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Can We Do More for Less?
A Look at the Impact and Implications of
Preschools in Cape Verde and Guinea

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**Africa Region Human Development
Working Paper Series**

Early Childhood Development in Africa: Can We Do More for Less?

*A Look at the Impact and
Implications of Preschools
in Cape Verde and Guinea*

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Foreword

One of the major challenges education policy-makers in Africa face is how to reduce inefficiencies as well as inequity in the allocation and use of financial and human resources in educational systems. Often it is found that relatively high-cost interventions do not produce the expected outcomes in terms of learning achievements, or even in keeping children in school.

Children are Africa's most vulnerable population. They are most vulnerable to risk, whether economic, environmental, geographic, political, or cultural. Thirty-six percent of the annual number of under-five deaths are African. The prevalence of malnutrition among African children is still very high, and Africa is the only region where malnutrition rates did not decline in the 1980s and 1990s. Inoculation rates continue to lag behind the rest of the world, with about 51% of children fully immunized.

As African governments struggle to provide educational opportunities to their school-aged children, the extreme poverty of many families is a major constraint to enrolling their children in school or supporting them once enrolled. With an average primary gross enrollment ratio of 77%, and secondary enrollment ratios as low as 29% for boys and 23% for girls, education policy-makers in Africa constantly face the challenge of increasing access to schools, keeping children in school, and improving their achievement levels, all within realistic investment frameworks.

The potential positive rates of return and cost savings in terms of better school performance and health associated with interventions in the early years have received attention in the past decades. A variety of

rationales—human rights, basic needs, economic and social benefits—have been presented and documented, and in many developing countries, national early childhood care and development programs have been incorporated into the social sector investment plans. The Declaration of the World Education Forum in Dakar in 2000 stated as one of its goals to expand and improve comprehensive early childhood care and development, especially for the most vulnerable and disadvantaged children. This is not yet the case in Africa, where a very small percentage of children have access to Early Childhood Care and Development (ECCD) programs. While the benefits of ECCD are increasingly well known to policy-makers, the ability of both donors and governments to act is constrained by insufficient public-sector budgets, costs, management, and financing strategies within the African context.

Interest is growing in ECCD in Africa, and the World Bank is currently supporting ECCD and related school health and nutrition programs in more than 14 countries. Despite the recognized benefits of early interventions, many questions remain. Governments and donors are struggling with how to best serve the developmental needs of these youngest citizens, and important questions are yet to be answered. For example, how does a policy-maker ensure that the poorest, most vulnerable children benefit from ECCD? What is the responsibility and role of government in providing ECCD, and what are the optimal models in terms of providing the best outcomes at affordable and sustainable costs?

This study attempts to address these and related issues in order to extract lessons as well as implications for policy-making and to provide some guidance to education-sector decision makers. The study examines two countries in Sub-Saharan Africa: Cape Verde, which is relatively wealthy, and Guinea, which is poor. Among the lessons learned in this study are that there is demand for ECCD among households of all socioeconomic levels; that the provision of ECCD programs can reduce disparities in school readiness among children from different socioeconomic backgrounds; and that high-cost programs do not necessarily produce the best results. The study also points out some of the challenges ahead, including room for improvement in terms of efficiency, equity, and quality.

This report was prepared by Adriana Jaramillo, Education Specialist at the World Bank, and Karen Tietjen, consultant, and is based on research conducted by Bruno Suchaut from the University of Bourgogne in collaboration with the Governments of Guinea and Cape Verde. The final document bene-

fit from contributions by Marito Garcia, Marlaine Lockheed, Alain Mingat, Alan Ruby, Eduardo Velez, Adriaan Verspoor, and Mary Eming Young (all of World Bank), and David Weikart (former President of High Scope).

We thank the Government of Norway for providing the financial support to conduct this study and produce the report through the Norwegian Education Trust Fund.

We hope that this report is useful to policy-makers in Africa. We also hope that it furthers the dialogue that task managers in the World Bank and other donor organizations are engaged in to find how best to meet the educational and health needs of Africa's children and to contribute to their intellectual, physical, and emotional development.

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This report was prepared by Adriana Jaramillo and Karen Tietjen, with special contributions from Marlaine Lockheed, Alain Mingat, Alan Ruby, Eduardo Velez, Adriaan Verspoor, and David Weikart. It is based on research conducted by Bruno Suchaut, in cooperation with Salim Diallo in Guinea, and Malou Paul in Cape Verde. The authors want to thank Mary Eming Young, Marito Garcia, and Robert Prouty for their comments and suggestions. This research was conducted in cooperation with the Governments of Guinea and Cape Verde. We would also like to give special thanks to the local research teams, preschools, parents, and communities who participated in the study.

Early Childhood Development in Africa: Can We Do More for Less?

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Executive Summary

Many of the problems constraining the development of Africa's human resource base are rooted in the early childhood (0–6 years old) of its impoverished and disadvantaged populations. The early childhood years offer an unparalleled window of opportunity to exercise a positive and lasting influence on the health, intelligence, and future development of the individual child. Early childhood care and development (ECCD) is the provision of services that respond to young children's basic needs for cognitive stimulation, early learning, nutrition, and basic health care. Yet, today most children in Africa—almost 98%—grow up without benefit of ECCD programs or interventions. Moreover, the quality of many of the ECCD programs is low. Governments as well as donors are struggling with how to best serve the developmental needs of their youngest citizens.

This study examines the preschool programs—the predominant model found in the two countries—of early childhood care and development—in a comparatively wealthy country (by African Standards)—Cape Verde—and a very poor country—Guinea. The purpose of this study is to build a knowledge base about the status of ECCD in West Africa, to identify the building blocks of affordable and effective preschool or ECCD programs within an African context, and to better understand the role that governments and donors can play to support ECCD initiatives. The study develops a profile of the preschool/ECCD sector, explores the factors determining preschool enrollment, analyzes the influence of preschool on child development, identifies the programs and char-

acteristics that are most effective in promoting child development, and discusses the policy implications of these programs.

Supply: Characteristics of the preschool sector in Guinea and Cape Verde

In Guinea, about 2% of the 1.4 million children under the age of six have access to the 500 preschools in the country. Only three are public; the rest are operated through either private or NGO initiatives and most are found in urban areas. Of the nearly 1100 “preschool teachers,” only 8% have a higher education and 13% have been trained in ECCD. The most common preschool type is the “*école maternelle*” which follows the traditional French preschool model and targets children aged three to six; followed by the “*jardin d'enfants*”, which enrolls children from the age of two. The 60 Community Education Centers (CEC) are a recent initiative found in rural areas, operated by local community organizations and financed by UNICEF and Action-Aid. In all cases, parents pay fees, which range from \$US3 to \$US15 a month.

In Cape Verde, about 40% (24,000) of the children from two to six years of age are enrolled in preschool, although five-to-six year olds constitute over 46% of the preschool students. A total of 316 preschools are found in all nine administrative zones (*conselhos*), with the majority concentrated on the island of Santiago. Most of the 600 preschool personnel lack specialized training. Fifty-three percent of the preschools receive public funds, and are run by municipal governments or the National Social Protection Institution

(ICS). Twenty percent are run by the Red Cross, 10% by religious institutions, 8% by private sector entities, 7% by NGOs, and 2% by local communities.

Demand: Who goes to ECCD/preschool and factors influencing attendance

The provision of preschool education can exacerbate disparities between rich and poor children, as the wealthy are its biggest users and beneficiaries. Because children from wealthier households are more likely to enroll in preschool, they will reap the developmental benefits it provides. Meanwhile, the poorer children struggle with the inherent disadvantages associated with poverty and without the added and remedial benefits of preschool.

The double-edge sword: The gap may widen due to the type and quality of preschools affordable to different SES-level households. Wealthier children attend more expensive preschools with “academic” orientation. Even if children from poorer households have the opportunity to attend preschool, they may not benefit as much as their wealthier peers because they may not receive the same preparation for primary school, putting them at a disadvantage. *However, this gap can be narrowed as was the case in Guinea, where children from lower SES level derived greater benefits from preschool/CEC programs than their peers from the highest SES.* The fact that there is no gender bias evident in enrollments also suggests that efforts to ensure affordable, quality preschool for poor children will benefit girls as well as boys.

Lowering the price barriers to entry could benefit children and improve household welfare. Since children from poorer households do attend ECCD/preschool in significant numbers, there is little evidence to suggest that constraints other than economic would prevent lower SES households from enrolling their children in preschool, if the price were affordable. Household welfare could increase as a greater percentage of preschool students have mothers who work outside of their homes or engage in professional activity.

Impact: The effects of ECCD/preschool on child development

The gains in cognitive development associated with preschool suggest that government should encourage the provision of preschool. Preschool stu-

dents in each SES grouping in each country attain higher *raw* test scores than the control group children who have not attended preschool. Although family background exercises the most influence on scores, preschool increases the explanatory power to approximately 16 to 20%.

Preschool can have an equalizing effect on cognitive development. Failure to enroll lower SES group children in preschool may result in even wider disparities in cognitive development and school readiness skills. Vulnerable and at-risk children—whether the urban or rural poor, disadvantaged minorities, or girls—are likely both to need and to profit from the “value-added” of preschool, in order to overcome their deprived environments and enter primary school on a more equal footing with their more advantaged peers.

Government should consider encouraging the development of multiple-year ECCD programs. Public policy could facilitate multiple-year attendance—associated with higher cognitive development scores—by targeting subsidies at and encouraging the development of preschools that serve poor children, who are less likely to attend multiple years, and by offering programs that are gauged to serve the development needs of different age groups.

Preschools—particularly public ones serving all SES levels of children—should tailor their programs to suit the needs of their students or of the most vulnerable population. Guinean preschools have the greatest success in developing pre-reading or visual discrimination skills and oral language skills, while Cape Verde preschools enjoy the most success in developing basic concepts and language skills. Multiple years in preschool will increase a child’s total score. Preschool programs may need to change emphasis among basic concepts, language and reading, depending on the SES group being served, given their different performances.

Effectiveness: Programs or program characteristics that appear to be most effective in terms of child development

Not all preschool programs are equal. Various preschool programs, organizational structures, and attributes will affect child development differently, with the preschools themselves accounting for 55% of variance in Guinea and 42% in Cape Verde. There

appears to be no clear pattern in terms of the factors and/or models that make a clear difference in cognitive development. Frequently, the school characteristics will have opposite effects in Guinea and Cape Verde, indicating that preschool effectiveness is highly contextualized.

The teacher's cultural background and proximity to the school are more likely to have an impact than formal qualifications. This suggests that focused, short-term and low-cost training may be more effective.

Language of instruction in preschool must be considered carefully, and policy will differ according to country. In both Guinea and Cape Verde, the language of instruction had a significant impact on cognitive development scores. But the same variable—bilingual instruction—had different effects. The development of the child in his/her first language, the attitudes and support of the parents for the language chosen in school, and the perception of the wider community of the status of both the local and second language are to be taken into account in choosing the language of instruction.

Preschools do not need full government subsidies but will probably need some support if equity concerns are considered. Communities—even poor ones—are willing to support preschools. Parents are willing to pay fees to enroll their children, as evidenced in both Guinea and Cape Verde.

Low-cost preschools serving poor communities can be effective. Both high- and low- cost schools produced admirable (and lamentable) results. In Guinea, the lowest cost community education center (CEC) model produced highest cognitive scores. Moreover, over 70% (on average 90%) of the children in these schools came from poorer (SES 2 and SES 1) households. In Cape Verde, it was found that many schools are efficient, producing high cognitive development scores at low unit cost.

There is no single effective model of preschooling or magic bullet characteristic that will lead to child development. Further study/analysis must be conducted of what constitutes key features of the effective programs.

Conclusions and recommendations

Preschool education can be a double-edged sword that can both alleviate and exacerbate disparity. Providing preschool services can have an equalizing effect on cog-

nitive development, compensating for disadvantaged backgrounds. Even if preschool cannot entirely close the cognitive development gap between rich and poor children, a lack of preschool can certainly widen the gap in a relatively well-off country. Public policy should be formulated to emphasize the support of preschool or ECCD programs for poor and disadvantaged children. In addition to reducing disparities in school readiness among different SES levels, the provision of subsidized ECCD programs for lower income families could also free mothers to find employment, thus improving household welfare.

More and better can be done with less. High-cost programs may not necessarily produce the best results. Low-cost preschools need not sacrifice quality, as many such preschools are effective, producing high cognitive development scores at low unit costs. Traditional approaches—government-supported, highly paid teachers, formalized training, etc.—do not in themselves guarantee high cognitive development scores. Short, focused, reliable and contextualized training can be more efficient and less costly than most available formal programs. Community-based programs, such as the CECs in Guinea, appear promising, due in part to parental involvement and financing, and in part to the proximity of the locally-resident teacher, who is able to spend more time at the school. The wide variation in effectiveness of preschools, at many different price points, indicates that there are many factors that can influence a preschool's success. There should be closer examination of what make indigenous models of ECCD successful, particularly in the case of the CEC programs in Guinea, as well as in other francophone African countries where these types of initiatives are underway.

Government can play a critical and essential role in supporting early childhood care and development programs. Both the services the government provides and the policies it promulgates will depend on context and should work within a realistic investment framework. In Guinea, where preschool enrollment is low and there are scant public resources for providing ECCD programs, the government can establish a supportive policy framework that creates an environment in which private sector and community ECCD initiatives can flourish. This could take many different forms, such as supporting IEC and parental education campaigns about the importance of early childhood education and care, piloting low-cost/

community-supported ECCD models based on promising indigenous programs, creating ECCD start-up credit funds, or developing non-onerous guidelines and guidance for community programs.

Improving efficiency and equity. In Cape Verde where the public sector is already providing a significant proportion of the population with preschool services, the government role should focus on the more efficient use and distribution of public sector resources. Efforts should be made to further study the preschools that have enjoyed the greatest success at the least cost and to replicate them. Focused, ECCD-related training should be provided to public sector teachers. The redistribution of resources to benefit the poor could be effected by levying user charges on wealthier households, limiting public preschool access to poor families, or providing them with subsidies (scholarships, uniforms, nutrition or health services) to encourage enrollment.

Improving quality. Government can act to improve the quality of ECCD services available either through public- or private-sector providers. Government can help equip local organizations and parents with the knowledge of what to expect from ECCD providers in order to select or monitor their children's preschool. Government and donors should think outside the box of formal, traditional preschool programs. They should encourage and support communities to engage in the creation of ECCD services, and they should target whatever assistance is feasible to those communities that have acted to provide preschool or ECCD services.

What are the next steps in supporting ECCD in Africa? Several issues requiring further investigation are highlighted by this research, ranging from the longer-term impact of preschool on primary student performance and the elusive factors that make a preschool effective, to how best to expand access to preschools programs without raising public expenditure burdens or pricing poor parents out of the preschool market. The government of Guinea—with World Bank assistance—will initiate ECCD pilot programs in the two poorest regions of the country to provide a more in-depth and qualitative look at the features of successful programs, as well as their costs, and to replicate them within the framework suggested by this study, i.e., community-based and parent-supported centers. In Cape Verde, several of the research findings—in particular the equitable allocation of preschool resources and the effectiveness of government preschools—are subjects of the policy dialogue currently taking place between the Government and the World Bank.

Policy implications:

What can government and donors do?

- Create a supportive policy framework
- Encourage community and private sector ECCD initiatives
- Develop low-cost, effective and realistic models of ECCD
- Launch IEC and parental Education campaigns
- Work within a realistic investment framework

Introduction

Many of the problems constraining the development of Africa's human resource base are rooted in the early childhood (0–6 years old) of its impoverished and disadvantaged populations. Inadequate nutrition and health care, unstimulating child-care environments, and insufficient parenting of young children can result—in the short-term—in stunted physical, cognitive, and psycho-social development, ill health, and lack of school readiness, and—in the longer-term—in poor academic performance, low economic productivity, and anti-social behaviors as children grow to adulthood.

