDIES IN FINANCING QUALITY BASIC EDUCATION

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INTRODUCTION

The central focus of the Education for All program which was adopted at the Jomtien Conference, is an emphasis on the outcomes of the education process, that is, on the acquisition of the basic skills, knowledge, and attitudes necessary to participate effectively in the social and economic life of a country. The conference was a recommitment of the international education community to the goal of basic education for all, but a recommitment which gave explicit priority to ensuring that effective instruction results in learning at a high level and that increased access to education results in more students achieving at a high standard. The goal of Jomtien can thus be aptly summarized as "Quality Basic Education for All." In the wake of the conference, many countries have confirmed their support for this goal in national action plans. The desire to make quality basic education accessible to all children has given a new urgency to the question of how to finance such an ambitious goal. The financial challenge of Jomtien is daunting. In many countries, a large proportion of the population has no access to basic education and many pupils that do attend school do not acquire the knowledge and skills specified in the curriculum for each grade level. A bleak economic outlook and unfavorable demographic conditions add to the challenge. Clearly, without changes in the financing and the management of education the goal of quality basic education for all will remain an unattainable dream in many countries.

Yet, significant progress has been made in many countries and can be made in many more, provided that the will to implement the necessary policies remains strong. This document examines the actual experiences of several developing countries in implementing financial reforms to better provide quality basic education for all. It focuses on four prominent and related financial issues that these countries have had to consider: resource reallocation, resource mobilization, resource targeting to benefit females and marginalized populations, and decentralization. The document is intended to stimulate discussion on the design and implementation of financing strategies for quality basic education. To do so, it draws heavily on case studies from Brazil, Chile, China, India, the Sahelian countries, and the Republic of Yemen. Although these countries vary in size, location, and culture, they have all recently instituted financial reforms in basic education. However, in light of the tremendous diversity in their national contexts, the experiences discussed here must be critically assessed before their lessons can be applied to a given country.

The rest of this chapter is divided into two sections. Section I discusses the actual experiences of financial reforms related to the four financing issues mentioned above; it is a synthesis of the six case studies. Section II provides a brief summary of each case study.

I. ISSUES IN THE FINANCING OF QUALITY BASIC EDUCATION

Resource Reallocation for Quality Improvement

To achieve quality basic education for all, existing resources must be used efficiently. Interventions in the education process have to be undertaken to allocate resources among the different inputs in such a way that they improve pupil learning with maximum cost-effectiveness. In its 1990 policy paper on primary education, the World Bank identified three categories of policy measures related to learning:

- provision of inputs that increase learning, such as textbooks and improved curricula;
- cost-reduction measures that, within reasonable ranges, have little negative effect on learning, such as multiple shifts and multigrade classes; and
- inputs that indirectly improve learning by improving education management, such as incentives for teachers and information systems.

For example, the Republic of Yemen is currently making an effort to improve education quality by reallocating its resources. The Yemeni government has a specific budget item earmarked for quality improvements in basic education such as curriculum and textbook development and in-service teaching training. This budget item will increase over time so that by the year 2000 it will be approximately 700 million Rials (about one percent of total primary education expenditures). Many of the resources used for quality improvement will come from savings realized through the "yemenization" of the teaching profession. Local teachers are replacing more experienced outside teachers and are being trained to upgrade their pedagogical skills and topic knowledge.

A study of rural northeastern Brazil by R. Harbison and E. Hanushek argues that in many cases quality improvements in basic education can over time be self-financing. The study shows that quality improvements can be expected to lead to gains in efficiency (such as a reduction in the number of students that repeat grades or drop out) that more than offset the direct costs of such improvements. In fact, quality improvements can make schooling more equally accessible by freeing up places occupied by repeaters for new entrants. This further strengthens the case for investing in improved quality, even where universal access to basic education has not yet been fully achieved.

Central to cost-effective allocation of resources are strategies that will allow teachers' time to be used more efficiently through increasing the pupil/teacher ratio, operating double shifts in crowded schools, and employing multigrade teaching in sparsely populated areas. Studies of several Sahelian countries show that careful implementation of these strategies can minimize their negative effects on pupil achievement. These interventions reduce teacher costs and permit the savings to be used for quality improvement.

Resource Mobilization for Basic Education

In many countries, existing resources are insufficient to support quality basic education for all and it is necessary to mobilize additional resources. New resources may be obtained from both government and non-government sources. The case for allocation of additional resources to basic education will be strongest where the sector is underfunded because government's education spending has been historically

low. Diversifying sources of funding can also be strategically important for obtaining additional government resources for basic education. It may include broadening the tax base, granting taxing powers and delegating financing responsibility to lower-level governments, and earmarking taxes for basic education.

For example, during the period of 1950-1977 in China, the government devoted 4.3 to 8.2 percent of total government expenditures to education; this corresponds to less than 2 percent of GNP. The financial reform in the 1980s, characterized by the devolution of financing responsibility to provincial and local governments and the broadening of financing sources, has significantly increased total government spending on education, including basic education. During 1986-91, expenditure on education averaged 12.1 percent of total government spending, or 2.5 percent of GNP.

Even without financial reform, resources for basic education can be mobilized without changes in the existing system of taxation by increasing the share of public expenditures allocated to basic education. Actual implementation of this strategy has been documented for the Republic of Yemen during the 1990-93 period, for the Sahelian countries during the 1980-88 period, and for the state of Uttar Pradesh in India during the last 15 years.

Contributions from parents and the community are an important source of additional non-government resources. Parents and the local community have been important contributors to school construction in many countries, including the Sahelian countries, the Republic of Yemen, India, China, and Thailand. These contributions are critical to making rapid progress towards the EFA goals and should be supported, as appropriate, by technical and financial assistance for the design, construction and maintenance of school buildings. In some countries, such as China, the local community even provides the livelihood of some or all of the teachers. But in other countries, such as Brazil, the attitude that public education is exclusively the government's responsibility has been a barrier to community involvement. This clearly makes progress towards the EFA goals more difficult. Community involvement in basic education has benefits that go far beyond the financial contributions. It results often in increased parental appreciation and support for the value of good education, pressure on teachers and students to produce high levels of learning and responsiveness of schools to parental and community involvement.

Finally, external agencies can be an important new source for funding for basic education, so long as they do not supplant domestic resources. Bilateral and multilateral assistance has historically favored higher education. Much of the bilateral assistance has been given in kind through supply of highly qualified teachers and scholarships for studies abroad. The multilateral agencies, including the World Bank, have greatly increased their support for basic education in recent years. For example, World Bank lending increased from about US$500 million in 1990 to US$1,000 million in 1993. Further increases are, however, constrained by the limited availability of concessionary aid. For the increased assistance for basic education to be effective, its modalities will need to be reexamined, especially with regard to integration in national basic education programs, effective support for school level improvement, and support for innovation and experimentation.

Targeting Resources to Benefit Females and Marginalized Populations

Marginalized populations are often low-income people of non-dominant ethnic and racial groups, people living in rural and remote areas, aliens and refugees, and people with physical or mental handicaps. Because of cultural, economic, and other factors, females are more likely than males to be marginalized

in most societies. Marginalized populations are the most likely groups to have no access to quality basic education.

By themselves, strategies for resource reallocation and mobilization have not been able to ensure that females and marginalized populations have access to quality basic education. Few countries can afford to fully subsidize the education of the middle and upper classes and provide quality basic education to the marginalized groups. Unless resource allocation mechanisms are changed, allocating additional resources to basic education is likely to benefit non-marginalized populations disproportionately. To improve access for females and marginalized populations, targeting more resources specifically at these groups, the key challenge is for policymakers to mobilize the necessary political support for direct and significant interventions with such populations.

A country should be concerned about providing quality basic education to marginalized populations for at least three reasons. First, from a moral or equity viewpoint, a society should take care of its most disadvantaged members. Second, from an efficiency viewpoint, investment in quality basic education for these populations can have a high rate of return. The investment costs can be substantially exceeded by the gains in productivity and the savings in social welfare costs. Third, given a policy of quality basic education for all, it makes strategic sense for the government to target these populations because they are the least capable of acquiring quality basic education using their own resources.

In a country where females are marginalized, their education should be addressed by public policy. But even if females are not regarded as a marginalized group, additional public investment in their education is still highly desirable. There is substantial evidence from a wide range of countries that increased female education is linked to improved health, lower fertility, and other benefits, and that investment in female education has a high social rate of return.

In a study of 23 targeted social programs in Latin America, a recent report sponsored by the World Bank concluded that targeted programs are more effective than universal provision in directing benefits at the poor and other marginalized groups. It also finds that the concern about the high administrative costs of targeted programs is overstated. In fact, a wide variety of programs that employed targeting mechanisms have cost very little.

An encouraging development is that in the past few years, the countries selected for review in this document have given special attention to targeting basic education at females and marginalized populations. For example, the government of the Republic of Yemen has recently emphasized increased female participation in primary education by constructing additional schools and classrooms specifically for girls and by increasing the number of qualified female primary teachers. The Government of India also recognizes the importance of female education and has borrowed funds from the World Bank to assist the Government of Uttar Pradesh to make schooling and non-formal education more attractive to girls by using a combination of strategies. These strategies include providing latrines and improved facilities and offering early childhood care and education, better teaching, strengthened village education committees, gender sensitivity training for teachers, an increased proportion of female teachers in rural schools, removal of gender bias in curricula and materials, and the expansion of a female-empowerment program throughout the project districts.

India and China are two Asian countries that have acted to improve basic education in poor areas. In 1992 India initiated a financing shift away from central assistance to states and toward targeted assistance

for elementary education in districts with low literacy and where the demand for elementary education exceeded the available supply. In some counties in China, towns and townships (government units immediately below the county level) are allowed to keep 80 percent of their education levies and surcharges. The remaining 20 percent is sent to the county government to support basic education in the entire county, including subsidies to poor areas within the county. For the first time since its borrowing from IDA a decade ago, the Chinese government is implementing an education project mainly for basic education in poor provinces.

Some Latin-American countries also have explicitly addressed equity issues in their current primary education programs. Chile has a primary-education improvement program that runs from 1992 to 1998, with an estimated investment cost of US$243 million. The program supports 5,000 multi-year, school-specific, quality improvement projects. The selection of project schools will alleviate poverty by favoring "high-risk," mostly poor, urban and rural schools. Explicit selection criteria are specified to minimize political interference in the program.

Decentralization

Since the 1980s, policymakers in different parts of the world have increasingly recognized that the traditional methods of education finance and management are unable to deliver quality basic education to all children and that radical changes are needed. Central in these changes is the decentralization of basic education, which is the process of transferring decision-making power from higher levels of government to lower levels of government, community organizations, and schools. Available resources will be used more efficiently to the extent that local governments can make decisions that take individual community needs into account. Mobilizing local resources also reduces the financial burden on the central government. Finally, decentralization is a form of democratization. The potential benefits of decentralization can be substantial through the inputs that key education stakeholders can provide to the education process.

Decentralization in basic education has taken two common forms in developing countries since the early 1980s. One form is devolution of decision-making, by which subnational governments are primarily responsible for providing basic education and have the authority to raise and spend revenues. The decentralization that began in China in 1985 is an example. Based on the principle of "local responsibility and administration by levels," provinces and autonomous regions are responsible for providing primary and secondary education. Different levels of education are financed and managed by different levels of government. In rural areas today, primary education is mostly managed by the village government and financed by resources from the village; lower secondary education is mostly managed and funded by the town or township government. In cities, primary education is funded and managed by the district government and lower secondary education is managed and funded by the city government. In conjunction with an ongoing national economic reform, decentralization has resulted in additional resources for basic education and in increased authority for local governments. The fiscal decentralization, however, has been accompanied by widening educational inequality among different areas in China and the conditions of basic-education in poor areas are still very difficult.

Another form of decentralization is deconcentration of decision-making, which involves the transfer of authority to lower levels within central or higher-level government agencies. This is often accomplished by expanding the power of regional directorates. Chile's 1981 decentralization reform is an example. In this reform, the central government remains the dominant source of public financing of primary and

secondary education (about 90 percent of total public education funds in 1990), but municipalities are assigned new revenue sources and new expenditure responsibilities. Municipal schools receive both enrollment-based grants (known as vouchers) from the central government and funds from new sources of municipal revenue. The reform transferred school property to municipalities and moved teachers from central to municipal payrolls. Government grants can also be provided to private schools which do not charge tuition. Since government grants are tied to school enrollment, the financing scheme provides an incentive for schools to provide quality education and an opportunity for pupils to choose schools they prefer. The aim is increased efficiency and effectiveness.

A mixed form of decentralization has taken place in India. Education was devolved to state governments by the constitution of 1950. But in 1992, the National Policy on Education was revised to deconcentrate decision-making within the state so that district governments have more authority to plan and manage elementary education. Furthermore, village education committees are being reactivated to increase community involvement in making decisions at the school level. In India, active village education committees are seen as the most cost-effective method to ensure that teachers work and schools function.

To be effective, decentralization requires simultaneous efforts to build and strengthen administrative capacity at lower levels and to incorporate measures for accountability and monitoring. As shown in Brazil, the devolution of primary education to municipalities alone does not ensure that municipal schools are run efficiently and that the distribution of resources is free from political interference. Also, as demonstrated in the reforms in China and Chile, decentralization can result in widening inequality of resources given to schools in different localities because of disparities among communities. Decentralization has to be linked to the targeting of additional resources from higher levels of government at female and marginalized populations. The "poor province" project in China, the primary-education improvement project in Chile, and the basic education projects in Northeast Brazil are examples of efforts by national governments to promote equity in basic education.

More generally, in a decentralized financing system higher levels of government should target their subsidies at females, marginalized populations, and poor areas to achieve multiple policy objectives. These objectives should include mobilizing additional government resources, increasing pupil learning, and promoting educational equity.

In summary, notable progress has been made towards quality basic education for all in recent years. In addition to increased access, pupil learning has become a focus of central policy in many countries. Several countries have already moved from simply discussing strategies for financing quality basic education to actually implementing such strategies. Their experience has shown that even though resource reallocation and mobilization strategies are critically important, such strategies are not sufficient to address the financial challenge but must be complemented by strategies for targeting and decentralization.

III. SUMMARY OF CASE STUDIES

A brief summary of the case studies on the Sahelian countries, Yemen, China, Chile, India, and Brazil is given in the following. The key elements of the financial interventions in these countries are listed in Table 1.

The Sahelian Countries

They include Burkina Faso, Cape Verde, Chad, Gambia, Mali, Mauritania, Niger, and Senegal; and are among the countries in the world today with the highest rates of population growth. Basic education in the Sahel falls behind most other African countries and low-income countries in other parts of the world. The financial challenge of quality basic education for all is perhaps the most daunting for these countries. In the 1980s, the Sahelian governments substantially increased the share of primary education in the total education budget and allocated a relatively high proportion of the total government budget to education. But rapid population growth and unfavorable macroeconomic conditions put severe limitations on quantitative and qualitative improvements in basic education in the near future. Additional reallocation of public resources in favor of primary education is likely to have negative impacts on other education subsectors and non-education sectors. While further efforts to obtain new resources from the local community and from foreign assistance are necessary, it is important that current resources are used efficiently. In the past few years and in several of the Sahelian countries, experimentation has been undertaken to improve educational efficiency. Available evidence shows that, with proper planning and implementation, strategies such as double shifting and multigrade teaching can reduce per-pupil costs without negative impacts on pupil learning. Teachers costs can be further controlled by redeploying teachers from administration to classroom duties, and by rationalizing teacher-recruitment requirements to minimize the hiring of teachers with "excessively" high qualifications. These cost savings can be reallocated to support improvements in access and learning. However, even when the efficiency and resource reallocation measures are fully implemented, most Sahelian countries will still have serious difficulty in providing quality basic education to all in the near future. These countries may have to consider more radical changes in the financing of basic education.

Yemen

Education in Yemen is also facing a difficult financial situation. Even though education has experienced rapid quantitative expansion in the past two decades, there are still large and unmet education and training needs today. The expansion has also been achieved at the expense of quality. At the same time, the financial base for education has deteriorated. The country has gone through a period of slow growth and large budget deficits. External aid has decreased while the return of emigrant workers has resulted in a large increase in demand for education and other services. In basic education, there is a need to reassess development priorities and explore alternative means for supporting such priorities. New government policies since unification in 1990 have given more attention to pupil learning and the education of girls. Current quality-improvement efforts include in-service training of teachers, curriculum and textbook development, and upgrading of physical facilities. To increase female access to primary education, additional classrooms and schools specifically for girls are being built and the number of qualified female primary teachers will be increased. Four strategies are used to finance these interventions. First, in the past two years, the government has increased education's share in total government expenditure by 2 percent. Second, teachers' costs are being reduced by replacing expatriate teachers with local teachers. Third, much of the cost savings are reallocated to support quality improvements. There is an item in the basic education budget earmarked for quality improvements. Fourth, there is targeting of resources for girls education. Even though universal primary education is unlikely to be attained by the year 2000, continuous improvements in access and quality are expected.

China

In contrast to Yemen and the Sahelian countries, China has implemented more drastic changes in the financing of basic education. As part of a comprehensive program to achieve the transition from a centrally planned economy to a "socialist market economy," the Chinese government launched a decentralization reform of public finance in 1982 and a reform of the structure, administration, and financing of education in 1985. The financial reform of basic education was part of the larger education reform and an extension of the public-finance reform. The basic-education reform had two defining characteristics: the devolution of financing responsibility and authority to local governments and the diversification of revenue sources in support of basic education. It was aimed at mobilizing additional resources for basic education and increasing local decision-making power. By the early 1990s, a more decentralized and diversified system for financing basic education has emerged. And substantially more resources have been mobilized for basic education since the mid-1980s, in terms of both the percentage of GNP and the percentage of government expenditure. The financial gains since 1985, however, have not yet reversed the negative effects of the long-standing low investment situation before 1985. Basic education remains significantly underfunded and its conditions are especially difficult for marginalized populations and areas. Also, large disparities exist among schools and areas, and between government teachers and non-government teachers. These disparities are likely to widen over time if present practices continue. There is an urgent need to mobilize additional resources from higher levels of government to subsidize basic education for marginalized populations and areas.

Chile

Like China, the financial reform of basic education in Chile was not carried out in isolation; it was part of a larger decentralization reform which began in 1981 and which provided more authorities and responsibilities to municipal governments. Municipal governments could raise additional revenues and provide grants to schools. The aim was to increase local financing of basic education and to increase efficiency in education. But unlike China, the central government in Chile maintains primary responsibility for funding primary and secondary education. By providing a relatively large attendance-based central grants to schools, all pupils are assured a relatively high minimum level of school services; and municipal grants to schools are for augmentation purposes only. Municipal resources for municipal schools have increased rather rapidly throughout the 1980s; they accounted for 10.5 percent of total municipal school revenues in 1991. An important feature of the Chilean reform in basic education is that the amounts of central and municipal grants are tied to school enrollments and are provided to both government schools and subsidized private schools. These practices are undertaken to promote choice and efficiency in basic education. The enrollment share for subsidized private schools has grown since the implementation of the reform.

India

Compared to China and Chile, financial interventions in basic education in India are more recent. In 1992, the 1986 National Policy on Education was revised. In addition to reaffirming the goal of universal elementary education, the revised policy has initiated a financing shift from broadly based central assistance to the states to targeted assistance to states for supporting elementary education in low-literacy districts and in districts where demand for elementary education exceeds supply. Within a state, more planning and management responsibilities are being transferred from the state level to the district level. At the local level, village education committees are being reactivated to increase community participation

in school. Such participation consists of both community contributions to school construction and community involvement in decision-making at the school level. Finally, the revised policy contains special provisions to support the education of girls and minority pupils. The government of India has just approved a basic-education project in the state of Uttar Pradesh, supported by a US$165 million loan from the World Bank. The project incorporates a comprehensive strategy for promoting basic education for females. While the impacts of the above-mentioned interventions are yet to be evaluated, the interventions nevertheless reflect the government's policy shift towards targeting needy populations and decentralized decision-making.

Brazil

The case study on Brazil points out potential pitfalls in decentralization. Historically, administrative responsibility for basic education in Brazil has been very decentralized. State and municipio governments administer rather autonomous primary-school systems with minimal federal oversight. The federal government still maintains a strong presence in basic education through its financial transfers to state and municipio governments for supporting non-salary expenditures. In 1988, a new constitution called for a modified fiscal federalism to strengthen the correspondence between administrative responsibility and revenue-raising authority and to reduce the dependence of state and municipio government on federal transfers. It also stipulated that the federal, state, and municipio governments spend respectively 18 percent, 25 percent, and 25 percent of their revenue on education. To support universal access to primary education, all levels of governments are required to spend at least 50 percent of their education expenditure on basic education during the 1988-98 period. So far, there is little evidence that these stipulations and requirements are followed. And in the absence of monitoring and accountability measures, it is very difficult to ascertain the extent of compliance. In fact, available evidence indicates that large inequalities in basic education continue to exist across regions and among pupils of different backgrounds, and that many children are still denied access to schools of minimal quality. Such difficulties are related to weaknesses in the current school-finance system, including the lack of effective enforcement of financial regulations, the complexity and lack of transparency of the system, and the openness of the system to political manipulation at various levels. The federal government recently has stepped up its effort to support basic education in poor regions. The World Bank and other international agencies have directed more of their loans to basic-education projects in Northeast Brazil. The targeting of additional government resources for basic education in poor regions is a positive step, but it must be carefully designed and implemented so that such resources will benefit the needy populations in the targeted regions, and not the best-off members in such regions. Also, targeting has to be accompanied by simultaneous actions to rectify the problems in the current decentralized system. These deficiencies have been recognized and the recently approved World Bank projects in Brazil will begin to address them.

Table 1. Summary of Financial Reforms in Several Developing Countries

Country	*Key Interventions*	*Policy Objectives*	*Results and Lessons*
Brazil	1988 constitution initiated new fiscal federalism, stipulated spending levels.	Resource mobilization, reduce reliance on central transfer, increase linkage between administrative & financing power.	Actual spending levels not easily ascertained, lack of compliance with constitutional requirements, large inequalities persist, need more transparency, accountability, & monitoring in financing system.
Chile	Increasing municipio financing.	More local decision-making.	Municipio financing at 10.5% of school revenue in 1991, central transfers remain dominant source to ensure relatively high minimum level of education services.
	Enrollment-based grants for both government & subvened private school.	Promoting choice & efficiency.	Increasing enrollment share for subvened private schools.
China	Devolution of financing responsibility to local governments, diversification of revenue sources.	Resource mobilization & as part of public-finance reform.	More resource for basic education, decentralized system established, widening inequalities, need more targeting of government resources at poor populations & areas.
India	Shift from broadly-based central assistance to targeted assistance.	Targeting government resources at needed districts.	Results to be evaluated.
	More decision-making at district & community level.	Increasing efficiency.	Need capacity building at district level. Results to be evaluated.
	Specific policies supporting girls & minorities.	Promoting female & minority education.	New basic education project in Uttar Pradesh with focus on females.
Sahelian countries	Increasing basic education's share in education budget.	Resource mobilization.	Average share increased from 39% in 1980 to 46% in 1988.
	Experimenting with multigrade teaching and double shifting.	Increasing internal efficiency.	Minimal negative effects on learning with proper implementation. Can reallocate savings to support access & learning.
Yemen	Increasing education's share.	Resource mobilization.	Share increased from 17% to 19% during 1990-93 period.
	Replacing expatriate teachers with local teachers.	Cost reduction.	Long-term savings in recurrent cost about 8%.
	More classrooms/schools for girls, more female teachers.	Promoting girls education.	600 classrooms to be built in 200 rural communities; 300 female teachers to be trained.
	Budget item for quality.	Quality improvement.	1% of total primary education expenditure by year 2000.

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Financing Quality Basic Education in the Sahel

The 1990 "World Conference on Education for All" defined ambitious targets, both regarding universal access to basic education, as well as quality requirements related to learning acquisitions. The conference called for an "expanded vision" that "surpasses present resource levels, institutional structures, curricula, and conventional delivery systems while building on the best in current practices" (UNICEF, 1990) and Schooling for All, defined as "the circumstances of having a school system in which all eligible children are enrolled in schools of at least minimally acceptable quality" (Colclough and Lewin, 1993). These general challenges are highly relevant to the Sahel.

Sahelian countries, although rich in cultural and ethnic diversity, are economically poor. GNP per capita averages about US$425, ranging from about US$200 in Chad to US$750 in Cape Verde (World Bank, 1993b). According to UNDP's *Human Development Index* (UNDP, 1992), six out of the eight Sahelian countries are among the twelve least advanced countries in the world. Although population density is comparatively low (15 inhabitants per km^2 compared to 44 and 83 respectively of francophone and anglophone African countries), the Sahelian countries are characterized by climatic and economic conditions that create severe constraints on the countries' ability to rapidly increase the coverage of quality basic education.

In order to put the education situation of the Sahelian countries into a comparative picture, four other groups of low income countries have been established as a basis for comparison: (a) francophone African countries other than the Sahel, (b) anglophone African countries, (c) low-income Asian countries (12 countries with per capita GNP below US$800), and (d) low-income Latin American countries (7 countries with per capita GNP below US$1,000). The figures are derived mostly from UNESCO and from national sector studies and refer in general to 1988 and 1989.

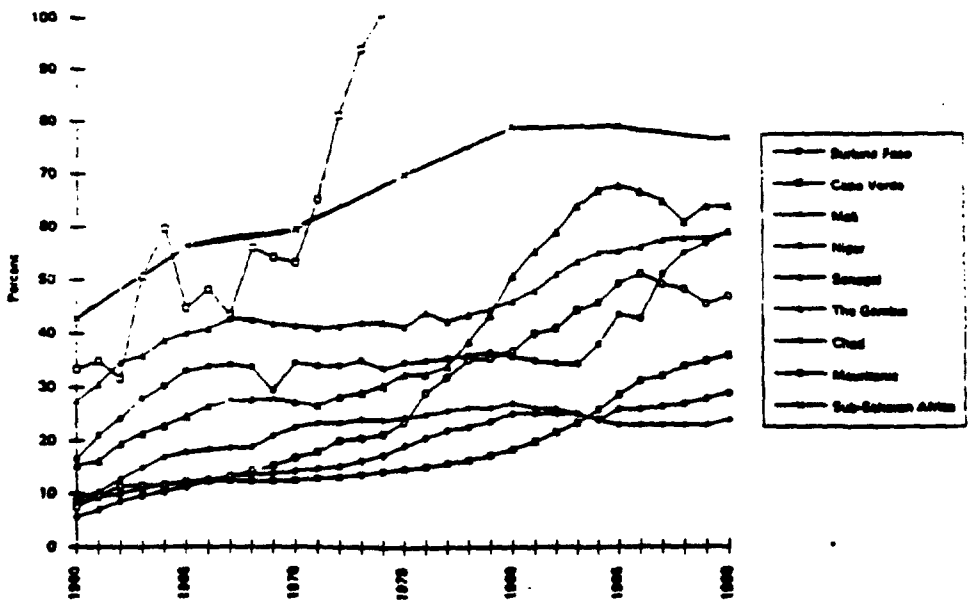
Governments' revealed preferences for education can be studied in retrospect from actual spending on education. Traditional indicators in this respect are (a) the share of education in GDP which indicates the effort relative to the national product, and (b) the share of education within the Government's budget which indicates the relative weight given to the sector in comparison with other claims on public financing. The financial effort in favor of education is, on average, higher in the Sahel than in other world regions. In 1988, Sahelian governments allocated 19.4 percent of their budgets to education which is markedly higher than other low-income countries. The share of GDP per capita spent on education was 3.7 percent of GDP, compared to the average for other African countries of 4.4 percent, for low-income Asian countries 3.4 percent and Latin American countries 2.3 percent (see Annex 1, Table 1). However, great differences also exist among the Sahelian countries, ranging from Chad (1.5 percent) and Niger (2.5 percent) to Mauritania (4.9 percent). Given this comparatively high share and the many other

competing demands on their budgets, it is difficult to envisage, in the present economic context, that the Sahelian countries would be able to accelerate the development of primary education by spending a significantly greater share of their budgets on education.

Structural equity[1] in the distribution of public education resources is much lower in the Sahel (Gini coefficient of 0.78 in 1988) than in the other countries in the comparison (see Annex 1, Table 2). A more direct way of presenting this result is to remark that, if the present pattern of resource allocation were to be maintained, more than 50 percent of public resources allocated to educating a generation of children would be appropriated by 5 percent of the age group. Inequities are most pronounced in Mali, Burkina Faso and Niger. Since 1980, there is a clear tendency towards less unequal distribution of public resources for education as a result of relative progress in terms of primary education coverage, but marked differences still exist between the Sahelian countries. In Mali, the distribution became even more unequal during the period 1980-88.

Education coverage in Sahelian countries lags seriously behind other countries in Africa (particularly Mali, Niger and Burkina Faso) and even more seriously behind low-income countries in other parts of the world (see Annex 1, Table 3). The primary enrollment ratio in the Sahel averages only 35 percent for girls and 56 percent for boys, compared with the Sub-Saharan averages of 72 percent for girls and 82 percent for boys. Six of the countries in the region are among the only 17 countries in the world where primary school enrollment accounts for less than 60 percent of the school-age population.

Graph 1. Trends in Enrollment Ratios for Primary Education



Source: Based on data from UNESCO Statistical Yearbook, 1992 and mission data collected by AFSPH.

1 Statistics on structural equity take into account data on: (a) the distribution of the terminal level of education (proportions of a generation of children who complete the different levels of an educational system); and (b) the public resources accumulated along the schooling career (each year of schooling implies a private "appropriation" of public resources for an amount corresponding to the unit cost at different levels of education). The distribution of the length of studies results in a distribution of public resources appropriated by different members of a generation of children. This distribution (and concentration) of resources can be synthesized in the Gini coefficient.

Progress has been made over the last decade. In the Sahel, rates increased at all levels of education (from 32 percent to 41 percent in primary education, from 7.4 percent to 9.7 percent in secondary, and from 0.9 percent to 1.5 percent in higher education). However, the Sahelian countries have developed differently. As Graph 1 shows, Chad, Senegal, and Burkina Faso increased their primary enrollment ratios steadily over the last years, while Mali is generally in a worse situation now than 15 years ago with a primary enrollment rate around 25 percent at the end of the period.

By and large, demographic and macroeconomic constraints put severe limitations on improvements in enrollment rates in a short- and medium-term perspective. Assuming a scenario of no change in present modes of financing and organization, countries will find it difficult to match the rate of enrollment growth with that of population growth. Simulations based on country-specific data for five Sahelian countries suggest that in such a "no-change" scenario all of them would see enrollment rates decline. The negative consequences on primary enrollment rates vary in magnitude from one country to another and reflect, at least implicitly, current priorities. In Burkina Faso and Niger, the next decade may well compromise the progress accomplished during the 1980s. In conclusion, it is imperative for Sahelian countries to develop and implement an education development strategy that avoids stagnation at a very low level of basic education development. This case study examines some options for such a strategy.

I. RESOURCE MOBILIZATION FOR BASIC EDUCATION

Sahelian countries' intention to develop primary education is reflected in fairly ambitious medium-term policies and investment programs. Resources are being mobilized in three ways: (a) making more efficient (pedagogical/economical) use of existing resources; (b) increasing the share of governments' resources allocated to the education sector and to primary education in particular; and (c) requiring increased contributions from parents and communities. The first type of action should be easier to implement than the second since the scope is limited to primary education itself. The second type requires a global strategy for the whole sector and reallocation of resources from secondary and, in particular, higher education, to primary education. This type of reallocation has proven to be politically very difficult in Sahelian countries.

Any major educational reform has important short- and long-term effects on large segments of the population as well as on the nation's social and economic development process. Consequently, such reforms entail Government decisions that are politically highly sensitive, and their implementation needs to be considered and planned in the context of the political, economic and social interests affected. Reforms in this area normally—explicitly or implicitly—change the distribution of education costs, benefits and privileges among different population groups. As modern sector employment is becoming increasingly scarce and dependent upon education qualifications, benefits derived from public spending on education are becoming an even more important determinant of the distribution of influence and wealth in the society. Conflicts of interest between different regions, political parties or ethnic groups can also surface and be sharpened.

Many educational reforms have a direct impact on the working conditions and living standards of teachers, who frequently constitute the largest single group within the civil service and have the strongest and most vocal union. Others affect the life of students who, especially at the post-secondary level, constitute a political momentum that may make or break governments in many developing countries. Consequently, given the highly political sphere encompassing educational policy decisions, strategies for

consensus-building within a country are essential, in particular when policy reforms require changes in central and local behavior, or influence the distribution of education costs and benefits among different groups (Fredriksen, 1990). As this document shows, this is most often the case in Sahelian countries.

Mobilizing more resources may also be difficult in the present fiscal and economic context. However, indications are that communities and parents would be willing to contribute more than at present to ensure basic education of their children. But this may require that they be more directly involved in controlling the functioning of the schools. Based on parents' demand for education for their children, decentralization may mobilize additional resources (including far more than economic resources) in a non-bureaucratic way, contribute to internal efficiency through transparency and direct involvement (e.g., by parent-teacher associations), and contribute to quality improvement by making the teachers more accountable vis-à-vis parents. Decentralization does not imply abandonment of government influence. The aim is rather to limit the detailed, central, bureaucratic control and to redefine the role of the district and regional administrative staff to become more resource persons for local school improvement. A side effect is that some evidence suggests that teachers' salaries may tend to drop as a consequence of increased local autonomy and accountability.

When discussing reforms, adjustment and reallocation of resources within the education sector, it is essential to keep in mind that the objective is not to cut spending per se, but to seek an optimum balance between spending on the one hand and increasing coverage and quality in terms of student learning on the other. The objective is to move as far as possible in the direction of obtaining better quality universal primary education per dollar spent.

More Efficient Resource Use

Unit Costs

Expressed in *per capita terms*, unit costs at all levels of education in the Sahel (see Annex 1, Table 4) exceed those of other African countries by 60-80 percent. During the 1980s, unit costs dropped in Sahelian countries but not as much as in other African countries. Great differences are found between countries. Unit costs are highest in Niger (especially in secondary education), Burkina Faso (in secondary and particularly higher education) and Mali (particularly in primary education). Unit cost of primary education in the Sahel is almost twice that of other African and low-income Asian countries. At secondary and higher education levels, unit costs are 44 percent higher than in other African countries and 3.5 times higher than in low-income Asian countries.

Differences in the pupil:teacher ratio do not explain the difference in unit costs. Although pupil:teacher ratios range from 67:1 in Chad to 38:1 in Mauritania, on average they are higher in the Sahel than in other world regions. Teacher salaries, however, contribute largely to the differences in unit costs. At the primary level, teachers' average salaries amount to 10 times the per capita GDP compared to less than six and five in other francophone and anglophone SSA countries, respectively, and less than three times the per capita GDP in low-income Asian countries. A similar picture exists at the secondary level.

At the secondary level, Sahelian countries spend more, on average, for scholarships and student aid (about 20 percent of secondary budget, see Annex 1, Table 5) or 2.5 times the share in SSA anglophone Africa and about 3.5 times that of low-income Asian countries. In francophone countries the gross enrollment ratio in secondary education is 23.9 percent and the share of the budget for student aid is 25 percent. Anglophone countries have a 22.8 percent enrollment ratio and the share of student aid is not higher than 7.5 percent. Secondary enrollment in the group of Asian countries used in this study is 34.4

percent and the share for student aid in the secondary education budget is only 5 percent. Student aid is generous in the Sahel when the 10 percent of the age group who are enrolled in secondary education benefit from subsidies amounting to almost 20 percent of the budget.

In higher education the picture is even more dramatic, at least when compared to the Asian countries. Sahelian countries spend a share of their budgets for student aid in higher education that is eight times that of the share in low-income Asian countries. The case of Burkina Faso is given in Box 1.

Teachers

Teachers' salaries constitute the principal budget component at the primary level. Therefore, more efficient use of teachers constitutes the core item of any policy aiming at reducing unit costs in primary education.