Numerous studies from both rich and poor countries show that early childhood care and development (ECCD) services can make a difference in the physical, intellectual, social, and emotional development of this vulnerable age group.¹ Moreover, these early interventions not only improve the immediate well-being of young children, but may manifest themselves at later stages in their lives with both social and economic benefits for the individual, his family, and society. The potential positive rates of return and cost-savings in terms of better school performance and health associated with ECCD investments are of particular importance to the public sector and its ministries of education, health, and social affairs.

The governments of several developing countries—particularly in Latin America—have acted on this knowledge and in the past two decades, have incorporated national early childhood care and development policies and relatively low-cost ECCD programs into their social sector portfolios. This is not

yet the case in much of Africa. While the benefits of ECCD are increasingly well-known to policy-makers, both government and donor ability to act is confounded by insufficient public sector budgets and concern about diverting resources from existing education and health investment priorities, as well as by lack of knowledge about the most effective approaches, costs, management, and financing strategies *within the African context*. Yet, as Africa falls further behind in the global race towards universal primary education,² the potential of ECCD to contribute to the goals of *education-for-all* becomes more significant. There is a pressing need to identify and develop models of implementation and finance that are efficient, affordable and likely to be sustained on a large scale in sub-Saharan Africa, where over 40% of the population subsist on less than \$1/day (World Bank 2000a, p. 10).

As part of the World Bank's effort to amass the building blocks needed to determine both the feasibility of and best practices for investing in early childhood care and development, the objective of this study is to contribute to the knowledge base about ECCD programs in Africa. This study examines the preschool programs (which are the predominant model of early childhood care and development) in a comparatively wealthy country (by African standards), Cape Verde, and a very poor country, Guinea. The study is based on the understanding that there is no blueprint for the implementation and support of early childhood activities, particularly in low-income African countries, and that the viability of different approaches may be largely country-specific. As it is

the first study of its kind to be conducted in the subject countries, its findings are preliminary, and it raises many questions that it cannot answer completely or definitively.

At the same time, this study attempts to extract some general guidelines that can inform educational planning efforts. The study reviews the country context in which early childhood care and development takes place, describes the range of preschool programs in operation, and begins to explore the impact of these programs on the children and the implications for their adaptation and implementation.

The study addresses five main research questions:

1. What is the overall status and profile of preschool or early childhood development programs in the targeted countries?
2. What factors determine child enrollment in preschool programs?
3. To what extent does preschool attendance influence child development?
4. What programs or program characteristics appear to be most effective in terms of child development? In other words, what types or characteristics of the surveyed preschool programs are most associated with or explain child development gains?
5. What are the policy implications of these programs in terms of beneficiaries, costs, financing, and implementation?

This study is organized into eight sections. Section 2 presents a brief background picture of early childhood care and development and its relevance to Africa. Section 3 provides a summary description of the methodology used for the study. Sections 4, 5, 6, and 7 examine the findings and policy implications from the Cape Verde and Guinea surveys, including a description of the ECCD sector and an analysis of the determinants of preschool attendance and impact on child development. Section 8 concludes with a summary of findings and principal policy implications of the research, identifies additional issues, and makes recommendations for future action. Annex 1 presents a detailed description of the study's methodology.

1. The term "Early Childhood Care and Development (ECCD)", which encompasses all the supports necessary for a child's survival, protection and care to ensure optimal development from birth to age eight (Evans *et al.* 2000), is used throughout this paper in order to place child care programs and interventions into a broader early childhood framework and to distinguish the range of early childhood programs from preschools, although the latter are the focus of the study's research.

2. Projections based on 1990 enrollment trends indicate that Africa will account for 75% of the world's out-of-school children, if no reforms are undertaken (World Bank 2000c, p. 8).

Early Childhood Care and Development Background

What is early childhood development and why is it important?

The period of early childhood has been identified as the most formative in a child's development, one that will have long-lasting—even permanent—effects on his/her adult life. From birth to age eight, a child gradually masters increasingly complex levels of moving, thinking, feeling, and interacting with people and the world around him (Evans *et al.* 2000). Although the physical development and custodial requirements of young children are universally acknowledged, less is known about the requirements for supporting the development of intelligence in young children during this period. By age six, the brain has reached 90% of adult size. Abundant evidence from diverse fields—physiology, nutrition, health, sociology, psychology, and education—shows how these early years (beginning with conception) are crucial to the development of intelligence, personality, and social behavior.

Roughly three stages of early childhood development lay the foundation for future growth. The most rapid period of brain development (cell growth and neural connections) takes place in the first two years of life. Although the structure of the brain is determined biologically and is considerably developed in the prenatal stage, a child's interaction with his/her environment will develop the critical brain connections that set the pathways for intellectual, emotional, physical, immunological, and social functions. The ability to walk, manual dexterity, and other motor skills are developed in the first two years. From ages

two through five, a child develops language skills, fundamental social skills, and the base for "learning to learn" that translates into school readiness. Character and personality are largely formed, and major social and moral values are transmitted. From ages six through eight, a child consolidates earlier learning, begins to learn conceptually and manipulate ideas, and enters the "age of reason" (Eming Young 1996; Evans *et al.* 2000).

If the child's body and brain develop well, his learning potential increases. Conversely, neglect of a child's biological and mental needs at this critical and formative stage can have a negative impact, resulting in delayed or debilitated cognitive development, stunted growth, and physical impairment. When a child's inherent physical, social, and psychological capacities are not nurtured, they wither. The quality of care during this period greatly affects the development of the child, his health, his psyche, and his capacity for future learning.

What are early childhood care and development programs?

The development process is affected by nutrition and health as well as by interaction with people and things. The provision of an enabling environment—through an active feeding process, good nutrition, healthy and safe environment, basic health care, encouragement and affection, stimulation, protection, and modeling—can help create a healthy child ready and able to learn and develop fully. However, many families, particularly poor ones, are unable to provide

all of this without aid, whether in the form of opportunity, time, information, or money. Early childhood programs and approaches can help to provide both the care and development elements, not only to increase the chances of the survival of the child but also to optimize his development.

Various terms are used, often with imprecision, to describe the services provided to children before they enter primary school. These terms, such as “daycare,” “preschool,” and “early child development,” mask the wide diversity in targeted beneficiaries, approaches, content, structure and organization of the intervention. Myers (2000b) offer a simple typology for examining early childhood programs:

- *Child care* consists of custodial actions by care givers to ensure protection, biologic survival and growth, and—less frequently—development.
- *Child development* focuses on the child’s mastery of increasingly complex levels of mobility, thought, emotion, and social relationships.
- *Early education* promotes the learning process of acquiring knowledge, skills, habits and values and is often narrowly interpreted as uniquely preparing children for primary school.

Current understanding of the process of child development argues for combining all three aspects into early childhood programs. What distinguishes today’s ECCD approach from earlier conceptualizations is that it is not limited either to “survival” or to “academic learning,” but is holistic and integrated. It is aimed at meeting the multiple needs of the child at various stages of early childhood “by taking into account health, nutrition, and psycho-social stimulation while at the same time strengthening the environment in which children live” (Evans *et al.* 2000; Myers 2000b; Eming Young 1996). A move from a system of largely separate, vertical programs to an integrated program approach to health, nutrition, and early education will create efficiencies as well as require significant institutional change (Heaver and Hunt 1995).

Early childhood care and development is the provision of services that respond to young children’s basic needs for cognitive stimulation, early learning, nutrition, and basic health care. Basic tenets of ECCD

are that child development begins *in utero*, making prenatal care indispensable; that evolving developmental needs require different curricula; that young children learn by doing and thus learn to learn; and that family well-being is essential to child development. ECCD programs recognize that school, home, and out-of-home settings are mutually influential and should include parents, families and communities to optimize child development. ECCD programs aim to build on existing positive childcare practices, structures, and organizations so that they are culturally appropriate, affordable, and sustainable (Arnold 1998; Evans *et al.* 2000).

The range of ECCD programs is not defined by a single model. Early childhood programs differ according to the age of the targeted beneficiaries, as well as the culture, context, and locus of intervention. They can encompass support given to parents or childcare providers in the home or as well as in formal settings such as a nursery or kindergarten with a defined curriculum and professionally trained teachers. ECCD programming can include strengthening parenting and care-giver skills, working with other household and community members to address specific child development needs, providing better daycare options, and providing economic support to women and families.

Why invest in ECCD?

The early childhood years offer an unparalleled window of opportunity to exercise a positive and lasting influence on the health, intelligence, and future development of the individual child. The long-term effect on development is greatest when nutritional, health, and early education interventions are combined. ECCD programs target children in the preschool years, generally seven and under, not only because this is when a child is most susceptible to intervention, but because this is a period when a child is relatively neglected, prior to the attention that goes with school and a child’s ability to do for him/herself.

A variety of rationales for investment in ECCD programs has been presented in the past decade that can be condensed into three main arguments (Myers 1995 and 2000a; Eming Young 1996; Van Der Gaag and Tan 1998). They are:

- *Human Rights* argument: That “children have a right to live and develop to full potential” has been championed by several international agencies and human rights groups, declared in a variety of official forums, and codified in international agreements such as the Convention of Rights of the Child. ECCD programs enable effective child advocacy.
- *Basic Needs* argument: Scientific evidence shows that neglect of children’s physical and mental needs during this critical period can result in delayed or impaired physical and psycho-social development. Through poverty and the destructive chain of events it activates, many families are unable to provide the care required for optimal child development and transmit the core cultural and moral values prized by society and essential to its promulgation. ECCD programs can fill the deficits in developmental inputs created by poverty and other adverse conditions.
- *Economic and Social Benefits* argument: Although the tragedy of child mortality and burden of care may fall most heavily on individual families, societies also suffer economic and social consequences from the neglect of their young children and reap the benefits of their healthy development. ECCD programs can help create more able, educated, and productive individuals who will find employment, enjoy higher incomes, suffer fewer health problems, and participate constructively in society. The ability to earn higher incomes will alleviate poverty, contribute to more equitable distribution of wealth, and promote social equity. Cost-savings will be generated through the reduced need for remedial and social welfare programs. Early childhood care and development interventions can boost the efficiency of other programs through synergies and positive interactive effects with health, nutrition, education, and women’s programs.

This last argument has received considerable attention. It is central to the debate and discussion of early childhood development as a tool for social and economic development. Myers (1996) has classified the benefits of ECCD programs by beneficiary groups.

ECCD benefits can also be summarized using a hypothetical beneficiary’s life cycle. ECCD programs may yield immediate benefits to children, but they may also produce social and economic returns over a lifetime in terms of ability to contribute to family, community, and a nation.

In the short term, during early childhood, the economic benefits due to a child’s increased psychosocial development may be realized through the reduced costs of caring for a healthier child, the increased family income contributed by a mother or family member freed from child care duties to find employment, the improved earning potential of an older sister or sibling able to attend school, and the employment provided hired care-givers.

In the medium term, during later childhood and adolescence, the child’s improved school readiness, ability to learn, and self-confidence may increase the likelihood of primary school enrollment, swifter progression through the cycle, and transition to higher levels, resulting in cost-saving from decreased school wastage (repetition and drop-out). The child also is less likely to participate in destructive behaviors (*e.g.*, delinquency and drug-use), thus reducing the need for costly remedial programs.

In the long-term, during adulthood, the ECCD beneficiary may be more likely to find remunerative employment and be more economically productive, as signified by a higher lifetime earnings stream. He may engage in more socially responsible behaviors—such as preventative health/hygiene practices, family planning, better parenting, leadership, less domestic violence, and reduced criminality—that will require fewer public (and private) resources for support, correction, or control.

Numerous claims have been made about the benefits that early childhood care and development generates. Not all have been substantiated through longitudinal studies or reaffirmed through economic analysis. Most have been conducted in wealthy, OECD countries, and their applicability to developing countries has been questioned (Van Der Gaag and Tan 1998). But a growing number of studies have attempted to isolate the impacts of ECCD programs, measure the benefits, and determine the rate of return to the investment in early childhood programs.

Several studies have linked early childhood care and development interventions to potentially cost-saving effects. For example, de-worming has had sig-

Table 2.1
Benefits of ECCD programs by beneficiary groups

Beneficiary Group	Area of Change	Indicators of Change
Children	Psycho-social development	Improved cognitive development (thinking, reasoning); improved social development (relationships to others); improved emotional development (self-image, security); improved language skills
	Health and nutrition	Increased survival chances; reduced morbidity; improved hygiene; improved weight & height for age; improved micronutrient balances
	Progress and performance in primary school	Higher chance of entering; less chance of repeating; higher learning and better performance
Adults (program staff, parents) and siblings	General health knowledge, general health attitudes and practices	Improved health and hygiene; improved nutrition (own status); preventative medical monitoring and attention; timely treatment; improved diet
	Self-confidence Relationships Employment	Improved relationships between husband and wife, between parents and older children; caregivers freed to seek or improve employment; new employment opportunities created by program; increased market for program related goods
Communities	Physical environment Social participation Solidarity	Improved sanitation; more spaces for play; new facilities; greater female participation; greater demand for existing services, community projects benefiting all
Schools and health service facilities	Efficiency	Better attention to health; changed user practices; reduced school repetition and dropout
	Effectiveness Capacity Practice and content	Greater coverage; improved ability, confidence, or organization; methods and curriculum content
Society	Health and education status Participation Productivity Delinquency Fertility Equality	Fewer days lost to sickness; a healthier population; a more literate, education population; greater social participation; a more productive labor force; reduced delinquency; reduced fertility; reduced social inequality Source: Myers 1996

Source: Myers 1996

nificant effects on children's school performance (Bundy 1997). School feeding programs have increased both enrollment and achievement (Pollitt *et al.* 1993). Low-cost ECCD programs boost the enrollment in school of older girls and increase the number of mothers who work, which augments the incomes of poor households (Lokshin *et al.* 2000). ECCD programs have been found to alleviate disadvantages experienced by young children burdened by poverty, hunger, and malnutrition (Haveman and Wolfe 1995).

However, ECCD interventions are often costly, and investment decisions by policy-makers require an analysis of the costs compared to the benefits.³

Economic analysis of the High/Scope Perry Preschool Program, which was initiated in Michigan more than three decades ago, has set the standard both for quantifying a wide range of outcomes and for cost-benefit analysis: The program followed 123 children, randomly divided into a program group and control group, from age three to age 27, collecting

information on IQ score, school performance, employment, and other aspects of well-being and social behavior. Schweinhart *et al.* (1993) reported that at age 19, the preschool participants had higher literacy test scores, and at age 27, they enjoyed higher monthly earnings, higher percentage of home ownership, higher levels of schooling, and lower percentages receiving social services, fewer arrests, and fewer out-of-wedlock births. Returns to the public over the lifetime of the participants were estimated at \$7.16 for every dollar invested in the programs.

Van Der Gaag and Tan (1998) conducted a similar analysis on a preschool program in Bolivia, although without the extended tracer study data. The program, known as PIDI, provides non-formal home-based daycare centers. Van Der Gaag and Tan calculated that the value of the productivity-related (*i.e.*, earnings) benefits exceeded the initial investment by 126%, and that the cost savings of reduced fertility (calculated in births averted) is \$190 per enrolled child, resulting in a total cost-benefit ratio between 2.38 and 3.06.

The benefits of the Preschool Feeding Program (PROAPE), a non-formal integrated preschool program serving marginal urban areas in Brazil, were defined in terms of reduced primary school repetition. The cost of producing a first grade graduate was less for PROAPE children, and the savings exceeded the per-child cost of the program (Evans *et al.* 2000). Similarly, the one-year preschool Shishu Kaksha Centers program in Nepal was found to generate \$4 million in cost savings to the government, due to reduced primary school repetition of the participants (Meyers 1998, in Evans *et al.* 2000).

These positive effects and positive benefit-cost ratios are not universally proven, however. Several analyses of the U.S. Head Start program—promoting school readiness, health and social skills of disadvantaged children—have concluded that the impact on academic performance diminishes as the child progresses through primary school and that there is “virtually no evidence” of long-term impact on measures of life success (Currie and Thomas 1995; Haskins in Edwards and Liang 1998). In a meta-analysis of the effects of preschool in West Africa (1998), Mingat and Suchaut observe that the positive influence of preschool on primary school performance is limited to the early primary grades and disappears at higher levels, particularly in countries where preschool pro-

grams only use the national (not maternal) language and focus on “socialization”. Edwards and Liang found that Mexico’s national preschool program has no impact on primary school efficiency or on maternal labor force participation, and that the high unit costs—at 132% of primary school student cost—do not justify the program as currently conceived. The authors suggest that the often neglected aspect of preschool as a “consumption good,” which offers entertainment to children and leisure time to their mothers, accounts for their popularity. Also in Mexico, but using a different sample, Velez and Prawda found that preschool does have a positive impact, but mainly among students from a low socioeconomic background.

Most studies point to the methodological challenges of isolating impact, paucity of tracer studies, lack of robust samples, and generally inadequate data. Myers (in Evans *et al.* 2000) cautions that lack of a common framework for estimating costs and calculating benefits limits the utility of ECCD program comparison. Further complicating benefit analysis is that child development is determined by “a child’s temperament, neurological integrity and impairment; immediate environment, relationships and interaction, and factors in larger social environment” which interact in complex fashions to influence developmental outcomes (Edwards and Liang 1998). Costs and benefits are specific to the political and economic contexts and the social conditions; no single best solution can be predetermined (Evans *et al.* 2000).

Does Africa need early childhood development programs?

Despite improvements in many African countries over the past decade, Sub-Saharan Africa contains 28 of the 35 countries classified by the United Nations Development Program as having low human development. This region accounts for a growing share of the world’s poor, and an increasing proportion of its citizens cannot meet their basic needs (*e.g.*, 220 million Africans live below the internationally recognized poverty line of \$1/day).⁴ The increase of poverty, drought and natural disasters, war and political conflict, and more recently, AIDS, have contributed to the spread of disease and malnutrition, and have created millions of refugees, orphans, and displaced persons (most often women and children).

The inability of governments to provide basic water, sanitation, and adequate health and education systems has done little to mitigate the misery of their populations.

Africa's problems have taken their toll on its youngest citizens. They are most vulnerable to risk, whether demographic, income, environmental, geographic, political, or cultural. One-third of the 40,000 children who die each day are African, although they account for only one-tenth of the world's children. The prevalence of malnutrition among African children is high; Africa is the only region where malnutrition rates did not decline in the 1980s. Inoculation rates continue to lag behind the rest of the developing world; only about 60% of one-year-old children are fully immunized against major childhood diseases. The onslaught of HIV/AIDS affects one in ten adults, with devastating effects on children as parents and care-givers succumb to the disease and they themselves become infected. In Namibia alone, it is estimated that 17.4% of pregnant women are HIV-positive (*Washington Post* September 2000). Ninety-five percent (about 8 million) of all AIDS orphans worldwide are found in Sub-Saharan Africa. Physical and emotional trauma caused by violence, enforced migration, and separation of families has a disturbing effect on children, undermining their opportunities for development and growth in a stable and safe environment. Currently, 60% of Sub-Saharan Africa is involved in some level of violent conflict, and 28% of the world's 12 million refugees are now in Africa.

As African states struggle to provide educational opportunities to their burgeoning school-aged population, the extreme poverty of many families prevents them from enrolling their children in school or supporting them adequately once enrolled. In 1996, 23 of 44 Sub-Saharan countries enrolled fewer than 60% of their primary school-aged population, and only 10 countries had 100% enrollment. By 2015, 75% of out-of-school children will be African compared with 33% today.

Children suffering from developmental delays or physical debilitation are less able to cope with and compensate for the inadequate learning environments of many African schools. More than 40% of African children are stunted and a third are underweight. Particularly vulnerable to illness, children miss school and are forced to drop out or repeat grades. In nearly half of 32 countries studied, one-third of the students

will not complete the primary cycle. Calculations show that 11 of 33 SSA countries spend 50% or more resources to produce a primary school graduate than in an ideal system. African students also have the weakest learning levels. A 1991 survey of fourth grade reading aptitude attributed the lowest test scores to the three participating African countries, significantly lower than other developing countries included in the study. More recently, a test revealed that average reading scores of sixth graders in four African countries ranged between 38% and 58%, showing that about half of those tested had not achieved minimum proficiency levels.

Today, most children in Africa—more than 98%—grow up without benefit of ECCD programs or interventions. And the quality of many of the ECCD programs is low. Although a wide range of ECCD programs exists, the most prevalent model is a center-based approach for children three to six years old, employing traditional teaching methods and emphasizing academic learning to serve as “grade zero” of primary school. Few programs relate to the home environment of children; rather, they tend to “isolate” the child from the parents. There is very limited coverage of the birth-to-three-year-olds. The tendency of preschool services to be consumed by wealthier families in urban areas results in increased disparities between the rich and the poor.

Nevertheless, several innovative, alternative models have been documented (Arnold 1998). In Mozambique, groups of children aged three to seven years meet for two to three hours, led by “animators” who have been chosen by parents and the community. Parents determine the educational and social activities, which take place without the shelter of a permanent school or fixed location. In Nigeria, rural market women have organized childcare facilities for themselves on market days, run on a voluntary basis with women taking turns caring for children. In Botswana, 8,000 “little teachers”—pupils in grades 1–3 of primary school—mentored preschool children in a child-to-child program. In Kenya, 70% of nearly 24,000 preschools are owned and operated by communities (Norwegian Education Trust Fund report August 2000).

These examples and others suggest that characteristics unique to Africa must be identified and factored into the design of ECCD programs and interventions. Most importantly, ECCD programs must fit within

the restricted social sector investment framework in order to be affordable and sustainable. ECCD programs must be less expensive (annual per child costs are estimated at less than \$30), building on and optimizing what exists. This suggests that greater emphasis be placed on supporting attitudinal and behavioral adjustments in African child-rearing and care-giving practices through strategic communication and outreach training, rather than on direct services, such as supplemental feeding and infrastructure. The high degree of community involvement in the Latin American and Asian ECCD programs that had positive results suggests that future efforts in Africa should be based on parental and community choice and involvement, and should blend traditional child-care practices with modern ones so that the programs reflect local cultural practices and priorities. Such non-traditional approaches mean a different, less exclusive role for the public sector and should incorporate multi-sector and decentralized implementation, including local levels of government, the private sector, NGOs, and communities. Finally, ECCD programs should build on and link to programs that are planned in complementary areas, such as school health and nutrition programs as well as women's programs.

Interest is growing in ECCD in Africa. More countries are discussing ECCD and related school health and nutrition programs with the World Bank and other donors. The World Bank currently supports 14 ECCD operations in Sub-Saharan Africa. Nevertheless, several questions have not yet been fully addressed, such as: how to ensure that the poorest, most vulnerable children benefit from ECCD; what is the desired outcome of ECCD; what is meant by low cost; what constitutes effective and appropriate program content; what is the responsibility and role of government; what are the optimal models of partnership; and what is affordable and sustainable. While this study cannot answer many of these questions, it attempts to address these and related issues in order to extract the implications for policy and provide some guidance to education-sector strategists in dealing with ECCD, particularly preschool, interventions.

3. See Van Der Gaag and Tan 1998, for a discussion of estimating the economic benefits of early childhood care and development programs.

4. Unless otherwise noted, all data derives from World Bank (2000a) and World Bank (2000c).

Study Methodology

Approach and sample selection

This study's purpose was to develop a preliminary picture of the impacts and effectiveness of early childhood programs in two contrasting African countries—Cape Verde and Guinea. It initially attempted to develop an overall profile of the early childhood development sector. However, since preschools were the predominant model of intervention in early childhood in the two countries studied, as well as the most readily accessible, this study necessarily focused on the preschool sector. Moreover, because of actual (Cape Verde) and potential (Guinea) public-sector support of preschool as an early childhood development strategy, understanding the preschool sub-sector—its programs and its impacts—is essential to sound policy development.

The study used a survey methodology to identify different programs and preschool models and to detail their characteristics. A sample of preschools was selected to identify the impact that preschool attendance, different preschool programs/models, and various preschool characteristics had on cognitive and physical development of the children who attend them. The range of existing programs in each of the countries was examined to determine the programs and characteristics that appeared to be most effective—and least costly—in supporting children's development.

A sample of preschool centers was selected in each of the countries, taking into account variability in terms of socio-economic levels, geographic distribution, and types of programs. In both Guinea and Cape

Verde, for each of the centers examined, a random sample of 15 five-year-old children enrolled in the preschool and their families were surveyed.⁵ As a basis of comparison, 10 five-year-old children from the same community and sharing similar socio-economic characteristics but not attending preschool formed the control group.

Because it was not feasible to administer a pretest in order to establish a baseline to assess the magnitude of the relative impact or “value-added” of preschool on child development, attention was paid to ensuring that the control group shared the same background characteristics as the experimental preschool group in order to eliminate a selection bias in the sample. Using the Heckman procedure, a low, non-significant inverse Mills ratio was obtained, indicating that no bias marred the sample and compensating for the lack of cross-sectional data.

Table 3.1
Country samples

	Guinea	Cape Verde
Centers	36	34
Children and their families	877	803
Preschool Group	529	490
Control Group	348	313
SES1 (% in the sample)	42%	49%
SES2 (% in the sample)	36%	36%
SES3 (% in the sample)	22%	15%

The sample households in both Guinea and Cape Verde were divided into three socio-economic groupings, according to the profession of the father or male head, with SES 1 being the poorest and SES 3 the wealthiest. Because profession is an inexact proxy for wealth and socio-economic status, occasionally SES 1 and SES 2 will display similar behaviors, or they will not be ranked in a strictly hierarchical order.

The dependent variables used in the analysis were children's cognitive and physical development. The independent variables—the factors influencing children's development—were divided into three categories. The first group comprised individual socio-demographic characteristics of the children such as age, gender, health status, socio-economic status, and family characteristics. The second group comprised environmental characteristics, such as whether parents read to the preschool-age child. The third group comprised variables related to the preschool/ECCD programs, such as student/teacher ratio, teachers' qualifications and experience, type of program offered (daycare, preschool, etc.) time dedicated to children's activities, urban or rural settings, if programs were public or private, and overall costs.

Cross-tabs and multivariate analysis were used to compare the two groups and the influence of variables in the cognitive and physical development of children. These analyses were done separately for each country. Results and discussions on the findings are presented in Sections 5, 6 and 7.

Annex 1 presents a more detailed discussion of the study methodology.

Limitations of the study

This study is an initial attempt to describe and examine the early childhood programs and preschool sectors in two countries where little previous information existed. Consequently, the reader must bear in mind several cautionary notes about the data and its interpretation, many of which are flagged throughout the text. In general, they are:

- The study is not a census of the early childhood programs or preschool sector in either country. Although the preschool sector was relatively well

documented in Cape Verde, very little information existed in Guinea. It is likely, therefore, that more preschools exist in Guinea than are documented. Moreover, because the study focused on the more readily identified preschool sector, it is likely that in both countries other interventions or community-led programs supportive of early childhood development are operating.

- Although robust, the samples used in the study are not necessary representative of the ECCD or preschool sectors. Extrapolation to the larger population must be done with caution. For example, although 22% of the families in the Guinea sample belonged to the poorest SES 3, this does not necessarily mean that this percentage would remain constant if the entire population of preschools were examined, or even if additional preschools were opened.
- The descriptive data on preschool characteristics, while broad, is not detailed enough to draw definitive conclusions about the effectiveness of certain factors. For example, while the survey documented whether a preschool had a canteen, it did not document to what extent it was operational. In addition, several of the teacher characteristics were self-reported and, therefore, subject to the usual cautions.
- The assessment of preschool's impact on children's cognitive and physical development was limited to tests of five-year-olds in the sample. The study did not attempt to assess its impact on children in primary school.
- The cost data presented is notional. The study did not examine the full range of resources required to operate the preschools and their cost implications.

5. In a few centers in Guinea, there were fewer than 15 five-year-olds born in 1995. In order to complete the sample, children born in December 1994 were included.

Supply: Characteristics of the Preschool Sector in Guinea and Cape Verde

This section provides an overview of the preschool sectors in Guinea and Cape Verde. Although the subsequent analytical sections of this study treat them together (as it is attempting to discern cross-national trends), basic descriptions of each will be presented separately. Moreover, sector description will occur on two levels. A general overview will be provided based on either government statistics or general survey information. Greater detail will be provided based on detailed sample information.

The preschool sector in Guinea

Preschool access and distribution

In Guinea, about 2% of the 1.4 million children under the age of six have access to preschool. There

Table 4.1
Basic social indicators

	Guinea	Cape Verde
Total Population	7.2 M	430,000
GNP/Capita in US	510	1330
Total Gov't expend. on ed.	11%	23%
Adult literacy rate	35%	85%
Gross Primary Enrollment	54%	118%
Net primary boys enrollment	49%	100%
Net primary girls enrollment	30%	97%

are three public preschools in the country, and all other ECCD existing programs are either private or NGO initiatives. According to a government effort to estimate the number of centers, there are approximately 500 preschool centers in the country. The vast majority of them are found in urban areas, of which more than 50% are in Conakry, the capital city. There are several types of ECCD services, ranging from day-care to preschool programs. Although the provision of this service is regulated by the Social Protection Ministry, the number of unregistered centers is unknown. The most common type is the *“école maternelle”* that follows the traditional French preschool model and targets children aged three to six. The next most common is the *“jardin d’enfants”*, whose main difference from the *école maternelle* is that it enrolls children from the age of two. The Community Education Centers (CEC) are a recent initiative, financed by UNICEF and Action-Aid, concentrated in rural areas of the two poorest regions (Haute Guinée and Basse Guinée). The 60 CECs that have been established are operated by local community organizations.

Preschool provision

As noted earlier, the provision of preschool services is mainly private. Of the 460 centers surveyed in the first stage of this study more than 50% are *écoles maternelles*, 26% are *jardin d’enfants* and 4% are Community Education Centers (CEC). The *écoles maternelles* and *jardin d’enfants* are privately funded and run initiatives, and the CECs are a recent UNICEF and NGO supported program. In all cases, parents

pay fees, which range from \$US3 to \$US15 a month. As a point of reference, the average primary school teacher salary in Guinea is approximately \$US150 and the GNP per capita is US\$510.

Preschool personnel

There are approximately 1100 “preschool teachers” in Guinea, with a wide variety of training/experience, ranging from none to high school with a few, only 8%, having a higher education level. The vast majority has not received ECCD-related training; about 13% have been trained as “*monitricas*” in the National Teacher Training Colleges. There are no ECCD-related training institutions in the country, with the exception of isolated NGOs that provide short courses for their personnel.

Preschool students

About 75% of centers take children from ages three to six years, and a small number of them take children from the age of two. Some take even infants. Most of the centers take both boys and girls, and the average for the preschool enrolled population is 52% boys. Nevertheless, the study found geographical differences between girls and boys enrollment rates. In the Haute Guinée region, where access to preschool is considerably lower than for the other regions, the percentage of girls enrolled was 6–11 points lower than that of boys. Table 4.2 shows the characteristics of the sample in Guinea.

The preschool sector in Cape Verde

Preschool access and distribution

Preschool coverage in Cape Verde compares favorably with other African countries, and with Guinea in particular. The preschool gross enrollment rate is estimated at around 40% or 24,000 children. According to government data, a total of 316 preschools are found in the nine administrative zones (*conselhos*) and on all

10 islands comprising the country. Nearly 60% of preschools are concentrated on the island of Santiago (and in the zone of Praia), corresponding to population density.