Appropriate Level of Teachers' Qualifications

It is to be expected that the more comprehensive the pre-service teacher training, the higher the quality of instruction and the capacity of teachers to adapt adequate pedagogical methods and adjust to curriculum changes. Many African countries have extended the length of pre-service training for primary school teachers over the last 15 years, in part because of an increased rate of graduate unemployment. However, teachers' salaries are directly related to the level of the diplomas. Because research provides no strong link between student learning and the teachers' qualifications (Jarousse and Mingat 1991a, 1991b, 1991c, 1993), Sahelian countries have begun to recruit a larger share of *instituteurs adjoints*[2] rather than *instituteurs* to lower costs (as the 4:1 ratio between the two categories of teachers defined in Chad, Niger and Senegal).

Given the rigidity of the civil service salary scale in Sahelian countries (linking wages to educational levels), using teachers who, prior to their training as teachers, have completed upper, rather than lower secondary education increases unit costs in primary education by 25-35 percent without any significant gain in student learning.

A study in Mali (Fomba, 1992) concluded that primary school teachers performed significantly better (judged from student learning) when financed directly by the parents compared to the normal public mode of payment. Furthermore, teachers' salaries in these "private" schools were 40 percent lower than in Government schools. Similar differences in teacher salaries between public and community managed schools were noted in Chad (World Bank, 1993d). This evidence could provide a basis for some suggestions: (a) rigidity in teachers' salaries in the public sector could be reduced by taking into account the conditions of the local labor market, thereby extending coverage of primary education; and (b) making teachers accountable to local users appears to boost motivation and efficiency.

Some countries have also made teaching in primary schools an option through which to fulfill their national service obligation. In Burkina Faso, it was decided in the late 1980s to assign about 1,100 members of the National Civil Service to teach for one year. However, in all efforts to increase cost efficiency, a balance has to be found, taking into account teachers' accountability, professional qualifications and employment mode in order to ensure adequate quality teaching.

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[2] In Burkina Faso it was decided in the early 1980s to establish a new category (later defined as *instituteur adjoint*) of primary school teachers based on 1 year teacher training program on top of lower secondary. Later, the duration of the teacher training program has been extended to two years.

Box 1. Scholarships in Burkina

In 1982, the total cost of fellowships in Burkina Faso to students at the secondary and higher educational levels amounted to 35 percent of the education budget, an amount higher than the total budgetary allocation for primary education. In 1988-89 new rules were adopted in order to limit the eligibility and thereby reduce the rate of increase. Fellowships were only to be awarded to first year students below the age of 23 with high performance at the *baccalauréat*, and aid given only to those who satisfied criteria related to academic merits and the economic status of parents. The number of new fellowships dropped accordingly, from 1,000 to less than 800.

In the SY 1992-93, about 3,400 earlier fellowship holders received reduced amounts compared to what they received before. About 1,100 new fellowships were awarded (FCFA25,000 per month) in accordance with the new criteria. About 750 students with performance below average the previous year were awarded reduced fellowships (FCFA12,500 per month). The amount given to all fellowship holders for books and equipment is FCFA50,000 the first year and an annual amount ranging between FCFA12,500 the first four years and FCFA50,000 for the 5th and later years. For the SY 1992-93, a special grant (FCFA100,000) was given to 523 first year students who were slightly older than the maximum age of 23 years, and prices on campus were reduced for fellowship holders. Consequently, 60 percent of the students at the university received support. There were 1,234 fellowship holders studying abroad (40 percent in other African countries, 35 percent in former USSR and 15 percent in France).

Compared to 1982, the share of expenses for fellowships in post-primary education had dropped to 26 percent of the total budget for education and represented only 50 percent of the total budget for primary education. Within the budget for higher education, however, a large share (67 percent in 1993) is still allocated to fellowships.

Source: Population and Human Resources Operations Division, Sahelian Department, Africa Region

Redeployment of Teachers from Administration to the Classroom

The centralized school systems of the Sahelian countries are expensive to operate and career patterns of teachers draw senior teachers away from teaching and into a rather voluminous administrative system that is neither transparent nor easy to manage.[3] Efforts to redeploy teachers back to the classrooms have been quite successful in Mauritania and Senegal, and have permitted a reduction of the burden on the salary budget in a period of expansion. However, indications are that there is considerable scope for further gains in this area in many Sahelian countries.

Increase Pupil:Teacher Ratio

It is commonly believed that pupil learning is better in small classes. However, given that unit cost is crucially dependent on class size, it is evident that the class size a given country can afford is closely related to economic conditions. But even for countries at similar levels of economic development, the

[3] Recent figures from Mali indicate that 3,000 out of the 17,000 primary school teachers in the country are reassigned to other functions.

optimum class size is a matter of considerable controversy. Recent empirical studies in Benin, Burkina Faso and Togo (Jarousse and Mingat, 1992) suggest that student learning deteriorates when class size increases; although it should be kept in mind that a number of factors determine student learning. When, for example, a teacher lectures, class size is of little importance. Furthermore, large class size may be more detrimental to quality in certain grades. For example, when, the class size is high in grade 1 (as is often the case), the teacher will not be able to meet the individual needs of pupils for coaching, guidance and evaluation to the extent required, and learning may suffer more than in higher grades. Instead of a general increase in class size, a higher pupil:teacher ratio can be achieved by better organizing rural schools better (e.g., by multigrade teaching), or by using double-shift teaching, mainly in urban schools. Use of these two techniques is discussed below.

Double-shift Teaching

Although widely used in the rest of the world, arrangements for student grouping, especially as regards use of double-shift teaching, are objects of controversy in some Sahelian countries. It seems clear that this is an area where these countries can learn from the experience of other countries and where policies need to be more firmly based on research and current national economic realities.

In urban settings worldwide where enrollment is high and lack of budgetary resources would otherwise result in very large classes and/or rejection of children, double-shift teaching has been introduced at different times. The basic idea is to utilize classrooms and teachers for a longer period of the day, for example by having one group of pupils attend in the morning and another in the afternoon. The time the pupils spend in school has to be reduced (for example from 30 to 20 hours a week, like in Senegal) and increased for the teacher (2 times 20 = 40 hours in the preceding example). Teachers are compensated for the extra work (in the Sahel, the bonus is generally 20-25 percent of average teacher salary).

The rationale for double shifting is mainly related to the reduction of unit costs. In an experiment conducted in Niger, the per pupil recurrent cost was only 60 percent compared to single-shift. The application of double-shift teaching in Dakar permitted—for the first time—the city of Dakar to accept all children who wanted to enroll in grade 1. As regards resource savings, introduction of double-shift teaching in Senegal permitted enrollment to increase by 15 percent without increasing the number of teachers. It is also interesting to note that the only country in the Sahel that has attained universal primary enrollment (Cape Verde) has even used triple-shift teaching.

The impact of double-shift teaching on student achievements has been studied in many countries of the world. Several studies have also been conducted—or are currently being undertaken—as part of IDA-financed projects in the Sahel. Studies conducted for two countries—Senegal and Niger—have given somewhat contradictory results. In Senegal, student achievement was almost at the level of pupils enrolled in single-shift classes, while in Niger, the achievement of double-shift pupils was below that of single-shift pupils.

Observers familiar with the two cases strongly believe that the different outcomes are largely due to the way double-shift teaching was prepared and introduced in the two countries. It is not difficult to understand that double shifting may be rejected by parents who already have their children enrolled in school because it is considered to be an inferior solution for their children, and by the teachers because

the compensation they get may be considered to be too low to fully compensate for the extra work load.[4] But it is also evident that the formula can be accepted and supported when properly introduced. In Senegal, double shifting was introduced with much enthusiasm among the teachers and substantial popular support (see Box 2). In Niger, the teachers' union (possibly also many inspectors) opposed double shifting. Faced with stiff opposition from the teachers' union, the Government decided to stop the experimental program.

From experiences in the Sahel so far, it is evident that the way double shifting is introduced is essential. First, the quality of double-shift teaching is largely dependent upon training of teachers in the use of this method of teaching, that programs are revised to reflect the shorter duration, and that sufficient training materials are made available. Second, thorough preparation is required on the part of the Government as regards mobilization of public and professional support. The formula must be appreciated by parents and teachers as an important measure to reach crucial national objectives. It is especially evident that the views of parents of pupils who would be able to enter school thanks to double shifting must be taken into account. This is generally not the case.

If properly prepared, double-shift teaching is likely to be a most effective way to increase internal efficiency without sacrificing educational quality. Even in cases where double shifting would cause student achievement to decline to some extent, this negative impact can be counterbalanced by such measures as reducing class-size and by providing more training materials. After all, priorities have to be made in the national context, and any negative effects of double-shift teaching would need to be weighed against the positive impact on increased access.

Multigrade Teaching

Multigrade teaching is a familiar method used in many countries in rural areas where, because of large catchment area due to low population density and/or low participation rate, the number of pupils in any single grade is low. Under such circumstances several options are possible: (a) each school may cover an even larger catchment area, resulting in some children having to walk a longer distance from their homes to school; (b) admission may be less frequent than every year; or (c) introduction of a multigrade system. A large catchment area has several inconveniences: the walking distance is not only strenuous and time-consuming, it also creates difficulties with food during the day and has been shown to have a strong negative impact on the admission of girls. Admitting pupils less frequently than every year has other disadvantages, e.g., it leads to a wider age-range in each grade. However, this is an approach that could be more frequently used, for example, admission could be every second year. Nevertheless, of the three options, multigrade teaching is the most promising and widely used throughout the world.

Multigrade teaching has to accommodate the needs of pupils at different grade levels in the same class. The teacher is therefore more or less forced to conduct teaching in a different way than talk-and-chalk, and, instead, organize the students for independent work with a larger share of the time devoted to individual/group tutoring than to talking in front of the whole class. Some argue, however, that teaching

[4] However, it should be noted that in Niger, it was mainly the Teacher Union which opposed the double shifting. Government officials and teachers involved were in favor, the latter group mainly because of the extra pay, considering the difficulty in finding alternative employment. In other countries (e.g., Mali), it appears that teachers can find alternative and more lucrative employment by tutoring pupils outside school hours and therefore are less interested in working extra hours on teaching another shift.

in rural areas is difficult enough without the extra burden of having to teach several groups at the same time.

Box 2. Education Adjustment in Senegal

Despite Senegal's traditional role as a center for education and training in French-speaking West Africa, at independence the development of primary education (27 percent gross primary enrollment ratio in 1960) was well below the Sub-Saharan Africa (SSA) average of 38 percent. During the first two decades of independence, Senegal made major strides in developing primary education, despite weak economic growth (increase in the share of GDP devoted to education from around 1 percent to around 5 percent). Still, Senegal entered the 1980s with a primary enrollment ratio of 46 percent, compared to the regional average of 73 percent. Starting in 1981, a new educational policy was developed and put into action in 1985: the key objective being 30 percent enrollment for the age group 3-6 years and 100 percent enrollment for the age group 7-16 years by the year 2000.

Although primary school enrollment grew at an average annual rate of 6.8 percent from 1980 to 1985, and the enrollment ratio increased from 46.0 percent to 55.5 percent, the development was still not sufficient to reach the target of universal primary education by the year 2000. Notwithstanding the Government's ability to increase the share of the education budget devoted to primary education from about 40 percent in 1980 to 46 percent in 1985, continued containment of expenditures in higher education was necessary in order to accommodate further reallocations in favor of primary education.

Quality slipped in primary education: the success rate at the primary school leaving examination declined from 59 percent in 1966 to 42 percent in 1983 due to poor learning efficiency, overly academic content, and inadequate management and control at the regional level.

In addition to financing investments to improve quality and access, to help the Government mobilize extra resources for primary education, the Primary Education Development Project (supported by the World Bank and the African Development Bank) that became effective in 1987 was, in addition to financing investments to improve quality and access, designed to help the Government mobilize extra resources for primary education by such measures as: (i) reducing unit costs by introducing double-shift teaching in urban areas and multigrade teaching in rural areas, and (ii) containing expenditures in post-primary education.

As regards the cost-saving measures, the main conclusions from the Senegal experience after 1987 are:

1. Double-shift teaching was successful. It was used in about 1000 classrooms during the SY 89-90 and an evaluation concluded that pupil achievement was no lower than in regular-shift classes.
2. Multigrade teaching was also successfully implemented in 221 classrooms. The quality aspects have not been evaluated.
3. It proved to be far more difficult to maintain or bring down the level of spending in post-primary education. Student subsidies, which accounted for 36.5 percent of the higher education budget in 1985, had increased sharply in spite of Government's efforts.

The Senegal experience exhibits the difficulties of budget adjustments in higher education in a francophone Sahelian country where education systems are generally small, fairly costly, and essentially elitist, with primary education catering to mainly urban areas and post-primary education benefitting the urban elite.

Source: Fredriksen, 1992

In order to assess the benefits and drawbacks of multigrade teaching, studies from Senegal, Burkina Faso and Togo show that multigrade (most often double-grade) teaching is pedagogically beneficial for student learning.[5] Allowing for the possibility that existing knowledge as regards effective use of multigrade teaching methods has not been fully used in the cases that have been studied (see for example Thomas and Shaw, 1992), the results are encouraging. A learning gain, accompanied by 50 percent lower unit costs, is obviously important and so encouraging that it might even be worth considering a more flexible grouping of pupils in schools where multigrade teaching is not a necessity because of small class size. Training of teachers in use of this technique and provision of additional materials considered essential is required, both for the sake of maintaining quality and to convince parents that use of multigrade teaching does not impair quality.

School Buildings and Furniture

School buildings in the region have been mostly made from local materials, in particular in *banco*.[6] The schools financed by the Government, often through donor support, are made of concrete. An evaluation of projects supported by the World Bank with regard to construction components (World Bank, 1993c) indicates that substantial efficiency-gains can be made by improving planning and management. For example, under an IDA-financed education project in Niger in 1991, the average cost per classroom made of concrete was about 50 percent lower (in nominal terms) than similar classrooms constructed in the mid 1980s. The key factors were the use of standard designs and especially private, contracting procedures.

Existing studies on pupil learning in the region clearly indicate that there is no relationship between building materials and student achievement. In fact, classrooms constructed in local materials offer some advantages for multigrade teaching. The poles often found in traditional classrooms serve as natural separations between groups of pupils and are not disturbing at all, as they are for single-grade teaching. Schools made from concrete can be justified on other grounds than those related to student learning (e.g., lower maintenance costs). However, given the budgetary constraints and the obvious necessity to increase coverage of primary education without sacrificing quality, the transfer of the responsibility of school building construction to local communities is an option that should be seriously considered (both by countries and donors). For this approach to work well, local communities would need both technical support and supply of some key building elements. Not only could self-help schemes reduce budgetary costs to a minimum, they could also ensure that schools are constructed where there is a real effective demand and avoid the classical situation in which local communities wait for the Government to build the school as it did in the neighboring village.

No evaluations of the relationship between school furniture and learning are available in the Sahel, but it is obviously a precondition for learning that at least some minimum requirements are met. When children are requested to bring their own tables and chairs, and even this equipment is stolen, irritation turns into despair in families who sacrifice other necessities for the education of their children. Cost-

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5 In these studies only grades 1-2 and 5-6 were studied. The results show that, all other conditions being equal, pupils in double-grade classrooms with 40 children attain results which were superior to those achieved in single-grade classrooms of 20 pupils. The difference in grades 1-2 was, on average, six points, and in grades 5-6 four points on a scale with a 15-point standard deviation (Jarousse and Mingat, 1992).

6 Banco is made from argil and either used as bricks or applied directly to building surfaces.

effectiveness is vital in this area as well; properly conducted competitive bidding and adequate quality control can keep expenses down.

Estimated Results from Improving Cost Efficiency

The factual information available on the impact of school factors on student learning needs to be more fully used in the design of more cost-effective approaches to help solve the very serious crises in coverage and quality of basic education faced by Sahelian countries.

To illustrate the scope for cost savings, simulations have been performed to estimate the implications for year 2000 of introducing the following measures:

- a pupil:teacher ratio of 55:1,
- only recruitment of *instituteurs adjoints*,
- teacher salaries slip by 1.5 percent per annum in real terms.

Table 1. Impact of Measures in Primary Education on the Gross Primary Enrollment rate in the Year 2000[7]

	Burkina	*Mali*	*Mauritania*	*Niger*	*Senegal*
Actual Enrollment Ratios, 1988	34	23	51	30	59
Project Enrollment Ratios, Year 2000:					
1. With no policy change	-9	-4	-6	-12	-5
2. With Single Measure:					
Pupil:Teacher Ratio = 55	-	+9	+4	+5	+6
Recruitment of *Instituteurs Adjoints*	-	+1	-	-	+3
Teacher Salary Drop (1.5 percent p.a.)	+5	+6	+11	+5	+14
3. Total of 3 Measures:					
With Current Share of GDP for Education	-3	+14	+10	-1	+14
With 3.5 percent of GDP for Education	+13	+19	+10	+25	+14

Note: Numbers for each measure show incremental percentage point changes in enrollment rates resulting from the interventions listed.

The simulations indicate that, except for Burkina Faso and Niger, the countries would be able to increase the primary enrollment ratio by applying the three measures considered. For the other two countries, a real improvement in the coverage of primary education is dependent upon the mobilization of more resources. However, to reach the objective of universal primary education would require mobilizing additional resources for all these five countries.

[7] Missing data prevents simulation to be made for Chad.

Reallocation of Education Resources in Favor of Primary Education

The capacity of labor markets in the Sahel to absorb the growing number of school-leavers is more and more limited, and open unemployment among graduates from secondary and higher education has become a major social concern and represents a destabilizing political factor in some countries. Some regulation of student flows can probably not be avoided. Students continue to seek admission to higher education in spite of bleak prospects for work in order to benefit from the strong public financial support provided to a majority of them. Efforts to control admission to upper secondary and, especially, higher education would imply limiting the provision of scholarships and/or adopting some cost-recovery formula. On the basis of simulations made for the Sahelian countries as a whole in 1989, estimated gains of eight to 10 percentage points in primary education coverage by the year 2000 would be the result of a freeze of scholarships in higher education at their 1989 nominal level, provided that all the savings were transferred to primary education (Jarousse and Mingat, 1992).

The enrollment ratio in secondary education is very low in the Sahel—on average only about 10 percent as compared to the Sub-Saharan average of 21 percent. Thus, there is little justification for severely limiting enrollment growth at this level in order to transfer resources to primary education. This being said, in the future, a larger share of the enrollment growth at this level should be in privately financed schools, or financed through increased levels of cost-recovery in public schools.

Based on the above, two conclusions can be drawn: (i) an excessively high share of post-primary resources is devoted to student subsidies; and (ii) it would be in the national interest to reallocate a large share of these resources for: (a) pedagogical and research purposes within higher education; and (b) to primary education. However, provisions of Government scholarships is a highly sensitive issue in most Sahelian countries, and experience shows how difficult it is, in practice, to have sufficient space to maneuver. With the exception of a couple of countries where the scholarship budget is extremely high and needs to be reduced in absolute terms, reduction can probably only be effected in relative terms and made gradually over time. This means that the *share* of higher education in the total education budget would decline over time because the higher education budget would grow less rapidly than the budget for primary education. It should also be kept in mind that the high expenditures on student subsidies in higher education have impeded budget allocations for development of the sector itself, and that increased funds for quality improvement are sorely needed.

A strong private involvement is normally actively encouraged in the post-primary educational levels, partly to secure relevance of curriculum and partnership in practical training. However, with the exception of Burkina Faso, no Sahelian country has a strong private sector in secondary education. Moreover, even in Burkina Faso, private funding of secondary schools and higher education institutions has dropped over the years, and, thereby, more financial demands are put on the Government. Consequently, given the juxtaposition of strong social demand for post-primary education and severe budgetary constraints, promoting stronger private involvement in the financing of post-primary education is important, even for primary education, as it would offer more scope for the Government to focus its financing on basic education.

Mobilizing Outside Resources

Self-help and Cost-recovery

Most Sahelian countries practice some form of self-help and cost-recovery schemes. In the successful cases of building classrooms by community participation, the ownership and concern among villagers is strengthened and the cooperation between teachers and parents is improved. However, such schemes often face quite a number of practical problems. The necessary planning capacity at various administrative levels does not always exist, and communication channels that enable the various parties to share information and coordinate actions are not always functioning. Self-help schemes are often more costly and the quality is often inferior due to lack of supervision, poor construction and inferior materials.

Cost-recovery schemes that have been developed and put in place in the field of education are most often related to textbooks. Revolving funds could relieve some of the stress on the public budgets, when properly managed, accounted and audited. However, increased economic burdens placed upon parents might contradict other efforts to achieve universal primary education. A recent study on community participation in the health sector in Burkina (Ciardi, 1993) points to the problematic and troublesome nature of the mechanisms and structures that have been devised. In general, community participation is neither conceptually clear nor easily defined in practical terms. Therefore, schemes to raise resources through school fees, cost recovery on textbooks and provision of free labor (even materials and equipment) for classroom construction must be carefully designed to avoid hitting the weakest groups hardest. However, in the Sahel there is scope for increased contribution by parents even to the financing of teacher salaries, provided the teachers are recruited by, and accountable to, the local community.

Foreign Aid

The volume of foreign aid by level of education showed a marked imbalance in favor of higher levels of education in the early 1980s. In Sub-Saharan countries (1984-86), only 7.8 percent of aid to the educational sector concerned primary schooling (compared to 59 percent for higher education), and the situation for Sahelian countries in this respect was even worse since the average share of aid to primary education was only 2.8 percent of the total amount allocated to education (Jarousse and Mingat, 1992). The situation has probably improved. As far as the World Bank is concerned, being the leading development agency in the education and training sector, the percentage of funds allocated to primary education Bank-wide (as share of the total involvement in education) has increased from 10 percent in FY88 to 34 percent in FY91.

A substantial part of foreign aid (mostly bilateral) is given "in kind," and donor countries often assume they have comparative advantages in supplying highly qualified teachers and scholarships for studies abroad. Given the extremely low primary enrollment ratios in the Sahel, a substantial change is needed in the foreign aid profile if aid is to contribute to accelerated development of primary education. This would imply a shift from the direct supply of teachers for post-primary education to contributing to the financing of recurrent costs (possibly also teachers' salaries) in primary schools.

Obviously, a shift towards more recurrent cost financing by donors would be encouraged in cases where the countries themselves are clearly engaged in a major adjustment of their educational systems, materialized in the adoption of measures showing a clear budgetary priority in favor of the primary level.

Conclusion

Current educational trends in the Sahel are very disturbing. Universal primary education is still a very elusive target and to achieve rapid improvements from current low levels in coverage and quality represents a great challenge to governments. It is obvious that major efforts are required, first and foremost from the countries themselves in improving efficiency in resource use and allocation to reach standards already reached by other low-income countries, and in involving other domestic partners in the national endeavor to offer primary education to all. International donors must reconsider their aid profile and contribute far more forcefully to the development of primary education.

Experience from other developing countries indicates, beyond reasonable doubt, that primary education enrollment above 60-70 percent and retention of the majority of those enrolled for the whole first cycle of education are prerequisites for modernization and industrial development, and, subsequently, for achieving improvements in key social indicators such as fertility, mortality, nutrition and health.

The expansion in coverage of primary education will have to go hand in hand with improving quality which is already considered to be low: "...the near collapse of educational services is so obvious that parents and pupils have no other rational choice than to vote with their feet" (UNESCO, 1990). The challenges are great, and governments are trying to develop and put into action educational policies and programs that aim beyond the short-term perspective. The interest and support for primary education is growing in Sahelian countries, and experiences with coherent, well-planned community-based school development programs (however few) seem encouraging.

II. QUALITY OF BASIC EDUCATION

Quality in education can be defined in various ways. In general terms, quality is the extent to which education contributes to the development of the society in promoting economic growth, health, social and cultural integration, preservation of the environment, etc. The definition must, however, be adjusted to match the historical, social and political conditions of a nation or region. With regard to primary education, development of basic skills in reading, writing and computing are essential elements in any definition of quality. In order to *retain* basic literacy and numeracy skills acquired in the school, at least four years of primary education is normally considered a minimum, and completion of the primary level strongly encouraged. Because of the pupils' general low proficiency in the language of instruction, to remain in school beyond grade 4 is particularly relevant for the Sahel (para 3.21).

However, basic definitions of quality must be translated into operational terms. As a minimum, learning results must be related to inputs in order to define quality as a relationship between achievements and resources spent. However, until the early/mid 1980s, because of the lack of data on learning outcomes, the level and configuration of inputs was generally used as a good proxy for quality, anticipating a close relationship between input and student learning. It is only recently that the focus has shifted from judging quality on the basis of inputs such as teacher qualifications, class size, pedagogical materials, grouping of students, etc., to the outcomes of the educational process, i.e., student learning, schooling careers, employment opportunities and inequities.

It is not easy to define quality *standards* in education. Again, as indicated above, these are often defined in terms of inputs, for example, as a set of minimum requirements as to class size, classroom furniture

and equipment (like lightning, temperature etc.), staffing norms, textbooks, repetitions, etc. Such regulations would be useful when properly developed and enforced, and there is obviously a need for such basic management tools to be developed and put in place in Sahelian countries.

However, such quality standards should not be taken as indicators of outputs. The emphasis traditionally put on them is probably due to the fact that: (a) the management, planning and financing of education mainly concerns these items; (b) the actors are primarily concerned with their actual conditions of teaching; and (c) that the outcomes are less visible and more difficult to ascertain. Factual data show that there are neither obvious nor linear relationships between input factors and student learning.

Empirical studies on quality of learning outcomes are not at all frequent, but all indicators are that education in African countries is subjected to erosion of quality (World Bank, 1988). In the Sahel, there is at least one recent study from Burkina Faso that seems to confirm the general picture (see Box 3).

Repetition and Drop-out in Primary Education

An important dimension of a system's operational efficiency concerns the amounts of resources spent on pupils repeating grades and/or dropping out prior to the completion of the cycle. Research in the area (e.g., Harbison and Hanushek, 1992, Cuadra and Fredriksen, 1992) shows that investments in quality improvement measures could reduce costs per graduate and the savings generated by the resulting improvements in internal efficiency may in some circumstances largely compensate for the costs of these investments.

Flow indicators (see Annex 1, Table 6) show the high repetition rates in the Sahel. Reducing repetition must, therefore, be a priority. Drop-out depends on both school and home factors, and it is probably a more challenging task to keep the children in the school than to enroll them in the first place.

Chad (where repetition and drop-out combined represent a waste of two out of every three student years) and Mali depart substantially from other Sahelian countries in that they have much higher repetition and lower retention rates. However, the fact that Niger and Burkina Faso are much more successful in this respect suggests that improvements would also be realistic in the low-performing countries. Senegal (see Box 4) has an intermediate position.

One of the main issues in the design of primary education curriculum concerns the tensions between the preparation of pupils who will continue to secondary education and the others who will leave school after completing primary education. Priority given to universal primary education will result in a growing proportion of pupils in the second category. Since primary education traditionally has been directed towards the needs of the first category, in the Sahel the pupils leaving school after grade 6 are often regarded as dropouts. A major change in attitude is required for the completion of primary education to be considered as an objective in itself. Primary school graduates are not dropouts; they are the right products of a system that produces human capital at various levels of qualification for the economic and social development of the country, and maximizes the overall educational opportunities for the population. The objective—to make the pupils proficient in reading, writing and computing—clearly has a general value, and strengthening of schools in this respect remains a central objective (see Box 5).

Box 3. Quality of Primary Education in Burkina

While the primary education enrollment ratio in Burkina Faso increased from 5 percent in 1960 to 30 percent in 1990, in absolute terms more children are excluded from the system now than in 1960. The pass rate for the primary school leaving certificate (CEP) has been consistently below 50 percent. Although this fact may reflect the role of CEP in the selection for secondary school, it means that about half the pupils actually fail the final examination and leave primary school without any certificate.

A recent study by a joint Burkinabé-World Bank team concludes:

(a) The great majority of pupils have not mastered the essentials of what they are expected to know after six years of schooling.

- (i) In French, pupils perform especially poorly in oral and written communication, particularly when expressing their own ideas. By grade 6, only 25 percent could read fluently, and less than 20 percent could write simple texts. Test results as well as classroom observations suggest that French is not taught effectively, particularly in the lower grades.
- (ii) The French curriculum contains eight subject areas, but teachers mainly emphasize theoretical, formal aspects of the language (i.e., grammar and vocabulary) leading to poor communication and shortcomings in basic reading and writing skills.
- (iii) French takes up a substantial part of the curriculum. Pupils study mathematics, for example, less than 4 hours per week in the first 3 grades.
- (iv) In mathematics, few students have learned how to do basic addition, subtraction and multiplication computations by grade 6.
- (v) The final grades have only about two and a half hours per week of science instruction, health and agriculture included. While attempts are made to teach students to apply science to familiar situations and problems, most of the time is devoted to studying vocabulary rather than to initiating scientific inquiry.

(b) A suitable environment for learning is largely absent. Pupils and teachers work in ill-equipped and poorly lit buildings. Instructional materials and exercise books are scarcely found. Average class size in grades 3 and 6 are 75 and 50 students, respectively. Grade 1 classes are often larger, well over 100 in some urban schools. Teaching is conducted in French from grade 1 on.

(c) About two-thirds of the primary school teachers have completed secondary school and about half of them hold the *baccalauréat* (or are about to complete it). However, only about 50 percent have had any professional training at all, and, in addition, between 300 and 800 untrained teachers (special missions, i.e., recruits of *Service national populaire*) are recruited annually.

(d) Great emphasis is placed on preparing the pupils for the CEP. Content analysis of CEP test items indicates a lack of instructional validity when compared to the curriculum.

Source: World Bank, 1993a

Box 4. Internal Efficiency in Senegal

The effectiveness of education in Senegal is low at all levels as evidenced by poor internal efficiency and low examination pass rates. In *primary education*, repetition rates average 16 percent, ranging between 10 percent in grade 1 to 34 percent in grade 6. The average number of student years necessary to graduate from the 6-year primary cycle is 8. In 1990-91, only 56% of students passed the school leaving exam. In *lower- and upper-secondary education* (*collèges* and *lycées*), about 15 percent and 16 percent of students are repeaters, respectively—ranging between 12 percent in the first grade to 20 percent in the fourth grade. The average number of student years necessary to graduate is 6 in the 4-year lower cycle and 5.5 in the 3-year upper cycle. In 1990-91, only half the students passed the *baccalauréat* exam. In *higher education*, internal efficiency is particularly low. More than 40 percent of students at the University of Dakar are repeaters. Promotion rates between the first and second year average only 25 percent. The number of student years necessary to graduate from a 4-year program averages 18 in economics, 21 in the humanities and 27 in the sciences.

Source: World Bank, 1993e

Efforts to improve means and methods of teaching, examinations, etc., often prove more beneficial than major curriculum reforms. Clearly, more time could be devoted to practical subjects (e.g., issues concerning health, nutrition, water sanitation, protection of the environment, etc.). The relevance of primary education can also be improved, however, through making everyday pedagogical methods more inductive and more oriented towards solving of problems with practical relevance. But it would be questionable to use a substantial proportion of time to teach applied subjects (like agriculture) because (a) schools may not have a comparative advantage to do so, and (b) it may hamper the basic cognitive and functional acquisitions that remain the first economic and social objective of primary schooling. Promoting these basic acquisitions by relating the contents of training materials and instruction to agriculture and village life holds higher potentials.

The pivot in this domain is the examination system. For all countries in the region, and in particular Chad and Mali, improvements in survival and repetition rates in primary education are a major concern of educational policy. The relevant target is not the gross enrollment ratio, but the proportion of the age group reaching a reasonable level of proficiency in reading, writing, computing and understanding of the environment. An important step towards achieving this objective is the enhancement of student learning.

It might seem that much of the repetition and drop-out in primary education could be eliminated by one administrative stroke of the pen, through which repetition would be abolished in favor of automatic promotion and drop-out would be restricted by introducing compulsory education. However, the discouraging results of the past two decades' efforts to reduce the extent of these two phenomena clearly indicate the complexity of the educational, economic, social and cultural factors that cause pupils to leave school prematurely. Two broad strategy areas must be considered: (a) stimulate demand for education, i.e., encouraging parents to ensure that children attend regularly and complete the cycle; and (b) improve supply conditions, i.e. enhance schools' ability to reduce failure at exams.

There is little systematic evidence on how demand for education is affected by poor quality. While studies indicate that school quality seems to have little influence on parents' decisions to enroll their

children, it plays a significant role in decisions affecting withdrawal from school. Enrollments decisions are mainly related to direct costs, according to the Burkinabé study quoted above in Box 3, perceived employment opportunities and opportunity costs. Decisions on withdrawals are related to meager learning outcomes and poor learning and teaching conditions.

Box 5. Importance of Primary Education

Numerous studies have established (mainly in non-African countries) that primary education with a classical content (reading, writing, computing) has a very positive impact on the productivity of farmers. Similarly, ex-post analyses of the success rate of development projects in both agricultural and other projects was positively related to literacy level. It is further observed that the effectiveness of specific training offered in conjunction with the project increased with the educational level of the trainees. A literacy rate of 50% was found to be a threshold value below which progress becomes extremely difficult. Finally, entrepreneurs in the informal sector in Niger were significantly more successful when they had completed primary school. As a corollary it was found that primary enrollment enabled young people to profit appreciably more from apprenticeship periods in the informal sector.

The examples demonstrate the beneficial effects of primary education in the exercise of a number of activities for which the school offers no specific preparation. This has been labelled the "hidden curriculum" of primary education; in fact, cognitive skills appear to constitute general assets that can be effectively mobilized in a wide range of concrete contexts.

Source: Jamison and Lau, 1982; Mingat and Tan, 1988; Bourdon, Jarousse and Mingat, 1989

The examination systems in Sahelian countries are mostly directed towards selection and teaching is, to a large extent, coaching for tests and examinations. Efforts to utilize tests and examinations for monitoring and feedback purposes have been launched in several countries, but the success of such efforts remains to be seen.

In-service Teacher Training

Although not conclusive, research indicates that in-service training is generally more efficient than pre-service training beyond a certain duration. Pre-service training tends to be theoretical and not so much related to actual classroom work. In-service training holds a higher potential, although focus and content is of primary importance. When efforts are made to adjust the level of theoretical qualifications to the actual teaching functions in primary school classrooms, programs for in-service training become even more important.

To increase the likelihood that teachers put into practice what they acquire through in-service courses, various complimentary measures are worth considering: (a) increase the responsibility of headmasters in pedagogical management and supervision; and (b) strengthen the role of inspectors and involve them in diagnostic evaluations at the regional/national level. In-service training in Niger is currently run via teacher study groups in nearby schools. Thus far, this method has proven to be more efficient and less costly than the traditionally large seminar organized at the central level. Regarding in-service training as one of the elements within a comprehensive effort to support decentralized school management, present plans in Chad may serve as example of contemporary approaches.

Textbooks

The proportion of pupils who have textbooks is generally low in Sahelian schools, although there are great variations between countries and, most important, between rural and urban schools. Empirical studies in Benin, Burkina Faso, Niger and Togo (Jarousse and Mingat, 1992) confirm how important textbooks are for academic performance: readers are essential. In Togo, where only 37 percent of students have a reader, a gain in academic performance as high as 9 points (standard deviation = 15) was estimated to be the consequence of all pupils having a reader. In particular when the teacher has little training, the impact of textbooks is great. In mathematics, the impact is more limited, both in intensity and scope.

Given the low cost of textbooks, the cost effectiveness of providing reading textbooks is particularly high, and it should be a first priority in the educational policy for primary education to provide all pupils with readers. In the IDA-supported projects in the Sahel, the countries have managed to improve the situation substantially,[8] partly by creating a national capacity for writing and editing manuscripts for textbooks and partly by bringing unit costs down through international competitive bidding (for example, the price for a reader in Burkina Faso was brought down from about US$8 to less than US$3, and reprinting to less than US$2).

School Feeding Programs

In the regional context, empirical data on the impact of school canteens on student learning is only available from Burkina Faso (Jarousse and Mingat, 1992) where it was found that their existence is associated with a significant gain of about 4 points (standard deviation = 15). One might think that the existence of school feeding programs increases attendance and thereby increases time-on-task, often considered the most influential factor of student learning. One might also consider school feeding programs for reasons other than the effect on student learning. After all, a school is the place where one finds more children than any other arena and where they can be reached when easy access is sought. At least supplementary micronutritional items can be distributed as is the case in an increasing number of IDA-financed education projects. The challenge is to establish school feeding programs that are financially sustainable.