Preschool provision

Preschools are operated and financed by a variety of organizations in Cape Verde. Half of them (53%) receive public funds and are run by municipal governments. Thirteen percent of all public ones are run by the National Social Protection Institution (ICS). Of those privately funded, 20% are run by the Red Cross, 10% by religious institutions, 8% by private sector entities, 7% by NGOs, and 2% by local communities.

Preschool personnel

Preschool personnel number less than 600 in the country. Preschools are staffed by three categories of personnel: instructors (*monitoras*), educators (*educadores*) and assistants (*orientadoras*). Assistants, with no special training in early childhood education, predominate in the preschools, accounting for 88% of personnel. Instructors, accounting for 11%, have received training from the ICS. The six educators, representing only 1% of personnel, have been trained as professionals.

Preschool students

Children from two to six years of age are eligible for preschool, although it appears that some preschools accept younger children and even infants. However, children aged five to six years constitute more than 46% of the preschool students.

Section 2 provided definitions of ECCD and other related terms. In order to simplify the discussion that follows, the term “preschool” will be used in a generic way, to refer to the centers surveyed. Table 4.3 summarizes the average characteristics of the sample in Cape Verde.

Table 4.2
Characteristics of preschools in Guinea

Characteristics of the Centers	Ecoles Maternelles	Community Centers	Jardins d'enfants
ORGANIZATION			
Average number of children	90.0	62.6	104.6
% of children less than 3 years of age	23	10	12
% of children less than 5 years of age	33	43	34
% of girls	46	50	50
Average number of teachers	2.9	1.4	3.6
Average of non-teaching personnel	1.1	0.1	1.1
Student/teacher ratio	1 / 31	1 / 48	1 / 29
% of male teachers	56	75	60
EQUIPMENT			
% with cafeteria	39	0	60
% with a courtyard	91	100	100
% with play yard and games available	52	37	60
CHARACTERISTICS OF TEACHERS			
Average age	33	35	35
Average years of experience	4	3	8
Average hours/week of work	27	25	24
Average years of schooling	12.9	11.2	14.8
% of teachers that lived in the school area	52	100	40
% of teachers chosen teaching carrier	69	37	40
EDUCATION ASPECTS			
% teaching in French	30	0	20
% teaching in local language	0	12	20
% bilingual teaching	70	88	60
% time for concept learning activities	31	35	32
% time for expression/play activities	46	45	50
% time for social activities	23	20	17
COSTS			
Source of funds	Families	Communities N.G.O.	Families
Average monthly fee (Guinean Francs)*	6860	875	4780
Average teacher salary (Guinean Francs)	66750	52500	72150
Average unit monthly cost (Guinean Francs)	9163	2049	8240

* 1 \$US= 1300 GF

Table 4.3
Characteristics of preschools in Cape Verde

Characteristics of Centers	Public	Private	N.G.O	Community	Religious
ORGANIZATION					
Average number of children	78	114	62	97	60
Average number of teachers	2.9	5.3	2.6	2.8	4.0
Average of non-teaching personnel	1.8	2.7	1.0	0.8	1.0
Student/teacher ratio	26.9	21.6	24	34	17.9
EQUIPMENT					
% with a courtyard	62	67	47	50	100
% with kitchen	56	33	14	83	50
% with cafeteria	75	0	43	33	50
CHARACTERISTICS OF TEACHERS					
Average age	35.0	31.3	30.4	37.5	51.5
Average years of experience	9.5	9.3	8.2	11.5	21.0
Average hours/week of work	26.7	25.6	31.3	24.8	32.5
EDUCATION ASPECTS					
% main objective school readiness	87	33	57	17	0
% bilingual teaching	75	67	86	68	100
% time for concept learning activities	31	34	31	28	31
% time for expression/play activities	41	46	43	39	42
% time for social activities	22	20	21	22	20
COSTS					
% of parents that pay school fees	68	94	76	79	97
Average teacher salary (ESC. CV)*	12200	6600	10200	14400	24900
Average unit monthly cost (ESC. CV)	599	341	633	362	1025

* 1\$US=1100 ESC.CV

5

Demand: Who Goes to Preschool and Factors Influencing Attendance

The story

In the previous section, we saw that access to preschool is extremely low in Guinea and extraordinarily high in Cape Verde (compared with African averages). Among children aged 3–6, less than 2% in Guinea and around 40% in Cape Verde attend preschool. Despite this wide disparity in preschool enrollment between the two countries, there are notable similarities in terms of the characteristics of those children that attend preschool and those that do not. This section explores these similarities and discusses some of the policy implications associated with them. Table 5.1 summarizes some of the data discussed below.

Wealthier children attend preschool.

In both Guinea and Cape Verde, children from the highest SES group were more likely to be enrolled in preschool. In Guinea, the probability of SES 3 children attending preschool was 20% more likely than SES 1 children. In Cape Verde, the probability of SES 3 was 22%. Moreover, greater percentages of SES 3 children have attended more than one year of preschool. In Guinea, 25% of the SES 3 children attended multiple years of preschool compared with 18% in SES 1 and 8% in SES 2. In Cape Verde, 45% of SES 3 children attended multiple years compared with 23% in SES 1 and 19% in SES 2.

Other variables also underscore the positive relationship between family SES and preschool attendance. Parental education and literacy, contributing to higher

SES level—are higher for preschool students. In Cape Verde, female-headed households, most likely poorer, are less likely to enroll their children in preschool. And households in Cape Verde that require their young children to perform domestic tasks are 8% less likely to enroll their children in preschool. A similar relationship was found in Guinea, although it was not statistically significant.

Wealthier children attend “better” preschools.

Socio-economic status affects household selection of preschool. In both countries, a greater percentage of the wealthiest SES 3 group children attended the more expensive schools. (Whether this resulted in greater effectiveness will be discussed in a later section.) In Cape Verde, 83% of SES 3 children were enrolled in the more expensive schools, compared with 44% of SES 2 children, and 61% of SES 1 children. The same pattern was found in Guinea: 52% of SES 3 children attended the pricier preschools, contrasted with 26% of SES 2 children and 41% of SES 1 children. Oddly, the poorest SES was more likely to enroll in more expensive schools than the better-off middle SES group. To what extent this is an artifact of availability is unclear.

Wealthy households were also more likely to opt for preschools that had an academic orientation, rather than a play-base or daycare orientation. The former institutions emphasize the acquisition of academic skills, such as reading, writing, language, and math, while the latter institutions focus on games, child entertainment and, quite simply, babysitting. In Guinea, 62% of the SES 3 group children attended such

Table 5.1
Probability of preschool attendance

Selected Variables*		Guinea (n=877)		Cape Verde (n=803)	
Reference Variable	Active Variable	Coefficient	t	Coefficient	t
Boy	Girl	+0.09	n.s.	+0.14	n.s.
Family with <5 children	Family with >5 children	-0.16	**	-0.64	***
Mother is housewife	Mother works outside home	+0.06	n.s.	+0.44	**
Illiterate mother	Literate mother	n.d.		+0.42	n.s.
Parents are a couple	Mother is alone	n.d.		-0.47	**
No/few household tasks by child	Household tasks by child	-0.12	n.s.	-0.38	**
Low household SES (SES 1)	Middle SES (SES 2)	+0.31	***	-0.21	n.s.
	High SES (SES 3)	+0.82	***	+0.98	***
Child seldom ill	Sometimes ill	-0.03	n.s.	n.d.	
	Usually ill	-0.08	n.s.	n.d.	
Parents do NOT read to child	Parents read to child	+0.10	n.s.	n.d.	
Constant		+0.05	n.s.	+0.32	***
D of Sommers		0.28		0.33	

n.d.: no data n.s.:not significant *:significant to 10% **:significant to 5% ***:significant to 1%
*Year and month of birth variable not presented in table.

schools, followed by 59% of SES 1 and 49% of SES 2. In Cape Verde, 73% of SES 3 children were enrolled in academic program preschools, compared with 15% of SES 1 and 2.

Preschool selection according to quality variables presents a mixed picture, although some clear patterns stand out. SES 3 children in Cape Verde were twice as likely (30%) to have more highly qualified teachers than the lower SES groups (15%). However, the mid-level SES 2 appeared to benefit marginally more from “better equipped” schools (with playgrounds and dining halls) and bilingual instruction. In Guinea, both the poorest and the wealthiest children had formally qualified teachers; a notably greater percentage of SES 2 children were enrolled in schools with lower teacher qualifications. (See Section 7 for a discussion of teacher qualifications.) This is largely due to the prevalence of the CEC model that serves the rural communities where SES 2 predominates and accounts for nearly half of this group’s enrollments. In contrast, about three-fourths of the poorest and wealthiest groups are enrolled in daycare programs.

In Cape Verde, the greatest number of children are enrolled in public preschools. While NGO-run and community preschools also provide services to the lowest and middle groups, the wealthiest SES group is much more likely to send its children to private—and more costly—preschools.

Childcare may also be a factor in preschool enrollment.

The poorest SES group exceeds the middle SES group in multiple years of preschool enrollment, probably because both parents must work. A greater percentage of preschool students have mothers who work outside of their homes or engage in professional activity. In Cape Verde, children whose mothers work outside of home are 9% more likely to attend preschool, although in Guinea the positive correlation was not statistically significant. Nonetheless in both countries, the percentage of students who attend multiple years of preschool increases notably over those attending only one year when their mothers

Table 5.2
Preschool attendance by SES (%)

Preschool Attributes	Guinea (n=529)			Cape Verde (n=490)		
	SES 1	SES 2	SES 3	SES 1	SES 2	SES 3
SCHOOL COST						
—Low	59	74	48	56	39	17
—High	41	26	52	44	61	83
EDUCATIONAL MODEL						
—Academic	59	49	62	53	47	74
—Games/nursery	—	—	—	47	53	26
QUALITY FACTORS						
—Low pupil: teacher ratio	35	31	33	30	30	30
—Highly qualified teachers	42	27	40	15	15	30
—Well-equipped school	11	03	11	22	28	24
—Bilingual instruction	75	83	74	75	78	73
PRESCHOOL STRUCTURE						
—Ecole maternelle	75	45	71	n.a.	n.a.	n.a.
—CEC	09	49	07			
—Jardin d'enfants	16	06	22			
PRESCHOOL INSTITUTION						
—Public	n.a.	n.a.	n.a.	51	41	41
—Private				03	02	35
—NGO				23	25	09
—Community				20	20	11
—Religious				03	12	04

work. In Cape Verde, 53% of children who attended more than one year of preschool had a working mother, compared with 37 who attended only one year. Likewise in Guinea, 54 of children with working mothers attended multiple years of preschool, compared with 32% who attended for only one year. Children from larger families are less likely to attend preschool, possibly because older siblings are tasked with childcare.

Girls have an equal chance at preschool attendance.

Unlike higher levels of education, gender does not appear to be a major determinant of preschool enrollment. In contrast to primary school, where the gross primary enrollment of boys exceeds that of girls by 19% in Guinea and by 3% in Cape Verde, the percentage of girls enrolled in the preschool samples investigated modestly exceeds that of boys. In Guinea, the partici-

pation rate of girls in preschool is slightly more than boys at 56% for both single-year and multiple-year attendance. In Cape Verde, girls represent 53% of children enrolled in one year of preschool and 55% of children enrolled in more than one year. The lack of gender

Girls' preschool participation in Guinea

The survey of 460 preschools (comprising 26,652 children) revealed that co-education is the predominate model and near gender parity prevails in most schools. Overall, girls account for 48% of the students and the per school gender distribution is strongly correlated (Brave-Pearson $r = +0.86$). Why this is so is not clear. Analysis found little relation between the proportion of girls enrolled in preschools and preschool predominately staffed with female teachers, contrary to findings at the primary school level in Guinea and other African countries. There is, however, some variation according to region, with the lowest female participation rate in Haute Guinée and the highest in Moyenne Guinée.

disparity at this level has two possible explanations. First, the small percentage of parents (in Guinea) who enroll their children in preschool may already be highly motivated to educate their daughters, thus biasing the sample. Second, preschool enrollment may represent a consumption decision by parents to obtain childcare to free them for work or leisure, rather than an investment decision about the benefits and the positive returns captured later in terms of increased educational attainment. Girl children, as well as boy children, equally require care, although they may not be seen to equally require schooling.

Some policy implications

The provision of preschool education can exacerbate disparities between rich and poor children, as the wealthy are its biggest users and beneficiaries.

Because children from wealthier households are more likely to attend preschool, they will reap the developmental benefits it provides (discussed in later section). The interactive effect between (1) higher socio-economic status and related variables, such as parental education and literacy, which is well-documented in the literature as a major explanatory factor in child development and educational attainment, and (2) preschool attendance, which improves cognitive development can widen the gap between wealthier and poor children, making the former more ready for primary school and contributing to their chances of eventual academic success. Meanwhile, the poorer children struggle with the inherent disadvantages associated with poverty and without the added and remedial benefits of preschool, because their parents are less able or inclined to enroll them.

The gap may widen due to the type and quality of preschools affordable to different SES-level households.

Even if children from poorer households have the opportunity to attend preschool, they may not benefit as much as their wealthier peers because of the (ostensibly) lower quality schools they are more likely to attend. Preschool for poorer children appears to focus more on childcare and less on academic preparation.

While there is abundant evidence that preschool programs must combine physical, mental, and emotional stimulation and that emphasis on primary school academic competencies is premature for young children, programs that provide basic conceptual and pre-reading and writing skills can enhance school readiness. Poor children may not receive the same preparation for primary school, putting them at a disadvantage. [Note that this study did not look at the impact of different programs on primary school student success.] The fact that there is little gender bias evidenced in enrollments also suggests that efforts to ensure affordable, quality preschool for poor children will benefit girls as well as boys.

Public policy can alleviate these disparities through progressive policies aimed at lowering the price barriers to preschool entry for poor families and thereby improving household welfare.

Since children from poorer households do attend preschool in significant proportion, there is little evidence to suggest that constraints other than economic ones would prevent lower SES households from enrolling their children in preschool, if the service was available and the price affordable. [Given the designs of the two studies, it is impossible to show to what extent poorer parents decided not to enroll their children in preschool due to the poor quality options available.] In light of the indications that preschool is used by working mothers as a means of child care, it is reasonable to assume that lowering preschool fees—possibly through government subsidies for poorer families—would free mothers to find employment, thus improving household welfare. Lokshin *et al.* have found in Kenya, Romania, and Russia that government subsidies to reduce cost and improve the quality of child care are effective in boosting the use of ECCD programs, resulting in increased levels of women's labor force participation.

Without government intervention, it is almost inevitable that preschool can have a regressive effect in which the rich benefit disproportionately from both the benefits of preschool and any public funds that support it, as in Cape Verde where over 40% of the better-off children from SES groups 2 and 3 are enrolled in public preschools, compared with the 51% of the poorest SES 1. There are several options for public policy to alle-

viate these disparities, depending on the country context and resource envelop. Public preschools could uniquely target poor children for admission. Public subsidies could be provided only to those private-sector preschools that serve a poor clientele. By excluding or minimizing wealthy families' access to public

resources for preschool, while at the same time encouraging private-sector provision through supportive and non-restrictive policies, demand for private sector preschool services by the wealthy could in effect free up public resources to be used for the poor.

6

Impact: The Effects of Preschool on Child Development

The story

Almost universally, studies on the impact of preschool have found that enrolled children benefit by gains in both cognitive and physical development. This study obtained similar results in both Guinea and Cape Verde in terms of cognitive development. The evidence is less straightforward and compelling on the impact of preschool on physical development. This section examines the effects of preschool on child development and the other factors that come into play and discusses some of the policy implications associated with them.

The effect of preschool on cognitive development is a positive one.

Preschool students in each SES grouping in both Guinea and Cape Verde attain higher *raw* test scores than the control group children who have not attended preschool. In Guinea, there is a five-point

difference in the total score; in Cape Verde it is even more pronounced, with a 10-point difference between preschool and control groups.

Multivariate analysis—used to identify the relative impact of a number of socio-demographic and environmental variables in addition to preschool attendance that are not captured in the raw scores—reveals that overall, preschool will account for about two percentage points of the total variation explained in scores in Guinea and Cape Verde. Controlling for several socio-demographic and environmental variables (see Table 6.2), preschool attendance will substantially increase a child’s score by 4.41 points in Guinea and 7.27 points in Cape Verde. Few other factors will have as large an effect as preschool. Preschool will increase a girl’s score in Guinea by more than three points, but the small increase in Cape Verde is not statistically significant. Parents who read stories at home to their children will increase the scores by 2.5 points in Guinea and nearly four points in Cape Verde.

Table 6.1
Cognitive development scores

Selected Variables	Guinea (n=877)								Cape Verde (n=803)							
	Sample		SES 1		SES 2		SES 3		Sample		SES 1		SES 2		SES 3	
	Schl	Con	Schl	Ctrl	Schl	Ctrl	Schl	Ctrl	Schl	Ct	Schl	Ctrl	Schl	Ctrl	Schl	Ctrl
Total Score	102	97	98	93	104	99	105	103	104	94	101	92	105	95	109	95
Language Score	102	97	100	95	101	98	105	100	103	95	100	93	104	96	110	95
Pre-reading Score	102	96	99	95	103	97	105	99	103	95	100	95	104	96	109	94

Note: Cognitive score average of 100 with standard deviation of 15 in Guinea and Cape Verde.

Table 6.2
Impact of preschool, socio-demographic, and environmental factors on cognitive development

Selected Variables*		Guinea (n=877)		Cape Verde (n=803)	
Reference Variable	Active Variable	Coefficient	t	Coefficient	t
Boy	Girl	+3.08	***	+0.57	n.s.
Family with <5 children	Family with >5 children	+2.23	***	-1.92	**
Mother is housewife	Mother works outside home	-3.15	***	+2.43	***
Illiterate mother	Literate mother	n.d.		+2.51	**
Parents are a couple	Mother is alone	n.d.		+2.71	***
No/few household tasks by child	Household tasks by child	+3.72	***	-2.49	***
Low household SES (SES 1)	Middle SES (SES 2)	+4.43	***	+3.45	***
	High SES (SES 3)	+6.34	***	+2.86	**
Child seldom ill	Sometimes ill	-5.77	***	n.d.	
	Usually ill	-7.60	***	n.d.	
No Preschool	Preschool Attendance	+4.41	***	+7.27	***
Parents do NOT read to child	Parents read to child	+2.46	***	+3.90	***
Constant		97.49	***	88.8	***
R2 (percentage of variance explained with all socio-demographic, environmental, and preschool variables)		16.04		20.69	
R2 (percentage of variance explained with all preschool and socio-demographic variables only)		13.2		14.0	
R2 (percentage of variance explained with all socio-demographic variables only)		11.2		12.75	

n.d.: no data r.s.: not significant *significant to 10% **significant to 5% ***significant to 1%
 *Year and month of birth omitted from table but included in R2.

Despite this agreement, it is interesting to note that several variables have opposite effects on student scores. In Guinea, a working mother will have a negative effect on a child's score, whereas in Cape Verde a working mother will result in higher scores. In the early 1960s the High/Scope Perry Preschool study found that children in both the experimental and control groups did better during their school years than their peers if their mother was working. This outcome was attributed to the fact that the working mother exhibited more initiative, organization, and goal focus behavior than the non-working mother, especially among the poor. In Guinea, large family size and child performance of household tasks does not appear to handicap, while the opposite was

found in Cape Verde, where single mothers also seem to contribute positively to a child's cognitive score. (Cape Verde's demographic pattern presents a high incidence of single women as a result of male immigration overseas). Not surprisingly, the scores of Guinean children who are occasionally and frequently ill will decrease significantly, with the drop being greater than the point benefits derived from preschool attendance.

Preschool will have different effects on various aspects of cognitive development.

Guinean preschools have the greatest success in developing pre-reading or visual discrimination

Table 6.3
Domains of cognitive development

Variable	Guinea (n=877)						Cape Verde (n=803)					
	Basic Concepts		Language		Pre-reading		Basic Concepts		Language		Pre-reading	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t
Preschool Impact	+2.75	***	+4.08	***	+4.83	***	+6.5	***	+5.2	***	+4.7	***
1 year only	n.d.		n.d.		n.d.		+6.6	***	+3.2	***	+3.4	***
1+ years	n.d.		n.d.		n.d.		+7.2	***	+9.9	***	+8.0	***

n.s.: not significant *significant to 10% **significant to 5% ***significant to 1%

skills (five points) and oral language skills (four points), both essential to school readiness. Preschool adds less than three points for basic concepts, possibly because these skills can be more easily gained at home. There are no gender differences in pre-reading scores. In contrast, Cape Verde preschools enjoy the most success in developing basic concepts (6.5 points) and language skills (5.2 points), followed by pre-reading or visual discrimination skills (four points). Moreover, multiple years in preschool will increase a child's total score by three points, with language skills improving most with time in preschool and basic concepts improving most with only one year of preschool (see Section 7 for a discussion on language of instruction and cognitive development).

The impact of preschool attendance on cognitive development varies according to SES level and gender.

A child's socio-economic status will affect the impact of preschool. In both Guinea and Cape Verde, the cognitive scores (Table 6.1) of the preschool and control groups follow the expected socio-economic hierarchy—scores increase with socio-economic status. Children in the wealthiest SES 3 group (both control and preschool) demonstrate the highest scores and the poorest SES 1 group the lowest, averaging an eight-point span in Guinea and a nine-point span in Cape Verde.

However, in Guinea, the lower SES groups 1 and 2 seem to derive greater benefit from preschool, with raw point gains of around five compared with a two-point difference for SES 3. These patterns are confirmed using multivariate analysis, with SES 1 and SES 2 differences of 5.07 and 4.86 points, respectively,

while the wealthiest group—SES 3—differs only 1.04 points. This indicates that preschool can help narrow the gap between disadvantaged and advantaged groups.

This equalizing trend is reversed in Cape Verde, where the 14-point gap between the wealthiest SES 3 preschool and control group exceeds the 10- and nine-point differences in the SES 2 and SES 3 groups, respectively. The most favored SES 3 group appears to benefit most from preschool (9.9 points), followed by SES 2 (7.4 points) and SES 1 (6.7) points.

Girls, in general, seem to benefit more from preschool. While there is no statistically significant difference in the point difference accruing to boys and girls in Guinea in the poorest SES 1 group, the benefit of preschool to girls becomes apparent in SES 2 and is strongest in SES 3, accounting for a six-point gain. In Cape Verde, there is a three-point difference for girls.

The several variables exert different and occasionally contradictory influences according to SES level. Little pattern can be discerned amongst the groups. For example, doing household tasks has no significant impact on children in the lowest SES, but strongly and positively affects the score of SES 2 and SES 3 children. Mothers working will significantly and negatively impact SES 1 and SES 3 children, but have no significant impact on SES 2 children, possibly because this group comprises rural, agrarian families where most work is performed close by on the farm.

In Guinea, SES level was also found to influence the point difference in the three areas of cognitive development. Although children in SES 1 and SES 2 tended to derive a constant or equal benefit in all three areas, the wealthier SES 3 children appeared to derive no benefit in basic concepts.

Table 6.4
Impact of preschool on cognitive development by socio-economic level

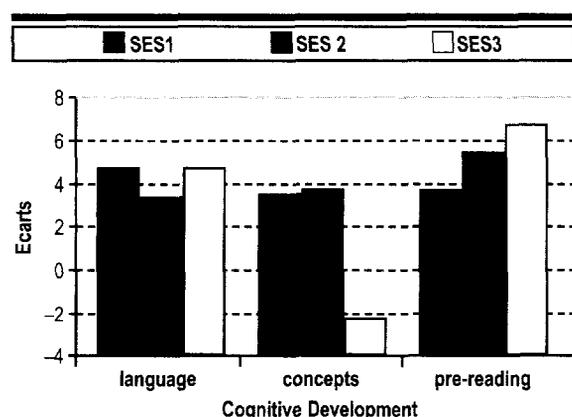
Selected Variables*	Guinea (n=877)						Cape Verde (n=803)					
	SES 1		SES 2		SES 3		SES 1		SES 2		SES 3	
Active Variable	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t
Girl	+1.79	n.s.	+2.49	*	+6.1	***	+1.09	n.s.	-0.48	n.s.	+1.27	
Family with >5 children	+1.95	n.s.	+3.56	***	-0.34	n.s.	-0.47	n.s.	-4.17	**	+1.39	n.s.
Mother works outside home	-3.99	***	-0.83	n.s.	-3.50	*	+0.4	n.s.	+3.74	**	+6.23	***
Literate mother	n.d.		n.d.		n.d.		+2.37	n.s.	+3.74	**	+2.00	n.s.
Mother is alone	n.d.		n.d.		n.d.		+2.25	n.s.	-2.79	n.s.	+0.72	n.s.
Household tasks by child	+1.45	n.s.	+6.25	***	+4.3	**	-2.6	*	-2.59	n.s.	-3.10	n.s.
Sometimes ill	-3.25	n.s.	-5.90	***	-6.0	n.s.	-0.06	n.s.	+1.88	n.s.	-2.52	n.s.
Usually ill	-3.36	n.s.	-11.05	***	-7.0	n.s.	+1.29	n.s.	+1.78	n.s.	-1.72	n.s.
Preschool Attendance	+4.86	***	+5.07	***	+1.04	n.s.	+7.24	***	+7.34	***	+9.89	***
Parents read to child	+3.34	**	+0.55	n.s.	+4.24	**	+4.29	***	+4.54	***	+2.04	***
Con.s.tant	101.6	***	103.0	***	100.2	***	89.03	***	92.61	***	93.85	***
R2 (percentage of variance explained with all variables)	10.8		15.6		15.8		13.3		21.7		25.8	

n.s.: not significant *significant to 10% **significant to 5% ***significant to 1%
 *Year and month of birth omitted from table but included in R2.

Preschool attendance did not have a significant impact on weight/height ratio.

Improved physical development is often associated with preschool attendance. However, in both Guinea and Cape Verde preschool was not found to have a significant or appreciable positive impact on physical development.

Figure 1
Impact of preschool on cognitive development according to SES in Guinea



In Guinea, although the preschool children from the poorest SES 1 and the wealthiest SES 3 groups have higher ratios than the control groups, the inverse is true for SES 2 (Table 6.5). Even more oddly, both the wealthiest SES 3 preschool and control groups have the least robust weight:height ratio. Multivariate analysis using the standard indicators found in Table 6.5 explains only 3% of the variance. Preschool had a significant and positive effect on the physical development of children from the highest SES level, and children who attended preschool for more than one year have a slightly more favorable weight:height ratio. More straightforward and easily interpreted is the relationship between region of residence and weight:height ratio, which accounts for 37% of the variation in the weight:height ratio of Guinean preschoolers. On average, the more robust children live in the urban capital of Conakry rather than in other regions, which are predominantly rural. The Forest Region (*Guinée forestière*) and Lower Guinea (*Base Guinée*) suffer from the weakest weight:height ratios, corresponding to governmental estimates of prevailing malnutrition.

Table 6.5
Physical development scores

Selected Variables	Guinea (n=877)								Cape Verde (n=803)							
	Sample		SES 1		SES 2		SES 3		Sample		SES 1		SES 2		SES 3	
	Schl	Ctrl	Schl	Ctrl	Schl	Ctrl	Schl	Ctrl	Schl	Ctrl	Schl	Ctrl	Schl	Ctrl	Schl	Ctrl
Weight:Height Ratio	14.5	14.7	15.0	14.6	14.7	15.4	13.7	13.3	15.2	15.3	15.1	15.3	15.0	15.3	15.8	15.2
Vaccination (average # of vaccinations)	8.6	7.4	9.2	7.9	7.4	6.4	9.2	8.8	7.7	7.3	7.6	7.3	7.6	7.2	8.0	7.8
Infantile Illness Incidence (average # of illness)	1.5	1.6	1.4	1.6	1.6	1.7	1.5	1.3	1.04	1.1	1.0	1.1	1.0	1.1	1.0	1.2

Note: Weight:Height ratio average of 14.6 with standard deviation of 3.9 in Guinea; and 15.2 with standard deviation of 2 in Cape Verde.

In Cape Verde, SES 3 preschool and control groups have the most robust weight:height ratio, and, like Guinea, those who attend multiple years of preschool will be more robust physically.

There are several explanations for the negligible impact of preschool on the weight:height ratio. First, approximately half of the preschools surveyed did not have a cafeteria or canteen, possibly signaling that there was no nutrition or feeding program. Second, the study did not verify whether the reported canteens were operational; nor did it look into nutrition inputs of these programs. Third, and most important, is the appropriateness the weight:height measure for the age group examined by the study. Since stunting occurs in children under age three and cannot be remedied by better nutrition at a later age, the weight:height ratio may have limited validity as a measure of the development of five-year-olds.

Preschool students are slightly more likely to be vaccinated and less prone to childhood illnesses.

In both Guinea and Cape Verde, vaccination coverage for all SES levels is better for preschool students than for control group children. There are two possible explanations for this: one is that parents who enroll their children in preschool may be better informed or more conscientious about vaccinating their children; another is that preschools are both more accessible to and targeted by health campaigns and inoculation services. In total, the incidence of childhood disease is slightly mitigated by preschool attendance in both countries, but in Guinea SES 3 preschool student suffer slightly more illness than the unschooled control group.

Some policy implications

The gains in cognitive development associated with preschool suggest that the provision of preschool should be supported and/or encouraged by government as an investment in human capital.

The studies in Guinea and Cape Verde confirm the results of a growing body of research. Although family background exercises the most influence, preschool increases the explanatory power to approximately 16 to 20%.

Preschool can have an equalizing effect on cognitive development.

Not only does preschool improve all children's cognitive development scores, it appears to have a disproportionate effect on children from lower SES groups in Guinea who experience *relatively* greater point difference from the control group, although it does not close the gap between wealthier and poorer children. In Cape Verde, it appears to reverse the disadvantage of children from large families and whose mothers work. And since the wealthiest children in Cape Verde appear to derive the greatest benefit in terms of point gains on cognitive development tests, failure to enroll lower SES group children in preschool may result in even wider disparities in cognitive development and school readiness skills.

Another disadvantaged group—girls—also appears to benefit significantly from preschool. Preschool has a greater impact on girls' cognitive

development than that of boys. This suggests that preschooling girls may have a disproportionately positive influence on primary school participation at a future date, as girls are generally at a disadvantage academically even in the early primary grades. For example, student performance data in Guinea show that as early as the second grade, girls are doing less well on math and language tests (Tietjen in Sutton *et al.* 1999).

As countries intensify their pursuit of universal primary education to meet Education-For-All goals established for 2015, the policy implications of the equalizing effect of preschool are evident. Vulnerable and at-risk children—whether the urban or rural poor, disadvantaged minorities, or girls—are likely both to need and to profit from the “value-added” of preschool in order to overcome their deprived environments and—based on findings of several ECCD studies—to enter primary school on a more equal footing with their more advantaged peers. Governments should consider how they can support ECCD programs, encourage their growth, and target their resources, efforts and policy at the needy children who will benefit disproportionately from them (as in Guinea) or will fall further behind if they are not enrolled or are enrolled in ineffective programs (as in Cape Verde).

Public policy could encourage the development of multiple-year programs.

Children who participate in more than one year of preschool score higher on cognitive development tests and gain greater language skills. Ideally, preschool should be seen as part of the child develop-

ment process, not a “one-off” intervention that essentially serves as the introductory year to primary school. Public policy could facilitate multiple-year attendance by targeting subsidies at and encouraging the development of preschools that serve poor children, who are less likely to attend multiple years, and by offering programs that are gauged to serve the development needs of different age groups.

Preschools—particularly public ones serving all SES levels of children—should tailor their programs to suit the needs of their students or the most vulnerable population.