Administrative Control and Local Development

The major challenges relate to the revigoration and redirection of the administration of education. It follows from the previous analysis that major efforts have to concentrate on a general upgrading of the central, regional and local administration; but even more to develop a better balance between government policies, management and control on one hand and delegation of authority to lower levels on the other. The tremendous challenges require concerted efforts which also rely heavily on local participation and commitments. The countries are, however, in an early stage of this process.

To achieve this is certainly not an easy task. One example might illustrate the point. The question of medium of instruction is a matter of debate in most of the countries. Teaching is conducted in a language not often spoken in the family or the local community (French in most countries, Arabic in Mauritania

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A particularly telling example of the shortage of textbooks is the fact that the 790,000 textbooks provided under Education IV (Cr. 1950-CD) to primary school pupils in Chad were the first textbooks provided by the Government in about 10 years.

and in Madrasa schools). Research suggests that pupil achievements would improve if the children were taught in their mother tongue, at least during the first years at school. A policy like that would, however, complicate a number of factors in the provision of schooling (textbooks and teaching materials, allocation of teachers, etc.), in particular in countries with a number of local languages. The policy might also contradict other measures taken to promote national unity in nations with short democratic traditions. Countries like Burundi and Guinea have reverted to French as the medium of instruction after large-scale experiments on the use of local languages. One reason for failure in these and other cases was that the introduction of mother tongue in the school was not well-prepared. After a long period of experimentation with use of national languages as the means of instruction in many Sahelian countries, it is now important to evaluate the experiences gained and to draw operational conclusions as regards the role of these languages within the education system.

Education systems are rather conservative organizations and changing their practices and processes is generally difficult, always time- and energy-consuming, and often costly. The key to success is to ensure that the changes advocated can actually be implemented at the classroom level and that procedures and routines at all administrative levels are put in place in such a way that they do not contradict the desired activities and processes in the classrooms.

The technical complexities and the political sensitivity of the education sector must be appreciated in order to understand the challenges encountered in the implementation process. Our present knowledge with respect to the most cost-effective way to implement educational reforms, is often incomplete. While Sahelian countries have a lot to learn from countries that have been more successful in developing their educational systems, transferring experiences and solutions from one country to another has to be conducted with extreme caution as so much is dependent upon local circumstances.

The experience gained over the last decades demonstrates that most developing countries have weak capacities to implement the changes in educational and administrative processes required to upgrade their education systems. Significant capacity strengthening is normally necessary to (a) develop the knowledge base needed to prepare viable reforms on which a national consensus can be reached, and (b) plan and manage the implementation of these reforms.

Through its role as guardian of the education of a nation's youth, and manager of a large share of public budgets and employees, the Ministry of Education is probably the national organization which most directly affects the lives of the largest number of people. It is a paradox, therefore, that research, planning and managerial capabilities of this key ministry often lag behind those of other ministries (Fredriksen, 1990).

It is equally important to observe, however, that improved functioning of central ministries and agencies is certainly not sufficient. Decentralization is not a prominent feature of education in the Sahel. The distance from policy and decision makers at the central level to the individual schools is normally far too great and, consequently, local commitment in the schools to central decisions is generally weak—at best, school directors and teachers get some information, or rather some new rules to follow. Improving implementation of government policies is not only a matter of refurbishing the organization (for example by providing transport facilities for inspectors) to make it operate as it should. It is more a matter of shortening the distance between decision makers and teaching staff.

Normally, accountability is low among teachers, not because of low motivation (although that might also be the case, i.e. when several months salary arrears occur), but mainly because teachers have a split loyalty to a remote and distant administrative center on one hand and to the parents and the local community on the other. The main objective of decentralization is to make school directors and teachers more responsible and accountable to parents and thereby more sensitive to their concerns, and to facilitate cooperation with the local community. In the Sahel, the experience gained in Mali and, especially in Chad is significant, although it is too early to know exactly how far the decentralization of decision making should go.

A comprehensive policy combining elements of decentralization, diversification of financing and local school improvement seems to have high potential as a coherent strategy. Chad has had scattered examples which have now been brought together (see Box 6). From the initial pilot phase, important experience will be gained that hopefully can be disseminated to other countries in the region.

A keyword in present policy making is diversification. Sahelian countries already have diversity in educational provisions, in primary education mainly in the form of *madrasas*, Christian and non-denominational schools as well as community-schools. The term *madrasa* ("school" in Arabic) is most often used to denominate a school with secular subjects in the curriculum, although the proportion of religious/secular teaching varies.

III. BASIC EDUCATION FOR GIRLS

Gender differences in enrollment are pronounced at all levels of education in the Sahel, both absolutely and relative to other world regions; particularly rural areas. Primary school enrollment has historically been among the lowest in the world, and the gap in enrollment between boys and girls is among the highest. This has resulted in literacy rates, among Sahelian women, which average only 19 percent, compared with the Sub-Saharan average of 34 percent.

Low enrollment is explained by low admission to the first grade of the cycle and by high dropout. In the Sahel, the main factor causing the comparatively low enrollment of girls is the very low admission rate. Low admission enrollment is a greater problem in rural than urban areas, and the rural girls who start school seem to be a selected group that tends to remain in school.

The relative "handicap" of girls in primary education in Sahelian countries is caused by a complex set of factors related to poverty, geographic location and government policies concerning school locations. Costs of schooling, an unsupportive school environment and socio-cultural factors that limit female mobility and opportunity (the status of girls in patrilinear kinship systems, the practice of forced and early marriages, betrothals and bridewealth arrangements which require submissiveness of girls to their parents' decision, the utilization of girls for domestic chores, parental fears that education may give girls a will of their own and cause them to rebel against or disobey/embarrass their families) are all contributing factors.

However, little information is currently available on the relative importance of these factors across communities and countries. Most of the countries are currently conducting studies that could improve the knowledge basis for policies and programs. Apart from the fact that enrollment targets cannot be met without significant increases in girls' participation, educating girls is closely linked to development efforts in general:

(a) Investing in educating females is probably the single most effective investment to improve standards of living in developing countries, particularly among the poorest countries.

(b) Women's education is strongly linked to lower fertility and child mortality, better family health and nutrition, longer life expectancy and higher levels of education in the next generation (see Box 7).

Box 6. Community-based Primary Education in Chad

The level of community-based primary education in Chad is unique in the Sahel. First, 400 local communities have created their own primary schools (*écoles spontanées*) which are managed with little support from the Government. Forty-six percent are incomplete and offer less than three grades. In total, they cover approximately 19 percent of primary enrollment. Building on this proven, local decision making, the Government wants to improve school quality by experimenting with three types of school-based programs covering 36 percent of total primary school enrollment in 1990-91:

90 pedagogic improvement projects developed by and involving the community:
Projects designed at the school level by teachers, parents, and NGOs will include activities such as: (a) improving reading, writing, mathematics, and social science skills; (b) implementing new pedagogical models and teaching approaches; (c) increasing community participation in school activities; (d) developing supplementary instructional materials for independent study; and (e) implementing pedagogical and supervision workshops (*ateliers integrés*) for teachers in a set of neighboring schools.

Comprehensive diagnostic testing of students in 100 schools to: (a) monitor performance changes over time among participating schools; (b) identify problem areas in the curriculum; (c) identify schools among the sample which need special assistance; (d) evaluate the effectiveness of double-shift and multigrade teaching and other investments; and (e) evaluate the effectiveness of the local pedagogic improvements.

Support to 100 APE (*Association des parents des élèves*) to organize themselves, to administer their funds, and to mobilize the communities in support of primary education. School inspectors, directors and staff of NGOs will advise APE boards on: (a) the selection process of teachers; (b) information on low-cost building design; and (c) accessing support for community schools.

Source: World Bank, 1993d

To date, with the exception of Cape Verde which has close to universal primary education, no major improvements can be reported from the Sahel. The above-mentioned studies on factors hampering girls' education conducted under Bank-financed projects, aim at developing strategies for improving the situation.

IV. CONCLUSION

Sahelian countries find themselves at a crossroads. In spite of efforts made, and some successes in the development of primary education, with the notable exception of Cape Verde, the attainment of universal

primary education is an elusive goal, and pursuing the present policies and priorities could even imply that the meager achievements made could be compromised. Consequently, it is time to launch a vigorous and determined action program to avoid stagnation at a very low level of basic education development.

Box 7. Factors Contributing to Girls' Low Enrollment

The under-representation of girls in education is mostly a demand side phenomenon since schools are a priori equally open to both sexes. The weakness of the demand from girls is in general linked both to the cost side (girls may take care of younger siblings and they often play a significant part in household production from an early age) and to the benefit side (weakness of labor market opportunities for women). Parents may also have a different view concerning the temporality of investing in boys and girls. Girls often have to leave the family early to marry.

The view that educating girls is less profitable is linked to private family perceptions which are not in line with concerns on welfare in the society. Recent studies show that there are obvious social benefits related specifically to investing in educating girls. For example, different empirical studies show that an extra year of primary schooling for girls would later result in a 5 -10 percent reduction in fertility, and that it would reduce child mortality by as much as 10 percent. These two socially desirable objectives are accomplished at a lower cost through education than via direct and specific interventions in health programs.

Given empirical results of this type, it is justified to more vigorously promote girls' education than through policies specifically designed for this purpose. The design of such policies and programs requires a broad understanding of the determinants of girls' access and retention in schools.

Source: Summers, 1991, Subbarao and Raney, 1992

Given the disturbingly low enrollment rates, quality issues have not been equally prominent in discussions on educational policies. It is important to recognize that progress in both coverage and quality is critical in the Sahel. Thus, while focusing on improving the efficiency of resource use and allocation in order to bring down unit costs and thereby create room for maneuvering for further developments, adequate attention has to be given to quality improvement measures. There is considerable evidence to show that investment in such measures will give handsome returns in the form of cost savings per graduate.

In the expansion of coverage, two groups of children become the main targets: (a) rural youth, and (b) girls. Biases in enrollment rates are so strongly in favor of the cities and boys that real progress cannot be made without a substantial shift in favor of the former two groups.

Encouraging developments have been recorded in some areas, and it seems that multigrade and double-shift teaching can contribute to bringing down unit costs, together with other targeted strategies that have been discussed. Greater involvement of communities and parents in the financing and management of schools also offers promise. To date, Sahelian countries have neither pursued decentralization nor diversification to any great extent.

In summary, the political challenge of developing basic education in the Sahel is enormous. It is, in fact, a matter of changing the basic conceptions of education away from an elitist system benefitting the few towards a more egalitarian one for the benefit of development of the nation.

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Table 1. Budgetary Indicators

ANNEX 1
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	Educational Budget in percent				*Education Budget*			
	GDP		*Gov. Budget*		*Primary*		*Secondary*	
	1980	*1988*	*1980*	*1988*	*1980*	*1988*	*1980*	*1988*
Burkina Faso	3.0	2.9	19.8	14.9	38	39	23	26
Chad	-	1.5	-	12.0	-	53	-	30
Mali	3.7	3.3	30.8	17.3	42	57	22	27
Mauritania	5.0	4.9	21.0	22.7	30	33	36	40
Niger	3.1	2.5	22.9	18.0	37	46	46	34
Senegal	4.5	4.8	23.5	24.0	44	47	27	25
Sahel	3.6[a]	3.3	22.0[a]	18.2	39[a]	46	31[a]	30
- Sahel without Chad	3.9	3.7	23.6	19.4	38	44	31	30
Non Sahel Africa								
- French Speaking	4.7	4.0	20.5	17.6	42	43	30	31
- English Speaking	4.6	4.7	14.3	15.0	45	47	32	34
Asia < US$800 per capita	2.8	3.4	10.3	12.4	42	48	27	29
Latin America < US$1,000	3.2	2.3	19.7	17.4	50	54	23	29

Note: [a] Estimations including Chad on the basis of the average pattern of Sahel.
Source: Most of the figures presented in this and the following tables are derived from Jarousse and Mingat (1992).

Table 2. Distribution of Educational Resources[9].

	Gini Coefficient	
	1980	*1988*
Burkina Faso	0.94	0.85
Chad	-	.69
Mali	0.84	0.86
Mauritania	0.85	0.76
Niger	0.90	0.85
Senegal	0.77	0.68
Sahel	0.84	0.78
Non Sahel Africa: - French Speaking	0.62	0.58
- English Speaking	0.60	0.59
Asia < US$800 per capita	0.58	0.42
Latin America < US$1,000	0.41	0.33

[9] The Gini coefficient has a range from 0 (equal repartition of public resources for education among the different members of a society) and 1 (total concentration of public resources on one hand only, that is, a perfectly inequal repartition).

Table 3. Education Systems: Overall Development

	Gross Enrollment Ratio (percent)								Gross Enr.			
	Primary		Secondary		Higher		Average Years of Schooling		ratio (%) 4-23 years		% Adults literate	
	1980	1988	1980	1988	1980	1988	1980	1988	1980	1989	1970	1989
Burkina Faso	18	34	2.7	6.6	0.3	0.7	1.3	2.6	7	14	8	18
Chad	36	51	5.1	6.2	0.3	0.5	2.5	3.5	14	20	11	30
Mali	27	23	8.8	6.0	0.9	0.8	2.2	1.8	11	9	7	32
Mauritania	37	51	11.0	16.0	1.4	3.1	2.9	4.1	16	23	14	34
Niger	27	30	5.0	6.6	0.3	0.7	2.0	2.3	11	13	4	28
Senegal	48	59	12.0	16.0	2.8	3.0	3.6	4.8	20	26	11	38
Sahel	32	41	7.4	9.7	0.9	1.5	2.4	3.2	13	17.5	9	30
Non Sahel Africa												
French Speaking	76	77	20.0	23.9	2.2	2.6	5.9	6.3	34.4	36.3	21	50
English Speaking	73	72	17.2	22.8	1.3	2.0	6.4	6.4	34.5	36.5	27	48
Asia												
< US$800 pc	74	82	27.0	34.4	4.7	5.6	5.7	6.7	32.5	38.8	-	55
Latin America												
< US$1,000	90	93	35.9	39.5	12.8	15.4	8.3	8.5	49.0	54.7	-	78

Table 4. Unit Costs and Main Factors Affecting Them

	Pupil Teacher Ratio				Teacher Salary in GDP/capita		Unit Cost in GDP/capita					
	Primary		Secondary				Primary		Secondary		Tertiary	
	1980	1988	1980	1988	Prim	Sec	1980	1988	1980	1989	1980	1988
Burkina Faso	54	57	26	30	13	26	0.33	0.21	1.26	0.89	23.5	13.9
Chad	-	68	31	41	10	16	-	0.15	-	0.50	-	8.0
Mali	42	38	17	12	8	10	0.39	0.39	0.81	0.88	10.0	6.0
Mauritania	41	49	31	22	11	19	0.30	0.17	1.77	0.82	5.2	4.1
Niger	41	40	31	30	9	13	0.24	0.25	1.60	1.10	14.3	8.0
Senegal	46	51	23	23	9	14	0.26	0.15	0.72	0.33	5.0	3.3
Sahel	46[a]	51	27	26	10.0	16.3	0.29[a]	0.22[a]	1.15	0.75	11.8[a]	7.2
Non Sahel Africa												
French Speaking	47	49	36	29	5.9	10.2	0.14	0.12	0.57	0.45	6.5	4.6
English Speaking	40	37	23	22	4.3	10.0	0.12	0.13	0.77	0.64	8.0	6.1
Asia												
< US$800 pc	37	38	23	23	2.9	3.9	0.08	0.12	0.19	0.21	2.5	1.9
Latin America												
< US$1,000	37	34	19	22	3.3	3.6	0.09	0.05	0.12	0.09	0.78	0.39

Note: [a] Estimations including Chad on the basis of the average pattern of Sahel.

Table 5. Share of Secondary and Higher Education Budget Devoted to Student Aid and Scholarships (Studies abroad included) in Mid 1980s

	Secondary	*Tertiary*
Burkina Faso	35.0	79.0
Chad	0.0	32.9
Mali	19.0	66.8
Mauritania	18.6	56.9
Niger	22.7	59.5
Senegal	13.2	43.9
Sahel	18.1	56.5
Non Sahel Africa		
French Speaking	24.9	57.0
English Speaking	7.5	23.2
Asia		
< US$800	5.1	7.2

Table 6. Flow of Student Indicators in Primary Education

	% Intakes in Primary			*Survival rate (%)*		*Efficiency ratio*		*Repeaters (%)*		*Transition rate to Sec.*	
	1980	*1988*		*1988*		*1980*	*1988*	*1980*	*1988*	*1980*	*1988*
	M+F	*M+F*	*F*	*M+F*	*F*	*M+F*	*M+F*	*M+F*	*M+F*	*M+F*	*M+F*
Burkina Faso	22	36	28	63	71	0.69	0.61	17	17	21	32
Chad	-	54	39	30	24	-	0.37	-	33	-	40
Mali	23	23	17	40	37	0.63	0.41	30	30	42	44
Mauritania	35	48	41	68	59	0.74	0.65	14	20	39	26
Niger	30	32	24	75	-	0.75	0.71	14	13	35	31
Senegal	45	52	46	81	75	0.76	0.74	16	16	29	39
Sahel	33	41	33	60	53	0.66	0.58	20	22	34	36
Non Sahel Africa											
French Speaking	80	78	67	57	51	0.58	0.51	27	28	-	38
English Speaking	89	86	84	66	64	0.76	0.76	9	10	-	44
Asia											
< US$800 pc	102	104	86	60	-	0.64	0.78	11	12	-	74
Latin America											
< US$1,000	138	137	145	44	47	0.50	0.64	14	11	-	71

Case Studies in Financing Quality Basic

Republic of Yemen: Human Development, Societal Needs and Human Capital Response

The defining characteristic of Yemeni basic education over the past two decades has been an enormous quantitative expansion. While affording basic education to a far larger proportion of the school age population than was possible previously, this expansion has occurred at the expense of quality improvements. This has dramatically effected the quality and efficiency of education. Primary education enrollments in the Northern governorates rose from 88,217 in 1970 to 1,286,154 in 1990, increasing by more than 13 times. Enrollment for the first six years of primary school in the South rose by 137% over the same period, from 129,346 in 1970 to 306,044 in 1990 (see Table 1). Growth of human and physical resources for primary education has not kept pace with enrollments.

Table 1. Enrollment Growth in Primary Education

School Year	*Males Enrollment*	%	*Females Enrollment*	%	*Total Enrollment*
1970-71	79,954	91	8,263	9	88,217
1975-76	224,907	89	27,168	11	252,075
1980-81	361,664	87	52,609	13	414,273
1985-86	729,958	80	177,512	20	907,470
1990-91	961,832	75	324,322	25	1,286,154

Rapid expansion of enrollments has had a number of direct and indirect effects on the quality of primary education. Class sizes have increased dramatically, such that the average student:teacher ratio in 1990 was more than 60:1, up from approximately 40:1 in 1980. This problem is particularly acute in urban areas where classes can be as large as 150 students per teacher. Staffing of schools became throughout the 1980s heavily dependant on expatriate teachers, so that in the 1986/87 school year two thirds of Northern primary teachers were non-Yemeni (this problem is treated more extensively in latter sections of this study).

Qualifications of many Yemeni teachers are not appropriate (see Table 2) and have deteriorated since 1990, when the Government began a program of rapid yemenization of the teaching force. Expansion has also been heavily concentrated on increased education of boys. While the rate of growth of girls'

education has been faster than for boys, girls made up only one-quarter of enrollments in the North and one-third in the South during the 1990/91 school year.

Emphasis on expanding enrollments led to a lack of attention to and allocation for quality improvement measures. There is for instance no line item in the Ministry of Education budget for quality improvement. Curricula and textbooks were not regularly revised. In the North, there was no published statement of objectives either by grade or subject area. In the South, educational objectives were articulated, but these were neither clear nor practicable. Teachers' guides do not accompany textbooks, and the curriculum for each class is determined by the textbook used for instruction.

Table 2. Qualifications of Basic Education Teachers

Qualification	*Number*	*Percent*
Northern Primary Teachers (1988-89)		
No Qualification	257	5.1
Elementary Education	185	3.6
Intermediate Education	210	4.2
Secondary Education	412	8.2
5 Year Training	2,412	47.9
3 Year Training	1,209	24.1
University Degree	122	2.4
with Pedagogy	81	1.6
Unspecified	145	2.9
Total YAR:	5,033	100
Southern Unity Teachers (1989-90)		
Trained	7,197	53
Untrained	6,369	47
Total PDRY:	13,566	100

The system of student evaluation is outmoded and of doubtful reliability, and the level of difficulty of various tests has not been equated over time. Internal efficiency is low; dropout rates are high and more than 120,00 student each year leave school without attaining functional literacy. Repetition rates compare favorably with other low income countries, while completion rates are comparable (see Table 3).

Finally, planning and organizational structures have not been conducive to improvements in educational quality. The Educational Planning Unit (EPU) of the Ministry has taken an essentially passive role. The Educational Research and Development Center, an agency within MOE, has overlapping responsibilities with other agencies of the Ministry, but these activities are not regularly coordinated. The Curriculum Development Unit does not regard itself as having been staffed to develop curricula and has become a purely implementing agency for curricula developed by ERDC and a large USAID curriculum development project.

All of the issues cited above are in large part a result of the emphasis on quantitative expansion and the corresponding allocation of resources for this purpose. Lack of funding for other purposes has led to deterioration in the quality of education. At the same time, expansion of enrollments was centered primarily on achieving universal enrollment for boys (see Table 4, Gross Enrollment Ratios). This

objective has been met, and the Government has accordingly made increased female access and quality improvement top priority issues for primary education.

The rest of the paper is divided into four sections. Section II is an overview of the financing of the education sector. It highlights the major financing issues for the entire education system and provides the context for understanding the financing of quality basic education in Yemen. Sections III and IV describe recent government efforts in basic education to expand access for girls and to improve quality, respectively. Section V discusses the key issues and strategies in the financing of quality basic education.

I. THE FINANCING OF EDUCATION: AN OVERVIEW

The financing of education in Yemen has come to pose a serious problem in recent years. On the one hand, there is growing and unmet education and training needs. On the other hand, past and current resource allocation to education has been inadequate, threatening not only the future development efforts, but also the significant progress achieved in the education sector over the past two decades. Compounding the difficulties of Yemen's growing and unmet education needs, the financial base for education has also deteriorated rapidly. The recent Gulf crisis and the return of close to one million emigrants and their families to Yemen has put a severe strain on an already weak economy, increasing the demand for social services and significantly reducing foreign exchange earnings.

In the future, the financial needs for education will be even higher in order to meet the increasing needs resulting from continued population growth, to improve educational quality, and to expand access to education, especially for females and in rural areas. Prompt measures have to be undertaken to mobilize additional resources to education, to reduce the unit costs of education, and to reallocate available resources towards priority areas in education.

Education revenues come from both the public and private sectors, as well as from external sources. Government resources for education consist primarily of allocation from the general tax and non-tax revenues of the central government, and they are the major source of funding for education. In 1991, the government's total expenditure on education was YR 8,578 million, or 19 percent of total government expenditure, representing a significant increase over 1990 levels (YR 6,190 million, and 17 percent respectively). This level of fiscal spending is relatively high compared to the average of developing countries. Further increases in government allocation to education may have negative effects on other government sectors.

Cost recovery and community contributions represent two private sources for mobilizing additional resources to education. At the university level, the case for increased cost recovery is rather clear, since student fee increases will likely have only a minimal effect on the demand for higher education by qualified applicants, provided some funds are set aside for financial support to applicants from poor backgrounds. Increased cost recovery may also be considered for teacher education and vocational/technical education; students currently pay no fees and receive living subsidies in the two subsectors of education. Community contributions to construction of schools was important in the past, and should be encouraged and continued. What is needed is more government involvement in the planning and supervision of school construction.

Table 3. Repetition, Dropout and Completion Rates

Grade	*Repetition Rate*	*Dropout Rate*	*Promotion Rate*
1	3.56	10.49	85.95
2	2.94	3.08	93.98
3	5.71	6.98	87.31
4	6.23	8.44	85.32
5	5.08	0	94.92
6	14.9	20.69	64.82
Average:	6.4	8.28	5.38

Table 4. Gross Enrollment Ratios by Governorate, (1990-91 school year)

Governorate	*Male*	*Female*
Northern		
Beida	0.99	0.36
Dahmar	0.94	0.32
Hajja	0.88	0.14
Hodeida	0.96	0.23
Ibb	1.07	0.37
Jawf	1.24	0.47
Maarib	1.02	0.27
Mahweet	0.95	0.21
Saada	0.85	0.12
Sana'a City	1.50	1.33
Sana'a Gov.	1.06	0.22
Taiz	1.11	0.6
Southern		
Abayan	0.71	0.65
Aden	0.72	0.65
Hadramout	0.84	0.50
Lahej	1.26	0.57
Mahra	0.55	0.24
Shabwa	0.92	0.21
Total:	1.00	0.39
Including Religious Schools:	1.08	0.43

External aid to education has been an important source of financing capital expenditures in education. However, it has been declining over the past several years, especially after the Gulf crisis. The future prospect is not promising and capital investment in education may be adversely affected.

While efforts to mobilize additional resources to education are necessary, it is equally important that existing resources are utilized efficiently. Table 5 gives figures on recurrent education expenditures by the Ministry of Education in 1991 (not including higher-education expenditures which were made by the Ministry of Higher Education). It shows that personnel expenditures account for 87 percent of total recurrent public expenditure on education. The predominance of salaries and wages paid to non-Yemeni personnel is very apparent (about 50 percent of total personnel expenditure). Replacing non-Yemeni teachers by local teachers can significantly reduce the unit cost of education since local teachers have much lower salary rates than non-Yemeni teachers. Also, fellowships and scholarships accounted for 5.2 percent of total recurrent public expenditure, or almost half of the total non-personnel expenditure. These education subsidies are problematic in at least two respects. First, they are not needed to maintain enrollment levels in universities, teacher-training institutes, and vocational/technical education institutes. Second, they divert scarce resources from other important uses.

Finally, resources for education have to be reallocated so that they support priorities areas in educational development. In primary education, attention is to be given not only to access in general, but also to access for females in particular and to quality improvements. At the preparatory and secondary levels, the most immediate concern is educational quality. Teacher-training institutes are small in size and have relatively high unit costs; student enrollment can be expanded without increasing the number of institutions or the number of instructional staff. Vocational/technical education was recently transferred from the Ministry of Education to the Ministry of Labor and Vocational Training. Private financing of vocational/technical education will be more important over time. In higher education, policy changes are necessary to raise education quality and to increase cost recovery.

II. INCREASING FEMALE PARTICIPATION IN PRIMARY EDUCATION

During the 1990-91 school year the Gross Enrollment Ratio for girls was 0.43 as compared to 1.09 for boys. A study undertaken by the ERDC in 1991 identified a number of reasons for low female enrollment. Most important among these were a lack of female teachers and a lack of special schools or classrooms for girls. Both factors were identified as particularly strong deterrents to the enrollment of girls over 11 years old. Female teachers made up approximately 12% of the primary teaching force in the North during the 1990-91 school year. On the whole, there was a larger share of female teachers in the South, comprising 43% of the primary teaching force in 1989. However, considerable regional disparities exist, with female:male ratios of more than 4:1 in Aden as opposed to 1:8 in Shabwa.

The Government's initiative to increase female enrollment is supported by a recent World Bank Basic Education project. Government strategy for this purpose presently centers on two measures: Construction of additional schools and classrooms specifically for girls and increasing the numbers of qualified female primary teachers.

It is expected that 600 classrooms will be built for girls' education in 200 rural communities over a period of 6 years. Each school (3 classrooms) will have one latrine block consisting of four cells. In order to be eligible for consideration communities must have a population of 1,000 to 2,500 and a primary female

enrollment ratio of less than 20%. Final selection criteria for communities emphasize two factors: present opportunities for female access and willingness of the community to support girls' education.

Table 5. Ministry of Education Recurrent Expenditures, 1991
(estimates in million YRs)

Chapter 1. Salaries, wages, and other personnel expenditures		
1.	Salaries of permanent posts	1906.34
2.	Other salaries & wages (Non-Yemeni personnel)	2489.45
3.	Honoraria & overtime	18.00
4.	Allowances	425.44
5.	Pension & others	114.39
	Subtotal	4,953.62
Chapter 2. Purchases of goods and services		
1.	Food, clothing & medicine	107.60
2.	Fuel, oil & power	14.00
3.	Textbooks	151.90
4.	Maintenance & small equipment	38.00
5.	Fellowships & scholarships	294.29
6.	Rent	7.00
7.	Travel	87.50
8.	Others	30.00
	Subtotal	730.29
Chapter 3: Transfer to other agencies		4.20
Total Recurrent Expenditure		5,688.11

All eligible communities must be prepared to contribute land and labor for the construction of classrooms, promote girls' education, contribute to the maintenance and repair of schools, and identify local qualified and employable female teachers or female candidates eligible for teacher training. In addition, those communities selected will have either none or unsuitable classrooms for girls' education, or will have coeducational classrooms so overcrowded that girls are presently discouraged from attending school. Project communities will be required to enter into an agreement with MOE specifying that girls will have priority of admission to new school capacity and that, if coeducation is unacceptable in the community, double shifting will be used in order to ensure increased girls' enrollment.

New schools for girls will be staffed by female teachers. Incentives will be provided to female teachers to serve in rural areas in order to ensure that project schools attract female students. Housing or transportation allowances equivalent to 14% of the 1991 annual salary for a permanent Yemeni teacher will be given to 300 teachers from outside the community. Transportation allowances equivalent to 9% of annual salary will be given to 150 teachers from nearby communities. In addition, as a pilot program, housing facilities for 26 teachers (18 single females and 4 married female teachers and their teacher-husbands) will be constructed in project communities.

In order to facilitate enrollment of girls from distant rural areas in teacher training programs the project supports Government measures to expand female access to teacher training courses. Five boarding hostels, each with a capacity to house 60 female teacher-trainees, will be built, equipped, and furnished at Teacher Training Institutes (TTIs) in five governorates. Hostel design and placement will insure privacy and conform to local traditions, and they will be administered in such way as to assure parents and guardians of the privacy and security of the boarders.

Six additional TTIs close to project communities have been identified to train 300 females who can commute from their homes. Priority for selection of trainees will be placed on females from project communities, who will receive annual stipends equal to 9% of annual salary for a permanent Yemeni teacher in addition to other stipends and allowances normally given to trainees by the MOE. These incentives will be incorporated into the regular education budget by June 1995.

III. QUALITY IMPROVEMENT IN BASIC EDUCATION

As mentioned previously, the major causes of poor quality in Yemeni basic education include inadequate training of teachers, poor quality and shortages of materials for teachers and students, a narrow curricula, and unreliable tests and examinations. Yemen has formulated a broad strategy for quality improvement to address many of these issues. The Government, in consultation with the World Bank, is presently developing the specifics of its quality improvement program. Major areas to be addressed in the next decade include unification of Northern and Southern textbooks and curricula, staff development, curriculum refinement and development of improved textbooks and instructional materials, and upgrading of buildings, equipment, and furniture. Pre-service teacher training programs will be improved and enhanced in-service training will be provided through a distance education system. In order to increase the availability of educational opportunities outside the classroom, expansion, strengthening, and updating of community library facilities has been identified as a priority.

Curriculum and textbook development and distance in-service training are supported by the current World Bank Basic Education Project. Curriculum development activities will primarily address the development of reading and mathematics skills, curricular guidance for multi-level teaching situations, and educational materials free of gender bias. Materials for science, mathematics, and reading instruction developed with the assistance of USAID will be reviewed and possibly incorporated in a planned new series designed to unify Northern and Southern textbooks. To enhance both production quality of textbooks and coordination between ERDC and the Textbook Printing Press identical desktop publishing computer systems will be provided to both organizations.

Training of teachers is a crucial area for quality improvement of basic education. Presently, there are nearly 50,000 teachers with a wide range of pre-service backgrounds in the system. Over 47% have completed a five year training program which follows six years of primary education. At least 10,000 permanent teachers are secondary school graduates with no professional training at all and 15,000 secondary school graduates who receive a two-week orientation course are serving as temporary primary teachers.

The Government has adopted as a priority area for action strengthening of in-service training programs. Distance education for in-service training has been identified as a suitable method of achieving this because it is capable of reaching the widely dispersed teaching force and because of the benefit of its

multi-media approach. The program under consideration by the Government consists of five semesters totaling 1,600 hours of course work and activities, including self-learning modules (600 hours), media programs to be broadcast on television (90 hours), personal contact hours with instructors (540 hours), student counselling in person and by mail (40 hours in person), and supervised practice teaching (30 hours).

The Government's quality improvement program is now in its earliest stages. While quality of primary education has been identified as a crucial area for development in the next decade and emphasis on quality over quantitative expansion has been adopted as the guiding strategy for basic education, the methods to be used for this purpose in most areas are still being worked out. The Government has however emphasized that resource mobilization for education and cost savings generated through various methods should be used for enhancing quality. The strategies to be employed for the financing of quality improvement are discussed in the following section.

IV. KEY ISSUES AND STRATEGIES IN THE FINANCING OF BASIC EDUCATION

The Teaching Force

In an attempt to cope with rapidly rising enrollments both the North and South have developed and expanded teacher training systems since the early 1970s. By 1990 there were 98 teacher training institutes. Of these 24 were "independent" TTIs in urban areas established specifically to offer 3 or 5 year training courses. The remaining 74 were attached TTIs operating out of existing schools and offering 3, 4, or 5 year training courses in rural areas for graduates of preparatory, unity, or primary school respectively. World Bank projects supported establishment of 23 TTIs in the North between 1973 and 1990. Nineteen of these TTIs were established for males and 4 for females. Boarding facilities were established only in male institutes. In the South, four World Bank projects between 1974 and 1984 supported the establishment of training institutes for primary teachers and teacher trainers. During the 1990/91 school year there were 22,687 students enrolled in TTIs (Table 6).

While training programs began through the 1980s to supply Yemeni teachers for the expanding primary school system, their proliferation resulted in a deterioration of the quality of the courses themselves. Responding to this deterioration in quality, and utilizing the increased number of secondary school graduates, Faculties of Education attached to the Universities of Sana'a and Aden established two-year post secondary training courses. Enrollments in the two year course for the 1991/92 school year were expected to be 1,320.

However, teacher training could not keep pace with the expansion of the primary school system. From 1976 to 1981 the share of expatriate teachers in Northern primary education rose from five to eighty-seven percent. During this period, as the primary teaching corps grew by 68%, the number of Yemeni teachers fell by 77% while expatriate teachers increased by more than 29 times. The proportion of non-Yemeni teachers in the teaching corps has steadily declined over the past ten years, although the actual number of expatriates continued to increase until the 1990/91 school year. Foreign teachers accounted for 48% of the expansion of the teaching corps occurring from 1976 to 1990.

The financial implications of a large cadre of expatriate teachers are considerable. First, total personnel costs for all levels of education were 87% of total recurrent costs in 1991. Given the higher cost of

teachers in technical/vocational and teacher training institutes it is safe to assume that personnel expenditure in primary education amounts to 90% of primary recurrent costs. Second, the average monthly cost of a Yemeni teacher was approximately 3,170 Yemeni Rials while the average monthly cost of an expatriate teacher was approximately 7,230 Rials. During the 1990/91 school year expatriates constituted approximately 24% of the primary teaching corps but accounted for approximately 42% of wages and salaries for primary teachers. Assuming that personnel costs are 90% of recurrent costs, this implies that salaries for expatriate teachers amounted to 38% of recurrent spending on primary education. Under the same assumption, salaries for Yemeni teachers, who constituted approximately 76% of the primary teaching corps, accounted for 52% of recurrent spending.

Table 6. Enrollments in TTIs[a], 1990-1991

	3 Year Programs	*4 Year Programs*	*5 Year Programs*	*Total*
Males	8,762	2,152	9,196	20,110
Females	1,009	426	1,142	2,577
Total Enrollment	9,771	2,578	10,338	22,687
Percent Female	10	16	11	11

Note: [a] Excluding enrollment of TTIs attached to religious schools, which totaled 4,663 in 1987-88.

Non-Budgetary Support

Contributions from Local Development Councils (LDCs) and communities in the Yemen Arab Republic were an important source of funds for capital expenditure through the 1970's but have diminished since then. Until 1981, capital expenditures for building and equipping schools were equally shared by individual communities, LDCs, and the Ministry of Education. Donations of land and provision of unpaid labor were made by communities to assist in construction. Local Development Councils hired local contractors and covered approximately 50% of monetary costs. Since 1981 construction activities of the Ministry and LDCs have been largely uncoordinated. As a result community school construction has not been consistent with needs or with Ministry development plans. In addition, LDC and community efforts in school construction have declined in the past several years as LDCs have concentrated on other development areas.

A second important source of financial resources in the North has been multi and bilateral assistance, particularly from the United Arab Emirates, Saudi Arabia, and Kuwait. Most of this funding was used for financing capital expenditure for non-primary education. Figures are available for 1981 through 1986 and show that during this period 57% of total capital expenditure was financed through 2.2 billion Yemeni Rials in grants and loans. The Gulf countries mentioned above contributed three quarters of this amount, or 43% of total capital expenditure on education. External aid also came in the form of salary support for instructional staff at various levels of education, again largely from Arab countries. During the 1982/83 school year, 71% of the primary school teaching force consisted of seconded expatriates whose salaries were paid by donors. As a result of the Gulf crisis, support from Arab nations for capital and salary costs has largely disappeared.

Yemenization

The Government has recognized the need to formulate a long run strategy to fully yemenize the teaching force. In 1991 steps were taken to speed up the yemenization process with the recruitment of approximately 25,000 secondary school graduates as primary teachers. About 10,000 of these were recruited into permanent positions and 15,000 were recruited in lieu of one year of compulsory national defense service. A Five Year Plan (1991-96) calling for the yemenization of all teaching cadres has been adopted by the Ministry of Education and contains the following elements:

(a) graduates of Teacher Training Institutes will be use as grade 1-6 teachers;

(b) graduates with a two year post-secondary Community College degree will be use as grade 7-9 teachers. Once yemenization of secondary education is accomplished, graduates of Faculties of Education will be used as grade 7-9 teachers;

(c) secondary school graduates will fill primary teaching positions until the above goals are accomplished. Some secondary school graduates will be made permanent teachers according to the needs of governorates, with preference given to placing teachers in their home governorates.

By yemenizing the primary teaching force significant cost savings can be achieved. In the short run (to 1995), replacement of non-Yemeni teachers with temporary and permanent Yemenis in the same ratio as that prevailing in 1991 will lower the average teacher cost to about 3,170 Yemeni Rials per month, a savings of approximately 24% over the 1991 average cost of 4,150 Rials. In the long run (to 2002), when all teachers are expected to be Yemenis in permanent posts, the average cost per month would be 3,700 Rials, a savings of about 11% over the 1991 level. With the current share of teaching salaries amounting to 90% of recurrent costs, annual savings in total recurrent expenditure at the primary level would be 21% in the initial period and 10% in the long run. Additional costs for in-service and pre-service teacher training will be incurred to facilitate the yemenization process, but these can probably be held to approximately 2% of total recurrent costs. This level of expenditure would provide for the in-service training of 20,000 temporary teachers with a cost per teacher of 5,700 Rials. Long run savings would therefor amount to 8% of total recurrent costs for primary education.

Replacement of expatriate preparatory and secondary teachers will take longer than yemenization of the primary teaching force because secondary school graduates cannot be recruited to teach at these levels as they are at the primary level. However, over the long run, once the replacement process is complete, the savings in recurrent costs at the preparatory and secondary levels should amount to approximately 16% of recurrent costs. Allowing for additional training costs, the total savings would amount to 14% of recurrent costs.

Student Fees

Student fees generated approximately 2% of total Government education revenue in 1989. Fees are at present only applicable in the Northern governorates, although the Government is developing a unified fee schedule for the country as a whole (Table 7). These direct private costs of schooling represent less than one-half of one percent of average household income per child, lower than in other comparable developing countries. Some fees may be increased, for instance for urban households able to pay the full

production cost of textbooks. Other fees may need to be reduced: to expand female participation in basic education, female students in rural areas may be exempted from textbook and other fees.

Table 7. Basic Education Fee Schedule (Rials per student)

	YAR	*Proposed*
Textbooks		
Primary Students	20 (per year)	15
Preparatory Students	40 (per year)	30
Registration		
Primary Students	20 (per year)	15
Preparatory Students	35 (per year)	25
Grade Promotion Certificate		
Primary Students	30	25
Preparatory Students	40	30
Examination Application		
Primary Graduation	50	30
Preparatory Graduation	70	50
Replacement/Duplicate Examination		
Primary Graduation	500	500
Preparatory Graduation	700	800
Attestation of Certificate Equivalence		
Primary Graduation	100	70
Preparatory Graduation	200	100

Presently, all textbooks for primary, preparatory, and secondary education are provided at minimal fees to students in the North and free of charge to students in the South, although in the South books are owned by the schools and circulated for three years. The Government has decided to implement the three year loan and circulation scheme in the North as well, which will reduce the share of primary textbook printing cost in total recurrent education expenditure by approximately one percent.

Community Support and Other Measures

Parents and Local Development Associations are expected to increasingly support school maintenance costs. Through a scheme of matching grants, community members will be encouraged to become significant partners of the government in school construction. Details of this program have not as yet been worked out. Maintenance costs are now less than one percent of total recurrent expenditure. The Government's goal is to prevent this share from rising while improving maintenance of school buildings through community participation. LDC activity, which has declined in recent years, is being revived at this time through construction and maintenance responsibilities for rural schools as part of the World Bank Basic Education project. Cost savings are planned through reductions of fellowships and scholarships for students in all levels other than basic education. If these expenditures are reduced by 60%, there will be a 3% savings in total recurrent expenditure. Travel expenditure is also expected to be cut by one percent.

Total Savings and Reallocation of Resources

Total savings in recurrent expenditure from measures at all levels of the educational system are expected to amount to 14-15% compared to 1991 costs. In addition, the Government is planning on increasing education expenditure to 15-16% of the total national budget over the next ten years from the 1991 level of 13.4%. At this level, education expenditure would grow at the same rate as is anticipated for overall Government expenditure, approximately 5% per year. Within primary education reallocation is expected to emphasize in-service teacher training and increased enrollments of girls. The Government is currently planning on increasing resources devoted to quality improvement in basic education to a level of approximately 700 million Rials by the end of the decade, approximately 1% of total primary expenditure. These funds will be made available through the savings outlined above in addition to reallocation from other sectors and anticipated increases in general government revenue from oil sales.

V. CONCLUSION

The republic of Yemen has made significant achievements in the quantitative development of basic education over the past two decades. But, such achievement has been accomplished at the expense of education quality. Further development in basic education requires shift in focus from quantity alone to a balanced mix of both quantity and quality. Recent government interventions to cut costs, reallocate resources, and mobilize additional resources are all part of a necessary effort to meet the financial challenge of quality basic education for all.

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Case Studies in Financing Quality Basic Education

Financial Reform of Basic Education: The Chinese Experience

Since the promulgation of the reform of the system of education by the Central Committee of the Chinese Communist Party (CCP) in 1985, the financing of education in China has undergone fundamental changes. In particular, the financing of education has moved away rather rapidly from a centralized system with a narrow revenue base to a decentralized system with a diversified revenue base. This paper is a review of the financing reform for basic education, with a focus on strategies for resource mobilization, as well as issues on efficiency and inequality in the financing of basic education. The purpose is to critically assess the accomplishments and deficiencies of the financing reform in China, a low-income country moving away from a centralized economy towards a more market-oriented economy. The paper consists of four parts. Part I profiles the socio-economic contexts of the reform. Part II discusses the two defining characteristics of the financing reform: decentralization and diversification. Part III assesses the impacts of the reform with respect to resource mobilization, and efficiency and inequality in financing. The last part summarizes the lessons of the reform and presents a scheme for charting further developments in the financing of basic education in China.

I. SOCIO-ECONOMIC CONTEXTS OF REFORM

The financial reform of basic education is a key part of a larger education-reform agenda undertaken by the Chinese government since 1985. In contrast to earlier education reforms which focused on curriculum, teaching methods, and quality (China Education Yearbook Editorial Board, 1984), the 1985 reform is the first reform of its kind in Chinese education that calls for a fundamental change in the "tizhi" (system) of education, focusing on the structure, financing, and administration of education (People's Press, 1985).

The origin of the education reform can be traced to changes in the leadership of CCP and its perspective on national development since 1978. With the downfall of the Gang of Four in 1976 and the rise to power of the "moderate" faction in the CCP under Deng Xiaoping in 1978, the CCP-led state has since pursued a modernization policy emphasizing economic development. The goal of economic development is the material improvement of the lives of the people; it is to be achieved through economic transformation from a centralized planned economy into a "socialist market economy," opening up to the outside and increased foreign investment, and the application of science and technology. Education's role in national development is no longer ideological (as was the case in the 1966-76 period during which the CCP was dominated by the "radical" faction); instead education has the important function of meeting

the skill requirements of a developing socialist market economy and is portrayed as the strategic foundation for national development.[1]

The education reform of 1985 stipulates a policy of a nine-year compulsory basic education (primary plus lower-secondary education) the aim of which is to prepare capable and developmentally balanced builders of Chinese socialism. This is an ambitious policy given the socio-economic realities of China at that time and the weak financial base for education in general and basic education in particular. China is a low-income country (per-capita GNP about 300 dollars in 1985), with highly uneven socio-economic development across regions and a huge population (about 1.1 billion people, with about 25 million newborns annually). There are large geographical and cultural diversities. In terms of enrollment, China has the largest education system in the world (basic-education enrollment was 173 million in 1985). Thus the financial resources needed to implement the policy are very substantial and the barriers are especially severe in the less-developed regions (inland and other poor areas). For a long period of time after the founding of the People's Republic of China, government expenditure on education has been quite low compared with other developing countries. For example, during the 1967-85 period, total government expenditure on education averaged 2.0 percent of GNP, and 7.7 percent of the total national budget. In the same period, general-education expenditure (primary and secondary education) averaged 1.6 percent of GNP and 6.2 percent of the national budget (computed from World Bank, 1991: Annex 3.3). Thus by 1985, basic education was substantially under-funded relative to Chinese norms: teaching was one of the lowest-paid occupations, there was a shortage of school buildings and equipment, many existing school buildings were in poor conditions, and there were hardly any funds for non-personnel expenditure. The financial conditions were aggravated by rapidly rising prices of non-personnel education inputs, increasing social fees (such as fees on utility, sewage, garbage) imposed on schools[2] and high repetition rates.[3]

Not only was the financial reform of basic education necessary from the viewpoint of resource mobilization, it was also part of a larger public-finance reform deemed indispensable for supporting the economic reforms pushed by Deng Xiaoping. A key strategy to facilitate the transition from a centralized planned economy to a socialist market economy was the decentralization of decision-making powers from the central government to provincial and local governments. Decentralization in public finance was part of this overall decentralization strategy and the financial reform in education was a component of the public finance reform.

The decentralization of public finance began its piloting phase at the end of the 1970s; it was promulgated by the State Council in 1982 and was implemented at varying speed among areas with a region (province/autonomous region/centrally-administered metropolitan area) and among regions (Tsang, 1990). Before this reform, public finance in China was very centralized; it was characterized by the practice of

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1 The split in the leadership of the CCP with contrasting national-development perspectives actually began in the late 1950s. And with each subsequent change in CCP leadership, the role of education in national development also changed (see Tsang, 1991: 76-79).

2 For example, for primary and secondary schools, there was a shortage of 75 million square meters of school buildings; 45 million square meters of existing school buildings were in dangerous condition; only 6 percent of primary schools and 47 percent of secondary schools were properly equipped; and per-student non-personnel expenditure amounted to about 40 cents for primary schools and 1.8 dollars for secondary schools (Educational Fund Research Group, 1988: 6-9).

3 A study by the World Bank estimated that, for the 1986-87 period, repetition rate averaged 37.8 percent in grade 1, 29.4 percent in grade 2, 26.7 percent in grade 3, 24.5 percent in grade 4, and 19.0 percent in grade 5; the figure was 30.6 percent for grade 6 in 1987 (computed from World Bank, 1991: Vol. 1, p. 27).

"tong shou tong zhi" ("complete collection and complete distribution") in which a lower-level government would turn in all its tax revenues to a higher-level government and would receive all its expenditures from the higher-level government. All tax revenues would ultimately be controlled by the central government and all expenditures would also come from the central government. A lower-level government would fall into one of two categories: "subsidized governments" for which own revenue was less than own expenditure (thus receiving a net subsidy) and "subsidizing governments" whose revenue exceeded its own expenditure (thus contributing a net surplus). The amount of total government expenditure at a given level was based on the corresponding amount in the previous year with a marginal adjustment; this practice can be dated back to the 1950s. While this practice had a strong equalizing effect among areas and regions, it also strongly discouraged initiatives for improving financial conditions at lower levels.

A multi-level public financing system has been created since 1982. This system is based on the practice of "feng zou chi fang" ("eating from separate pots") in which each level of government is responsible for its own finances. The design consists of three elements: (1) defining the tax base and financial responsibilities for each level of government; (2) providing decision-making power and autonomy to each level of government; and (3) specifying intergovernmental fiscal relationship (in fixed amount of subsidy or surplus in a five-year period). Within some broad guidelines, a local government can decide on its tax efforts and expenditure levels; it can keep its excess revenue for its own use. Besides reducing administrative rigidity, this decentralized public-finance system assumes that local governments are better equipped to make financial decisions to meet their specific needs and conditions; it also provides incentives for improving financial conditions at lower levels. In this new system, there are two types of intergovernmental financial flow: a fixed amount of subsidy from or surplus to the next higher level of government, and variable categorical grants from the next higher level of government for specific purposes in certain sectors and subsectors. There are government administrative structures at the central, provincial, prefecture, county, town/township, and village levels; financial units are set up at the central, provincial, prefecture, county, and town/township levels. For cities (urban areas that correspond to the county level), there are administrative units at the city, district, ward, and community levels; financial units are set up at the city and district levels. The government bureaucracy remains a top-down organization and the administrative and financial units at a given level are held accountable to the units at the next higher level and not to the people they are supposed to serve. The 1982 public-finance reform provided the framework and pre-condition for the 1985 financial reform in education.

II. DECENTRALIZATION AND DIVERSIFICATION

There are two defining characteristics of the 1985 financial reform in education: decentralization in financial responsibility and diversification in financing sources for education.

Decentralization

The decentralization in financial responsibility is embodied in the principle of "local responsibility and administration by levels" according to which lower levels of governments (governments at and below the provincial level) are responsible for the provision (implying also financing) of primary and secondary education and that different levels of education are administered by different levels of government. A common arrangement for counties is that the county government, the town/township government, and the village government will be primarily responsible for the provision, financing, and administration of upper-secondary education, lower-secondary education, and primary education respectively. Besides, the

larger and better equipped ("key") lower-secondary schools are administered and funded by the county government, and the larger and better equipped primary schools ("key" primary schools in urban areas and "center" primary schools in rural areas) are administered and funded by the town/township government. A common arrangement for cities is that primary education is administered and funded by district governments and secondary education is administered and funded by the city governments. Other arrangements for decentralized financing and administration are permitted and local governments should employ an arrangement best suited to their conditions (China Education Yearbook, 1990: 99).

Before the reform, public expenditures on secondary education came from the central government. Central funds were passed down through the intermediate levels to the county/city government which then allocated the funds directly to education institutions. Primary education, however, was not financed by the central government because it was the responsibility of provincial governments. Within a province, primary education was administered by county/city governments. In urban areas, primary schools were directly financed by the county/city government. In rural areas, primary schools were financed by community contributions[4]. In the current situation, secondary schools are financially supported from within a province. In particular, lower-secondary schools are funded by the town/township government (except key lower-secondary schools which are funded by the county government). For primary education, key and center primary schools are financed by the town/township government. In cities, primary schools are funded by the district government. Since there no finance bureaucracy at the village level, a village committee is set up to handle financial matters concerning rural primary schools. Rural primary schools remain to be financed primarily from community contributions.

Categorical grants in education constitute another (but minor) source of government funding for education. Higher levels of government often allocate a small percentage of their education budgets for distribution to lower levels for specific education purposes and these grants are equalizing in nature.[5]

Thus, at a given level of government, there are two sources of public funds for education: allocation from the own budget of the government (financed from own tax base) and categorical grants in education from higher levels of governments. Allocation from own budget is primarily used to support personnel expenditure; the excess fund, if any, is used on non-personnel inputs and on school repair. Categorical grants can be used on personnel, non-personnel, or capital inputs, depending on specified purposes. These two sources constitute the budgetary allocation for education. As a guideline for public allocation to education, the central government recommends that lower-level governments adopt a "two-growth" policy: that the rate of growth in education allocation should be higher than the rate of growth in regular government revenue at that level, and that per-student non-personnel education expenditure should increase year by year.

Diversification

Two categories of diversification strategies can be distinguished: broadening the base for the government's collection of revenue for education, and broadening and intensifying non-government

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4 A rural community provided contributions, in kind and/or in cash, to school construction and to the support of the livelihood of minban teachers (teachers that are not government employees).

5 For example, there are categorical grants for elimination of dangerous school buildings, school repair, subsidies to teachers, teacher training, vocational/technical education, and subsidies to five types of disadvantaged areas (revolutionary areas, minority areas, mountainous areas, remote areas, and poor areas).

resource mobilization at the school level. The first category consists of education surcharges in urban areas and education levies in rural areas; they are raised primarily for basic education. The second category consists of social contributions to education, school-generated funds, external resources, and school fees; these strategies are used for all levels of education, including basic education. Funds from these two categories of diversified sources constitute the extra-budgetary funds for education and are to be used at the level of the revenue source.

Education surcharges and levies

Surcharges for education are imposed on three types of taxes (commodity taxes, business taxes, and value-added taxes) paid by enterprises and individuals. These surcharges are collected by a town/township government and are used primarily for supporting basic education in that town/township. The surcharge rate was set at one percent by the State Council in 1986 and was subsequently raised to two percent in 1990. Towards the end of the 1980s, education levies in rural areas were introduced. In rural areas, the government may choose to impose levies on rural households (mostly peasants) at a rate of between one to three percent of the agricultural taxes paid by these households; again revenue from rural education levies are to be used to support basic education within the same locality. The education surcharges and levies are new financing sources used to provide a stable source for basic education[6]. They are often used on non-personnel items, the repair or replacement of school building, and school equipment.

Social contributions to education

In the Law of Compulsory Education passed in 1986, it is stipulated that the central government encourages all social forces, including enterprises, administrative bodies, and non-governmental organizations to set up schools, provided these schools meet national standards and are subject to the administration of local governments. The central government also encourage all types of social forces and individuals to provide voluntary donations to schools (State Education Commission, 1990: 11-12). This strategy is aimed at directing the consumption of households towards education and to capitalize on the traditional value that parents place on the education of their children. It should be noted that contributions from non-government sources are not new for the basic-education subsector sector. Even before the financial reform, rural primary schools were financed completely by parents and the village community. Rural primary-school teachers, who were mostly non-government employees (known as minban teachers), did not receive a salary from the government but they obtained their living subsidies from the village community; the village community also made contributions in cash and in kind towards the construction of school buildings. This practice continues for rural primary schools after the reform. But social contributions to both primary and secondary schools intensify after the reform. Before the reform, most community members regarded the school as simply the property of the state. With the decentralized administration after 1985, many community members began to see schools in their community as their own schools and were thus more willing to make contributions; Chinese parents

6 Note that education surcharges and levies are not taxes; they are additional payments based on existing taxes. There are several reasons why education taxes were not adopted in the 1980s. First, surcharges and levies are flexible. Since they are not taxes, they do not need a lengthy process for approval and adoption and they are not regulated by law. They allow experimentation by local governments and can be dropped easily if experimentation is unsuccessful; and implementation can vary with different local conditions. Second, taxes do not have a good connotation in China; surcharges and levies would prepare people to accept the notion that they need to contribute more of their own resources to support education. Third, from a logistic viewpoint, education taxes cannot be imposed before a reform of the overall tax system (Tsang, 1990:9).

generally value the education of their children highly. The reform is also new in two respects: it broadens the contributing sources and it allows non-education organizations to set up schools for basic education.

School-generated funds

Without affecting their academic mission, schools with proper resources are encouraged to set up their own production units where students may conduct work-study activities and offer paid services. Such schools can generate their own resources, for example, from student labor, school-run factories, or from rental of school premises to users outside the school. School-run factories are more often found in secondary schools than primary schools; forty to fifty percent of their profits are retained by such factories for reinvestment in production and the rest is kept by the school (Tsang 1990). Local governments are instructed to encourage school-run production units by integrating the production and sales of these units within the administrative domain of relevant economic departments, assisting in the procurement of production inputs and in sales, as well as providing tax breaks. The principle of having students engage in both learning and productive activities is not a new one for education (Price, 1984); what is significant about this strategy is the governmental encouragement and incentives for creating production units in schools as a prominent method for mobilizing resources to school. These funds are often used to purchase school equipment, provide welfare benefits for school staff, and for repair or replacement of school buildings.

External resources to education

There is increased attention to developing external sources to support basic education. Contributions by overseas Chinese can be an important source to improve the physical conditions of schools in some regions, especially coastal provinces. In the 1980s, higher education was most favored in the use of external capital (especially from the World Bank); but basic education began to receive some attention in the past few years (China Education Yearbook, 1990: 360-361).

School fees

Students in basic education do not have to pay tuition fee; but they have to pay nominal amounts of other school fees to support non-personnel school expenditures.[7] The focus of the government school-fee policy is rather targeted at the post-compulsory levels at which students (and their families) will bear an increasing share of the costs of education.

III. AN ASSESSMENT OF THE FINANCIAL REFORM OF BASIC EDUCATION

An examination of the implementation of the reform indicates that the reform so far has both major accomplishments in mobilizing resources to basic education and significant deficiencies concerning the plight of poor areas, widening inequalities, and inefficiency in resource utilization.

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7 Information from the provinces of Shaanxi and Guizhou indicates that, in 1988, other school fees amounted to about 1.4-1.9 dollars per student per year in primary schools, and about 3.2-4.9 dollars per student per year in lower-secondary schools (computed from Tsang, 1990: Table 5.1).

An Emerging Financing System for Basic Education

The implementation of the financial reform was carried out in a carefully planned manner. Before a new financing strategy was promoted on a national scale, it was pilot-tested in some parts of the country. Autonomy and flexibility were essential features in the local implementation in order to deal with the tremendously diverse conditions across the country. Within some general guidelines of central policies, provincial and local governments had broad decision-making powers regarding the specifics of implementation (such as the phasing of implementation across regions or areas, the amounts of fees or rates, the utilization of funds, etc.). And the introduction of different strategies was spaced out over time.

Though there are variations in the speed and extent of implementation across areas and regions in the country, a new decentralized and diversified system of basic-education finance has definitely emerged today. In this system, each level of government has the primary responsibility for the financing of the level of education at that administrative level. Budgetary allocation at that administrative level is the primary source of the education financing while extra-budgetary funds constitute the secondary source. The primary-role of budgetary allocation is enhanced by the "two-growth" policy.

Over time, the system has become more diversified, in at least three respects. First, extra-budgetary funds constitute an increasing share of total resources to (basic) education (see Table 1). Second, each of the diversified sources contribute significant amounts of resources to education and they have different uses, as indicated above. Third, each type of education input has multiple financial sources.[8]

Increased Resource Mobilization

The resource-mobilization impacts of the financial reform can be seen from the rapid increases in the growth of resources to (basic) education and from indicators of basic education. Consider budgetary and extra-budgetary resources to education during the 1986-91 period. As shown in Table 1, total government budgeted allocation to education increased from 26.50 billion yuan in 1986 to 45.97 billion yuan in 1991; the average annual growth rate was 11.86 percent per year. Total government budget for education averaged 12.05 percent of total government budget in this period (see Table 2); this was substantially higher than the average 7.7 percent level for the 1967-85 period. Similarly, total government budget for education increased from 2.0 percent of GNP during the 1967-85 period to an average of 2.49 percent of GNP during 1986-91.

Table 1 also shows that extra-budgetary education resources had an even faster growth rate than budgeted education resources; it increased from 8.13 billion yuan in 1986 to 27.18 billion yuan in 1991, with an average annual growth rate of 27.97 percent. Total education resources (sum of budgetary and extra-budgetary resources) rose from 34.63 billion yuan in 1986 to 73.15 billion yuan in 1991, with an average

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8 For example, personnel costs are primarily financed by budgetary allocation from own level and community subsidies (for minban teachers), and supplemented by school-generated funds and categorical grants. Non-personnel expenditures are supported by budgetary funds, school fees, and education surcharges and levies; school equipment is supported by categorical grants, budgeted funds at own level, education surcharges and levies, external sources, and school-generated funds; repair and replacement of school buildings are financed by budgetary allocation at own level, categorical grants, social contributions, external sources, and school-generated funds. New school construction is supported by budgetary allocation, social contribution, and external sources.

Table 1. Education Revemie by Source, 1986-91

AMOUNT BY SOURCE (billion yuan)	*1986*	*1987*	*1988*	*1989*	*1990*	*1991*	*Annual Rate 1986-91 (percent)*
Total for education consisting of (A+B)	34.63	37.24	45.08	56.22	61.64	73.15	16.32
A. Budgetary allocation: Total budgetary	26.50	27.70	32.36	39.77	43.38	45.97	11.86
B. Extra-budgetary:							
Total extra-budgetary	8.13	9.54	12.72	16.45	18.25	27.18	27.97
consisting of:							
Primary & Secondary:	5.07	6.26	8.85	13.64	16.56	20.76	33.16
consisting of:							
surcharges/levies	1.72	2.64	3.45	5.46	5.60	7.52	35.94
social contributions[a]	1.60	1.62	2.46	3.58	5.45	6.28	33.27
school-generated	0.70	0.90	1.31	1.79	2.45	3.72	39.91
school fees	1.06	1.10	1.63	2.81	3.06	3.24	27.88
Others[b]	3.07	3.28	3.87	2.81	1.69	6.42	47.36
Distribution by source (%) total for education consisting of (A+B)	100.00	100.00	100.00	100.00	100.00	100.00	
A. Budgetary allocation: Total budgetary	76.52	74.38	71.78	70.74	70.39	62.85	
B. Extra-budgetary:							
Total extra-budgetary	23.48	25.62	28.22	29.25	29.61	37.15	
consisting of:							
Total Primary & Secondary:	14.63	16.82	19.64	24.27	26.86	28.37	
consisting of:	4.95	7.09	7.65	9.72	9.09	10.28	
surcharges/levies	4.61	4.36	5.46	6.36	8.84	8.59	
social contributions[a]	2.02	2.42	2.90	3.18	3.97	5.09	
school-generated school fees	3.05	2.95	3.62	5.00	4.96	4.42	
Others[b]	8.85	8.80	8.58	4.99	2.75	8.78	

Note: [a] includes amount from overseas contributions
[b] extra-budgetary revenue for other subsectors, especially higher education
Source: State Education Commission, China (1989, 1991, 1992)

Table 2. National Investment in Education by Level, 1986-91

	1986	*1987*	*1988*	*1989*	*1990*	*1991*	*Average*
Expenditure on all levels of education (current prices)							
A. Budgetary allocation:							
Amount (billion yuan)	26.50	27.70	32.36	39.77	43.38	45.97	
As % total govt. expenditure	11.37	11.31	11.95	13.19	12.34	12.12	12.05
As % GNP	2.80	2.60	2.31	2.48	2.41	2.34	2.49
B. Extra-budgetary resources:							
Amount (billion yuan)	8.13	9.54	12.72	16.45	18.25	27.18	
As % total govt. expenditure	3.49	3.90	4.70	5.45	5.19	7.17	4.98
As % GNP	0.86	0.90	0.91	1.03	1.01	1.38	1.01
C. Total resources (A+B):							
Amount (billion yuan)	34.63	37.24	45.08	56.22	61.63	73.15	
As % total govt. expenditure	14.86	15.21	16.65	18.64	17.53	19.29	17.03
As % GNP	3.66	3.50	3.22	3.51	3.42	3.72	3.50
Expenditure on primary and secondary education (current prices)							
A. Budgetary allocation:							
Amount (billion yuan)	19.08	20.50	24.33	31.10	34.40	36.32	
As % total govt. expenditure	8.19	8.37	8.99	10.31	9.79	9.57	9.20
As % GNP	2.02	1.92	1.74	1.94	1.91	1.85	1.90
B. Extra-budgetary resources:							
Amount (billion yuan)	5.07	6.26	8.85	13.64	16.56	20.76	
As % total govt. expenditure	2.17	2.56	3.27	4.52	4.71	5.47	3.78
As % GNP	0.54	0.59	0.63	0.85	0.92	1.06	0.76
C. Total resources (A+B):							
Amount (billion yuan)	24.15	26.76	33.19	44.74	50.96	57.07	
As % total govt. expenditure	10.36	10.93	12.26	14.84	14.49	15.05	12.99
As % GNP	2.55	2.51	2.37	2.79	2.83	2.91	2.66
Per-student real expenditure (1991 prices, Yuan/student)							
Pri. Ed., budgeted exp.	75	88	95	96	108	115	96
Sec. Ed., budgeted exp.	212	206	221	223	246	255	227
Pri. & Sec. Ed., total exp.	205	215	229	268	300	326	257

Sources: Computed from Table 1 and State Education Commission (1989, 1991, 1992)

annual growth rate of 16.32 percent (compared to an average inflation rate of about 8 percent). As a share of total education resources, extra-budgetary education resources increased in every year of the 1986-91 period; it reached 37.15 percent in 1991. Table 2 shows that, during the 1986-91 period, budgetary resources averaged 2.49 percent GNP, extra-budgetary resources averaged 1.01 percent GNP, and total education resources averaged 3.50 percent GNP.

As for primary and secondary education[9], budgetary resources doubled between 1986 and 1991; and extra-budgetary resources increased by four times (see Table 2). As a proportion of GNP during this period, budgetary resources, extra-budgetary resources, and total resources averaged 1.90 percent, .76 percent, and 2.66 percent respectively. Studies at the provincial (Hao, et. al., 1989; Tsang 1990), county (Jiang, 1992), and town/township (Zhang and Zhang, 1992) levels also reported similar findings on the improvement of the financial conditions of primary and secondary education.

More importantly, Table 2 shows that there were large gains in per-student real expenditures (in 1991 prices) on primary and secondary education between 1986 and 1991. Per-student budgeted real expenditure increased from 75 to 115 yuan per student in primary education, and from 212 to 255 yuan per student in secondary education; the average annual rate of increase was 8.8 percent and 3.8 percent respectively. Per-student total (budgeted and extra-budgeted) real expenditure on primary and secondary education increased from 205 to 326 yuan per student, and the corresponding average rate of increase was 9.7 percent per year!

Finally, the improvement in basic education is reflected in a number indicators on teacher qualifications, physical inputs, and coverage (see Table 3).

In summary, available evidence indicates that the reform has succeeded in creating a decentralized and diversified financing system, in substantially increasing education resources[10], and in improving the conditions of basic education.

Low Investment and Difficulties of Poor Areas

Though there have been significant increases in resources to education since the latter half of the 1980s, national investment in education in China today remains relatively low compared to other countries. In 1991, government allocation to education amounted to 12.12 percent of the total government budget and 2.34 percent of GNP; these effort ratios are low compared to the corresponding ones for Asian countries and for developing countries as a whole (Tan and Mingat, 1989; Tsang, 1992). The financial gains since

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[9] Secondary education is divided into two levels: lower-secondary education (mostly general education, with some vocational/technical education in rural areas) and upper-secondary education (mostly general education and vocational/technical education, with some teacher education). Financial data for lower-secondary and upper-secondary education are reported together; thus it is not possible to isolate financial data for basic education (primary plus lower-secondary). Because of the much larger size of basic education, the improvements in financial conditions for primary and secondary education should reflect similar improvements for basic education. Note that education surcharges and levies, the largest extra-budgetary source, are used primarily for basic education.

[10] Obviously, the increased resources during the 1986-91 period were not due to the implementation of the financial reform in education alone, rapid growth of the economy was also relevant. But economic growth was related to the overall economic reform, public-finance reform, and the development of the education system in the 1980s. The financing policies did encourage both the government and non-government sources to spend more on education.

Table 3. Indicators of primary and secondary education, 1986-91

Indicators	*1986*	*1991*
Percentage of primary and secondary schools in dangerous condition	7.4	1.9
Percentage of primary and secondary schools equipped with standard laboratories	10.0[a]	20.0
Percentage of counties with universal primary education	60.0	70.0
Percentage of children aged 7-11 enrolled in primary school	96.4	97.9
Percentage of primary-school graduates getting into lower-secondary school	68.4[b]	74.6
Percentage of primary-school teachers with at least 12 years of schooling	62.8	80.5
Percentage of lower-secondary school teachers with at least 14 years of schooling	27.1	51.8
Percentage of population illiterate	23.8[c]	15.9

Sources: State Education Commission, China (1988, 1992)
Note: [a] figure for 1988
[b] Figure for 1985
[c] Figure for 1982

1985 have not reversed the negative effects of the long-standing low investment situation before 1985. Education, especially basic education, remains significantly under-funded, as reflected by sub-standard per-student non-personnel expenditure, lack of library materials, teaching aids, school equipment, and laboratory facilities, as well as the poor physical conditions of many schools.

The conditions of basic education are especially difficult for disadvantaged (poor, remote, mountainous, and minority) populations and areas. In poor areas, for example, the weak tax base and the meager income of households impose strong limits on how much budgetary and extra-budgetary revenues can be raised for basic education. And the unit costs of basic education are higher in mountainous, remote, and minority areas (Li, et.al., 1988: Part 6). A recent survey (Jiang, 1992) of 374 counties in nine provinces/metropolitan areas found that 70 counties had a per-student budgeted primary-education expenditure of less than 50 yuan (about 11 dollars, compared to a national average of 22 dollars) in 1990. Not unexpectedly, the poor counties had significantly lower primary net-enrollment and completion rates and a much higher ratio of dangerous school buildings. The difficulties of disadvantaged populations and areas are known to education policymakers at higher levels. Both the central and provincial education budgets have categorical allocations to aid them but such allocations are too small compared to the need[11]. The plight of poor areas reflects the basic weakness of the financing system and is the fundamental challenge to Chinese policymakers in their effort to achieve universal basic education.

[11] For example, Qiandongnan area in Guizhou province (a poor province) had a per-capita income of 120 dollars in 1988. It received a total of 3.15 million yuan from the central and Guizhou government in categorical grants for primary and secondary education in the area; but such grants amounted to only 4.3 percent of the total education revenue for that area, or 5.2 yuan (1.41 dollars) per primary-secondary student (Tsang, 1990).

Large Disparities

In the current decentralized system, large disparities exist between basic-education institutions. For example, per-student or per-capital education expenditure favors key/center schools over regular schools, urban schools over rural schools, and schools in economically advanced areas over schools in economically backward areas (Tsang, 1990: 31-32), with the advantaged schools having a unit expenditure twice that of disadvantaged schools (Jiang, 1992). Another obvious inequality is found in the treatment of gongban and minban teachers. Gongban teachers' monthly salary is about 50 percent higher than the total monthly living subsidy received by minban teachers. Gongban teachers have urban residence so that they receive additional food subsidies and their children can go to urban schools; they also receive pension benefits when they retire; all these are not available to minban teachers[12]. Finally, girls' enrollment rate is falling much behind that of boys, especially in poor and minority areas (World Bank, 1991: 168).

Actually, the governments at all levels are quite sensitive to the issue of inequality and a number of measures have been taken to mitigate the extent of inequality. For example, after the public-finance reform, there is still a transfer of resources from relatively well-to-do governments to relatively poor governments, through the subsidy-surplus transfer scheme. Categorical education grants are either limited to disadvantaged areas or students (such as grants for exempting school fees for disadvantaged students) only or they are distributed to wider areas but with more favorable matching rates for poorer areas. Poor areas or households are either exempted from education surcharges/levies or have lower surcharge/levy rates. And some counties have pooled part of the education revenue collected at the town/township level for use in the entire county; the pooled revenue is redistributed downwards, favoring poorer towns/townships and villages.[13]

With continuing reliance on local financing and uneven economic development across the country, widening inequality in basic education among different areas is probably inevitable. Financial improvement in basic education is likely to continue to be widespread, though the extent of improvement vary substantially among areas (State Education Commission, 1992). An important policy concern for the government is not so much to eliminate inequality, but rather to ensure that the least advantaged schools will provide a minimally acceptable quality of basic education to their students (Windham, 1990; Tsang, forthcoming).