Preschool programs may need to change emphasis among basic concepts, language, and reading, depending on the SES group being served, given their different performances.

The impact of preschool and better child health and physical development should be further investigated.

Although there was no significant relationship found between preschool programs and physical development in either Guinea or Cape Verde, the reasons for this are unclear and not adequately addressed by the study. Preschools may not be providing supplementary feeding programs, or these may be insufficient to compensate for the conditions contributing to stunted growth and malnutrition suffered by the children of impoverished families. Moreover, the weight:height ratio used may not be valid as a measure of the physical development of five year olds.

7

Effectiveness: Programs or Program Characteristics That Appear to be Most Effective in Terms of Child Development

The story

While there is little question that preschool has a positive impact on a child's development as shown in the previous section, it is not so evident which preschool/ECCD program attributes have the greatest influence on these results.

This section examines the effect of various preschool characteristics—including type of school, program and organization, teachers, and costs—on preschool student cognitive and physical development, and discusses some of the policy implications of the research. Table 7.1 presents some descriptive information that will be further elaborated in the text.

Table 7.1
Child development scores, school characteristics, and SES level

School Characteristics	Guinea (n=529)								Cape Verde (n=490)							
	Sample		SES 1		SES 2		SES 3		Sample		SES 1		SES 2		SES 3	
	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H
SCHOOL TYPE																
—Ecole maternelle	100	15.1	96	15.4	100	15.9	104	13.9								
—CEC	109	13.7	109	13.6	109	13.7	113*	13.7								
—Jardins d'enfants	102	13.5	102	14.0	98	13.4	103	13.2								
—Public									99	15.5	97	15.3	101	15.2	103	16.4
—Private									105	15.5	102	14.0*	101	15.1*	109	15.8
—NGO									97	14.4	95	14.2	100	14.4	102	14.7
—Community									98	15.5	97	15.7	99	15.3	104	15.0
—Religious									111	14.6	118*	14.4	108	14.7	110	14.4
EDUCATIONAL MODEL																
—academic	102	14.7	98	15.4	102	15.2	105	13.4	102	15.0	98	14.9	103	14.4	106	15.9
—games/nursery	105	14.2	98	14.6	107	14.0	111	13.9	101	15.2	99	14.9	102	15.3	106	15.4
QUALITY FACTORS																
—low pupil:teacher ratio	99	15.7	96	15.9	100	15.6	101	15.6	101	14.8	97	14.9	102	14.7	111	15.0
—highly qualified teachers	102	15.7	100	16.2	102	16.5	106	14.6	101	15.4	99	14.8	97	15.1	107	16.5
—well-equipped school	109	12.9	102	13.5	105	13.3	118	12.1	98	14.7	94	14.6	100	14.5	101	15.2
—bilingual instruction	102	14.8	97	15.5	104	14.9	105	13.7	100	15.1	97	14.9	101	14.9	106	15.8

*indicates fewer than 10 in the sample

Table 7.2
Differentiated impact of preschools on cognitive development

	Guinea (n=877)	Cape Verde (n=803)
	Variance explained (%)	Variance explained (%)
Child characteristics	11.4	14.0
Preschool	42.1	55.0
Child + Preschool	45.0	58.0
Child + Aggregated School Characteristics	21.0	20.0

Various preschool programs, organizational structures and attributes will affect child development differently.

Variations in preschools do matter in terms of cognitive development, and some preschools are more effective than others (Tables 7.1 and 7.2). While child characteristics explain 14% (Guinea) and 11% (Cape Verde) of variance in preschool student cognitive development, the preschools themselves account for 55% in Guinea and 42% in Cape Verde, with scores varying as much as 30 points in Guinea. Even when socio-demographic and household environment are taken into account, the impact of the individual school remains important. However, when aggregate school characteristics are considered, the picture becomes less clear. In Guinea, the marginal gain of

10% (21–11) indicates that particular school characteristics are likely to exert significant influence on student development, whereas the 6% (20–14) marginal gain in Cape Verde suggests that school effectiveness factors may be difficult to identify with precision and elude measurement.

Community education centers in Guinea and religious preschools in Cape Verde emerge as the most effective schools in raising cognitive development scores.

The CEC preschools in Guinea and the religious-run preschools in Cape Verde exhibit the highest cognitive development scores. In Guinea, the raw test scores for the total sample average 109, compared with 100 points for *écoles maternelles* and 102 points for *jardins d'enfants* (Table 7.1). This is borne out by multivariate analysis, which shows a ten-point advantage over *écoles maternelles* and *jardins*. A closer look at the score breakdown shows that CEC preschool scores are mainly due to a strong performance on the basic concepts portion of the test, accounting for a 13-point advantage. This is particularly notable because CEC preschools primarily serve rural and often poor communities. In fact, no less than 70% of students in any CEC preschool came from the lower SES levels, primarily SES 2. However, many questions remain about why this model has proved effective. On the plus side, CEC preschools have higher community involvement, a higher percentage of five- and six-year-olds, and their teachers tend to live in the village where the preschool is located. On the

Table 7.3
Impact of school type on cognitive score

Reference Variable	Active Variable	Guinea (n=529)		Cape Verde (n=490)	
		Coefficient	t	Coefficient	t
Ecoles maternelles	CEC	+10.05	***	NA	
	Jardin d'enfants	+1.12	n.s.	NA	
Public Centers	Private Preschools	NA		-0.4	n.s.
	NGOs	NA		-1.1	n.s.
	Communal Centers	NA		-1.7	n.s.
	Religious Preschools	NA		+10.7	***

n.s.: not significant *significant to 10% **significant to 5% ***significant to 1%

What are CEC preschools?

The community education center preschools (*centre d'encadrement communautaire de la petite enfance*) are non-formal institutions, created (with some external assistance) and managed by the local community or women's association. Serving children aged three to six years, their initial objective was to relieve working mothers of some childcare burdens, and therefore they are organized around the local agricultural calendar. Ideally (not necessarily reflective of the reality presented above), each CEC is staffed by two *monitrices*, with a Grade 6 education supplemented by special training in early childhood care and education. The CEC preschool is housed in a modest three-room structure, built or rehabilitated with local resources. The program focuses on child development and nutritional care, and the teachers are responsible for fabricating toys and learning aids. The community is responsible for teacher salaries (in-kind or in cash) and the provision of local construction. Village alumni associations (*associations de ressortissants*) have provided funds for both construction and equipment. The government (the Ministry of Social Affairs or the Prefectoral Education Office) may provide vacant building and some modest supplies. Parents pay a monthly fee of 1000FG per child, with half of this going to teacher compensation. Development support—teacher training, program creation, organization, etc.—have been provided by UNICEF and Aide et Action, an international NGO.

minus side, these teachers spend somewhat less time teaching, and a higher proportion of them are male, untrained, and inexperienced.⁶ Moreover, the CEC preschools have a higher pupil:teacher ratio, averaging 53 pupils for each teacher.

Religious schools in Cape Verde take the lead in cognitive development score, also enjoying a 10 point advantage. In particular, poor SES 1 children enrolled in these types of preschools score higher in these schools than any others. These results are tempered by the fact that there were only two religious schools included in the sample, throwing into question any meaningful conclusions about the superiority of religious school instruction, curriculum, or management. However, several other schools in Cape Verde also produced high cognitive development scores, demonstrating that effective schools do not necessarily adhere to a particular type or organization.

Choice of language of instruction affects cognitive development.

In both Guinea and Cape Verde, the language of instruction had a significant impact on cognitive development scores. Even more, the same variable—

bilingual instruction—had different effects. In Guinea, children receiving preschool instruction in French and a local language experienced the largest negative effect (−5.80) produced by any school characteristic. Even when teacher characteristics are taken into consideration, this large negative effect remains. Also, there appears to be no inherent value to the language of instruction: children taught solely in French or solely in a local language scored better. One methodological explanation is that households self-select the preschool which uses the language employed at home, thus ensuring compatibility between child and language of instruction. A developmental explanation is that the child's first language has to be developed to the level where he/she has the conceptual and linguistic prerequisites for the acquisition of literacy and pre-literacy skills. These findings are consistent with other research (Cummins 1979; Tucker 1977; Dutcher 1982). When children have to deal in a bilingual environment, their cognitive and linguistic proficiency in both languages are interdependent, and for these proficiencies to be developed in a second language, a certain level of cognitive and linguistic development in the first language has to be accomplished.

The inverse situation was found in Cape Verde, where children in bilingual preschools employing both Creole and Portuguese enjoy a 2.5 point difference in their overall cognitive scores, over those children who are taught uniquely in Creole. To understand the different findings in both countries, it is important to note that there are fundamental differences in the use of the European languages in both countries. In Guinea, French is not widely spoken by the majority of the population and is a second language to many existing local languages. In Cape Verde, Portuguese is widely spoken by the majority of the population, and the only local language is Creole, which has roots in ancient Portuguese. As noted by Dutcher, the perception of the wide community of the status of both the local and national languages is key in understanding the learning process in bilingual environments. Bilingual programs do not retard the development of children in their native language if either the school or the community provides support and stimulation for the continued development of the native language (Dutcher 1982).

Table 7.4
Impact of school (and child) characteristics on cognitive score

Selected Variables*		Guinea (n=529)		Cape Verde (n=490)	
Reference Variable	Active Variable	Coefficient	t	Coefficient	t
CHILD CHARACTERISTICS					
Boy	Girl	+3.68	***	+0.57	n.s.
Family with <5 children	Family with >5 children	+2.2	**	-1.92	**
Mother is housewife	Mother works outside home	n.d.		+2.43	***
Illiterate mother	Literate mother	n.d.		+2.51	**
Parents are a couple	Mother is alone	n.d.		+2.71	***
No/few household tasks by child	Household tasks by child	+6.55	***	-2.49	***
Low household SES (SES 1)	Middle SES (SES 2)	+4.34	**	+3.45	***
	High SES (SES 3)	+4.57	**	+2.86	**
Child seldom ill	Sometimes ill	-4.12	**	n.d.	
	Usually ill	-4.48	**	n.d.	
Parents do NOT read to child	Parents read to child	+2.80	**	+3.90	***
SCHOOL CHARACTERISTICS					
Single language instruction	Bilingual instruction	-5.80	***	+2.48	*
Non-academic program	Academic program	+1.01	n.s.	n.d.	
Female teacher	Male teacher	-2.49	*	n.d.	
Professional experience (number of working years)		+0.72	***	n.d.	
Teacher does NOT reside in village	Teacher is resident	+3.46	***	n.d.	
Number of declared weekly teaching hours		+0.21	***	n.d.	
Number of pupils in class		+0.11	***	-0.30	***
No dining hall in school	Dining Hall	n.d.		+3.64	***
Percentage of paying families		n.d.		+0.21	**
Constant		85.8	***	91.0	***
R2 (percentage of variance explained)		20.5		19.8	

n.s.: not significant * :significant to 10% ** :significant to 5% *** :significant to 1%

*Year and month of birth omitted from table but included in R2.

Class size can vary somewhat without negative consequences.

In both Guinea and Cape Verde, class size proved to have a significant effect on cognitive scores. However, it exerted opposite influences in each country. In Guinea, for every child added to the class, there was a fraction of a point difference. However, this should not be interpreted to mean that increasing class size will improve cognitive scores. This anti-intuitive result can be explained by the fact that in general class sizes are relatively low in Guinea, with most

servicing fewer than 35 children and a quarter servicing fewer than 26 children. The situation is different in Cape Verde where it appears that exceeding a threshold level of 30 children per class will result in cognitive score point losses. For every 10 additional children, the cognitive score will be reduced by three points.

Teacher characteristics present a mixed bag.

Several teacher variables were examined: sex, professional experience, training, age, and place of resi-

dence. Of these, none exerted a significant influence on cognitive scores in Cape Verde, although several did in Guinea. In Guinea, female teachers appear to be more effective in teaching preschool children than men, accounting for 2.5 point increase. (Unlike other countries, female preschool teachers are in the minority, comprising less than 40% of the teaching force. The tight job market makes any teaching post desirable, and men are not reluctant to teach at this level.) While the academic qualifications of teachers has no significant effect on student development, teacher professional experience contributed positively to student scores: for every five years of experience, there will be a commensurate gain of 3.5 points. More important was the influence of teacher residence. A teacher who lives in the same village as the school or in a nearby neighborhood will account for a 3.5 point gain. There are two possible reasons for this. First, a local teacher will bring a greater understanding of the milieu to her classroom interactions. Secondly, a local teacher is likely to have more regular attendance and spend more time at the school and/or with children's families. In fact, the more time a teacher spends on school activities, the greater the positive impact on student scores.

Whether a school employs an academic, developmental or play-based curriculum has no impact on cognitive development.

Preschools were classified into three types, according to time usage: academic, developmental or play-based models. No clear-cut or significant advantage

emerged in terms of cognitive scores for any one approach. It is important to note that this study did not attempt to do classroom observation, which is a more appropriate method to evaluate the interaction between teachers and children and to draw conclusions regarding key elements of the different types of curriculum.

High-cost preschools do not guarantee high child development scores, but parents paying school fees has a positive effect.

High per-student expenditure does not necessarily result in high cognitive development scores (Table 7.5). Although the average raw scores vary according to SES level, lower unit costs are consistent with higher scores in both countries, with preschool children scoring two points higher in Guinea and four points higher in Cape Verde. Indeed, this trend holds true for all SES groups except SES 3 in Guinea, although it should be noted that moderate unit costs in Cape Verde are associated with higher scores for SES 1 and SES 3. In contrast, the weight:height ratio appears to be positively related to higher unit costs in Guinea, although not in Cape Verde. These relations are confirmed by multivariate analysis in Guinea, with unit cost showing a weak negative (-0.000135) albeit non-significant influence on cognitive development and a weak positive (0.00033) but significant relation to weight:height ratio.

In Cape Verde, the percentage of parents who pay school fees correlates with a higher cognitive development score and a lower weight:height score.

Table 7.5
Child development and unit costs

School Characteristics	Guinea (n=529)								Cape Verde (n=490)							
	Sample		SES 1		SES 2		SES 3		Sample		SES 1		SES 2		SES 3	
	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H	Cog	W:H
% PARENT PAYING FEES	NA															
—low									95	15.4	94	15.4	95	14.9	99	16.5
—high									104	15.0	100	14.6	105	15.0	107	15.6
UNIT COSTS																
—low	101	13.6	96	13.7	104	13.9	101	12.9	100	15.7	97	15.6	103	15.6	102	16.0
—moderate	NA	NA	—	—	—	—	—	—	101	14.8	99	14.7	99	14.5	110	15.7
—high	99	16.0	96	16.8	97	16.9	103	14.6	96	14.8	91	14.8	100	14.8	100*	14.7*

*indicates fewer than 10 in the sample

Although the reasons for this are unclear, it can be speculated that regular and consistent fee payment is a proxy for other parental support of the school and commitment to children’s education. Since all parents must pay for preschool in Guinea, a similar analysis was not feasible.

In Guinea, the most effective preschools are also the least expensive and provide affordable options to the rural poor, while in Cape Verde the most cost-effective schools include all types.

While not all low-cost preschools produce high cognitive development scores, the following two scatter plots show that (i) a notable percentage of low-cost schools are effective and (ii) many high-cost schools are not. In Guinea, the most effective preschools—the CECs—are distinguished by the lowest costs per student, ranking them as the most cost-effective or efficient option.⁷ Although other schools—particularly the *écoles maternelles*—enjoy similar success in terms of cognitive development scores, the CEC preschools have lower unit costs primarily due to the high pupil:teacher ratio.⁸ The CEC preschools primarily serve a rural population of modest means (SES 2). They demonstrate that lower cost preschool options exist that poorer households can afford and are willing to pay for, and that low cost need not sacrifice educational quality. As can be seen

from the scatterplot, the most expensive schools produce moderate to poor results.