The inequality between gongban and minban teachers has been a concern for the government (Education Fund Research Group, 1988). In 1986, the central government provided a categorical grant to convert 200,000 minban teachers (about 7 percent of the total in basic education) into gongban teachers; local governments have subsequently provided a monthly living subsidy to minban teachers. Because of the costs of conversion and the unwillingness of gongban teachers to work in rural areas, minban teachers will remain the backbone of rural primary education in the near future. A practical strategy is to continue

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12 Minban teachers work in rural areas. In 1990, they constituted 41 percent of all the full-time primary teachers and 10 percent of all the full-time lower-secondary teachers (computed from State Education Commission, 1990). Data from two provinces in 1989 indicate that gongban teachers received a monthly salary of about 105 yuan; minban teachers had a monthly living subsidy of 40 yuan from the government and 30 yuan from the community. Food subsidies for urban residents amounted to about 70 yuan per month (Tsang, 1990: 32).

13 Louchuan county in Shaanxi, for example, allows its towns and townships to keep 80 percent of their education levies and surcharges. The remaining 20 percent are sent to the county government to support basic education in the entire county. Note that, in order to maintain local incentives, the great majority of the funds are kept at the town/township level.

to improve the monthly compensation to minban teachers, and to provide some pension benefits to retired minban teachers so that they feel more secured and continue to work hard in rural areas. In fact, some counties have started to establish a people's education fund in an experimentation to assist minban teachers.[14]

Inefficiency and Management Weaknesses

Much of increase in resources to basic education has been taken up by personnel expenditure, to support employment of additional teachers (including the conversion of 200,000 minban teachers to gongban teachers), salary raises and additional benefits, and compensation to retired staff. Personnel expenditure as a share of recurrent expenditure has increased over time at both the primary and secondary levels (Education Fund Research Group, 1988: 8; World Bank, 1991: 75). Teacher salaries remain low compared to other occupations, both because salaries have been rising in other occupations and because the hiring of additional gongban teachers. The over-staffing of gongban teachers in urban areas is becoming an obvious problem.[15] And compared to other Asian countries, primary and secondary education in China have much lower student to teacher ratios and less instruction time per week.[16]

Beside the inefficiency in the utilization of personnel resources, weak financial management is also widely recognized as a major resource-utilization problem (Li, et. al., 1988: 341-345; Wang, 1989; Han, 1992; State Education Commission, 1992). Some government officials at lower levels often divert education resources to other uses and may even spend such resources freely for personal gains. Though the precise amount of diverted education resources may be difficult to estimate, it is believed to be substantial.[17]

IV. LESSONS AND FURTHER DEVELOPMENT

As part of a public-finance reform that supports a larger economic transition from a centralized planned economy to a socialist market economy, the reform in the financing of (basic) education is necessary and

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[14] The people's education fund was started as early as 1984 in Pingdu County in Shandong Province (Education Fund Research Group, 1988: 58-62). It was then gradually adopted and adapted by other counties in the country. In recent years, there are two major sources of revenue for the fund: 1-3 percent of the annual net income of rural population (with higher rates for higher-income rural households) and 1 percent of the basic salary of cadres; some counties also ask individuals engaged in business and enterprises at the town/township level to contribute. As much as 90 percent of the revenue are used to provide salary and benefit to minban teachers; the rest is used on non-personnel items in basic education, teacher training, adult education, and vocational/technical education. The payment to minban teachers replaces the living subsidies provided by rural households. The fund is aimed at provide minban teachers with a regular, stable, and larger monthly income and to increase the amount of pensions to retired minban teachers. Some counties are closing the gap in compensation between minban teachers and gongban teachers.

[15] Based on staffing standards in 1984, a preliminary estimate put the number of excessive school staff in primary and secondary education at half a million for all the urban areas in China, around 1987-88 (Education Fund Research Group, 1988: 12). Since there were 3.27 million school staff in primary and secondary education in urban areas in 1988 (computed from State Education Commission, 1988), 15 percent of these staff were excessive.

[16] A recent study by the World Bank compares China with other countries (World Bank, 1991: Chapter 3). In China, the student to teacher ratio is 25 in primary school and 17 in secondary (general lower and general upper secondary) school; the corresponding average for Asia is 34 and 23. China could reduce the number of teachers by about 30 percent if it were to adopt the Asia averages (part of the savings could be used to raise teachers' pay). Chinese teachers teach about 12-18 hours per week while teachers in other countries teach about 20-25 hours per week. But Chinese teachers also spend a large amount of their time on off-instruction activities (tutoring, class preparation, grading, home visits, etc.).

[17] Han (1992, p. 11) reported that, in an audit of over 2,000 education departments above the county level and over 8,000 schools, total diverted education fund amounted to 420 million yuan.

inevitable. In moving away from a centralized financing system, the education reform allows lower levels of government both the decision-making power and incentives to mobilize government resources for education. It also encourages and develops non-government mobilization as an increasingly important secondary source to finance education; in particular, it capitalizes on the value that parents place on the education of their children. The significant increase in resources to education can be attributed to the financing policies, though it cannot be isolated from the economy growth brought about by the larger economy reform. Basic education benefits from the overall reform process.

The education financing reform is also a learning experience for the Chinese government. In passing more decision-making power to lower levels, government allocation to education becomes less predictable as it depends on how strongly key officials at lower levels value education. The "two-growth" policy of the central government is regarded as an allocation guideline, not a law that has to be adhered to. Developing the financial management capacity at lower levels takes time and misuse of education funds can take place. Unevenness in funding is a common feature of a decentralized system. Though the government has made efforts to reduce inequality at various levels, higher-levels of governments are far from doing enough to assist basic education for disadvantaged populations and areas. The inefficient utilization of personnel inputs is also a problem, especially in urban areas. These deficiencies have to be dealt with in the coming years.

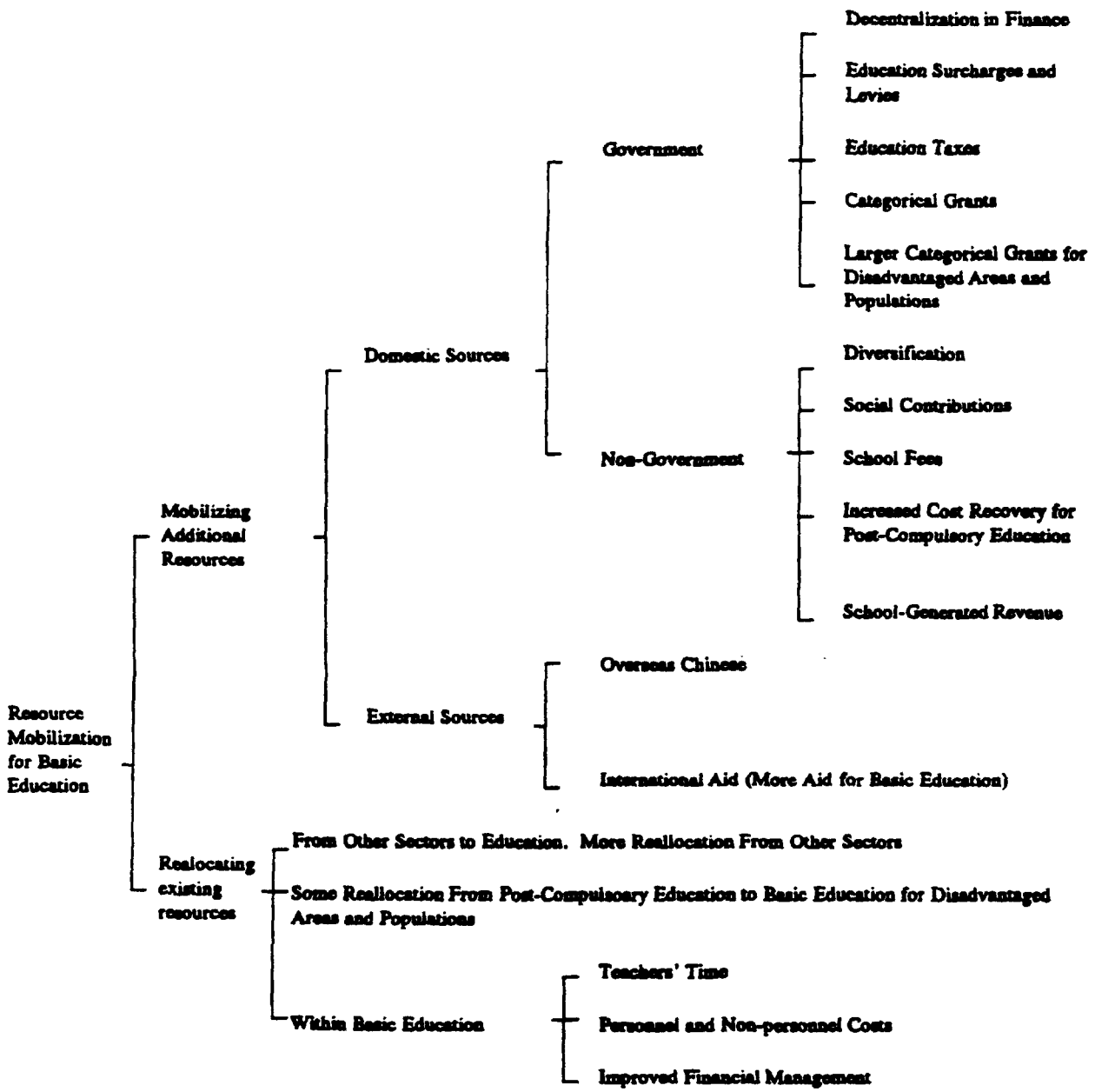
Figure 1 indicates a number of further developments to be considered for the financing of basic education (shown in upper case in Figure 1; strategies that are already employed in the reform are shown in lower case). The scheme in Figure 1 distinguishes resource-mobilization strategies for basic education into two broad categories: strategies that mobilizes additional resources to basic education, and strategies that reallocating existing resources. Additional resources can come from either domestic or external sources. Domestic sources consist of government sources and non-government sources. Existing resources can be reallocated from other sectors to education, from other subsectors of education to basic education, and from alternative uses within basic education. The strategies attempted so far fall largely within the category of mobilizing additional resources, with relatively little attention to the category of reallocation of existing resources. Subsequent strategies for addressing the current deficiencies should pay more attention to the reallocation of existing resources in favor of basic education, while consolidating and deepening efforts to mobilize additional resources to basic education at the same time. This paper ends with a brief discussion of these potential strategies for the further development of the financing of basic education.

Increasing Resources to Basic Education

Reallocation from other Sectors to Education

The State Education Commission would like to increase the amount of budgetary allocation to education gradually over time, from the recent level of 2.5-3 percent to 4 percent of GNP, and from 12 percent to at least 15 percent of total government budget (State Education Commission, 1992). It requires a further increase in education's share of the government budget at various levels. The cooperation of lower-level governments is critical; but this cooperation is not assured and a stronger enforcement method may be required.

Figure 1. Resource-mobilization Scheme for Basic Education



Education Taxes for Basic Education

With the acceptance of education surcharges and levies by the people, the central government is considering converting them into local taxes to be used primarily for basic education. The objective is to make them a regular part of the local tax base for basic education and stabilize the amounts collected over time; local government can still decide on their taxing rates.

International Subsidized Loan

So far only a small portion of international subsidized loans (for example, IDA loans) has been used in basic education; basic education should claim a larger portion in light of its prominence in the overall human-resource development effort undertaken given by the government.

Reallocation Within Education and Cost Recovery

With the rise in average household income over time, urban households will be able to bear a larger share of the costs of post-compulsory education (such as upper-secondary education and higher education), through increased education fees (Chen, 1992). Also, there are large inefficiencies in post-compulsory education (Han, 1992; Tsang and Min 1992; Hao and Wang, 1987; Wang, 1989; Tsang 1992). With increased cost recovery and improved efficiency in post-compulsory education, higher levels of government (central, provincial, and county) should be able to increase the amount of categorical grants to lower levels for basic education.

Assisting Disadvantaged Areas and Populations

Substantially larger categorical grants should be designated for basic education in disadvantaged areas and for disadvantaged populations, including grants promoting girls education in poor and minority areas. The aim is to guarantee that a minimally acceptable level of resources (corresponding to minimum standards in basic education) is available for disadvantaged areas and populations. At the central and provincial levels, such funds for local governments can come from the increased allocation to education and from reallocation within education. At the county level, such funds for the lowest levels can also come from pooled resources generated at the town/township level.

Improving Efficiency

Improving the efficiency in the utilization of available resources to basic education is also very important. Personnel input can be more fully utilized by increasing the student to teacher ratio and increasing teachers' classroom time (World Bank, 1991; Wang, 1989). Reallocation of resources from personnel input to non-personnel input may be necessary (especially in poor areas) so that essential non-personnel input is available (but non-essential non-personnel costs such as administrative expenses should be reduced, see Li, et. al., 1988: 347). Financial management can be improved by strengthening project management of education funds, providing training to administrative and finance staff, and stricter enforcement of financial regulations (Han, 1992; Li, et. al., 1988: 348).

One should recognize at the outset that efficiency improvement is a difficult task to undertake and its success depends on facts both inside and outside of education (such as government labor/personnel policies, alternative employment opportunities, the pace and contents of the continuing economic reform,

etc.) One should also note that the success in the mobilization of additional resources to basic education can be significantly undermined by inefficiency in resource utilization; this success may also unintentionally reduce the pressure to raise efficiency. Thus, efforts to improve efficiency have to be persistent and be part of a long-term education policy.

In summary, the financial reform has laid a good foundation for financing basic education and the decentralization and diversification strategies have succeeded in mobilizing additional resources to basic education; further steps can be taken to address the deficiencies that exist today.

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Case Studies in Financing Quality Basic Education

Education Reform in Chile: Decentralization and School Choice

Countries in Latin America are increasingly experimenting with educational reform which decentralizes the responsibility for providing primary and secondary education and introduces elements of school choice and competition. At present, school choice experiments are still in the planning stage, while decentralization is being implemented rapidly and chaotically. Among the features of decentralization in the region are: (1) the division of responsibilities among levels of government is poorly defined; (2) revenue transfers to subnational governments are ad hoc in nature and frequently politically negotiated; (3) subnational governments are ill-prepared to assume their new functions; and (4) little attention is paid to the design of mechanisms to promote accountability and consumer voice.

Given the current popularity of decentralization and school choice policies, it is useful to evaluate the experience of one developing country—Chile—which undertook such reforms over a decade ago. As with any case study, unique features of the Chile reform bring into question its applicability to other countries. In particular, the fact the reform took place in a nondemocratic political context means the design and implementation of the reform might not be practical where political opposition, especially among teachers, would be freely expressed. Despite the various caveats one can make about the Chilean reforms, the unique nature of the policy change and the availability of data to measure its effects are sufficient reason to attempt a systematic assessment.

I. EDUCATION REFORM IN CHILE

As is true in many countries today, education reforms in Chile were part of a larger decentralization policy, which included assigning municipalities new revenue sources and new expenditure responsibilities.[1] In terms of expenditures, the largest responsibilities given to municipalities were primary and secondary education and primary health care. The 1980 Decentralization Act transferred all school property from the Education Ministry to the municipalities. Teachers were terminated as central government employees, given severance pay, and transferred to municipal payrolls.

One of the more unique features of the education reform was the introduction of central government school attendance grants (or vouchers) to finance primary-secondary education. Municipalities receive grants based on the number of students attending class each month, with the base grant level adjusted for

[1] The Municipal Revenue Act of 1980 created new sources of municipal revenue, including a large block grant called the Municipal Common Fund, which attempted to equalize fiscal disparities. However, municipalities were given only very limited powers to change their revenues by altering tax rates.

differences in costs.[2] In addition, the Education Ministry directly provides textbooks to schools and directly contracts for the provision of school lunches to poor children, while municipalities can also receive grants for school construction and rehabilitation from the central government's Regional Development Fund. Also, in the early stages of decentralization, the Ministry provided municipalities with a 3 to 5 percent overhead grant on salaries to cover administrative expenses. As stated in early policy papers of the Education Ministry, municipalities were expected to supplement the school attendance grants they received.

Another unique feature of the reform was the treatment of private schools. Chile has a long tradition of public subsidies to private schools offering free education; historically, most such schools had a religious affiliation. A 1951 law provided a per student subsidy equal to fifty percent of the cost of public education. Subsequent reductions in the real value of this subsidy forced the closure of a large number of private schools in the late 1960s and early 1970s; the military government attempted to reverse this pattern by increasing the subsidy level in the late 1970s. The 1980 reform further increased the subsidy to one hundred percent of the recurrent cost of public education, with the value of the attendance grant determined by the same formula used to determine municipal school grants.[3] In effect, the reform introduced education vouchers which could be used in any school, public or private, which did not charge tuition.[4]

Perhaps the most important behavioral effect of Chile's educational reform was to directly tie school revenues to school enrollments, thus providing an incentive to schools to compete for students. Municipal schools, which often have excess physical and teaching capacity, find that enrolling an additional student generates revenues (the voucher) in excess of marginal cost, thus permitting reductions in municipal finance. Subsidized, private schools, which have lower recurrent costs than the public schools, can also maximize profits (in the form of director/owner salaries) by enrolling students up to the school's physical capacity.[5]

II. MUNICIPAL AND PRIVATE SECTOR RESPONSE

Revenues

The school attendance grant or voucher represents a minimum expenditure level which municipalities may choose to augment through transfers from their other, non-earmarked revenues. When the reform was initiated in 1980, the grant was set equal to the per student expenditures of the Education Ministry, but by 1990 the real value of the grant had decreased by almost forty percent. The result has been a rapid

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2 The 1980 Law of Subventions, which remains relatively unchanged today, provides a per student payment adjusted for education level and other school characteristics, including location, with rural schools and boarding schools receiving more.

3 Private schools are eligible to receive government-financed textbooks and school lunches for poor children, but they are not eligible for capital investment grants.

4 In principle, even schools which charge tuition are eligible to receive the voucher, but a 40 percent tax rate on tuition revenue (as reflected in reduced voucher levels) means that very few schools choose to openly charge tuition. Some schools do receive significant amounts of donated revenues or revenues in kind, especially for capital investment, which avoid the tax.

5 The rapid growth in the number of subsidized, private schools since 1981 suggests that vouchers, though declining in real value over the decade, are adequate to generate "profits".

growth in municipal finance of municipal schools. By 1991 municipal finance represented 10.5 percent of total municipal school revenues.

Although municipal and private schools receive attendance grants of equal value, municipal schools receive three additional types of financial assistance: (1) in-kind transfers of school buildings from the Education Ministry to the municipalities; (2) cash transfers from the Regional Development Fund for municipal school construction and rehabilitation; and (3) cash transfers from municipal general funds.[6] The result is that municipal school revenues per student exceed subsidized-private expenditures.[7]

Changing Market Share

As shown in Figure 1, the percentage of all primary-secondary school students in municipal schools has continuously declined since the introduction of the reform, and the share of all students in subsidized-private schools has continuously grown and currently represents about one-third of total enrollments. Meanwhile, the share of students in paid-private schools initially decreased and subsequently increased. Upon the introduction of the full-cost voucher all paid-private schools which were spending less than the voucher amount had a clear incentive to accept the voucher and become subsidized-private schools. As a result, between 1979 and 1982, paid-private enrollments decreased by about 27 percent while subsidized-private enrollments increased 35 percent.[8] However, as the real value of the voucher declined throughout the 1980s, paid-private school enrollments grew. By 1989, paid-private enrollments were larger than they were prior to the reform and were 50 percent higher than they were in 1982. Interviews with subsidized-private school directors suggest the trend of conversions from subsidized-private to paid-private status will continue, largely due to the decrease in the real value of the voucher.

Despite the voucher scheme, not all students in Chile can choose the school they attend. Of the total of 325 municipalities, 234 have subsidized-private schools, and only 72 have paid-private schools. Both types of schools are concentrated in urban areas, where private school enrollments are as high as public school enrollments. In 91 predominantly rural municipalities, students have no choice but to attend public schools.[9]

Demand for Private Education

The demand for private education has been hypothesized to be directly caused by (1) excess demand resulting from less than complete coverage by the public school system and (2) heterogeneity in tastes

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6 Some subsidized private schools also receive other financial assistance in the form of donated school buildings and financial or in-kind contributions from school parent-teacher associations.

7 We estimate the difference is between 13.8 percent (the reported difference in expenditures per pupil in municipal compared to subsidized-private schools) and 36.8 percent (which includes, in addition, an estimate of the implicit rental subsidy received by municipal schools). The implicit rental subsidy is estimated assuming that municipal and subsidized-private schools spend an equal percentage of their budget on materials and supplies. A recent study for the Education Ministry finds municipal schools spend 90 percent of their budget on salaries, compared to 67 percent for subsidized-private schools, which in most cases must also pay rent on their premises.

8 The Education Ministry budget increased 49 percent in real terms the year (1981) of the reform, but not all of this can be attributed to subventions to formerly private-paid schools.

9 A municipality is defined as a geographic area; while it typically includes an urbanized area, it may be predominantly rural.

Figure 1. Market Shares in Primary-Secondary School Enrollment

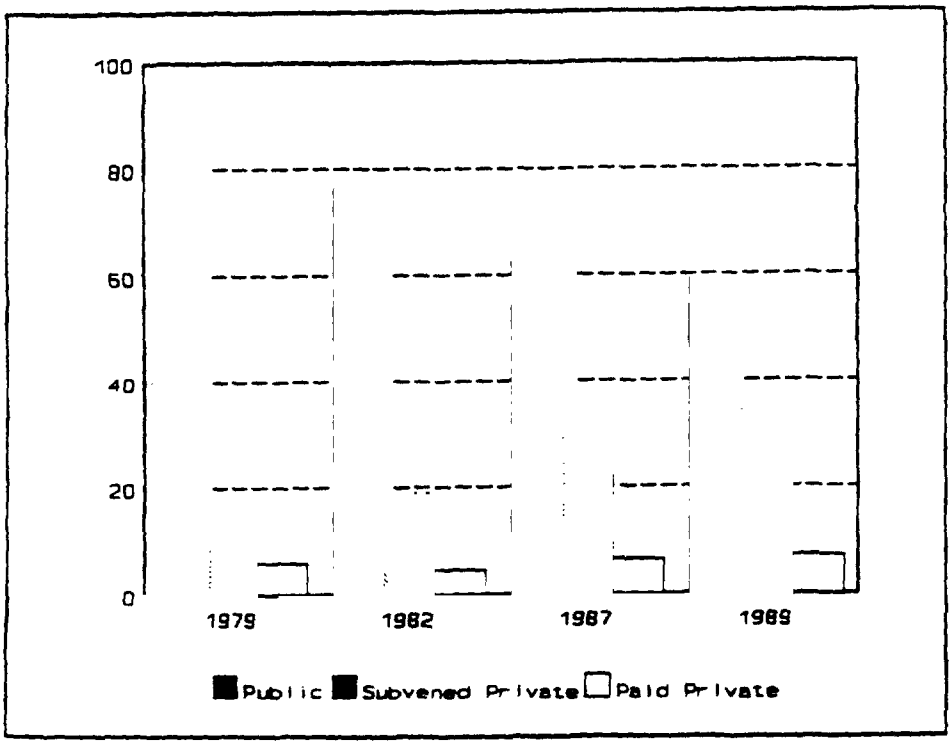

Table 1. Student Characteristics by Type of School

Characteristics	*Public School Students*	*Subsidized Private School Students*	*Paid Private School Students*
Years of Education of Head of Household[a]	7.8	9.3	n.a.
Monetary Income[a] (Thousands of Pesos per Month)	110.6	153.3	n.a.
Household Size[a]	5.1	5.1	n.a.
Percent of Households not Receiving any School Meals[a]	58.3 %	76.7%	n.a.
Average Education Level of Parents (1 low, 5 high)[b]	2.18	2.41	3.63
Average Socioeconomic Level of Parents (1 low, 4 high)[b]	0.94	1.27	2.16
Average Repetition Rate[b]	9.7	7.8	2.2
Average Fourth Grade Math Score (1990)[b]	49.86	60.26	77.06
Average Fourth Grade Spanish Score (1990)[b]	55.46	61.47	77.41

Note: [a] For 72 municipalities in the CASEN 3 (1990) sample.
[b] For 325 municipalities from the 1990 SIMCE test and teacher questionnaire.

not fully satisfied by public schools oriented to the tastes of the median voter, in addition to the usual variables of tuition price and ability to pay.[10] While excess demand, as measured by comparing the size of the age cohort to the supply capacity of the public sector, is likely to explain demand in many developing countries, it is unlikely to be an important factor in Chile, where 80 percent of the primary-secondary school age cohort are enrolled in school and where public supply is most deficient in rural municipalities. The relatively homogeneous cultural and religious composition of the population also suggests these taste factors are likely to play a relatively unimportant role in explaining demand for private schooling. On the other hand, heterogeneity in tastes associated with socioeconomic status or educational levels of households, a household's ability to pay, and school quality are all likely to positively affect demand. Of these variables, the most difficult to measure is school quality. Among the perceived indicators of quality in Chile are the school name, the presence of school uniforms, and the background of school peers.[11]

Table 1 shows a number of household and school characteristics for children in public, subsidized-private, and paid-private schools in Chile. These data show: (1) public and subsidized-private schools appear to be more similar than do subsidized-private and paid-private schools; (2) household income, education, and socioeconomic status are all higher in private than public schools; and (3) school peers in private schools are of higher socioeconomic status and higher educational achievement levels than peers in public schools.[12]

Supply of Private Education

Private education in Chile is characterized by the nature of ownership and the price of the service. The traditional private school has an affiliation with some non-profit (religious or civic) organization; it often has an elite clientele and charges high tuition levels. The new, non-traditional private school is sectarian, frequently owned by former teachers in the public system, and typically receives most its revenues from the government voucher.[13]

The traditional private school is similar to private education in other countries in its affiliation with non-profit organizations and its access to donated capital and volunteer labor, which reduce its costs. The supply of education by traditional schools is likely to be relatively inelastic with respect to input prices and voucher levels, although the voucher is likely to influence its decision to accept tuition or not. The new private school, while required to be non-profit, may be de facto profit seeking with surplus revenues captured by the owner/director of the school. Hence, the supply of education by new schools is likely to be more elastic with respect to input prices and the voucher level. Since public schools already exist in all municipalities, private supply is also affected by the opportunity for market entry, which is likely to be easier in larger metropolitan areas which could support both public and private schools.

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10 See James (1985, 1991) for further elaboration of these arguments.

11 An unpublished experiment carried out by a Chilean think tank found that changing the school name from Spanish to English and introducing school uniforms in public schools resulted in increased public school enrollments. Peer group composition, either in terms of socioeconomic status or achievement, has been found by several studies to be one of the more important school factors that determine learning.

12 Educational achievement, as measured by the grade four SIMCE test administered in about 5000 of Chile's schools, is both a schooling outcome and an input to learning.

13 These differences are reflected in the test scores of students enrolled in the two types of schools. In 1990, subsidized private schools more than ten years old had an average Spanish test score of 63.8, compared to 60.5 for subsidized private schools less than ten years old.

Model of Private School Market Share

This paper attempts to estimate a reduced-form model of private school market share for the 234 urban municipalities that have both public and private schools.[14] Since there are no data on paid-private school enrollments at the municipal level, market share is defined as the percent of publicly-financed students that enroll in subsidized private schools. The model hypothesizes the demand for subsidized-private schooling is determined, among other things, by the relative educational outcomes of public and private schools. Earlier empirical studies of variations in private market share across countries have not tested this hypothesis but have instead demonstrated that public school spending levels adversely affect private school demand.[15] In the case of Chile, educational outcomes would appear to be a better indicator to parents of the quality of schooling than would public school spending, which does not always reflect the quantity of school resources received by public school children.[16]

This model also assumes the subsidized-private school market share is determined by relative test scores but not vice versa, since government regulations prevent subsidized-private schools from using entrance examinations to select students. Of course, schools may use proxies for cognitive achievement in selecting students, but at least one study finds no evidence of such simultaneity.[17]

Earlier cross-sectional empirical work has shown the private school market share to be larger where public school provision is small, where there is high cultural heterogeneity, and where governments subsidize private schools.[18] These findings are not easily confirmed for the cross-section of Chilean municipalities as public school provision is consistently high, the culture is fairly homogeneous, and subsidy levels, adjusted for differences in costs, are uniform. The estimated model, reported in Table 2, finds a strong relationship between the private school market share and population density, which can be interpreted as a proxy for ease of market entry.[19] Neither the subsidization or voucher level per student nor the teacher salary level are significantly related to private supply. This is not surprising given the lack of variation in voucher levels, controlling for costs, and the lack of a measure of teacher salaries in private schools.

Three demand variables are found to be strongly related to the private school market share. Higher average household socioeconomic status, a proxy for household tastes, positively affects private school

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14 The model is a reduced form equation of the supply of and demand for private education.

15 See James (1993). One difficulty with the spending variable is that it is likely to reflect variations in input prices as well as the quantity of educational inputs received by children.

16 Instead, it sometimes reflects constraints on municipalities in their ability to either release redundant teachers or to replace older, highly paid teachers.

17 In estimating simultaneous models of private school market share and public school spending, a possible proxy for relative educational quality, James (1993) found no evidence that private market share determines public spending.

18 See James (1986 and 1987).

19 A linear probability model is adopted over a logit model, as its coefficients are more easily interpreted, and, in this case, does not yield predicted values of percent private that lie outside the zero to one boundary.

Table 2. Private School Market Share
(Standard Errors in Parentheses)

Independent Variables	*Private Enrollments as Percent of Total*	
Intercept	15.551 (9.715)	10.720 (9.810)
Subsidization per Student (in thousands)	-0.255 (.369)	-0.232 (.371)
Teacher Salary in Public Schools (in thousands)	1.359 (1.641)	-1.301 (1.655)
Density (in thousands)	1.785[b] (.344)	1.786[b] (.347)
Socioeconomic Status of Families with Children in School	8.573[b] (3.615)	8.672[b] (3.638)
School Age Population	0.141 (.102)	0.147 (.103)
Poverty Rate	0.382[b] (.170)	0.370[b] (.173)
Ratio of Public to Private Test Score-Math	-11.392[b] (6.061)	
Ratio of Public to Private Test Score-Spanish		-6.594 (6.553)
R^2	0.240	0.231
S.E.	14.583	14.675

Note: [a] Significant at 0.10 level
[b] Significant at 0.05 level

demand, a finding consistent with our expectations.[20] However, the school-age population of the municipality, a proxy for heterogeneity of tastes, is not statistically significant. A high poverty rate is also found to increase private school demand; since most poor students are found in the public schools, higher poverty rates may drive higher income students out of public and into private schools. Finally, there is weak evidence that student test scores affect school choice. A higher ratio of public to private school test scores in mathematics (but not Spanish) adversely affects private school demand. Since most parents do not have access to school-level test score data, these variables are a proxy for parental perceptions of student peer groups.

These results help confirm some propositions but fail to shed light on others. They confirm the proposition that the supply of private education is larger in densely populated areas where there is likely to be greater ease of market entry; that households of high socioeconomic status are more likely to prefer

[20] Given the zero or near-zero price of private education, household ability to pay should not be strongly related to demand.

private schooling; and that peer group characteristics, be they measures of achievement or economic status, affect school choice. But the model fails to explain the large increase in private market share between 1982 and 1989 at a time when the real voucher level was decreasing. Two untested hypotheses suggest themselves: (1) the demand for private education shifted sufficiently rapidly to offset the reduction in supply resulting from reduced real vouchers; and (2) input prices, especially teacher salaries, decreased even more rapidly than voucher levels, resulting in continued supply increases.

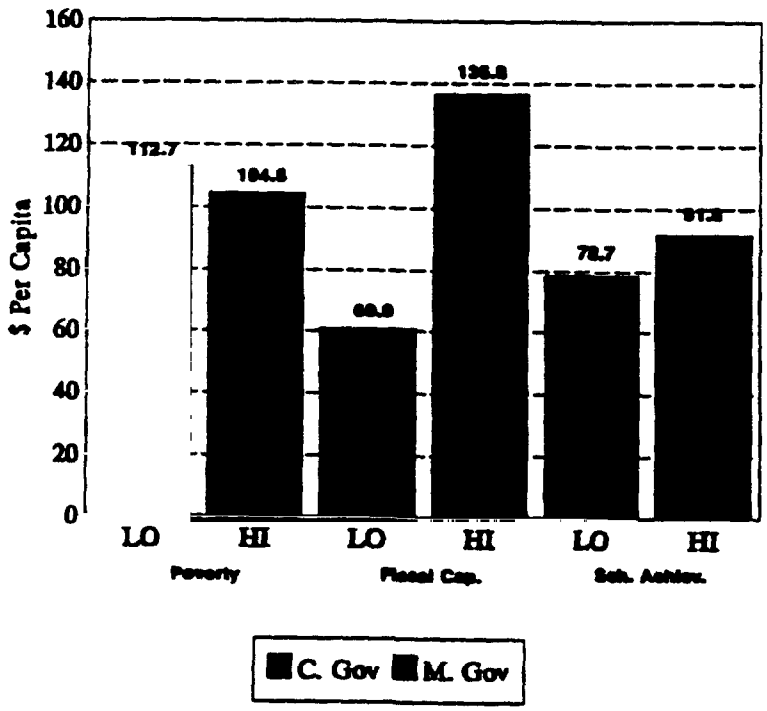
III. THE EQUITY AND EFFICIENCY CONSEQUENCES OF THE REFORM

The major criticisms of both decentralization and privatization of education through voucher schemes is that both policies may lead to greater inequality of educational opportunity among children. Data constraints do not permit us to fully examine the equity consequences of Chile's educational reform, but the data do permit some partial answers.

Equality in Spending

Equity can be assessed in terms of either school inputs or school outputs. The voucher financed by the central government provides a high base level of minimum spending that either municipal or subsidized-private schools can increase from other revenue sources. As noted earlier, the voucher varies among jurisdictions to compensate for differences in costs between levels of education and student and community characteristics, including needs of the physically challenged. However, the formula that determines the voucher level does not adjust for the compensatory requirements of poor or low-achieving children. In fact, the only extra resources those children receive is in the form of free school lunches.

Figure 2. Average Grants and Expenditures for Education in Chile Municipalities



Despite the apparent equity of the basic voucher, the relatively small average amount of extra monies budgeted by the municipalities results in significant expenditure disparities. Figure 2 compares the finance and expenditures per pupil for the bottom and top decile of municipalities ranked by poverty rates, fiscal capacity, and education test scores. As shown in the figure, the voucher alone provides more cash per pupil in high poverty than low poverty municipalities and in low achieving than high achieving municipalities. But disparities in municipal finance reverse the pattern in terms of total spending, resulting in higher per pupil spending in low than high poverty municipalities and in high than low achieving municipalities. Regarding fiscal capacity (as measured by per capita general revenues), the voucher is larger for high than low fiscal capacity municipalities (reflecting cost variations), but adding the municipal finance results in expenditures in high fiscal capacity municipalities more than double those in low fiscal capacity municipalities.[21]

Equality in Outcomes

As shown in Table 1, educational outcomes as measured by repetition rates and mathematics and Spanish test scores differ greatly between public, subsidized-private, and paid-private schools, with public schools having the worst and paid-private schools the best outcomes. Table 3 disaggregates achievement scores by four levels of household socioeconomic status. These results show the same ranking of performance by school type controlling for average socioeconomic status in the schools. The differences between municipal and subsidized-private schools, however, is small compared to the differences in test scores between socioeconomic levels.[22] There is no convincing evidence that changes in test scores since the reform have favored one type of school over another. However, at least one study concludes that within public schools higher socioeconomic level students' performance improved and lower socioeconomic level students' performance worsened between 1982 and 1988.[23]

Table 3. Mathematics Achievement (Grade 4) in 1988 for Metropolitan Areas per School Type

Socioeconomic	*Municipal*	*Subsidized*	*Paid Private*
4 (highest)	n.a.	65.3	74.9
3	56.7	58.3	67.2
2	48.4	51.8	n.a.
1 (lowest)	47.2	49.6	n.a.