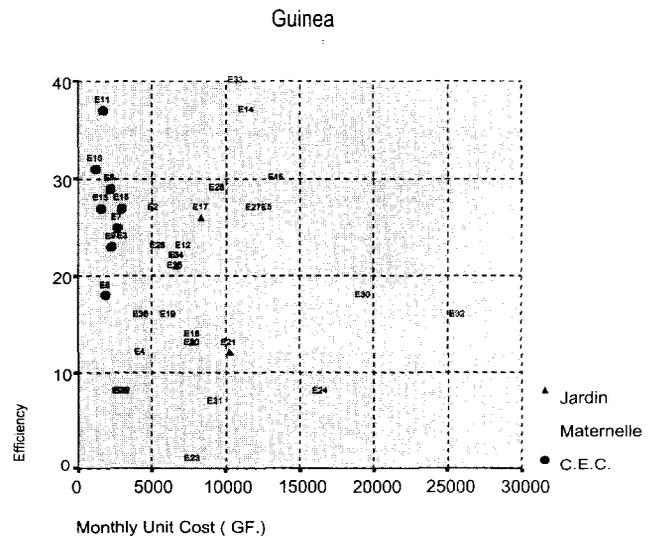
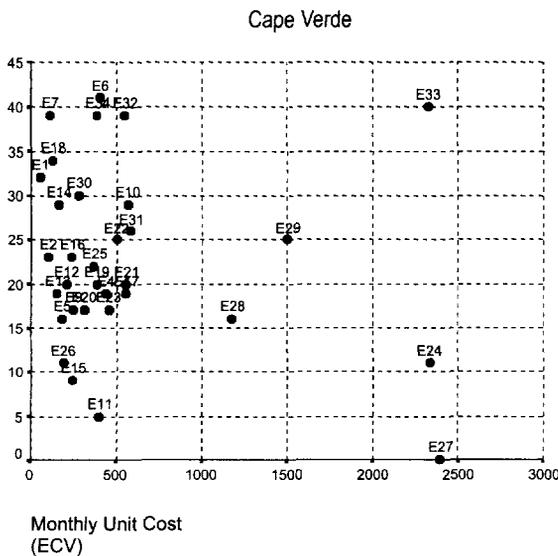
In Cape Verde, no one particular type of school stands out for its efficiency, although the scatterplot shows that many schools are efficient, producing high cognitive development scores at low unit cost. Interestingly, the one aspect that the highest scoring schools have in common—whether they are public, communal, private, NGO or religious—is that over 90% of parents pay fees to the school.

Some policy implications

Simply providing preschools is not enough. Effective programs must be adopted.

Not all preschool programs are equal. Differentiation among individual preschools explains between 42% and 55% of variation in cognitive scores. However, there appears to be no clear pattern in terms of the factors and/or models that make a clear difference in cognitive development. In fact, frequently the school characteristics will have opposite effects in Guinea and Cape Verde, indicating that preschool effectiveness is highly contextualized. One relatively unambiguous finding is the positive impact of community education centers in Guinea, whose students consistently score higher than the *écoles maternelles* and *jardins d’enfants* models there.

Scatterplot for most efficient preschools



The teacher's cultural background and proximity to the school are more likely to have an impact than formal qualifications.

Teacher qualifications appeared to have little effect in either country, suggesting that the official training teachers have received is not effective or sufficient to make a discernable difference. However, having teachers who lived in the same village had significant impact, presumably due to their familiarity with the local environment and their having more time available to spend with the children. This has important cost-saving implications, as has been the case in Latin America and elsewhere, where local community leaders, if effectively trained on ECCD related matters, can provide low-cost, effective services.

Language of instruction in preschool must be considered carefully and policy will differ according to country.

Not surprisingly, the language of instruction was revealed to be one of the most important factors in cognitive development. Single language instruction produced higher scores in Guinea, but bilingual instruction was more effective in Cape Verde, suggesting that context must inform policy. As has been found in previous research in African multilingual environments, the question of choosing the language for initial primary education does not have a single best answer. The cognitive development of the child in his/her first language, the attitudes and support of the parents for the language chosen in the school, and the perception of the wider community of the status of both the local and second language are to be taken into account in choosing the language of instruction.

Low-cost preschools serving poor communities can be effective.

Cost, as represented by fees and teacher salaries, does not appear to be a factor in providing effective preschooling. Both high- and low-cost schools produced admirable (and lamentable) results. In Guinea, the seemingly lowest cost community education center (CEC) model produced highest cognitive scores. Moreover, over 70% (on average 90%) of the children in these schools came from poorer (SES 2

and SES 1) households. In Cape Verde, it was found that many schools are efficient, producing high cognitive development scores at low unit cost.

There is no single effective model of preschooling or "magic bullet" characteristic that will lead to child development.

No single variable stood out as important to cognitive development, and the effectiveness of certain types of preschools remains open to question. However, a combination of variables or threshold levels of certain variables may prove to have greater explanatory value. The attributes of the most effective religious schools in Cape Verde and the community education centers in Guinea need to be examined closely to determine why they seem to produce better results than other models. This is particularly true of the low-cost CECs in Guinea, as many of their individual characteristics appear to contradict some of the quantitative findings of this study. Further study/analysis must be conducted of what constitutes key features of the effective programs. Specifically, direct observation is needed of teachers and children and their interactions, as well as qualitative analysis of curriculum and teacher/care-giver training.

Preschools do not need full government subsidies, but will probably need some support if equity concerns are considered.

Even poor communities are willing to support preschools. Parents are willing to pay fees to enroll their children, as evidenced in both Guinea and Cape Verde.⁹ However, this finding must be approached with some caution. In Guinea, only a small percentage of children are enrolled in preschool, and families who have opted to do so may not be representative of the vast majority of households. Further, threshold levels must also be identified as well as the trade-off with primary school enrollment.

Finally, and most importantly, the equity implications must be considered. Although this study found evidence in Guinea that preschools have a strong positive effect on the cognitive development of poor children growing up in deprived environments, their parents are the very people who cannot afford the fees. Consequently, these children are less likely to be

enrolled in preschool. Public policy should explore how best to encourage the creation and support the operation of the low-cost, effective preschools that have shown success in attracting children from poorer families, along the lines of the CECs.

6. Female teachers in Guinea appear to be more effective.

7. The reader is cautioned that only cursory cost data was collected, and it is likely that the inevitable hidden costs omitted from the analysis will affect future cost-effectiveness analysis.

8. No relation was found between teacher qualifications or seniority and salary level, and no one type of school was distinguished by low teacher wages.

9. Paying fees even exerts a positive influence on cognitive scores in Cape Verde.

Conclusions and Recommendations

Preschool education can be a double-edged sword that can both alleviate and exacerbate disparity

There is little question that preschool, one facet of ECCD, can have a positive impact on the cognitive development of young children. This study has provided evidence that children from all socio-economic backgrounds can benefit from preschool. Moreover, it demonstrates that providing preschool services can have an equalizing effect on cognitive development, compensating for disadvantaged backgrounds. In a very poor country, Guinea, children from the lowest SES groups, as well as the traditionally disadvantaged girl-child, were found to benefit disproportionately from preschool attendance. But it has also shown that even if preschool cannot entirely close the cognitive development gap between rich and poor children, a lack of preschool can certainly widen the gap in a relatively well-off country, such as in Cape Verde, where nearly half the population attends preschool.

Although children from poorer households do attend preschool, children from wealthier families are disproportionately represented there. Not only are rich children more likely to be school-ready by virtue of their privileged background, but they are also more likely to be enrolled in preschool, in better equipped preschools, and often for multiple years, thus gaining even further advantage in terms of cognitive development and school readiness.

Therefore, the consequences of non-intervention by government are twofold. First, society may be losing the benefits of preschool for its children. Second, it may

be further disadvantaging its poor children, by allowing the gap between the rich and poor to grow through the regressive effect of subsidizing preschool services that serve wealthy families, as in Cape Verde. *Public policy should be formulated to emphasize the support of preschool or ECCD programs for poor and disadvantaged children.* There is little evidence to suggest that constraints other than economic ones would prevent lower SES families from enrolling their children in ECCD programs. In addition to reducing disparities in school readiness among children from different SES levels, the provision of subsidized ECCD programs for lower income families could free mothers to find employment, thus improving household welfare.

More and better can be done with less

High cost programs may not necessarily produce the best results. Lower cost preschool programs exist that poorer households can both afford and are willing to pay for. Moreover, this study demonstrates that low-cost preschools need not sacrifice quality, as many such preschools are effective, producing high cognitive development scores at low unit costs.

This study found that traditional approaches—government-supported, highly paid teachers, formalized training, etc.—do not in themselves guarantee high cognitive development scores. Teachers do not need to be highly qualified; training for teachers and/or caregivers need not be formal. *Short, focused, reliable, and contextualized training can be more efficient and less costly than most available formal programs.* Community-based programs, such as the CECs in Guinea,

appear promising, due in part to parental involvement and financing, and in part to the proximity of the locally-resident teacher, who is able to spend more time at the school. Elsewhere in Africa, similar community-based programs have been effectively taken to scale. Most of Kenya's 25,000 preschool centers are managed by parents (Garcia March 2, 2001).

Despite these findings, this study has only begun to address the more complex questions of the type of programs and the full range of features that are most efficient. The wide variation in effectiveness of preschools at many different price points indicates that there are many factors that can influence a preschool's success. *This study has confirmed that in the provision of preschool services, context is important. There is no one-size-fits-all answer to effective and affordable ECCD. Context will vary not just by country but also by SES, ethnicity, language used, and urban-rural residence.* There should be closer examination of what make indigenous models of ECCD successful, particularly in the case of the CEC programs in Guinea, as well as in other francophone African countries where these types of initiatives are underway.

Additional attention must be paid to both the costs and financing of preschools and ECCD. A more accurate idea of costs is needed, as well as what motivates parents to enroll their children in ECCD/preschool. While the CEC programs in Guinea are promising, they serve only a small percentage of the population.

Government can play a critical and essential role in supporting early childhood care and development programs

Given the demands for primary education and the current national education budgets, few will argue with the contention that many African governments lack the resources to invest in the widespread provision of ECCD programs. But this does not mean that there is no role or room for action and intervention by government.

While debate continues among development experts about the efficacy of investing in ECCD, communities and families throughout Africa have made their own decisions by founding, funding and/or enrolling their children in preschool and ECCD programs. As with all services affecting public welfare, *most particularly education*, the role of government in formulating policy for ECCD to optimize the public

interest is critical. Both the services the government provides and the policies it promulgates will depend on context and should work within a realistic investment framework.

Much can be done in terms of improving access, quality, and equity for ECCD in both Guinea and Cape Verde. For example, in Guinea where preschool enrollment is low and there are scant public resources for providing ECCD programs, the government can establish a supportive policy framework that creates an environment in which private sector and community ECCD initiatives can flourish. This could take many different forms, such as supporting IEC and parental education campaigns about the importance of early childhood education and care, piloting low-cost/community-supported ECCD models based on promising indigenous programs, creating ECCD start-up credit funds, or developing non-onerous guidelines and guidance for community programs.

In Cape Verde where the public sector is already providing a significant proportion of the population with preschool services, the government role should focus on the more efficient use and distribution of public-sector resources. Efforts should be made to further study the preschools that have enjoyed the greatest success at the least cost and to replicate them. Focused, ECCD-related training should be provided to public-sector teachers. The redistribution of resources to benefit the poor could be effected by levying user charges on wealthier households, limiting public preschool access to poor families, or providing them with subsidies (scholarships, uniforms, nutrition or health services) to encourage enrollment.

Government can act to improve the quality of ECCD services available either through public- or private-sector providers. In both countries, a notable number of children from the poorest SES levels go to the most expensive preschools. Parents should be offered the best for less. In some countries, such as Cape Verde, it may be appropriate for government to regulate and inspect private-sector preschools or ECCD facilities to ensure the safety and protection of young children. In other countries, such as Guinea where fledgling private-sector and community ECCD initiatives could collapse under heavy-handed government regulation, training modules, materials, and guidance could be provided to NGOs and CBOs involved either in community support or ECCD program management. In either case, government can

help equip local organizations and parents with the knowledge of what to expect from ECCD providers in order to select or monitor their children's preschool.

Finally, government and donors should think outside the box of formal, traditional preschool programs. This study suggests that this type of instruction is not necessarily tailored to meet children's needs, and may be more expensive. They should encourage and support communities to engage in the creation of ECCD services, and they should target whatever assistance is feasible to those communities that have acted to provide preschool or ECCD services.

What are the next steps in supporting ECCD in Africa?

Despite the promising indications that low-cost, community-supported preschools offer a viable option for expanding support of early childhood development, initial studies of this type often tend to raise more questions rather than provide answers. Several issues requiring further investigation are highlighted by this research, ranging from the longer-term impact of preschool on primary student performance and the elusive factors that make a preschool effective, to how best to expand access to preschools programs without raising public expenditure burdens or pricing poor parents out of the preschool market. None of the programs examined in this study were distinguished by a rigorous monitoring and evaluation component. More knowledge must be gained, both about how governments and funding agencies can support the development of

these community-based programs and about how these programs can be implemented.

In pursuit of these answers, the government of Guinea, with World Bank assistance, will initiate ECCD pilot programs in the two poorest regions of the country. These programs will provide a more in-depth and qualitative look at the features of successful programs, as well as their costs, and to replicate them within the framework suggested by this study, *i.e.*, community-based and parent-supported centers. A monitoring and evaluation component will test and document the effectiveness of the promising community-based model. From this, the Bank will work with the government to formulate its policy objectives and framework for ECCD support.

In Cape Verde, several of the research findings—particularly the equitable allocation of preschool resources and the effectiveness of government preschools—are subjects of the policy dialogue currently taking place between the government and the World Bank. The results of these discussions will be incorporated into Cape Verde's education sector strategy.

The capacity of human beings to learn and to develop is enormous and continues throughout life. ECCD is only one mechanism, albeit a promising one, for ensuring that many of the factors that can contribute to the intellectual, physical and emotional development of a child are made accessible to families in need. ECCD initiatives throughout Africa provide fertile ground for study to determine how best to mobilize and manage the resources of households, communities, governments, and donors to help Africa's most vulnerable citizens—its children—grow to rewarding and productive adulthood.

Annex 1

Study Methodology

Approach

This study's purpose was to develop a preliminary picture of the impacts and effectiveness of early childhood programs, in two contrasting African countries—Cape Verde and Guinea. It initially attempted to develop an overall profile of the early childhood development sector. However, since preschools were the predominant model of intervention in early childhood in the two countries studied, as well as the most readily accessible, this study necessarily focused on the preschool sector. Moreover, because of actual (Cape Verde) and potential (Guinea) public-sector support of preschool as an early childhood development strategy, understanding the programs and impacts of the preschool sub-sector is essential to sound policy development.

The study used a survey methodology to identify different programs and preschool models and to detail their characteristics. A sample of preschools was then selected to identify the impact that preschool attendance, different preschool programs/models, and various preschool characteristics had on cognitive and physical development of the children who attend them. The range of existing programs in each of the countries was examined to determine the programs and characteristics that appeared to be most effective and least costly in supporting children's development.

The samples of preschool centers took into account variability in terms of socio-economic levels, geographic distribution, and types of programs. In both Guinea and Cape Verde, for each of the centers sur-

veyed, a random sample of 15* five-year-old children who were enrolled in the preschool and their families were surveyed. As a basis of comparison, 10 five-year-old children from the same community and sharing similar socio-economic characteristics but not attending preschool formed the control group.

The dependent variables used in the analysis were children's cognitive and physical development. The independent variables—the factors influencing children's development—were divided into three categories. The first group comprised individual socio-demographic characteristics of the children such as age, gender, health status, socio-economic status, and family characteristics. The second group comprised environmental characteristics, such as whether parents read to the preschool-age child. The third group comprised variables related to the preschool/ECCD programs, such as student/teacher ratio, teachers' qualifications and experience, type of program offered (daycare, preschool, etc.), time dedicated to children's activities, urban or rural settings, if programs were public or private, and overall costs.

Cross-tabs and multivariate analysis were used to compare the two groups and the influence of variables in the cognitive and physical development of children. These analyses were done separately for each country. Results and discussions on the findings are presented in Sections 5, 6 and 7 in the body of the study.

* In a few centers in Guinea, there were fewer than 15 five-year-olds born in 1995. To complete the sample, children born in December 1994 were included.

Sample and sampling frame in Guinea and Cape Verde

In Guinea the sample was designed in a two-phase approach. Because there were no existing data available for the sector, a first stage was needed to identify the types and number of preschools available. In this first stage, 460 centers and 1089 teachers were initially surveyed. Based on the information gathered, three types of centers were identified, individual centers were categorized according to type, and a total sample of 36 preschool centers was selected. The total number of children surveyed in the second stage was 900, although complete data are available for 877. The geographic distribution of centers was:

Conakry	36%
Moyenne Guinée	11%
Haute Guinée	14%
Basse Guinée	28%
Guinée Forestière	11%

Of the sample, 64% were *Ecoles maternelles*, 22% were Community Education Centers (CEC) and 14% were *Jardins d'enfants*. (See Section 4 in the body of the report for a description of the sector, including the differences of the type of programs in Guinea and Cape Verde.)

In Cape Verde, the sample consisted of 34 centers, and complete data are available for 803 children and their families. The geographic distribution was:

Island of Santiago	20 centers
Island of Maio	4 centers
Island of Fogo	4 centers
Island of Sal	3 centers
Island of Sao Nicolau	3 centers

Sixty percent of the centers were located in either urban or semi-urban areas, and 40% were from rural areas. The distribution according to the type of centers was:

Public	50%
Private	18%
NGO	11%
Community	12%
Religious	9%

The sample households in both Guinea and Cape Verde were divided into three socio-economic groupings, according to the profession of the father or male head. Because profession is an inexact proxy for

Annex Table 1

	Guinea	Cape Verde
Centers	36	34
Children and their families	877	803
Preschool Group	529	490
Control Group	348	313
SES 1 (% in the sample)	42%	49%
SES 2 (% in the sample)	36%	36%
SES 3 (% in the sample)	22%	15%

wealth and socio-economic status, occasionally SES 1 and SES 2 will display similar behaviors, or they will not be ranked in a strictly hierarchical order.

In Cape Verde, the lowest or poorest group (SES 1) comprised the jobless or unskilled laborers, the middle group (SES 2) comprised skilled workers or small tradesmen, and the highest or wealthiest group (SES 3) comprised professionals or managers. Forty-nine percent of the sample was from SES 1, 36% from SES 2, and 15% from SES 3.

In Guinea, additional information on parental literacy, education, language usage, and household goods were also considered, albeit with similar results. The lowest group (SES 1) primarily comprised unskilled or jobless laborers, the middle group (SES 2) mainly comprised tradesmen or farmers, and the highest group (SES 3) included professionals and mid-to-high level managers. Forty-two percent of the sample was from SES 1, 36% from SES 2, and 22% from SES 3. Not surprisingly, SES 3 households were distinguished by high levels of literacy, education, and use of French language rather than local languages. More significantly, rural households almost exclusively fell into SES 2.

Because it was not feasible to administer a pretest in order to establish a baseline to assess the magnitude of the relative impact or "value-added" of preschool on child development, attention was paid to ensuring that the control group shared the same background characteristics as the experimental preschool group in order to eliminate a selection bias in the sample. Using the Heckman procedure, a non-significant inverse Mills ratio was obtained, indicating that no bias marred the sample and compensating for the lack of cross-sectional data. Annex Table 2 pres-

Annex Table 2
Comparison of preschool and control group characteristics

Variable	Unit of Analysis	Guinea		Cape Verde	
		Preschool Group	Control Group	Preschool Group	Control Group
Number of children in sample	#	529	358	490	313
Girls	%	55.4	52.1	54.9	51.1
Family with >5 children	%	40.8	47.3	30.2	47.6
Mother works (outside home)	%	36.7	31.7	43.7	31.3
Mother is literate	%	49.9	31.1	81.2	70.0
Mother heads household	%	13.6	13.6	28.8	35.8
Child performs household tasks	%	29.7	36.1	24.1	27.2
Parents read to child	%	56.5	50.0	56.8	28.3
Child is seldom ill	%	9.5	8.0	36.7	35.1
Child is sometimes ill	%	48.8	45.3	31.6	31.9
Child is usually ill	%	41.8	46.2	31.6	32.9
Low household SES (SES 1)	%	35.0	53.0	47.6	51.8
Middle household SES (SES 2)	%	35.5	35.8	32.4	42.2
High household SES (SES 3)	%	29.5	11.2	20.0	6.1

ents the preschool and control group characteristics for each country.

Instruments

Two type of instruments were used: (1) questionnaires addressed to the teachers and personnel in the centers and to the preschool and control group chil-

dren's families; and (2) cognitive development tests to evaluate the children.

Measuring Cognitive Development: Cognitive development tests were administered only to five-year-old children, both to control for natural development associated with age and to avoid the difficulties of testing younger children. Instrument development had to respond to several challenges. First, the instru-

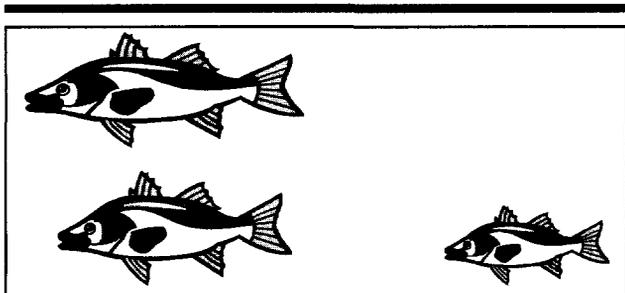
Annex Table 3
Summary of instruments

Instrument	Target group	Content	Application
Preschool questionnaire	Director of center, teachers	Description of the preschool program, type of activities developed, administration of the center, characteristics of personnel	Direct administration to directors and teachers individually.
Family Questionnaire	Parents of the child	Family characteristics, health status of the child	Direct administration to the parents of each child, individually
Cognitive and Physical Development Test	Five-year-old children	Cognitive development (language, basic concepts, visual discrimination) Physical development, (height/weight)	Direct administration individually to each child

ments had to measure the real skills of young children who had limited or no experience with preschool. Consequently, they were based on tests used by early childhood psychologists to measure overall cognitive development. Second, to ensure uniform application, they had to be easily administered by the study enumerators. Third, they had to take into account both contextual and cultural differences, departing from "western" assumptions that young children will be familiar with pencils and writing implements and ensuring that test contents, whether pictures, language, or descriptions, corresponded to the child's environment.

A simplified version of the Boehm Basic Concept Test was used. The test was pre-tested in a small sample in each country (15 children) to ensure that the items selected (24 in all) were culturally relevant and permitted test administration in local languages without ambiguities. Three domains of knowledge were tested: basic concepts, oral language, and pre-reading. Basic concepts were tested using drawings to elicit the child's responses about relationships (space, time and quantity) and his ability to use mathematical reasoning. Language skills were evaluated according to the child's ability to describe the situations represented in simple pictures. Visual discrimination was assessed by the child's identification of symbolic shapes that closely mirror written language. Figure 2 presents an example of the type of items used to evaluate basic concepts. All tests were administered in local languages in Guinea. In Cape Verde

Figure 2
The child is asked to point to the smallest fish.



interaction with children began in Portuguese. If children failed to understand Portuguese, tests were administered in Creole.

Measuring Physical Development: Identifying appropriate and practical measures of child physical development and well-being were particularly challenging. Young children's physical development can be measured in several ways. In addition to recording the degree of vaccination and the number of incidences of illness experienced by the child, an attempt was made to measure the degree of physical development by comparing weight to height. This measure is most often used by researchers to assess the level of stunting or wasting caused by malnutrition during early childhood. The resulting ratio can then be compared with that for children from industrialized countries. Since stunting occurs in children under age three and cannot be remedied by better nutrition at a later age, the weight:height ratio may have limited validity as a measure of the development of five-year-olds. However, as other options were too complicated or cumbersome for the field enumerators to administer, the weight:height ratio was used. (Enumerators were equipped with portable scales and tapes.)

Calculating Costs: Although the study did not collect full cost information about the school, sufficient data was collected to estimate unit costs of the sample preschools that provide for comparative analysis, although not accurate cost projection. In Cape Verde, monthly unit costs were derived from reported teacher monthly salary divided by the number of students per teacher. In Guinea, monthly unit costs were based on four indicators: teacher wage, number of teachers per school, school fees paid by students, and the number of students per school. They were not adjusted for time spent teaching and do not include financial or in-kind resources provided by other institutions, such as NGOs (although preschool operating budgets primarily consist of teacher salaries). They also do not take into consideration other personnel that may be associated with the school.

References

- Arnold, C. 1998. "Early Childhood, Building Our Understanding and Moving Toward the Best of Both Worlds." Paper presented at the International Seminar, Ensuring a Strong Foundation: An Integrated Approach to early Childhood Care and Development, 23-27 March, Institute for Educational Development, Aga Khan University, Karachi, Pakistan.
- Boehm, A. 1973. *Test des concepts de base*. Les éditions du Centre de Psychologie Appliquée, Paris.
- Bundy, Donald A.P., 1997. "Health and Early Childhood Development," in Young, Mary E., *Early Child Development: Investing in Our Children's Future*, Amsterdam: Elsevier.
- Cummins, J. 1979. Linguistic Interdependence and the educational development of bilingual children. *Review of Educational Research*, 49, 222-251.
- Cummins, J. 1979. Cognitive-academic language proficiency linguistic interdependence, the optimal age question, and some other matters. *Working Papers in Bilingualism*, No. 19, Toronto: Ontario Institute for Studies in Education.
- Currie, J. and D. Thomas 1995. "Does Head Start Make a Difference?" *American Economic Review*, 85(3)
- Delhaxhe, A. Godenir, A. 1990. *L'acquisition du nombre à l'école maternelle*, Service de Psychologie expérimentale, Université de Liège.
- Dutcher, N. The Use of First and Second Languages in Primary Education: Selected Case Studies. World Bank Staff Working Paper No. 504, January 1982.
- Edwards, J.H.Y and X. Liang, May 1998. "Mexico's Preschools: Coverage, Equity and Impact," Human Development Department LCSHD Paper Series No. 16, Washington, D.C.: World Bank Latin America and the Caribbean Regional Office.
- Eming Young, M. 1996. *Early Child Development: Investing in the Future*. Directions in Development. Washington, D.C.: World Bank.
- Evans, J. with R.G. Myers and E. Ilfeld 2000. *Early Childhood Counts: A Programming Guide on Early Childhood Care for Development*. Washington, D.C.: World Bank.
- Garcia, Marito H. March 2001. E-mail comments on Cape Verde and Guinea Studies.
- Haveman, R. and B. Wolfe. 1995. "The Determinants of Children's Attainments: A Review of Methods and Findings," *Journal of Economic Literature*, 33(4).
- Heaver, R., and J. Hunt. 1995. "Improving Early Childhood Development: An Integrated Program for the Philippines." A collaborative report by the World Bank and the Asian Development Bank for the Government of the Republic of the Philippines. Washington, D.C.
- Lokshin, M.M., E. Glinskaya and M. Garcia. June 2000. "The Effect of Early Childhood Development Programs on Women's Labor Force Participation and Older Children's Schooling in Kenya." Policy Research Working Paper 2376. Washington, D.C.: World Bank Development Research Group.
- Myers, C. "The Case for Pre-Primary Education: The Cost Effectiveness of Shishu Kaksha Centers, Nepal" in Evans, J with R.G. Myers and E. Ilfeld 2000. *Early Childhood Counts: A Programming Guide on Early Childhood Care for Development*. Washington, D.C.: World Bank.
- Mingat, A. and B. Suchaut. November 1998. "Une Analyse Economique Comparative des Systemes Educatifs Africains," A report prepared for the French Ministry of Cooperation and Development.
- Myers, R.G. March 2000 "Thoughts on the Role of the "Private Sector" in Early Childhood Development, Paper prepared for presentation at The Year 2000 Conference on Early Childhood Development "Investing in Our Children's Future—From Science to Public Policy," Washington, D.C.

- Myers, R.G. February 2000 "Summary: The EFA Global Thematic Review of Early Childhood care and Development," Prepared for the Consultative Group on Early Childhood Care and Development.
- Myers, R.G. 1995. *The Twelve Who Survive: Strengthening Programs of Early Childhood Development in the Third World*. Ypsilanti, Michigan: High/Scope Press.
- Myers, R.G. 1988. "Effects of Early Childhood Intervention on Primary School Progress and Performance in Developing Countries: An Update," Paper presented at a seminar on The Importance of Nutrition and Early Stimulation for the Education of Children in the Third World, Stockholm.
- Pollitt, Ernesto, K.S. Gorman, P.L. Engle, R. Martorell, and J. Rivera. 1993. "Early Supplemental Feeding and Cognition." *Society for research in Child Development*. 58 (7).
- Scheinart, L., H. Barnes and D.P. Weikart. 1993 *Significant Benefits: The High/Scope Perry Preschool Study Through Age 27*. Ypsilanti, Michigan: High/Scope Press.
- Sutton, P., K. Tietjen, A. Bah and P. Kamano (1999) *Promoting Primary Education for Girls in Guinea: A Case Study*, U.S. Agency for International Development, Washington, D.C.
- Tucker, G.R. "The Linguistic Perspective" in Parker, L. (ed.) *Education: Current Perspectives*, vol. 2. Linguistics. Arlington, Va. Center for Applied Linguistics, 1977.
- Van Der Gaag, J., and J.P. Tan, 1998. *The Benefits of Early Childhood Development Programs: An Economic Analysis*. Washington, D.C.: The World Bank.
- Washington Post, September 17, 2000. "A Look at...Africa and the AIDS Loan."
- World Bank. 2000a. *Can Africa Claim the 21st Century?* Washington, D.C.
- World Bank. August 2000b. "Norwegian Education Trust Fund Report Annex XX: Early Childhood Development, Regional Activities and Plans," prepared by the Africa Region's Human Development Department.
- World Bank. 2000c. "Une Chance Pour Apprendre: Le Savoir et Le Financement pour l'Education en Afrique Subsaharienne," Sector Assistance Strategy prepared by Africa Region's Human Development Department for the World Conference on Education for All, Dakar, 26-28 April 2000.
- World Bank. 1999. *Education Sector Strategy*. Washington, D.C.: The Human Development Network.



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Many of the factors constraining human development in Africa are rooted in the early childhood of its impoverished and disadvantaged populations. Early childhood care and development (ECCD) programs, which respond to young children's basic needs for cognitive stimulation, early learning, nutrition and basic health care, offer an opportunity to exercise a positive and lasting influence on the health, intelligence and future development of the individual child. Yet, for a variety of reasons today most children in Africa—almost 98 percent—grow up without the benefit of such programs.

However, this is now changing and interest in ECCD is growing in Africa. The World Bank is supporting ECCD and related school health and nutrition programs in more than 14 countries. But, despite the recognized benefits of ECCD, many questions about quality, affordability and sustainability remain. *Early Childhood Development in Africa: Can we do more for less?* examines a variety of alternatives in terms of content, implementation and financing in two countries, Cape Verde and Guinea. The study suggests that there is demand for ECCD programs at all socio-economic levels, that the provision of such programs can reduce disparities in school readiness among children from different socio-economic backgrounds and that high cost programs do not necessarily produce the best results.

The objectives of the study are to contribute to the knowledge base about the status of ECCD in West Africa, to identify the building blocks of affordable and cost-effective ECCD programs within an African context, and to better understand the role that governments and donors can play to support such programs. Finally, the study aims at providing guidance to education policymakers and staff in the World Bank and other partner agencies seeking ways to best serve the developmental needs of Africa's youngest citizens.