Source: Morales Frias, 1990

[21] In addition to generating spending inequities between municipalities, municipal finance creates spending differences between public and subsidized-private schools. As of 1989, per pupil primary education and secondary education expenditures in municipal schools were 8.7 percent and 22.3 percent, respectively, above those in subsidized-private schools. This comparison, however, is not complete as it does not include the implicit rental value of public school buildings or services and goods donated in-kind to private schools, nor does it take account of the different teacher's wages paid by public and private schools. A 1990 Education Ministry survey showed that subsidized private school salaries are 24.1 percent lower than public school salaries at the primary level and 17.5 percent lower at the secondary level.

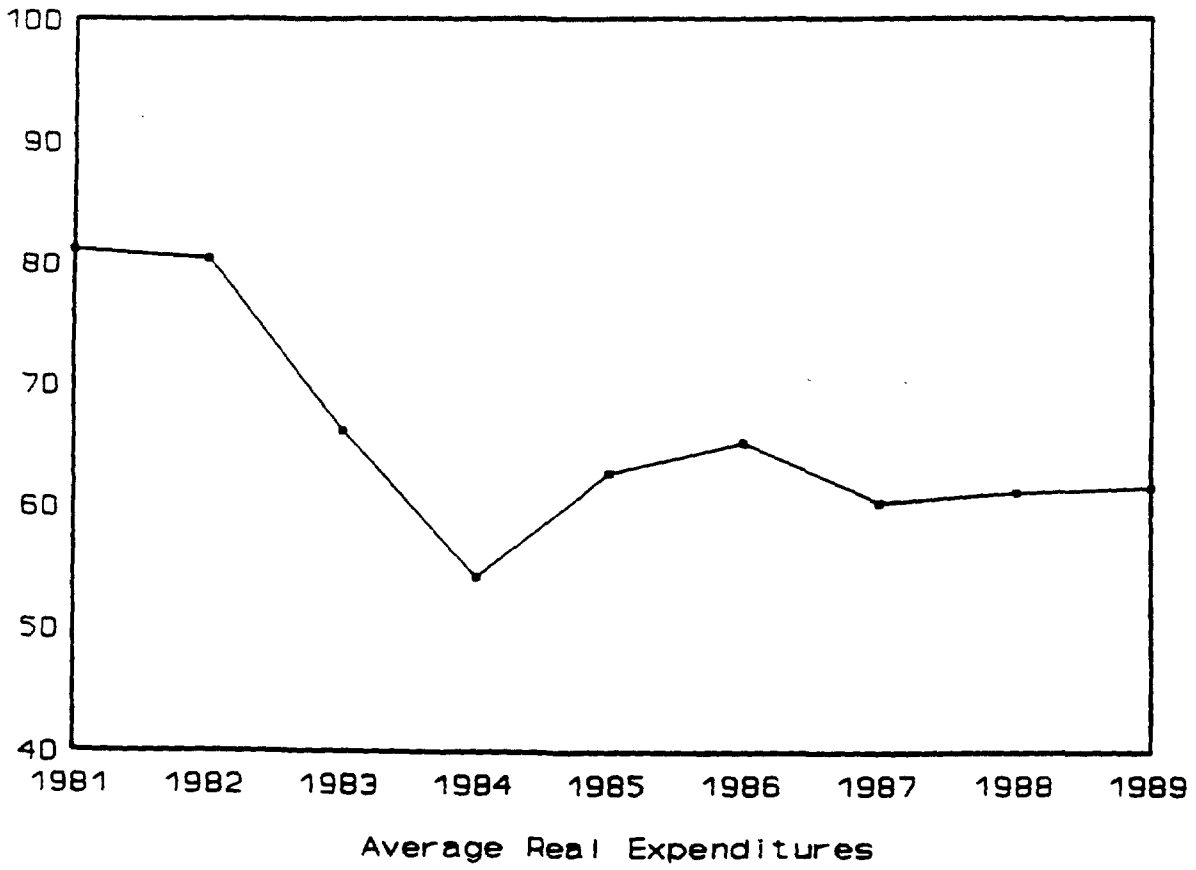
[22] The data reported are for mathematics achievement in large cities. Morales Frias (1990) reports several other disaggregations of test results by subject matter, size of jurisdiction, and socioeconomic status. The results are in general consistent with those reported in Table 3 although there are cases where municipal schools have higher test scores than subsidized-private schools.

[23] Espinola H. (1991).

Effects on Costs

The overall cost of primary-secondary education in Chile has decreased considerably since the reform; real expenditures of all publicly-financed schools decreased 25 percent between 1981 and 1989 (see Figure 3).[24] In addition, the overhead administrative costs of the Education Ministry decreased, with employment decreasing from 18,522 to 8,305 employees between 1981 and 1989 (see Figure 4).[25] While much of the decrease in education expenditures has been the result of reduced teacher salaries, outlays on textbooks and school lunches have declined as well.[26]

Figure 3. Publicly Financed Expenditures per Pupil

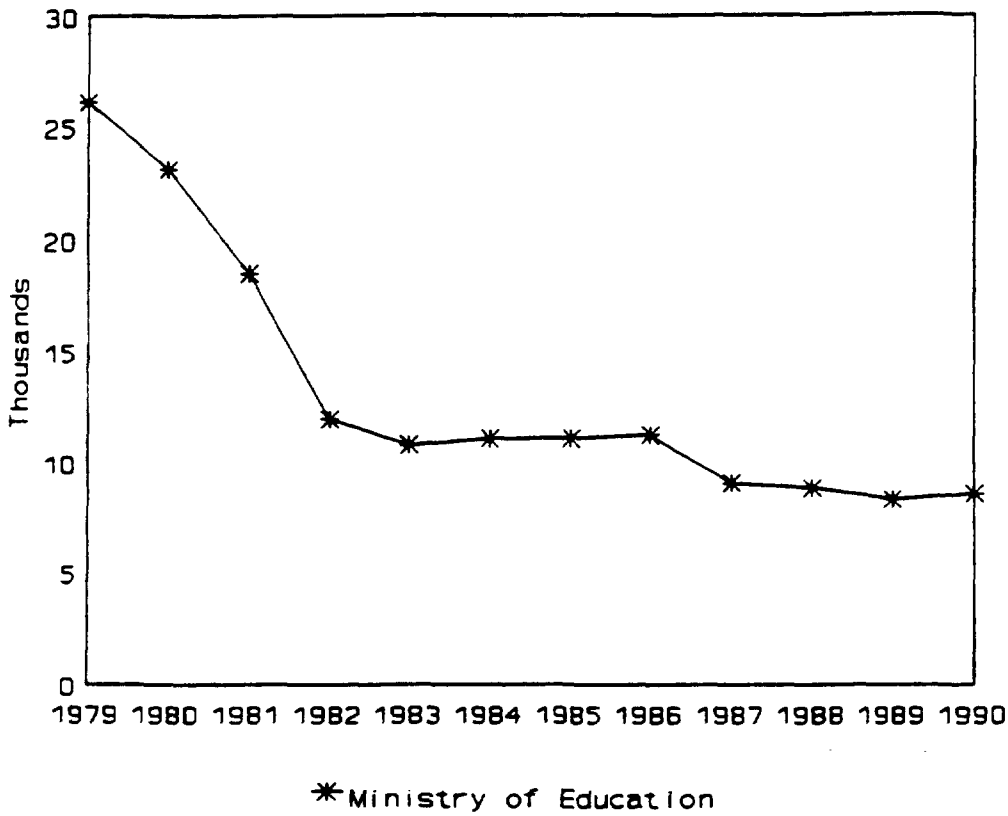


[24] This average hides the fact that per pupil expenditures actually increased in primary education, while they decreased in secondary education. See Espinola H. (1991).

[25] The Education Ministry overhead is, of course, for all education levels.

[26] The number of textbooks distributed annually decreased by 43.7 percent between 1980 and 1990; in 1980 the average student received 1.5 texts, while in 1990 this number declined to 0.9. The number of school breakfasts and lunches served also declined in the same time period.

Figure 4. Ministry of Education Employment



Cost-Effectiveness

While the unit costs of primary-secondary education have decreased since the reform, the evidence on educational outcomes is mixed with some evidence of declines in test scores for all types of schools between 1984 and 1988.[27] The ambiguity of the achievement data also make it difficult to determine changes in efficiency in the use of resources. Nothing can be concluded from the fact that education expenditures have declined more rapidly than test scores over the past decade, for while there has been some reduction in real school inputs, the principal consequence of reduced expenditures has been reduced teacher pay. Similarly, the observation that test scores are higher and per pupil expenditures are lower in subsidized-private compared to municipal public schools says nothing about the efficiency of these school types in producing new cognitive knowledge, for students in subsidized private schools also have home environments that are more conducive to learning and have a higher level of knowledge upon starting school than do students in municipal public schools.

The education reform introduced competition between schools for students. As opposed to the usual monopoly model of public education, competition should increase efficiency in producing those

[27] However, differences in test construction over this time period result in the tests not being strictly comparable over time.

educational outcomes which influence school choice.[28] In the particular case of Chile, it could be argued that the incentives for maximizing performance are more transparent and direct for private than public schools. The owner/directors of private schools can directly benefit from the increased enrollments which result from better performance, while the principal benefit to public schools from increased enrollments is reduced municipal finance; public school managers may in fact find that increased enrollments makes for extra work.[29] If this argument is true, one would expect to find private schools performing better than public schools.

In what follows, we specify a crude model of student learning and attempt to estimate the relative effectiveness of public and private schools in Chile. The performance of public and private schools has by now been examined in several important empirical studies, beginning with Coleman, Hoffer, and Kilgore (1982). However, lack of adequate data have limited the number of such studies for developing countries.[30] The data for Chile have several flaws that constrain the validity of the empirical analysis. First, our observations are at the municipal and not the individual student level. Second, the sample consists only of the seventy largest municipalities in the country.[31] Third, the measures of current (grade 8) and lagged educational achievement (grade 4) are for different students within the same municipality,[32] and we have school input data for only one year (1989). Thus, we make the strong assumption that student cohorts do not differ and school inputs are perfectly correlated over time. Finally, our measures of home and school environments are not very rich.

We assume the usual model in which achievement is determined by prior or lagged achievement, the home environment, and the school environment. Since the sample size is small, consisting of 70 municipal-level observations of public schools and 70 municipal-level observations of subsidized-private schools, the estimated parameters are constrained to be identical for public and private schools, excepting school expenditures, where including a separate variable for private school expenditures permits a test of the hypothesis that private and public schools are no different in their productivity.

The estimated parameters of the model are given in Table 4.[33] Models 1 and 2 show that the effects of the home environment are captured by a measure of lagged achievement.[34] Model 3 shows that, controlling for fourth grade achievement, school expenditures significantly affect eighth grade

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28 See Levin (1991) for an elaboration of this thesis, including discussion of the possible social costs of private choice in education.

29 Municipal finance may be reduced to the extent the revenue from the voucher exceeds the marginal costs of an additional enrolled student; this is likely to be true for many municipalities where increased private school enrollments have resulted in excess capacity in the public schools.

30 See Psacharopoulos (1987), Cox and Jimenez (1987), and Jimenez, Lockheed and Wattanawaha (1988).

31 The data come from the 1990 household survey (CASEN 3), and the sample size is adequate to compute separate subsidized-private and public school means only for the largest municipalities.

32 The Chile achievement test (SIMCE) is administered at grade four in even-numbered years (e.g., 1988) and grade eight in odd-numbered years (e.g., 1989).

33 The model is estimated using OLS. As noted earlier, subsidized-private schools are not permitted to select students on the basis of test performance, but they might use proxies for test performance in selecting students. Hence, we used instrumental techniques to estimate an alternative model specification, which includes the percent of students in subsidized-private schools as an endogenous, independent variable. The coefficient on Percent Private was statistically insignificant, and other estimated coefficients were not materially affected in terms of either size or statistical significance.

34 Since the estimated results are very similar for grade eight mathematics and Spanish achievement, only the mathematics results are reported here.

Table 4. Educational Achievement Models
(Standard errors in parantheses)

Independent Variables	*Model 1*	*Model 2*	*Model 3*	
	Grade 8 Mathematics Achievement	*Grade 8 Mathematics Achievement*	*Grade 8 Mathematics Achievement*	*Grade 8 Spanish Achievement*
Constant	46.151b (9.148)	12.988b (8.281)	19.264b (8.511)	15.609a (8.474)
Years of Education of Household Head	1.282b (.281)	-0.011 (.271)	-0.111 (.269)	0.098 (.289)
Household Size	-3.141b (.281)	-0.691 (1.200)	-1.087 (1.118)	-0.095 (1.229)
Grade 4 Spanish Achievement				0.582b (.075)
Grade 4 Mathematics Achievement		0.703b (.082)	0.637b (.085)	
Expenditure Per Student (in thousands)	0.204b (.033)	0.118b (.028)	0.103b (.028)	0.098b (.029)
Expenditure Per Student in Private Schools (in thousands)			0.031b (.013)	0.036b (.013)
R^2	0.403	0.618	0.633	0.661
Standard Error	4.658	3.724	3.651	3.808

Note: [a] Significant at 0.10 level.
[b] Significant at 0.05 level.

achievement; in addition, the magnitude of the effect is about 30 percent larger for private than public schools. Overall, however, the magnitude of the expenditure effect is small. To bring about a five percent improvement in eighth grade achievement would require a 32 percent increase in public school spending or a 27 percent increase in private school spending.

While aggregate data, a small sample, and weak measures of the student's home environment suggest caution in drawing strong conclusions from these findings for Chile, these results are consistent with other empirical work comparing public and private schools, which typically finds private schools to have a small edge in cost-effectiveness. The principle difference is one of context—despite the fact that both public and private schools in Chile compete for students, private schools are still slightly more cost-effective.

IV. CONCLUSIONS

Education reform in Chile had two principal characteristics which are popular among reformers in other countries today: decentralization of the provision of educational services and introduction of choice and competition. The reform had several results:

(a) Municipalities provide a small share of total public school financing, but inter-municipal variations in fiscal capacity generate inequities in per pupil school expenditures.

(b) The relatively large size of the central government school attendance grant (almost 90 percent of total financing) ensures all pupils receive a relatively high minimum level of school services.

(c) In the short-run, introduction of the voucher program led to large numbers of schools changing status from paid-private to subsidized-private, resulting in significantly higher government-financed education spending.

(d) In the long-run, reductions in the real value of the voucher led to paid-private schools regaining their earlier market share.

(e) The subsidized-private market share has consistently grown, despite reductions in the real value of the voucher and despite approximate parity with municipal schools in terms of test scores (controlling for socioeconomic status). The model estimated here suggests parents select private schools based on the characteristics of their students; since the demand for private schooling increases with socioeconomic status, private schools have a continuing advantage in terms of student background characteristics.

(f) Subsidized-private schools appear to be more cost-effective than municipal schools. While test scores, controlling for socioeconomic status, are approximately equal in municipal and subsidized-private schools, unit costs are lower in private schools. Also, the model estimated here provides evidence that additional monies spent in subsidized-private schools yield slightly higher returns than those spent in public schools.

Since the design and implementation of the Chile reform occurred in a setting that did not permit political opposition, they are unlikely to be easily replicated in other countries. In addition, Chile has had several institutional advantages in implementing the reform. By the standards of other developing countries, management capacity at both the central and municipal level is relatively high, and the degree of public corruption is perceived to be low.[35] As a result, it was possible to implement a financing mechanism which requires accurate counts of numbers of students in the classroom and which effectively penalizes schools for inaccurate reporting. Also, over the past two decades the Chilean public sector has become sophisticated in the use of contracting to purchase specialized expertise that would not otherwise be available (e.g., municipalities contracting consultants to develop the detailed plans required to obtain central government financing of capital investment.)

Sound financial management has also been important in implementing the decentralization component of the reform. All levels of government in Chile use the same standardized government accounts for budgeting and expenditure reporting, with municipal expenditure reports submitted on a monthly basis to the Finance Ministry. This financial information system provides the basis for periodic audits of municipal accounts by the country's Controller General, and helps ensure that central government grants are used as intended.[36]

Finally, Chile is the only country in Latin America to have a national system of student testing. In principle, this can provide both municipalities and parents with information on their schools' performance. In practice, the results are not widely disseminated, and parents seldom know either their school or their child's performance.[37]

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35 The point being made here is not that the Education Ministry and Chilean municipalities have adequate management and planning capacity; there are many deficiencies, especially among smaller municipalities and in the supervision capacity of the Education Ministry's provincial administrative units.

36 The penalties associated with misappropriation of government funds are severe, including personal liability.

37 The reasons for lack of dissemination are not clear. The testing system was first introduced as part of a plan to measure teacher performance and to tie salaries to performance. Several difficulties, including teacher opposition, led to this plan never being fully implemented.

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Case Studies in Financing Quality Basic

Financing Quality Basic Education in India

In terms of magnitude, and diversity India presents a challenge for education policy-makers and planners. India has a population of 866.5 million. Nearly twenty-five percent of India's population lives below the poverty line. More than 70 percent of the population resides in rural areas. Over half of the villages have a population of less than 500, and a quarter of them have a population below 200. These areas are difficult to access with social services such as education. Indians speak 1600 dialects, 400 of which are spoken and written. The complexity of Indian society is manifested in socio-cultural diversity, and the all-pervasiveness of a social system which systematically discriminates against certain groups, especially those of lower castes and women.

Since Independence in 1947, India has made enormous strides in providing elementary education. For example, 102.74 percent of lower primary-age children, and 61.1 percent upper primary age children are enrolled in schools in India. Ninety-four percent of the rural population have schools within 1 kilometer walking distance (India—Education for All, 1993). In spite of these notable gains, much more needs to be done to achieve a quality basic education for all school-age children. Inequitable access to education, and poor educational quality are presently the two major problems in the country.

Access and Equity

Forty-eight percent of India's population is still illiterate and the number of illiterates increased from 302 to 324 million between 1981 and 1991. Thirty-five percent of all children have never enrolled in schools. In comparison to other Asian countries, India's enrollment ratio is median[1] (Mingat and Tan, 1993). Enrollment ratios and drop-out rates are lower for certain states, districts within states, the rural population, females, and children from Schedules Caste and Scheduled Tribe backgrounds. (UP Basic Education Project, 1993) (see Annex 1, 2 and Annex 3).

The growth of primary education has been extremely skewed across the states and union territories. Ten states are considered particularly educationally backward: Andhra Pradesh, Assam, Bihar, Jammu and Kashmir, Madhya Pradesh, Maharashtra, Orissa, Rajesthan, Uttar Pradesh, and West Bengal. In these states, overall literacy rates range from 38 to 55 percent, and female enrollment rates from 20 to 40 percent. In comparison, the state of Kerala has a 90.5 percent literacy rate, and a primary school drop-out rate of 2 percent (India—Education for All, 1993). Disparities also exist within states. For example, of Maharashtra's 29 districts, 8 have rural female literacy rates above the national average of 39 percent,

[1] All Asia average is 76%. Present statistics indicate India's as 102%.

but the rates in ten fall below 29 percent. For Assam, the comparable figures are 8 and 10 districts respectively (UP Basic Education Project—World Bank, 1993).

Almost 60 percent—or 200 million—of India's illiterates are girls or women. Enrollment rates in elementary education are lower for females (86 percent for females as against 115 for males). Females are less likely to enroll in upper primary (46 percent for females as compared to 73 percent for boys) (UP Basic Education Project, 1992). Female enrollment rates vary between rural and urban areas, and rural females have the lowest enrollment rates of any major population group (33.51 percent—Lower Primary). Female enrollment is lower among the scheduled castes and scheduled tribe population (SC/ST). There are regional variations in female enrollment. Five populous states (Andhra Pradesh, Bihar, Madhya Pradesh, Rajesthan, and Uttar Pradesh) account for more than half of India's illiterate females. Supply and demand factors account for lower female enrollments. The supply factors that have most commonly determined females' access to school are location, school construction and the lack of latrines for women, school quality, and absence of female teachers. Demand for female education is marginally affected by demand for female labor within and outside the home, while fundamental differences in parental, and societal attitudes towards the education of their daughters appears to be more important (Gender and Poverty in India; 1991).

The Scheduled Caste and Scheduled Tribe together comprise 23.6 percent of the overall population of India (15.7 and 7.7 percent respectively). The criteria for designating these groups as SC and ST is based upon social, educational, and economic backwardness arising out of centuries of practiced discrimination and untouchability. The SC/ST are geographically based in some of the most educationally backward states. At the lower primary school level the scheduled caste constitute 17.1 percent, and the scheduled tribe constitute 7.8 percent of enrollment. At the upper primary level, SC/ST enrollment is only 14.69 percent, and 5.1 percent respectively. Dropout rates in the school system are highest among the SC/ST. A majority of the dropouts are concentrated in rural areas. The major reasons for poor access and performance among the SC/ST are: poverty, internal constraints of the school system, socio-cultural background of the SC/ST community, and long heritage of untouchability, geographical isolation, and neglect (National Institute for Educational Planning and Administration, 1990).

The problem of inequitable access is caused by a complex interplay of factors, i.e., poverty, socio-cultural status, and gender. To overcome the problem, a targeted program that confronts the special needs of females, and minority groups will have to be adopted. This could include financial benefits (scholarships), making educational inputs (curriculum, textbooks, teachers) more sensitive to the needs of these groups, encouraging community participation to bring about social change.

Internal Inefficiency

Internal efficiency in education refers to the ability of the system to produce certain results with a given set of resources. One indicator which is used to gauge internal efficiency is cohort retention rate—or the proportion of students that stay in school until the end of the school cycle (Mingat and Tan, 1993). In India, the total number of children with access to school has risen, but drop-out rates remain high. Nearly one-fourth of students who manage to enroll drop-out before reaching the second grade, half make it to grade five and about a third make it to grade eight. At current trends, 75 million additional illiterates will be added to the pool by the Year 2001 (NIEPA, 1992). In comparison to other countries in the Asia region, India lags behind China in retaining primary students and leads only three countries—Nepal, Bangladesh and Bhutan (Mingat and Tan, 1992).

National School Statistics (NSS) data on reasons for discontinuance indicate that both *supply and demand* factors affect school participation rates. The problem of low demand is indicated by data showing that just over forty-two percent of dropouts in rural and forty-five percent in urban India cited failure or lack of interest as the major factor for dropping out. The low demand for schooling can largely be attributed to supply problems. Facilities and materials are inadequate, the quality of teaching and school management is weak. Enhancing the quality of schools will directly affect the possibility of a child staying in school.

Improving the quality of education requires supplying educational inputs, i.e., books, teaching materials, and trained teachers. Recent research has focused on school management issues as a key element in educational quality improvement (Lockheed and Levin, 1993). In India, 96 percent of non-plan expenditure are for salaries of teachers, and non-teaching staff. The lack of budgetary allocation for teaching materials is reflected in a survey that indicated that 66 per cent of primary schools have no mats or furniture for students, 45 per cent have unusable or no blackboards, 74 per cent have no library and 94 per cent have no lavatories (NCERT, 1992). The centrally-operated Operation Blackboard has made efforts to reduce this problem by providing nonsalaried inputs, but much more will need to be done to alleviate the problem.

I. PROBLEMS OF EDUCATIONAL DEVELOPMENT IN INDIA

There are seven factors that influence the financing of basic education in India: (i) the macroeconomic environment; (ii) demographic pressures; (iii) non-governmental resources for elementary education; (iv) central government allocation to elementary education; (v) allocation at the state level; (vi) center—state relationship; (vii) efficient utilization of resources.

The pace of *macroeconomic* growth in India is estimated to be positive, (4.8 percent) and there are no macroeconomic limitations to the provision of education resources. However, calculation of the dependency ratio for India[2] indicates it is 35 which is higher than the Asian average of 31. Thus, *demographic* pressures will continue to act as an exogenous pressure on the financing of elementary education. (Mingat and Tan, 1993).

India spends 3.3 percent of its GNP on education (Mingat and Tan, 1993) (Annex 4). Among the countries of the world on which data is available, India ranks 115th with respect to this indicator of national efforts on education, and only above Bangladesh amongst the countries with a population of 100 million or so (Tilak, 1991). There is general consensus that 3.3 percent is inadequate for achieving quality basic education for all. In 1986 the National Education Commission recommended that this figure be increased to 6 percent (Tilak, 1991). Per student expenditure is approximately US$30 dollars at the elementary level. This amount ranks the lowest in developing countries (World Development Report, 1992).

[2] Mingat and Tan define the "dependency ratio" as the percentage of the total population that is of school-going age. The reason for calling it a dependency ratio is because the adult population have to bear the fiscal responsibility for providing them with schooling.

Central Government Allocation to Education

Sectorwise plan outlays/expenditures to education in Five-Year Plans have declined from 7.9 per cent during the First Plan to an all time low of 2.7 percent in the Sixth Plan to 4.5 per cent in the Eight Plan (Annex 5). Intersectoral allocation of federal public spending in India indicates that percentage distribution of total education funds allocated to elementary education had declined since the First Plan (50 percent) to 33 percent in the Sixth Plan (India - Education for All, 1993). Analysis of budgetary allocation to plan, and non-plan expenditures indicates that more is allocated to non-plan expenditures. Total outlays to non-plan expenditure have increased at the rate of 20.5 per cent per annum during 1950-51 to 1989-90. In contrast, plan expenditures have grown at the rate of 6.5 per cent during the same period (Tilak, 1991) (Annex 6 shows breakdown for 1982-83).

Resource Allocation at the State Level

States bear principal responsibility for financing of education services (Annex 5). They receive supplements from the central governments. The All India State Average for allocation of state budget to education is around 21 percent. There are significant interstate variations. In 1992/93, it ranged from 14.1 percent to 31.6 percent. Some states like Kerala allocate 35 percent of total government expenditure to education, while Jammu and Kashmir, and Orissa allocate only 13.5 per cent (Annex 7). Historically states have earmarked higher percentage of total education outlays to non-plan expenditure. The educationally backward states spend very little on plan expenditure. For example, it is less than 10 percent in Maharashtra, West Bengal, and Bihar. Most of non-plan expenditure goes to teachers' salaries, and marginal resources remain for books, and educational materials (Tilak, 1991).

Local Government

Inspite of a decentralized administrative structure, local governments like zilla parishads (block level), and panchayats (village level) have not contributed much to education. The contribution of local bodies in the total educational finances have declined by half, from 10.9 per cent to 5.3 percent during 1963 to 1982-83 (Tilak, 1991).

Non-Governmental Sources of Finance

Education in India used to be largely financed by individuals and religious organizations. Since independence, the aggregate of non-governmental resources going to education have declined. Sources of non-governmental finance consist of contributions from students/parents, for example, fees, maintenance costs, and the rest of the community, for example, endowments and donations. The contribution of fees have declined from 20 percent in 1950-51 to 7.7 percent in 1982-83. The share from other non-governmental sources, i.e., local bodies, fees, and voluntary donations and endowments have also declined. In total, non-governmental contributions have declined from one-fourth of the education budget, to 11.6 per cent in 1950-51 to a minor 5.7 percent currently (Tilak, 1991). Private schools in India, which largely cater to children from affluent backgrounds are privately managed but receive public funding for recurrent costs, and in some cases, capital costs (Tilak, 1991).

Center-State Relationship

In India, education is a state obligation and financed out of state budgets, augmented by direct contribution from the federal government (Mingat and Tan, 1993). Since the First Plan, state government allocations have grown from 74 percent in the First Plan, to 92 percent in the Sixth Plan. The Eight Plan will increase central government outlays to states (Annex 7).

Central government outlays to the states have consistently been made on an ad hoc basis without consideration of inequities in economic, and educational development. Statistics on central government outlays to states indicate that plan outlays to the three most educationally backward states has been declining. Differences also exist in state level allocations to education. For example, rich states such as Haryana allocate less to education (3.3 percent), while a poorer state like Kerala invests 6.5 percent. Therefore, the ad hoc transfer of funds does not reward or penalize states for performance in the sector (Annex 8).

Attempts have been made to target resources to states through the Operation Blackboard (OB), in which grants are provided to state governments for non-salaried inputs to lower levels of education. While this Program has had some success, targeting has not captured inter-district differences within states (UP Basic Education Project, 1993). In addition, the Center provides grants for non-formal primary education for girls and working children and improved teacher education through the creation of DIETs (District Institutes of Education and Teacher Training) (Annex 9).

Pedagogical and Institutional Impediments to Effective Utilization of Resources

Internal inefficiency has high costs in terms of optimal employment of resources. It is estimated that under present trends of enrollment, and efficiency, the cost per primary graduate is 242 dollars (Rs6,294). This is fundamentally because of low internal efficiency rates. It takes an average of 8.1 years for a student to pass through five elementary grades. If efficiency is improved, it will cost US$211 per student (6.8 year cycle). Once optimal efficiency is achieved when it would take a student only 5.5 years to complete the cycle, the cost per graduate will be 173 dollars (Rs 4,505) (National Council for Education Research and Training, 1992).

The management and organization of elementary education is decentralized. The Center has a key role in policy formulation and planning while states are responsible for the finance and management of elementary education. A 1976 amendment to the Constitution put education on the Concurrent list thus empowering central and state governments to legislate on matters related to the establishment, and maintenance of educational institutions (UP Basic Education Project, 1992). States include decentralized units at the district, block, and village level.

In 1986, a seminar on Implementation Strategies for the National Policy on Education identified that there were major organizational constraints to achieving elementary education for all. The fundamental limitations were recognized as excessive centralization, and lack of involvement of decentralized units at the district and community level. It reiterated that India was a diverse country with a population that belonged to different religious, and ethnic groups. Within this context, the lack of a bottom-up strategy was neither leading to better development nor an appropriate employment of resources. It recommended a shift to the district and community as a chief focus of decentralization, and creating accountability mechanisms. The absence of a strong information and monitoring system was also identified as an

obstacle to effective management of educational services (National Institute for Education Planning, 1986).

Conclusion

Financing of elementary education in India has been distinguished by: (i) low budgetary outlays/expenditures to education, and particularly elementary education; (ii) inequitable development between states; (iii) ad hoc transfer of central government resources to states; (iv) high internal efficiency, and a poorly co-ordinated decentralized system of education administration which does not make optimal utilization of resources. Financing a Quality Basic Education for All in India will require a multi-pronged strategy that: (i) augments budgetary allocation to education; (ii) enhances intersectoral allocation to elementary education; (iii) boosts plan expenditure, and percentage of non-plan expenditure for textbooks, and other educational materials; (iv) targets resources to educationally underdeveloped states, districts within these states, and disadvantaged groups; (v) optimally utilizes resources by improving educational quality (pedagogical), and the efficiency of educational planning and implementation (institutional).

II. THE NEW DIRECTION IN INDIAN ELEMENTARY EDUCATION: THE NATIONAL POLICY ON EDUCATION (DISTRICT PRIMARY EDUCATION PROGRAMME)

Cognizant of the problems of inequitable access, and the high internal inefficiency of education in India, in 1992, GOI, in consultation with the states, updated the 1986 National Policy on Education. The new strategy is codified in the District Primary Education Programme (D.P.E.P). The Programme builds upon implementation experience gained from basic education projects implemented in Bihar, Rajesthan, and Andhra Pradesh. The D.P.E.P is a multi-pronged approach that confronts the problems of: (i) resource mobilization; (ii) inequity; (iii) poor educational quality. Mobilization and utilization of resources will take place within a more efficient education management and delivery system. Based on national experience of implementing UEE, the National Policy drew the following conclusions:

(a) UEE was context-specific, and the exact nature of problems in elementary education varied from state to state. In states where near-universal enrollment has been achieved, quality improvements were necessary; in other states both access and equity were a problem;

(b) the contextuality of education problems entails local-level planning with disaggregated targets and decentralized planning, and management. It recognizes the importance of bottom-up planning and involving local-level institutions, i.e., teachers, parents and non-governmental organizations who will be "owners" of these educational services;

(c) resources are an critical but not sufficient condition for attaining UEE;

(d) the new Policy emphasizes a holistic plan which perceives the complexity of educational problems, particularly those related to gender, and disadvantaged groups, school ineffectiveness, and poor learning achievement (District Primary Education Programme, 1993).

In terms of financial resources, the Central Government will boost allocation to elementary education. Thirty-seven percent of planned outlays to education under the Seventh Plan (1985-90) will be spent on elementary education. Under the Eight Plan (1992-97) GOI will commit 46.8 percent of planned outlays in education on elementary education. In total, development outlay on elementary and adult education will be tripled under the Eight Plan. (India—Education for All, 1993) (Annex 10). An important shift will be made in the allocation of resources to the states. Resources will be targeted to educationally backward states with guidelines for targeting the most disadvantaged districts within these states.

The DPEP will strengthen the existing decentralized structure. Districts will take more responsibility for the management and delivery of education. Districts will be selected on three sets of criteria: (i) female literacy rates which are below the national average; (ii) demand for education as generated by the total literacy campaign, and (iii) high enrollment ratios and low dropout but poor learning achievement. After districts are selected, they will be assisted in developing education plans (India—Education for All, 1993). In keeping with the objectives of the DPEP, the formulation of the district plans will be through a process of capacity-building rather than by entrusting the job on consultants, individuals, or institutions. In recognition of the poor institutional capacity of local-level institutions, there is emphasis on capacity-building through networking with state, and central level institutions that will provide training (GOI - The District Primary Education Programme).

III. THE UTTAR PRADESH BASIC EDUCATION PROJECT

The case study of Uttar Pradesh will be used to illustrate how the **District Primary Education Program** is being operationalized in one of the least developed states of India with World Bank assistance. Uttar Pradesh is one of India's least developed states. Twenty-one percent of its population is Scheduled Caste. Per capita income is 28 percent below the average for the country. Forty-one percent of its population lives below the poverty line.

Educational Development

Uttar Pradesh is one of the most educationally backward states in India. Total literacy rate is 41.7 percent, in comparison to an All India Average of 52.1 percent. Female literacy is only 26 percent which is below the India Average of 39 percent. Gross enrollment ration is 98.5 percent but drop-out rates are high (Annex 12). At the root of the problem is a State Primary Education System that enrolls 98 percent of boys and 62 percent of girls, but loses approximately forty percent of enrolled boys and sixty percent of enrolled girls before they complete five years of education and acquire literacy skills. High drop-out rates can be attributed to poor educational quality which is characterized by: (i) poor teacher performance caused by high absenteeism, inadequate training; (ii) a difficult curriculum; and (iii) weak school management.

Financing of Education

The financial situation of Uttar Pradesh is extremely constrained. Growth of the State's own tax revenues has been slow, ranking U.P. number 13 lowest among the 15 largest states. Budget deficits have led to increased loans and indebtedness. Central government grants to U.P have been steadily expanding. Within three years (89-90 to 91-92) the contribution from grants rose five percentage points. In the education sector, the percentage share of plan expenditure for education has increased from 4.0

in 1985-90 to 4.2 percent in 1992-3. Planned outlays for the Eight Plan (1992-7) are estimated at 6.5 percent.

In addition to state resources, there are several centrally sponsored schemes, financed by the central government. During the Seventh Plan education expenditures on the schemes constituted 25 percent of State Plan spending on education. Most of these resources were focused on primary schooling, non-formal education and literacy programs.

Administrative Structure

The State has a decentralized administrative structure with administrative units at the district, block, and village level. Basic Education is the responsibility of the State Department of Education through the Directorates of Basic Education (elementary and non-formal education). The Basic Shiksha Parishad (BSP) is in charge of routine management of elementary education. The BSP receives annual grants from the UP Department of Education for this purpose. A branch of the NCERT, the State Center for Education Research and Training provides training (SCERT) to education personnel at the state level. District Institutions for Training and Education (DIETs) exist at the district level, and are supposed to co-ordinate with SCERT. The Zilla Parishad at the district level, the Khetra Vikas Samiti at the block level, the Nyaya Parishad at the Sub-Block level, and the Village Education Committees at the village level are the main administrative units at the administrative units at the block, and village level (Annex 11).

Acute centralization of management and decision-making functions, and the lack of participation at lower levels of government have been identified as institutional obstacles to an efficient basic education system. While on paper decentralized units exist at the district level (DIETs) little effort has been made to activate these institutions and involve them in the management, and delivery of basic education. Institutional arrangements at the block and village level are extremely weak. For example, there are no institutional arrangements at the block level; many blocks contain as many as 100 primary schools. In addition, schools have very little decision-making powers. This has been identified to have negative impact on the motivation of head teachers (school principals who also teach) to provide leadership, and innovate at the school level (Uttar Pradesh Education for All, 1992). The lack of a well-developed supervision, monitoring, testing and evaluation capacity has meant that there are no conduits to identify and correct problems in the current system (UP Basic Education Project, 1993).

The Project

The UP Basic Education Project has two objectives: (i) to develop the institutional capacity of the State to manage the long-term, State-wide basic education program; (ii) target financial resources to improve basic education in an initial 10 of the State's 63 districts. The Project has a strong gender-focus and will target women through the basic education improvement program.

The Government of India (GOI) has mobilized external assistance (World Bank), and is channeling these resources to the Government of Uttar Pradesh (GOUP). The GOI will provide additional support through the NCERT and NIEPA. The GOUP will direct funds to the UP Education For All Project Board, an autonomous institution set-up under the Project. This Board will direct funds to districts. Districts will have chief responsibility for administration, and management of elementary education and will direct

funds to Village Education Committees for school improvement programs, and management of female and minority scholarship programs.

Selection of Districts and Project Planning

Project districts have been selected to represent the range of initial conditions in the State, as well as the extent of female illiteracy. Eight districts have an average female literacy rate of 17 percent, well below the average female literacy rate for the state as a whole (26 percent), and for India (39 percent) (UP Basic Education Project, 1993).

Project planning was preceded by large scale sample based baseline beneficiary assessments comprising National Council of Education Research and Testing achievement tests for language and mathematics for Grades 2 and 5, field work, simple literacy tests for out of school children, surveys of teachers, analyses of school records, and focus group discussions with community members. The key findings of the surveys were used for project planning. The initial Project proposal was prepared by the Directorate of Basic Education in close collaboration with district-level staff. The Government of India provided technical assistance and on-going appraisal for the process. State-wide discussions of basic education were held at the district, block and community level in September 1992. The consultations confirmed the broad strategic approach being taken by GOUP (UP basic Education Project).

Improving Access

Three hundred thousand primary school places will be established. One hundred and fifty thousand upper primary places will be established. An additional 150,000 children will be enrolled in non-formal primary education program. Special attention will be paid to improving access in undeserved areas, and provision of schooling for undeserved groups, i.e., females, and schedules castes and tribes (UP Basic Education project, 1993).

Targeting Females

The Project will target females through overcoming supply and demand constraints to female enrolment and retention. Fifty percent of the new upper primary schools will be exclusively for girls. Improving facilities (latrines), early childhood care, provision for female teachers, and betterment in school quality will help overcome supply-side constraints. The demand-side impediments will be overcome by including Village Education Committees, and Mahila Samakhya Programs (Women's Empowerment) (UP Basic Education Project, 1993).

Targeting Scheduled Castes and Scheduled Tribes

Preference will be given to opening new schools in areas occupied by scheduled castes and scheduled tribes. The VECs will expand membership to include SC/ST females, and a special scholarship program for schedules caste girls will be implemented on a pilot basis (UP Basic Education project, 1993).

Improving Educational Quality

Poor educational quality has high costs in terms of reduced internal efficiency, and poor learning acquisition. The Project has adopted a holistic approach to educational quality improvement. It will not

only provide improved educational inputs, but strengthen the institutional, and management structure within which these inputs will be utilized.

Community Participation

Before this Project was planned, Village Education Committees had been involved in school construction. Encouraged by the positive participation of Village Education Committees (VECs) in school construction, the Project will strengthen their role and participation. To ensure that females and minority groups are represented in the Committees, the Project will expand membership to SC/STs and females. The VECs will also be granted financial responsibility and will disburse funds for school construction, and manage the distribution of scholarships. Efforts will be directed at improving the authority of VECs with respect to teachers, maintaining bank accounts, and distributing funds for educational materials. The VECs will meet monthly to discuss school performance. District and block education officers will participate in these meetings. The Project will finance training for VEC members. In addition, it will support a program of annual cash grants in the amount of Rs25,000 (US$950) to those VECs that show evidence of achievements in completing village surveys, increasing enrollments and retention in school (especially for girls and minority students). The awards would be used by the VECs for school improvement activities.

School Management

The GOUP will upgrade teachers to head teachers and appoint new head teachers. Training of head teachers will concentrate on the skills needed to provide professional supervision and support for teachers, and for working effectively with Village Education Committees, and other community organizations. School clusters will be strengthened to provide professional support to teachers, and head teachers, and to create a forum for exchange of information between school personnel.

Improving Educational Inputs

The project will support the development of the primary school curriculum to the Minimum Level of Learning (MLL) standard. Teacher handbooks, improved measures for testing and assessment, and new textbooks would be developed and tested. Efforts will be directed at eliminating gender bias in textbooks. During the later stages of the project, DIETs will work with teachers to develop supplementary reading materials which reflect local conditions (UP—Basic Education for All, 1993).

Institutional Development

Strengthening the Capacity of Existing Institutions and Developing New Institution

One of the primary objectives of the project is to enhance the capacity of institutions at the state, district, block, and community level to manage, and deliver educational services. To achieve this objective the Project will establish new institutions, strengthen, and activate pre-existing one, and provide linkages between them to ensure efficient management.

At the state level, the Uttar Pradesh EFA Project Board will be set up for the implementation of the Project. It will have two bodies: The Executive Committee, and The General Council. The Chief Minister will head the General Council, and will be responsible for periodically reviewing

implementation, and providing guidelines. The Executive Committee will be in-charge of project strategy formulation, monitoring and supervision. A new State Institute of Education Management and Training (SIEMT) will become fully operational during the life of the project, and provide 1000 person weeks of training, and complete at least five major policy studies. The SIMET will co-ordinate with national-level institutions, i.e., the National Institute of Educational Planning and Administration (NIEPA), and the National Council for Educational Research and Training (NCERT) (UP Basic Education Project, 1993).

At the District level, a District Education Project Committee will be set up under the District Magistrate. The D.E.P.C. will include people involved in the Project at the block level, teacher representatives, and non-governmental organizations. The D.E.P.C. will have primary responsibility for preparing district education plan, administrative and financial control of the project, improving access and educational quality, and implementation and monitoring of the Project. The District Institutes of Education and Training (DIETs) will be strengthened, and associated Block Resource Centers (BRC) will be established in each blocks. The BRCs will in turn support Cluster Resource Teachers, each of whom will provide continuous in-service support to teachers in 8-10 schools.

The DIETs will serve as the principal professional support agency for the work of the schools, and co-ordinate with Block Resource Centers. They will organize and provide regular in-service training for teacher trainers, head teachers, VEC members, and non-formal education instructors and supervisors. DIETS will eventually serve as centers for curriculum and materials development and evaluation studies. At the block level, a Block Education Project Advisory Committee, and a task group will be set-up to provide co-ordination at the Block level (See Annex 12 for further details on functions of units at State, District, and Block level).

Improving Information Systems for Planning, Management and Professional Support

Information is a key ingredient for the successful co-ordination between decentralized administrative units. Through the project the GOUP will improve the flow of information in four ways, through: (i) school mapping; (ii) management information system development; (iii) state-wide assessments of learning achievement; and (iv) research and evaluation studies.

The gathering and processing of information will involve a variety of institutions at the local, district, and state levels. The Village Education Committees (VECs) will be involved in undertaking household surveys. Results from this survey will be used to develop village education plan. The National Institute for Education Planning will assist in the process of micro-planning through the provision of guidelines. The MIS system will have linkages to the district level where monitoring cells would be set-up. A systematic program of assessing learning achievement will be used to monitor learning acquisition. Finally, empirical and special policy studies will capture the on-going innovations in education reform, and disseminate at the State, and National level (UP Basic Education Project, 1993). The baseline assessment studies, which were carried during the project planning stage, will be completed in all project districts by the end of the first project year, and replicated at three year intervals in order to measure project impact.

Conclusion

As was stated in the Introduction, India is a large and diverse country with complex economic, socio-cultural, and political problems. In this context, the New National Policy on Education, and the District

Primary Education Programme, as illustrated through the UP Basic Education Project, provides a more adequate framework for achieving a Quality Basic Education for All in India.

From the institutional perspective, decentralization is the most viable administrative structure for India. For example, the population of Uttar Pradesh exceeds the populations of 168 member states of the United Nations (Human Development Report, 1993). This was recognized at Independence when India was declared a Federal Republic. But, what was perhaps underestimated was the complexity of implementing such a structure. A successful implementation strategy for decentralization should: (i) analyze the role of each decentralized unit, and optimally utilize each unit; (ii) provide coherent linkages between these units; (iii) develop accountability mechanisms; (iv) redefine the role of the central government; (v) build the capacity of decentralized units to fulfill their duties.

Prior to the D.P.E.P, there were lacunas in the decentralized administrative structure. For example, district, block, and village-level organizations were not being utilized. This resulted in under-utilization of financial, and human resources at the local level, and inefficient management and administrative systems. The DPEP addresses these pitfalls, and provides a more comprehensive framework for decentralized administration. For example, it grants financial and management responsibility to local levels of government. Functions at the state-level are restricted to channeling resources to lower levels of government, state-wide monitoring and evaluation, setting state-level standards, and training. The role of the Center also undergoes a transformation as it takes on responsibility for mobilization and targeting of resources, setting national standards, and providing assistance for capacity-building. The State and Center will collaborate on capacity building, research and evaluation. Implementation of the D.P.E.P should pay special attention to capacity-building at the community and district level. A process of constant monitoring during implementation should be applied to address any problems that might surface.

A sustainable financial strategy for elementary education should: (i) mobilize additional domestic resources for elementary education; (ii) improve the internal efficiency of the elementary education system; (iii) ensure equitable distribution; (iv) diversify the sources of funding for elementary education (Verspoor, Lockheed and Associates, 1991). Prior to 1992, these issues were not being addressed in India.

The D.P.E.P. provides a more sustainable financial strategy for achieving Education for All . By adopting a strategy that is a blend of mobilization of additional resources, and decentralization, the DPEP incorporates all of the above into the Plan. Mobilization of additional resources can be achieved through increasing budgetary allocations to elementary education, and mobilizing non-governmental sources of finance. The present Strategy does both by increasing the amount going to elementary education (47 percent in the Eight Plan), and mobilizing financial and non-financial resources at the district and community levels. Communities will provide financial and human resources, and be involved in school construction. At the District level, there will be significant utilization of human resources. Both the Center and the State will target resources to elementary education, economically backward states, districts within states, and disadvantaged groups. Allocation and utilization of resources will take place within a more efficient delivery system. However, two areas need attention. First, efforts should be made to mobilize additional domestic resources for elementary education. Presently, the D.P.E.P is heavily funded by external donors. Second, more efforts should be directed at exploring non-governmental sources of finance for elementary education, particularly in districts that are not as poor as some others. An incremental approach should be adopted to tackling these problems.

Educators are increasing recognizing that teaching and learning is a complex process that requires a flexible environment to respond to the unexpected and meets local needs. Therefore, improving educational quality requires providing educational inputs (books. materials, trained teaches), and improving the participation of the school and community in the utilization of these inputs (Verspoor, Lockheed and Associates, 1991). A flexible learning environment is specially required for a country like India which is socio-culturally diverse. Prior to the DPEP, schools and communities had been not been involved in quality improvement. The DPEP provides a more holistic framework for improving educational quality by involving communities and schools, and providing educational inputs.

The problem of inequitable access to schooling is caused by the absence of quality schools, and lack of demand. This is particularly true for females, and minority groups and children from very poor households. The DPEP provides a comprehensive approach to targeting females, and minority groups by: (i) providing scholarships, (economic incentive); (ii) expanding the membership of village education committees to include women from minority groups, involving Mahila Samakhya Program (institutional development and social change); and (iii) increasing the number of female teachers, building schools in areas with high concentration of scheduled castes (pedagogical).

ANNEX 1. India

A. Percent Literate Above Age 7 (1991)			
Total	52.11		
Male	63.85		
Female	39.42		
B. Primary (Age 6-11)			Percent
1. Total cohort population (1990)	98,111,300		100
Male	50,390,900		51.3
Females	47,720,400		
Scheduled Castes (SC)	15,452,260		15.7
Male	7,936,600		51.3
Females	7,516,000		
Scheduled Tribes (ST)	7,613,400		7.7
Male	3,910,300		51.3
Females	3,703,100		
2. Primary enrollments	99,118,320		100
Male	58,094,716		59.4
Females	41,023,604		
Scheduled Castes (SC)	15,794,427		15.9
Male	9,736,924		61.6
Females	6,057,503		
Scheduled Tribes (ST)	7,868,187		7.9
Male	4,957,611		63.0
Females	2,910,576		
3. Gross Enrollment Ratios (GER)			
Total	101.03		
Male	115.29		
Female	85.97		
Scheduled Caste	102.21		
Male	126.78		
Female	80.60		
Schedule Tribe	103.35		
Male	126.78		
Female	78.60		
4. Number of Schools	558,392		(primary and upper primary combined)
5. Number of Teachers	n.a.		
6. Enrollments in Primary NFE	n.a.		

C. Upper Primary (Age 11-14)			
1. Total Cohort Population (1990)		55,372,400	100
Males		29,405,800	51.3
Females		26,966,600	
Scheduled Castes (SC)		8,721,100	15.7
Males		4,473,900	51.3
Females		4,257,200	
Scheduled Tribes (ST)		4,296,900	7.7
Males		2,204,300	51.3
Females		2,092,600	
2. Upper Primary Enrollments		33,282,999	100
Males		20,844,291	62.8
Females		12,438,708	
Scheduled Castes (SC)		4,160,526	12.4
Males		2,747,100	66.0
Females		1,412,416	
Scheduled Tribes (ST)		1,706,906	5.1
Males		1,131,388	66.3
Females		575,518	
3. Gross Enrollment Ratios (GER)			
Total		60.11	
Male		73.38	
Female		46.13	
Scheduled Caste		47.70	
Male		61.40	
Female		33.17	
Scheduled Tribe		39.72	
Male		51.33	
Female		27.50	
4. Number of Schools	n.a.		
5. Number of Teachers	n.a.		
D. Other Statistics	Male: 51%		
Drop-out, Grades I-VIII (1986/87)	Female: 67%		

Source: 1986 All India Survey

ANNEX 2. Distribution of Persons Never Enrolled as Students. By Fractile Groups, 6-11 Age Group (percent)

Fractile Group	*Rural Male*	*Rural Female*	*Urban Male*	*Urban Female*
0-20	32.88	33.51	50.64	52.48
20-40	28.12	27.22	31.27	30.00
40-60	20.30	21.08	13.78	12.50
60-80	13.87	12.95	3.51	8.91
80-100	4.83	5.24	0.80	1.11

Source: NSS (1986-87)

Children Never Enrolled, 1988 (6-11 age group)			
	Population (million)	*Never Enrolled (million)*	*Percent Never Enrolled*
Rural Male	46.5	16.4	35.3
Rural Female	41.4	22.7	54.8
Urban Male	12.4	2.0	15.8
Urban Female	10.8	2.5	22.8
All Children	111.1	43.5	39.2

Source: NSS (1986-87)

ANNEX 3. Children Dropping Out From Schools: The Primary State as Percentage of All Drop Outs by Sex, Caste/Tribe and Rural-Urban Residence

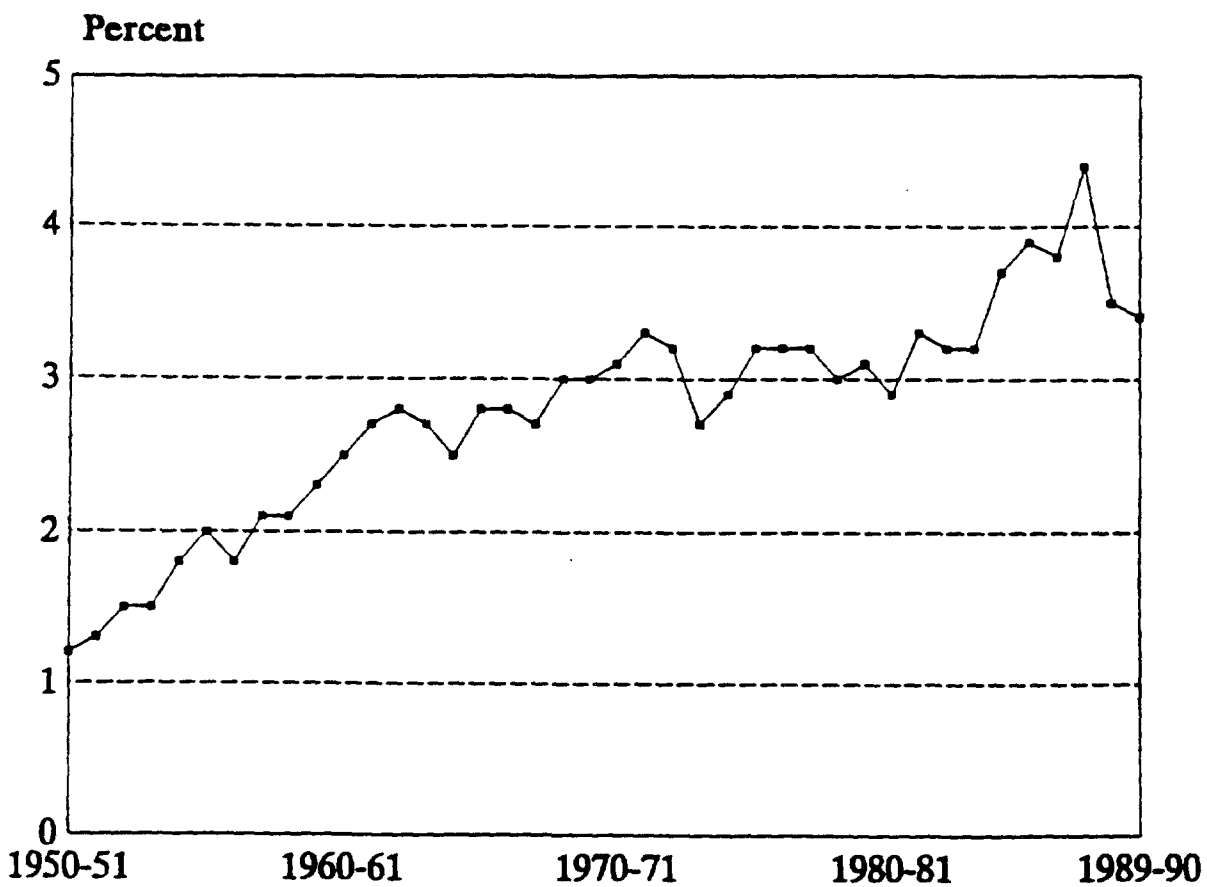
		Rural Areas			Urban Areas		
States	*Caste/ Tribe*	*Boys*	*Girls*	*Total*	*Boys*	*Girls*	*Total*
All India	SC	61.2	68.8	63.3	46.2	49.1	47.2
	ST	67.2	67.3	67.2	44.0	55.8	47.9
	Others	49.4	56.9	52.0	36.9	42.8	39.2
	All	52.6	58.9	54.7	38.0	43.8	40.4
Andhra Pradesh	SC	73.8	82.8	77.0	34.3	49.6	41.7
	ST	68.7	100.0	73.7	68.0	54.8	62.2
	Others	64.1	71.6	66.8	41.9	58.1	48.7
	All	65.7	73.6	68.5	41.7	57.1	48.2
Assam	SC	54.9	76.4	62.8	48.9	39.3	44.3
	ST	63.4	56.6	60.7	9.3	100.0	16.9
	Others	40.7	50.5	44.4	28.7	31.9	30.1
	All	44.1	53.3	47.4	29.4	32.9	30.9
Bihar	SC	64.3	100.0	67.8	59.4	43.7	57.3
	ST	59.4	49.6	58.5	28.8	100.0	32.9
	Others	52.8	78.5	59.1	52.1	62.6	55.4
	All	54.8	78.4	59.9	51.9	62.1	54.8
Jammu & Kashmir	SC	23.7	0.0	20.8	62.8	50.7	66.3
	ST	34.8	53.0	39.7	0.0	0.0	0.0
	Others	36.7	48.9	39.1	24.5	27.5	25.7
	All	36.3	49.3	39.0	29.6	28.5	30.0
Madhya Pradesh	SC	81.7	92.5	83.6	62.2	50.8	58.9
	ST	83.3	64.8	80.4	42.0	80.0	56.2
	Others	69.8	82.0	72.8	48.1	55.4	50.8
	All	74.5	80.8	75.8	50.6	55.9	52.6
Orissa	SC	59.8	70.9	62.6	50.3	65.2	52.9
	ST	70.2	81.8	72.7	38.8	30.7	35.7
	Others	62.3	75.9	67.1	36.9	52.1	42.8
	All	63.4	76.0	67.4	39.0	50.9	43.3
Rajasthan	SC	62.3	100.0	67.0	73.9	100.0	80.2
	ST	49.7	95.4	51.8	86.7	0.0	86.7
	Others	53.1	75.7	58.0	41.6	60.0	47.7
	All	53.8	78.3	58.3	47.2	63.6	52.4
Uttar Pradesh	SC	56.8	84.9	59.6	47.5	61.7	50.3
	ST	85.6	80.6	85.3	58.2	0.0	44.9
	Others	54.2	75.2	57.9	39.8	54.9	44.3
	All	55.6	76.5	58.9	41.3	55.5	45.3
West Bengal	SC	63.3	71.1	65.3	49.2	47.1	48.5
	ST	52.9	36.2	48.0	41.0	41.2	41.0
	Others	45.5	54.0	48.7	38.0	39.4	38.7
	All	50.7	56.4	52.7	39.5	40.4	39.9

Source: National School Statistics, (July 1986 - June 1987), report No. 365, Vol. I & II

ANNEX 4. Expenditure on Education as Percentage of GMP in Indiam 1950-51, 1989-90

Year	% of GNP	Year	% of GNP	Year	% of GNP	Year	% of GNP
1950/51	1.2	1960/61	2.5	1970/71	3.1	1980/81	2.9
1951/52	1.3	1961/62	2.7	1971/72	3.3	1981/82	3.3
1952/53	1.5	1962/63	2.8	1972/73	3.2	1982/83	3.2
1953/54	1.5	1963/64	2.7	1973/74	2.7	1983/84	3.2
1954/55	1.8	1964/65	2.5	1974/75	2.9	1984/85	3.7
1955/56	2.0	1965/66	2.8	1975/76	3.2	1985/86	3.9
1956/57	1.8	1966/67	2.8	1976/77	3.2	1986/87	3.8
1957/58	2.1	1967/68	2.7	1977/78	3.2	1987/88	4.4
1958/59	2.1	1968/69	3.0	1978/79	3.0	1988/89*	3.5
1959/60	2.3	1969/70	3.0	1979/80	3.1	1989/90*	3.4

Note: * Expenditure of the Department of Education only.



ANNEX 5. Sectoral Outlays in Five-Year Plans in India
(percent)

	1st Plan	2nd Plan	3rd Plan	Anni. Plan	4th Plan	5th Plan	6th Plan	7th Plan	8th Plan
Agricultural & Allied	14.80	11.80	12.70	16.70	14.70	12.30	13.70	14.30	12.70
Irrigation & Flood Control	22.00	9.30	7.80	7.10	8.60	9.80	10.00	7.50	9.50
Power/Energy	7.70	9.50	14.60	18.30	18.60	18.80	28.30	26.60	30.50
Industry & Minerals	4.90	24.10	22.90	24.70	19.70	24.30	15.80	12.50	10.80
Transport & Communications	26.40	27.00	24.60	18.40	19.50	17.40	16.10	17.15	19.60
Special Sectors									
Education	7.90	5.80	6.90	4.60	4.90	3.30	2.70	3.70	4.50
Health	5.00	4.90	2.90	3.20	3.90	3.20	3.10	3.00	3.20
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
	(196)	(467)	(858)	(663)	(1578)	(394)	(10965)	(22292)	(43410)

Note: Figures in () are Rs. in 100 millions.

ANNEX 6. Expenditure on Elementary Education, by Objects, 1982-83

Item	*Primary*	*Middle*	*Elem.*
Recurring Expenditure			
Salary of Teaching Staff	93.8	90.7	92.5
Salary of Non-Teaching Staff	2.7	3.8	3.1
Maintenance of Buildings	0.6	0.8	0.7
Maintenance of Equipment and Furniture	0.2	0.2	0.2
Apparatus, Chemicals, etc.	0.1	0.1	0.1
Libraries	0.0	0.1	0.1
Scholarships and Other Aids	0.5	1.6	1.0
Games and Sports	0.1	0.2	0.1
Hostels	0.1	0.2	0.2
Other Items	1.8	2.3	2.0
Total Recurring	100.0	100.0	100.0
Non-Recurring Expenditure			
Libraries	0.8	2.6	1.5
Buildings	60.1	44.0	53.5
Equipment	5.2	7.5	6.1
Furniture	5.7	7.6	6.5
Other Items	28.2	38.3	32.3
Total Non-Recurring	100.0	100.0	100.0
	(261)	(181)	(442)
Distribution of the Grand Total			
Recurring Expenditure	97.7	97.8	97.8
Non-Recurring Expenditure	2.3	2.2	2.2
Grand Total	100.0	100.0	100.0
	(11580)	(8211)	(19791)

ANNEX 7. Total Education Expenditure in Central and State Sectors
(Rs. 10 Million)

	CENTRAL		*STATE*		*TOTAL*	
Period	*Rs.*	*Percent*	*Rs.*	*Percent*	*Rs.*	*Percent*
1st FYP	39.8	26.0	113.2	74.0	153	100
2nd FYP	149.0	17.5	701.0	82.5	850	100
3rd FYP	322.1	19.6	1322.9	80.4	1645	100
4th FYP	464.4	8.2	5178.6	91.8	5643	100
5th FYP	891.7	9.6	8402.3	90.4	9294	100
6th FYP	2063.0	7.8	24316.0	92.2	26379	100
7th FYP	5710.5	10.7	47462.2	89.3	53173	100
8th FYP	74430.0	38.0	121566.8	62.0	195997	100

Note: 8th FYP figures are for plan expenditure alone
Source: MHRD, 1992

ANNEX 8. Education Finance: State Level

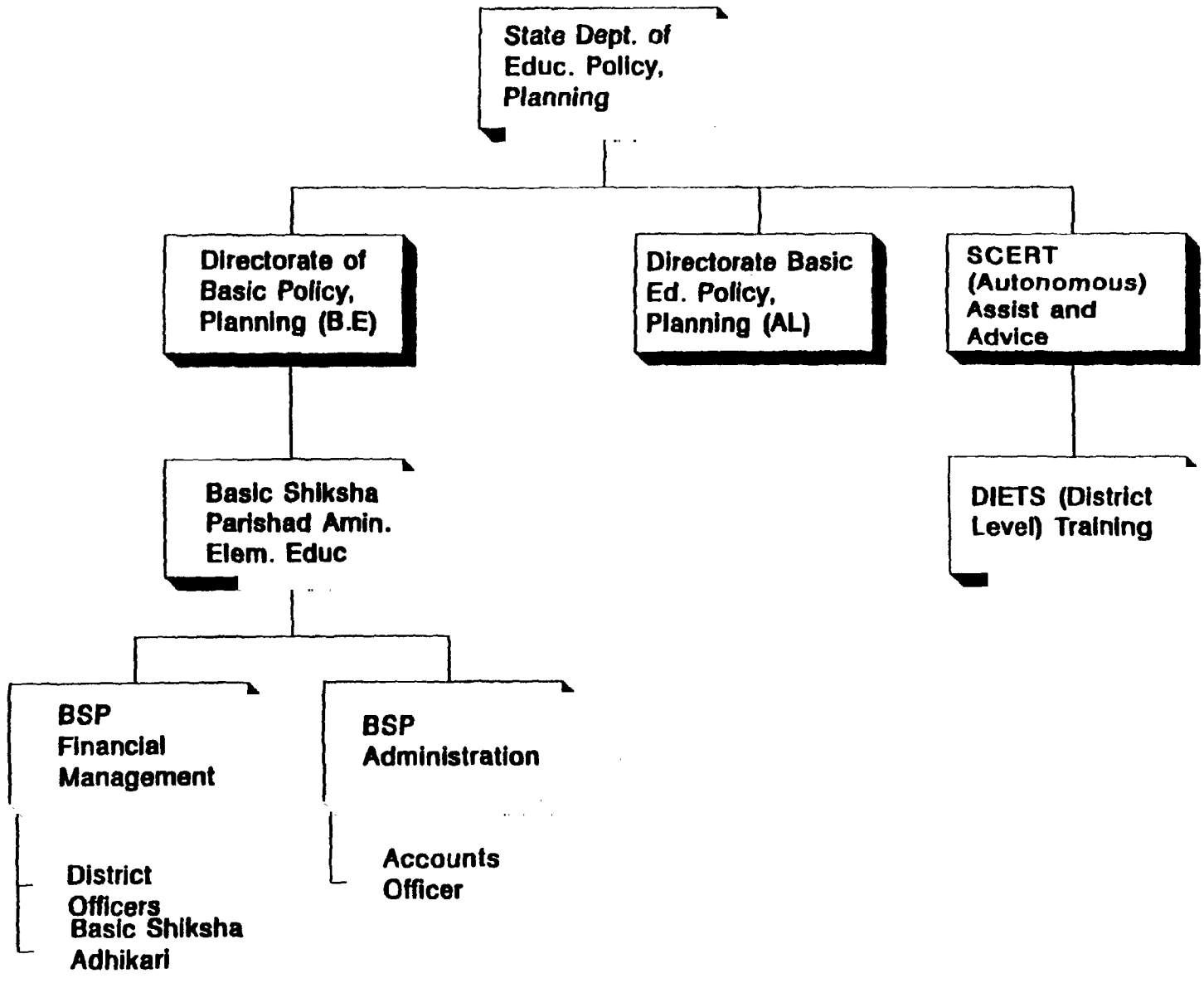
	GSDP[a] *1990/91*	*ED. AS % OF SOC. SVCS 1990/91*	*ED. AS % OF GSDP 1990/91*
Andhra Pradesh[b]	308.9	49.4	3.7
Bihar[b]	251.0	61.8	5.0
Gujarat	285.6	53.9	3.3
Haryana	127.6	45.9	2.6
Karnataka	230.7	51.1	3.6
Kerala	130.0	57.7	6.0
Madhya Pradesh[b]	250.9	46.5	3.7
Maharashtra[b]	605.9	46.5	3.7
Orissa[b]	109.8	51.2	4.9
Punjab	191.9	56.5	3.0
Rajasthan[b]	186.0	51.9	4.6
Tamil Nadu	291.7	49.3	3.8
Uttar Pradesh[b]	538.8	60.3	4.0
West Bengal[b]	344.8	57.0	4.3
Total	275.2	53.4	3.9

Note: [a] Gross State Domestic Product (Rs. billion)
[b] Educationally Backward States

ANNEX 9. Central Grants to State Governments
(Rs. billion at current prices)

	1991/92 (R.E.)			*1992/93 (R.E.)*		
	Plan	*Non-Plan*	*Total*	*Plan*	*Non-Plan*	*Total*
A. Block Grants	67.57	21.39	88.95	72.73	20.39	93.12
B. Social Services	24.34	0.94	24.28	26.52	0.97	27.48
Education, Youth Services, Sports, Art and Culture	4.50	0.87	5.38	3.90	0.86	4.76
Education	4.35	0.73	5.08	3.74	0.73	4.47
Elementary Education	2.47	0.00	2.47	2.29	0.00	2.29
Operation Blackboard	1.69	0.00	1.69	0.98	0.00	0.98
Teacher Training Program	0.39	0.00	0.39	0.62	0.00	0.62
Non-Formal Education	0.40	0.00	0.40	0.68	0.00	0.68
Other	0.00	0.00	0.00	0.00	0.00	0.00
Secondary Education	0.95	0.00	0.95	1.08	0.00	1.08
Vocationalisation of Education	0.64	0.00	0.64	0.75	0.00	0.75
Other	0.31	0.00	0.31	0.33	0.00	0.33
University and Higher Education	0.00	0.60	0.60	0.00	0.60	0.60
Improvement in Salary Scale of Teachers	0.00	0.60	0.60	0.00	0.60	0.60
Adult Education	0.31	0.03	0.34	0.32	0.03	0.35
Special Central Assistance-Border Areas	0.54	0.00	0.54	0.00	0.00	0.00
Other	0.23	0.24	0.47	0.21	0.24	0.45
Youth Services and Sports, Art and Culture	0.15	0.14	0.29	0.16	0.14	0.30

ANNEX 10. Organization and Management of Education (UP), Pre-Project



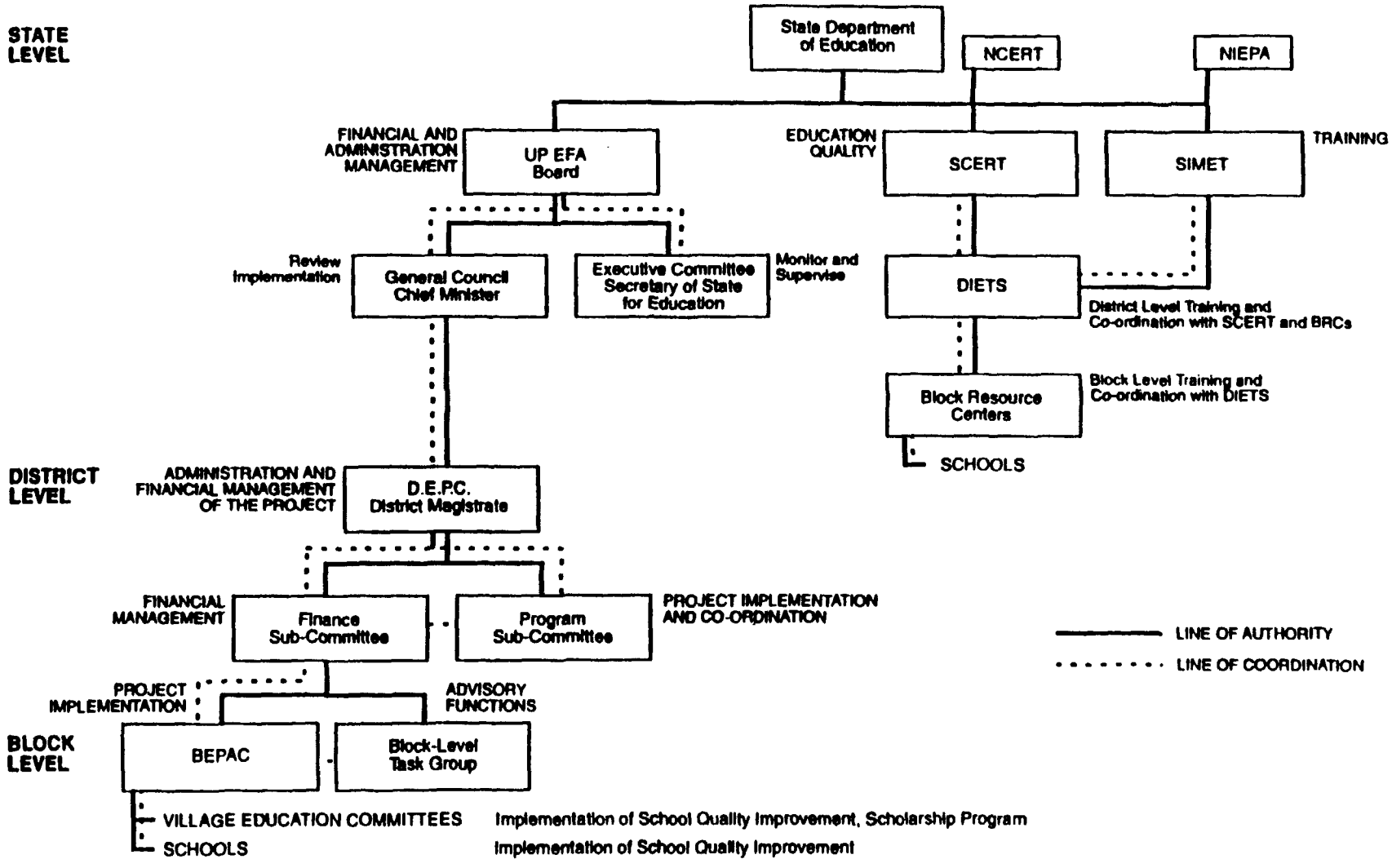
ANNEX 11. Uttar Pradesh

A.	Percent Literate Above Age 7 (1991)		
	Total	41.71	
	Male	55.35	
	Female	26.02	
B.	Primary (Age 6-11)		Percent
	1. Total cohort population (1990)	17,127,200	(100)
	Males	9,016,600	(52.6)
	Females	8,110,600	
	Scheduled Castes (SC)	3,624,100	(21.1)
	Males	1,907,900	(52.6)
	Females	1,716,200	
	Scheduled Tribes (ST)	35,900	(0.2)
	Males	18,900	(52.6)
	Females	17,000	
	2. Primary Enrollments	13,940,000	(100)
	Males	8,889,785	(63.4)
	Females	5,050,215	
	Scheduled Castes (SC)	2,429,290	(17.4)
	Males	1,753,066	72.1)
	Females	676,244	
	Scheduled Tribes (ST)	34,209	(0.2)
	Males	21,584	(63.0)
	Females	12,625	
	3. Gross Enrollment Ratios (GER)		
	Total	81.39	
	Male	98.59	
	Female	62.26	
	Scheduled Caste	67.03	
	Male	91.80	
	Female	39.40	
	Scheduled Tribe	95.28	
	Male	114.20	
	Female	74.30	
	4. Number of Schools (1991)	76,734	(GOUP data)
	5. Number of Teachers	264,713	(18% female)
	6. Enrollments in Primary NFE	1,500,000	(GOUP estimate)
C.	Upper Primary (Age 11-14)[a]		
	1. Total cohort population (1990)	9,448,100	(100)
	Male	4,993,900	(52.9)
	Female	4,454,200	
	Scheduled Castes(SC)	1,999,920	(21.2)
	Male	1,056,700	(52.8)
	Female	9,42,500	

Scheduled Tribes(ST)	19,900	(0.2)
Male	10,500	(52.7)
Female	9,400	
2. Upper Primary Enrollments	4,470,010	(100)
Male	3,240,428	(72.5)
Female	1,229,583	
Scheduled Castes(SC)	420,046	(09.4)
Male	337,523	(80.4)
Female	82,523	
Scheduled Tribes(ST)	6,987	(0.2)
Male	5,353	(76.6)
Female	1,634	
Gross Enrollment Ratios(GER)		
Total	47.31	
Male	64.88	
Female	21.15	
Scheduled Castes	21.01	
Male	31.94	
Female	08.75	
Scheduled Tribe	35.11	
Male	50.90	
Female	17.38	
4. Number of Schools	14,687	
5. Number of Teachers	95,562	(24% female)

Source: Selected Educational Statistics, 1990-91. Ministry of Human Resource Development, Department of Education, New Delhi, 1992. Estimated Figures.

ANNEX 12. Organization and Management of Basic Education in U.P.



Source: UP Basic Education Project, 1993.

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Case Studies in Financing Quality Basic Education

FINANCING BASIC EDUCATION IN BRAZIL

Per capita incomes in Brazil are among the highest in Latin America, but the rate of literacy among adults and the rate of enrollment among primary school-aged children are among the lowest in the region. Around the world, countries at similar income levels are almost invariably far ahead of Brazil on the main indices of educational development (see Table 1). The relative backwardness of the Brazilian educational system has been recognized and analyzed for more than six decades, but the problems of the system have proven remarkably durable. Policy initiatives to address problems of access and quality have recurred with depressing frequency, but with few lasting effects. The problems of the system have changed little, and are little closer to being resolved now than they were in 1930, but recent policy initiatives at federal, state, and municipio levels mark a renewed effort to tackle persistent organizational and management issues.

In the basic education system the problems include obstacles to access and retention for large numbers of children and low standards of instructional quality in schools throughout Brazil. The primary school enrollment rate has stagnated at approximately 80 percent since the mid-1970s; official enrollment estimates suggest that almost five million children in the ages of compulsory attendance (7 to 14) were not in school in 1989 (MEC, 1990, 34). More than half of all students in 1985 were enrolled in schools that offered four or fewer grades, despite the fact that eight grades of instruction had been compulsory since 1971 (Fletcher and Castro, 1986, 27). With respect to quality, per-pupil expenditures in primary schools average less than two hundred dollars per year, and many schools lack basic equipment including desks, chairs, and toilets, as well as textbooks and other instructional materials (Fletcher and Castro, 1986, 20; Xavier and Marques, 1987; Castro and Fletcher, 1986, 21, 23). In the rural Northeast fewer than half of primary school teachers have themselves completed primary school (Harbison and Hanushek, 1992, 32).

Instead of contributing to the solution of these problems and the improvement of basic education, the Brazilian school finance system tends to exacerbates the country's relative educational backwardness (World Bank, 1986; Melchior, 1987; Plank, 1990). Control over discretionary (i.e., non-salary) financial resources remains highly centralized, while responsibility for the administration of schools is almost entirely decentralized to state and local governments. State and municipio governments maintain parallel and sometimes competing networks of primary schools, and many depend on federal transfers for a large share of their revenues. Policies governing federal transfers are ill-defined, and political criteria can often supersede technical considerations in the distribution of revenues (Plank, 1990; Plank, Xavier, and Sobrinho, 1991). Mechanisms to keep track of state and local education expenditures are absent or often ineffective (Costa, 1991; Plank and Verhine, 1993).

Reliable data on Brazilian education finance are hard to come by, but the available evidence prompts three observations. First, recent estimates suggest that total public expenditure on education is equivalent to approximately 4.5 percent of GDP. This level of expenditure is comparable to the level in other developing countries, which suggests that the problems facing the educational system are not entirely attributable to scarcity of resources. Second, the share of educational expenditure allocated to basic education varies greatly across levels of the government. At the federal level approximately 70 percent of educational spending goes to the support of higher education, with less than 20 percent allocated to basic education, while states and municipios devote much larger shares of their educational resources to the support of basic education. The shares allocated to basic education by state and municipio governments have declined in recent years, especially as state university systems have expanded. Third, aggregate educational expenditures and expenditures on specific functions fluctuate significantly and sometimes widely from year to year, which renders the planning and investment prerequisite to improvement in the system virtually impossible (World Bank, 1986; Plank, 1990; Sobrinho, 1992; Gomes 1993). The system thus incorporates many of the disadvantages of both centralized and decentralized systems, and few of the advantages of either.

To address these problems, the Ministry of Education is currently pursuing a number of strategies aimed at addressing issues of access and quality. Federal transfers to states and municipios have been subjected to closer control through the application of explicit, need-based criteria, and the transfer of resources has been made conditional on the adoption of measures to increase school effectiveness and enhance teacher professionalism. The government has continued to increase the number of **Centros de Atenção Integral à Criança** (CAICs), which provide an integrated program of educational, nutritional, and health services to poor children. Full implementation of these programs would go some way toward resolving some of the most pressing problems of the basic education system.

In this paper basic education finance in Brazil is discussed, with a focus on the financing of educational quality. In the following section some indicators of educational quality that display the relative backwardness of the Brazilian educational system are presented, while in the second section the main features of the financing of basic education are described. The third section discusses options for policy reform in educational finance, including administrative decentralization, diversification of funding sources for basic education along with increased transparency and accountability in the distribution and expenditure of funds. In conclusion, the prospects for educational finance reform and improved quality in the Brazilian education system are briefly discussed.

I. THE QUALITY OF BASIC EDUCATION

The quality of basic education is poor in Brazil. More than half of all primary schools (enrolling approximately 10 percent of primary school students) comprise a single room; many of these one-room schools have no formal premises at all, and are convened in teachers' houses (Fletcher and Castro, 1986, 27). The survival of such schools is extremely precarious. A survey of schools in the rural Northeast found that one-third of all sampled primary schools disappeared between 1981 and 1983; an additional 17 percent disappeared between 1983 and 1985 (Harbison and Hanushek, 1992, 39). Many primary schools offer only two or three grades, instead of the nominally compulsory eight, and several grades may be taught by a single teacher. In urban areas primary schools are almost invariably taught in shifts, with most schools providing half a day of instruction to two shifts of students. Some schools in São Paulo serve as many as six shifts a day.

Even in well-established schools conditions are far from ideal. In a survey conducted in 1985 fewer than 30 percent of primary schools were found to be in good condition, while an equivalent number were found to be in need of major renovations. One-quarter of all primary schools lacked bathrooms, and half lacked electric light. Nearly 30 percent of all schools had too few seats for the students enrolled, and 25 percent had no desk for the teacher. Most schools in all regions lacked maps, posters, and other instructional materials (Castro and Fletcher, 1986, 20-23).

Teachers in primary schools are often poorly-qualified and poorly paid. Nearly half of all teachers in rural primary schools lack the requisite formal qualifications for their positions; approximately three and a half million students attend schools taught by unqualified teachers (Barreto, 1991). In some schools the performance of teachers on standardized tests is hardly better than that of their students (Harbison and Hanushek, 1992, 113). Teachers' salaries are low, and under constant threat from chronically high rates of inflation. In 1987 teachers in the first four grades of Brazilian primary schools were on average paid less than US$150 per month. In the rural Northeast, however, teachers' salaries averaged only US$35 per month, with some paid as little as US$10 (Barreto, 1991; Plank, 1990).[1] Low salaries contribute to frequent strikes by teachers, which further reduce the already limited quantity of instruction received by primary school students (Costa, 1990). In some regions teachers are hired and fired at the discretion of local politicians, and many or most lose their jobs after each election (Barretto, 1983; Leroy, 1986).

The consequences of these problems are seen in data on student attainment and achievement. Rates of grade repetition, overage enrollment, and drop-out are very high: more than 40 percent of all students in primary schools are enrolled in the first two grades, with 25 percent in the first grade alone (IBGE, 1989). Of students entering the first grade in 1988, only 32 percent were promoted to the fourth grade "on time" in 1991. Only 2.5 percent of those who begin primary school complete the course in eight years, and only 40 percent ever finish at all. Approximately 16 percent of children between the ages of fifteen and nineteen are enrolled in secondary schools (MEC, 1990, 42, 46). Standardized achievement tests are rarely administered in Brazil, but one study in a sample of rural schools found that students' scores fell far short of minimum performance standards (Harbison and Hanushek, 1992, 84).

Problems of instructional quality and access to schooling are closely related. Most significantly, very high rates of grade repetition in the first grade of primary school mean that repeaters occupy school places that might otherwise be available for newly-entering students. Fletcher and Castro (1986, 15) have argued that reducing the repetition rate could open up enough places in existing primary schools to accommodate all children who are now excluded. A similar argument to this effect has recently been made by Harbison and Hanushek (1992), who conclude that various improvements in instructional quality (e.g., renovation of classrooms, provision of furniture and materials) might actually pay for themselves by increasing the internal efficiency of rural schools.

The quality of inputs provided in Brazilian schools varies widely and systematically across regions, income classes, and ethnic groups, and so do educational outcomes. Schools in the relatively prosperous states of the South and Southeast spend more than twice as much per pupil as schools in the Northeast, and pay their teachers more than twice as much. As a result, the employment of underqualified teachers is far more common in the Northeast than elsewhere (see Table 2). Inequalities are observed not only across regions, however, but also between urban and rural areas within regions. Schools in urban areas

[1] Teaching jobs provide a variety of benefits beyond salary, including participation in the social security system and some influence over the distribution of school resources including food.

throughout the country are better equipped and better staffed than those in rural areas, and are more likely to be supported by state rather than municipio governments. Urban/rural inequalities are in many respects more powerful than those across regions; for example, "lay" teachers in the urban Northeast are paid more than their rural counterparts in the Southeast (Barreto, 1990, Table 32).

Inequalities of race and class are also pervasive in the Brazilian education system. Whites are approximately three times more likely than Afro-Brazilians to complete eight grades of primary schooling, and are less likely to repeat grades or drop out at all levels (Silva and Hasenbalg, 1992). Poor children of all races are less likely than richer children to enroll or to stay in school. In addition, they are more likely to be enrolled in public rather than private schools, and in schools administered by municipio rather than state governments.

In contrast, there is little overt discrimination against girls in the Brazilian education system. Females outnumber males at all levels of the system except the earliest grades, and there is no reason to suppose that the quality of instruction varies systematically by gender in primary schools (see Table 3). Discrimination against girls and women in the legal system and in the labor market are widespread and very powerful (Lovell, 1993), but it is not immediately obvious whether or how gender inequalities are perpetuated through the basic education system.

The several dimensions of inequality in the Brazilian education system tend to be mutually reinforcing. For example, Afro-Brazilians are more likely than whites to live in the Northeast, to live in rural areas, and to be poor. Similarly, the population of the Northeast is disproportionately poor, rural, and black when compared with the populations of other regions. The complex interplay of race, class, and region poses important challenges for the design of public policies aimed at reducing inequalities.

II. EDUCATIONAL FINANCE IN BRAZIL

The basic elements of the Brazilian school finance system comprise a set of Constitutional rules to govern the expenditure of general revenues, a number of revenue sources "earmarked" for educational purposes, and a variety of institutions created to accomplish specific objectives. In political rhetoric and policy statements priority in the allocation of public resources has generally been assigned to basic education, but the distribution of resources has not always reflected formal policy priorities.

Since 1934 Brazilian Constitutions have included provisions fixing the percentage of their revenues that federal, state, and municipio governments must spend on education. Under the 1988 Constitution, for example, state and municipio governments are required to spend 25 percent of their revenues from taxes and transfers on education, while the federal government must spend 18 percent (Senado Federal, 1988, Article 212). In addition, the so-called Transitional Provisions of the 1988 Constitution require all levels of the Brazilian government to direct at least half of their educational expenditures to basic education in the decade following the adoption of the Constitution (i.e., 1988-1998), in order to eliminate illiteracy and ensure universal access to primary education (Senado Federal, 1988, "Ato das Disposições Constitucionais Transitórias," Article 60).

These Constitutional rules have not always been fully effective in ensuring minimum levels of educational expenditure. The question whether the federal government is in compliance with the requirement that a designated percentage of federal revenues be spent on education has aroused considerable controversy

over the years, including a Congressional investigation in 1988 (Melchior, 1987, 102-124). It is widely assumed that state and municipio governments spend at least as much on education as they are required to do, but in the absence of effective mechanisms for reviewing public expenditure or sanctions for non-compliance it is hard to know whether this is true (Gomes, 1992a; Costa, 1991; Plank and Verhine, 1993). There is not much evidence that the Constitutional requirement that all public authorities devote 50 percent of their educational expenditure to basic education has brought about changes in existing patterns of expenditure at any level of government.

The main earmarked revenue source for basic education is the **salário-educação**, a federal wage tax of 2.5 percent that is imposed on the total wage bill of most employers (World Bank, 1986; Melchior, 1987; Plank, 1990). Specified shares of revenue from federal lotteries and oil and gas royalties have also been earmarked for education; tax exemptions and fiscal incentives are used to generate additional support for educational activities including private education and literacy training.

Revenue from the **salário-educação** must be spent on primary education, with two thirds returned to the state where the tax was collected and one third retained by the federal government for distribution among states and municipios according to criteria that are in principle equalizing. Firms may withhold their tax payments in order to maintain their own schools or to reimburse the educational expenditures of employees or their dependents. They may in addition direct their payments to private schools in order to provide tuition scholarships for the children of their employees (FNDE 1990).

The administration of the **salário-educação** has long been controversial, for two main reasons. The first is that a disproportionate share of the revenues collected under the **salário-educação** have gone to support private rather than public schools. Since 1985 firms have directed more than half of their **salário-educação** payments to private schools, to pay the tuition of their employees and dependents (FNDE, 1990; Plank, Xavier and Sobrinho, 1991).[2] The second is that **salário-educação** revenues are readily susceptible to political manipulation: revenues from the federal share of the **salário-educação** are often transferred to state and municipio governments according to political rather than technical criteria. In 1989, for example, two-thirds of the revenues collected under the **salário-educação** were distributed off-budget, for "special projects" selected at the discretion of those in charge of the Ministry of Education. The consequences are displayed in Table 4, which shows how transfers to particular states tended to rise when a politician from that state was appointed Minister of Education (see Table 4). Other earmarked revenue sources are subject to similar problems (Melchior, 1987; Plank, 1990).

A third feature of the Brazilian school finance system is the proliferation of autonomous or semi-autonomous institutions to fulfill specific educational purposes. To address the problem of adult illiteracy, for example, the military government organized the **Movimento Brasileiro de Alfabetização** (MOBRAL), a literacy campaign which was expected to reduce the number of illiterates by half between 1969 and 1972 (Passarinho, 1970). Special fiscal incentives were established, which gave MOBRAL a resource base independent from the regular education budget. The literacy campaign failed to achieve its goal; instead, MOBRAL quickly evolved into a parallel education system offering a variety of

[2] Programs under which revenues may be directed to private schools have periodically resulted in fraud. In the early 1980s firms were permitted to direct their salário-educação payments to private schools to pay tuition not only for employees and their children but for other adults and children (alunos da comunidade) as well. The result was the diversion of large amounts of revenue from the government to the support of imaginary students and even imaginary schools (Velloso 1987; Leal, 1990). The clientele of the program was once again restricted to employees and their children in 1983.

programs including vocational training, health education, and pre-schools (Cunha da Costa, 1986). MOBRAL was brought under the control of the Minister of Education in 1981, and closed down in 1985. Subsequent governments have established similarly autonomous and independently-funded institutions (**Fundação Educar, Programa Nacional de Alfabetização e Cidadania**) to take its place, however. Another important and semi-autonomous institution in the basic education system is the **Fundação de Assistência ao Estudante** (FAE). The FAE is responsible for the distribution of textbooks and instructional materials to primary schools throughout Brazil, and for the administration of school feeding programs. Like MOBRAL and its successors, the FAE's resources are obtained independently from those of the Ministry of Education; in 1987 three-quarters of the budget was funded by the **Fundo de Investimento Social**, which is under the direct control of the President's office (Melchior, 1987; FAE, 1987). Also like MOBRAL, the FAE maintains an administrative structure which runs parallel to that of the Ministry of Education, and it has expanded into a variety of areas (health education, teacher training, distribution of scholarships) that are at best peripheral to its original mission.

A third set of semi-autonomous institutions in the basic education system is the network of educational and social service centers for poor children (CAICs) inaugurated under President Collor (as CIACs) and expanded under President Franco. The premises on which this initiative is based are first, that the multiple disadvantages (educational, nutritional, medical, social) suffered by poor children must be addressed simultaneously; and second, that the educational deficit that holds poor children back cannot be overcome in the three or four hours of the typical Brazilian school day. The CAICs therefore provide three meals and a variety of social and medical services in addition to a full day of instruction. Like MOBRAL and the FAE, the CAICs represent yet another effort to address the problems of basic education by establishing a new set of institutions rather than improving the performance of the existing education system.

The establishment of autonomous institutions to pursue specific educational objectives has led to a variety of problems. The first is the diversion of large quantities of resources into the maintenance of parallel administrative structures; these resources might better be devoted to the achievement of substantive objectives. Alongside this is the burden that administrative duplication places on educational officials at state and municipio levels, who are obliged to seek funds for related educational programs from a number of different agencies. A third problem is the absence of systematic oversight over autonomous institutions, which has resulted in frequent scandals in the FAE. Finally, as with the **salário-educação**, the establishment of multiple channels for the distribution of resources to state and municipio governments lends itself to exploitation by politicians seeking to build political support at these levels.

There are a variety of reasons why the Brazilian school finance system does not ensure access to schools of even minimal quality for so many children, of which three are especially important. First, despite the incorporation in successive Brazilian constitutions of requirements that specific shares of public revenue be allocated to educational uses, the education finance system as a whole lacks effective rules to govern the distribution of resources. Moreover, such rules as are defined—including Constitutional rules—are frequently evaded or ignored, and there are few sanctions for failure to comply. Access to educational resources thus remains contingent on a host of factors that typically includes region, wealth, and political affiliation, but often excludes need or effort (Plank, 1990; Plank and Verhine, 1993).

A second reason for the failure of the school finance system to provide enough school places of acceptable quality is that the system is inordinately complex. The problems posed by the lack of "transparent" decision rules for the distribution of funds and the proliferation of funding sources are

compounded by the fact that most funding sources require state and local governments to apply for funds in support of specific projects. As a result, access to information and political influence are of tremendous value in the competition for resources. Impoverished rural municipios far from Brasília face obstacles in learning about the availability of funds from particular sources, and experience difficulties in complying with complex administrative and accounting procedures. Such municipios may consequently not gain access to financial support to which they are ostensibly entitled. In Bahia in 1988, for example, nearly 25 percent of the municipios in the state received no federal transfers, though all were entitled to them (see Table 5). To avert this possibility, many municipios employ specialized intermediaries to facilitate their access to federal transfers (Gomes, 1992b).

The third reason for the failure of the school finance system to guarantee the right to basic education is that the system is open to political manipulation at several levels. Ministers of Education steer resources to their home states, and members of the National Congress distribute scholarships and "special projects" to their electoral redoubts (see Tables 4 and 5). At the local level funds are used to reward clients and prospective supporters with administrative and teaching jobs, and with contracts for the provision of construction and other services (Barretto, 1983; Leroy, 1986; Leal, 1990; Mello e Souza, 1989). These interventions in the administration and financing of the education system undermine the quality of schooling provided, while inflating its cost.

The wide array of funding sources and the absence of rules to govern resource distribution in the Brazilian education finance system combine to diffuse responsibility, maximize administrative discretion, and minimize public accountability. The results can be seen in the poor quality of many Brazilian schools, and in the relatively low levels of educational attainment among Brazilian students.

III. POLICY OPTIONS IN EDUCATIONAL FINANCE

The Brazilian school finance system illustrates how educational finance is embedded in local and national politics. The way the system works is determined to a substantial extent by the uses to which it is put by political authorities. The changes that administrative and policy reforms by themselves can be expected to bring about in the system are therefore limited; solutions to the many problems of the Brazilian educational system will necessarily depend on broader changes in the political system, including a sustained commitment to Education for All and measures to give a more effective voice to those who are now disenfranchised in local and national politics. There are nevertheless a variety of policy reforms that have been adopted or proposed in Brazil that represent significant first steps toward increased access and improved quality in the basic education system. Four of these—administrative decentralization, diversification of revenue sources, targeting of resources to marginalized populations, and increased transparency and accountability—are discussed in the following sections.

Administrative Decentralization

As a practical matter, administrative responsibility for basic education is very highly decentralized in Brazil. State and municipio government administer separate and independent "systems" of primary schools, with minimal coordination among systems and little effective oversight from central authorities. At the same time, the federal government retains control over the largest share of discretionary financial resources for basic education, and most states and municipios rely on federal transfers to fund much of their non-salary educational expenditure (World Bank, 1986; Melchior, 1987; Plank, 1990).

The new fiscal federalism introduced by the Constitution of 1988 marks an important step toward a closer correspondence between the distribution of administrative responsibility and the assignment of control over tax bases, as does the continuing effort by the FAE to shift responsibility for school feeding programs to the local level (FAE, 1987; Gomes, 1988; Shah, 1991). Reducing the dependence of state and municipio governments on federal transfers could result in a net gain in the quantity of resources available for basic education, if it limited opportunities for political intermediation and increased the efficiency of revenue collection and expenditure. Assigning control over significant tax bases to state and municipio authorities might also serve to ensure the availability of resources to all local governments, and so increase their accountability to their constituents.

Beyond this, allowing greater discretion to local authorities in the determination of educational expenditures would make it possible to adapt schedules, curricula, and even menus in ways that might increase the propensity of local children to enroll and stay in school or improve the quality of instruction provided in local classrooms. Policies that shift additional responsibility to administrators and councils at the school level have been adopted in several states, and the pace of innovation appears to be accelerating (Plank, Xavier, and Sobrinho, 1991).

Decentralization is no panacea for the problems of the Brazilian education system, however. Indeed, decentralization will make many educational problems worse if the central government does not simultaneously expand and strengthen its role in monitoring local taxation and expenditures, equalizing the distribution of resources across and within regions, and protecting the educational interests of otherwise disadvantaged children. With respect to the first point, for example, decentralizing control over tax bases will bring about no improvements in local school systems if local tax bases are too small to support minimal quality standards, or if state and municipio governments fail to tax their constituents. The latter has historically been a problem in the rural Northeast, where municipio governments have been reluctant to impose taxes on property, preferring to rely on federal transfers as a revenue source (Shah, 1991). With respect to the second point, fiscal decentralization can increase inequalities in the availability of resources across states and municipios, both because of differences in wealth and income and because of variation in tax effort (Plank, Sobrinho, and Xavier, 1991). Finally, in the absence of central government action increasing the resources available to state and municipio governments may do little to improve the educational opportunities available to poor children, whose access to schools of acceptable quality depends on local decisions about the allocation of resources.

A policy reform even more urgent than administrative decentralization is the unification and rationalization of what are now parallel and competing basic education systems maintained by state and municipio governments (Mello e Souza, 1989). Apart from the waste of scarce resources entailed by the duplication of services, the existence of two systems encourages the evasion of responsibility by both state and municipio governments, neither of which can at present be held accountable for problems of access and quality in the basic educational opportunities available to Brazilian children. The unification of competing school systems might be accompanied by the integration of autonomous institutions providing ancillary educational services (e.g., the FAE) into the local education system, to further reduce the number of agencies with administrative responsibility for basic education.

Diversification of Revenue Sources

Efforts to diversify the sources of funds available for basic education have been rare in Brazil, apart from the "earmarking" of new tax bases (e.g., **salário-educação**, lotteries) for educational uses. The

participation of parents, communities, and business organizations in public school finance remains minimal, as virtually all educational services (including textbooks, materials, and lunches) are either provided directly at public expense or are heavily subsidized through the tax system. A growing number of states and municipios have encouraged self-help maintenance and repair projects (**mutirões**) in local schools, but the practice is not yet common (Castor, 1987). The presumption that public education is the exclusive responsibility of "the State" remains widespread.

The relatively large share of children enrolled in private schools marks an important exception to the overwhelming predominance of the public sector in educational finance (see Table 6). Private schooling perforce shifts a significant financial burden from public authorities to households and other private agencies, but the magnitude of this shift is greatly reduced in Brazil through public subsidies and tax exemptions. In the 1980s, for example, growth in the share of primary school students enrolled in private schools came about mainly in response to the provision of public subsidies to poor schools and parents, and to the regulation of the fees that elite schools were permitted to charge their clients (Plank, Xavier, and Sobrinho, 1991). There is little evidence to suggest that growth in private school enrollments has brought about a net increase in the supply of primary school places available to poor children, though it may well have produced some financial savings for the public sector.[3]

Targeting Resources to Marginalized Populations

A third strategy for improving the quality and coverage of the basic education system is to target a greater than proportional share of resources to constituencies who would otherwise be marginalized by the system. In Brazil marginalized groups include Afro-Brazilians, rural people, residents of the Northeast, and the urban poor. As discussed earlier, the categories of disadvantage are to some extent overlapping and mutually reinforcing: Afro-Brazilians are on average poorer than whites, and more likely to live in rural areas or in the Northeast; residents of the Northeast are disproportionately black, poor, and rural as compared with other Brazilians.

In Brazil efforts to target educational resources have focused primarily on regional rather than racial or income inequalities. Policies pursued by the federal government over several decades have transferred revenues from other regions to the Northeast, in education as in other sectors. More recently, the World Bank and other international agencies have directed a disproportionate share of their loans to projects in the Northeast, including EDURURAL and the so-called "**Nordestão**" (Harbison and Hanushek, 1992). Underlying these efforts is the assumption that accelerating the development of the Northeast will in turn increase the prosperity of marginalized groups within the region.

In fact, however, several decades of experience with a strategy focused on the reduction of regional inequalities have produced meager benefits for disadvantaged populations in Brazil. The income distribution has grown more unequal since 1960, and differences between Afro-Brazilians and other groups in income and status remain wide (Hoffman, 1989; Silva and Hasenbalg, 1992). The Northeast continues to lag far behind other regions on virtually all indices of social and economic development (IBGE, 1989). More direct efforts to reduce the effects of income inequality in the educational system, including the public supply of textbooks and school lunches and the construction of CAICs, have had positive but still limited effects on the educational opportunities provided to poor children.

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[3] In contrast, increased private provision at post-secondary levels has greatly increased access for young people who would otherwise be excluded from further education.

The success of a strategy that targets resources to the disadvantaged depends on political commitment to benefiting otherwise marginalized groups. Recent developments in Brazil offer basis for hope that such commitment is stronger now than it has been in the past. Policy debates have begun to turn away from a preoccupation with the control of resources to a focus on the quality of instruction provided in schools. State governments in states including Ceará and Minas Gerais have adopted reforms that promise dramatic changes in the ways in which resources are distributed and schools are administered. Municipio governments in all parts of Brazil have begun to engage in administrative reform and policy experimentation on an unprecedented scale. The Ministry of Education has devoted large quantities of resources to the construction of CAICs, and has taken steps to ensure that resources are distributed so as to reach the schools and classrooms where they are most needed. Together these developments mark a promising shift in the political system in favor of policies that could in time provide quality basic education for all Brazilian children.

Transparency and Accountability

A final strategy for increasing access and improving quality in basic education is the introduction of mechanisms to foster transparency and accountability in the educational finance system. As long as the local availability of educational resources depends significantly upon political connections and administrative sophistication, the final assignment of responsibility for the provision of basic educational services remains problematic. Similarly, in the absence of reliable information on transfers, receipts, and expenditures it is difficult to establish accountability for the performance of the basic education system, or to hold public officials responsible for the institutions under their authority. Only when the availability of funds for basic education is assured and public access to information on educational expenditures is guaranteed will the right to basic education for all acquire meaning in Brazil.

The simplest and most powerful step toward establishing accountability in the educational system would entail the institution and enforcement of binding decision rules for the distribution of federal transfers, in order to ensure that all states and municipios have sufficient resources to provide schools of acceptable quality for all local children (Plank, Sobrinho and Xavier, 1991). Some steps in this direction have already been taken; the distribution of **salário-educação** revenues has in principle been determined by a "funding formula" since at least 1981 (Gomes, 1992b; SEB/MEC, 1988; MEC, 1993). The potential effectiveness of the funding formula has often been vitiated in practice, but the current government has demonstrated a renewed commitment to allocating resources according to technical criteria including need. A second reform closely related to the first would require the timely publication of data on receipts and expenditures in state and municipio education systems, and on federal transfers, in order to facilitate public monitoring of the flow of educational resources and increase accountability in the educational system (Plank and Verhine, 1993).

For the present, however, the respective responsibilities of federal, state, and local authorities in the educational system remain undefined, and the extent to which these responsibilities have been fulfilled remains difficult to evaluate. Recent policy shifts at all levels indicate an increased commitment to improving the quality of basic education and ensuring access for all children. The institution of mechanisms for the monitoring and evaluation of public expenditures would help to ensure that this commitment is realized.

Conclusion

In a recent evaluation of a project that sought to raise the quality of primary schools in the rural Northeast, Harbison and Hanushek (1992) have argued that there is no necessary tradeoff between spending to improve quality and spending to expand access in the basic education system. Investments in the quality of schooling may be self-financing, and may even free resources to finance new school places, by reducing rates of grade repetition and drop-out and opening up places for additional children in primary schools. The value of these benefits may be quite large in some parts of Brazil, but capturing them will require political and institutional changes for which a constituency has only begun to emerge.

A shift in the structure of interests and incentives in the broader political system is therefore prerequisite to lasting improvements in the education system. Increasing the accountability of local officials by decentralizing control over tax bases and encouraging transparency in the distribution and use of educational resources can contribute to this shift, but cannot take the place of political change. Expanded participation in educational governance at both national and local levels and the enhancement of citizens' rights against those of "the State" finally represent the surest guarantees of expanded access and improved quality in basic education.

There is encouraging evidence of a shift in this direction within the Brazilian educational system. The Constitution of 1988 made the notional "right" to education actionable (um direito sujetivo) for the first time, which opens the way for citizens to demand that their "rights" be honored by public authorities (Senado Federal, 1988, Art. 208). Schools in a growing number of states are at least partly governed by school councils comprising parents, teachers, and students; in some states school principals are elected by these same constituencies, instead of being appointed by local politicians (Plank, Xavier, and Sobrinho, 1991). The present challenge is to ensure that political commitment to these and related reforms is sustained in order to bring about lasting improvements in the educational system and guarantee basic educational opportunities for all Brazilian children.

Table 1. Development Statistics, Brazil and Comparable Countries, 1990

	Per Capita GNP (US$)	*Life Expectancy (years)*	*Adult Literacy (percent)*	*Net Primary Enrollment (percent)*
Brazil	2,680	66	81	84
Argentina	2,370	71	95	96 *
Mexico	2,490	70	87	100
Chile	1,940	72	93	89
Peru	1,160	63	85	95
Bolivia	630	60	77	83
Latin America	2,180	68	84	87
Poland	1,690	71	—	97
Korea	5,400	71	—	100

Note: * 1987
Source: World Bank, World Development Report 1992, pp. 218-19, 274-75.

Table 2. Comparative Education Indicators, Northeast and Brazil, 1988

	Northeast	*Brazil*
Persons 5+ (in percent)		
Literate	54.6	74.2
Persons 10+ (in percent)		
No Instruction*	36.6	19.7
1 - 4 Years	37.7	41.3
8 Years or more	14.1	23.0
12 Years or more	2.4	5.2
Enrollments		
Municipio schools	44.7	29.4
State schools	40.4	56.9
Per pupil expenditure (in US$)		
Municipio schools	28.6	52.2
State schools	67.3	146.3
Teachers' salaries (in US$)		
Urban	124.0	207.3
Rural	35.0	76.0
"Lay" teachers (in percent)		
Urban	4.6	2.7
Rural	66.0	48.4

Note: * Includes persons with less than one year of instruction
Source: Brazil, *Anuário Estatístico*, 1989, pp. 198-199; MEC (1990), p. 39; Xavier and Marques, 1987, Table 2; Barreto, 1990, Table 32; Barreto, 1991, Table 1.

Table 3. Gender Distribution of Student, 1987
(percent)

	Male	*Female*
Pre-School	50.5	49.5
Primary (1-8)	49.1	50.9
Secondary	41.5	58.5
Post-Secondary	47.4	52.6

Source: Brazil, *Anuário Estatístico*, 1989, p. 200.

Table 4. Shares of the Quota Federal Received by Selected States, 1985-1988
(percent)

	1985	*1986*	*1987*	*1988**	*Population*
Pernambuco (Marco Maciel, 1985-86)	5.7	6.6	4.1	3.5	5.2
Santa Catarina (Jorge Bornhausen, 1986-87)	2.1	3.8	5.0	3.0	3.1
Piauí (Hugo Napoleao, 1987-89)	5.4	6.1	5.3	5.9	1.8
Bahia (Carlos Sant'Anna, 1989)	6.1	9.7	6.5	7.9	7.9
Maranhão (President José Sarney)	5.7	7.9	6.5	9.2	3.4

Note: * Excluding Distrito Federal.
Source: FNDE. Salário-Educação: Séries Históricas, pp. 41-44.

Table 5. Distribution of Revenues from Salario-Educacao in Bahia, 1988

Number of municipios	367
Number receiving "standard" SE funds	230
Number receiving "special projects"	160
Number receiving both	104
Number receiving nothing	89
Total value of transfers (in millions of cruzados)	2,302
Value of "standard" transfers	773
Value of "special projects"	1,474
Mean per capita value of transfers (in cruzados)	198
Maximum per capita value of transfers	3,521
Minimum per capita value of transfers	0
Number affiliated with governing parties (PDS/PFL)	304
Number affiliated with other parties (PMDB/PTB/other)	63
Percent PDS/PFL receiving "standard" funds	.64
Percent PMDB/PTB receiving "standard" funds	.52
Percent PDS/PFL receiving "special projects"	.48
Percent PMDB/PTB receiving "special projects"	.24
Percent PDS/PFL receiving both	.31
Percent PMDB/PTB receiving both	.16
Percent PDS/PFL receiving nothing	.22
Percent PMDB/PTB receiving nothing	.30

Source: Delegacia do MEC, Salvador, Unpublished data.

Table 6. Enrollments in Private Schools, Brazil, 1960-1987
(percent)

	Primary	*Secondary*	*Tertiary*
1960	11.5	65.0	44.3
1970	9.0	40.1	50.5
1980	12.9	46.5	63.3
1985	12.1	33.3	59.2
1987	13.2	35.1	60.2
1989	14.5[a]	34.6[a]	61.5

Note: [a] Estimates
Source: Brazil, Anuários Estatísticos, various years; MEC 1990; and Levy 1986, Table 5.1.

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