

**Human Development Department
LCSHD Paper Series No. 19**

**Early Childhood Care and Development Programs in Latin America:
How much do they cost?**

Myriam Waiser

August 1998

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The World Bank
Latin America and the Caribbean Regional Office

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This paper was first presented at a conference jointly organized by
The World Bank and the Inter-American Development Bank, on
Cost and Finance of Early Childhood Care and Development Programs
in Washington D. C., June 10-11, 1996.

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I. Introduction

Today, more than 80 million children in Latin America and the Caribbean (LAC) suffer from malnutrition, disease, and limited access to schooling.¹ They are the victims of widespread—and increasing—poverty. Between 1975 and 1990 alone, the total number of poor in the region rose from 136 million to 196 million, bringing to 46 percent the proportion of the total population living in poverty (ECLAC, 1993). In rural areas, the incidence is as high as 60 percent, although the vast majority of the poor—116 million—live in urban areas. To add to their plight, the gap between the poor and the rich has increased in the past decade, and since low-income families have the highest birth rates, their numbers are likely to increase in the near future.

Despite some improvements in living standards, approximately 30 percent of the population in the region still lacks access to clean water, and 34 percent is without basic sanitation. With core health risks at these levels, it is not surprising that mortality rates among children under five is 60 per 1,000 live births. On average, net access to primary education is 86 percent, but there are significant country differences, ranging from 56 percent in Haiti to 100 percent in Argentina and Uruguay. However, only 48 percent of children complete primary education.

Specialists throughout the world have met on several occasions in recent years to bring these problems into the public arena. The Education for All Conference in 1990, the World Summit for Children in 1990, the Nariño Accord in 1994, and the Latin American and the Caribbean Heads of State Summit in 1994, to name but a few, have all expressed a commitment to reducing poverty, especially children's poverty, through policy reform. Since the early years of life are crucial to the course of a human being's physical, mental, social, and emotional development, it is widely believed that investment in childhood care and development programs will provide the poor with opportunities to acquire the necessary skills for economic production and successful citizenship.

Some governments and international agencies such as the World Bank have already increased substantially the resources invested in Early Childhood Care and Development (ECCD) programs to foster the growth and development of poor children. By the end of fiscal 1994, the World Bank had lent a total of more than US\$745 million for projects that integrate health, nutrition, and early child care services, and it expects to do even more in this area in the next decade.

¹According to ECLAC Social Panorama 1994, household surveys reveal that as average, 50 percent of children under 15 lived in poor urban households in the LAC region in 1992. The figure is 78 percent for Honduras, 58.2 percent for Bolivia, 54.2 percent for Brazil, and 55.2 percent for Colombia (UNICEF, State of the World's Children, 1995:45).

Although the need for ECCD programs and their benefits to society at large have been well documented (see, for example, MacGuire and Austin 1987; Myers 1992; and Young 1995), little agreement has been reached on which programs are most efficient, how much should be invested in them, or which ones are most cost-effective. To shed some light on these questions, this discussion examines the real costs and financing of ECCD programs in the LAC region using information from previous studies of these programs. The discussion opens with a word about the ECCD concept and the scope of the programs to be examined, and then moves on to the coverage of preschool education, the systems of cost and finance, and an assessment of efforts to date.

II. The Concept of Early Childhood Care and Development

The financial aspects of programs geared toward Early Childhood Care and Development cannot be adequately assessed without a clear understanding of how these programs define “childhood,” “childhood care,” and “childhood development.”

By and large, *child development* is seen as “a process of change in which the child learns to handle ever more complex levels of moving, thinking, feeling and relating to others” (Myers 1992:39). All children develop, and their development is said to begin at the prenatal stage and to continue throughout life, but it is different from growth: “Whereas growth is described by change in *size*, development is characterized by changes in *complexity* and *function*” (Myers 1992:38). Moreover, development is multidimensional: it takes place in a physical dimension (movement and coordination), an intellectual dimension (thought and reason), a social dimension (relations with others); and an emotional dimension (self-confidence and feelings). These various dimensions are interrelated and must be treated as a unit when exploring questions pertaining to child development. That development takes place in a general sequence or pattern, but its rate, character, and quality “will vary from child to child and from culture to culture” (Myers 1992:39).

Early childhood is a somewhat more ambiguous term. What period does it cover: from conception until the first years of schooling, up to six years, eight years, or some other age? In general, it is taken mean the period from conception to age six, although some authorities prefer age eight. *Childhood care* has traditionally been associated with the notion of “charge”, “oversight”, “looking after”, or “watching over” (Hernon 1979). More recently the term has come to mean “concerned assistance, advice, and support.” Although some would distinguish between “care” and “education,” it might also be argued that there is no real difference between the two, “since all early childhood care necessarily involves an educational experience for the child and all early childhood education provision necessarily involves a substantial element of care” (Heron 1979:49).

Care has also been described as consisting of:

“the actions necessary to promote survival, growth and development. Caring for a child means responding to basic needs. The basic needs of development go beyond protection, food and health care to include the need for affection, interaction and stimulation, security provided through consistency and predictability, and play allowing exploration and discovery” (Myers 1992:41).

In that case, it can be argued that programs of child care and of integrated development should be the same, or, to go one step further, that early childhood education and early childhood development programs should also be the same. Nevertheless, the debate continues as to whether there is a difference between the custodial and the educational model.

The lack of agreement is particularly evident in cases in which policy must be designed with limited resources (see Reimers 1992). Despite attempts to reconcile objectives, questions still arise as to whether programs should focus on developing children to their fullest potential or give more emphasis to caring for the child to serve the needs of working parents. Research results of programs in the United States suggest that high-quality preschool programs would go a long way toward promoting true opportunities for the poor in Latin America (Reimers 1992; see also Weikart 1991).

In the view of the Consultative Group on Early Childhood Care and Development (1995), ECCD programs should be based on a broad holistic understanding of children’s growth. That is to say, they should address the needs of the whole child within the context of the family and community. If this is so, one has to clearly identify those needs. For children from zero to six years, those needs may be said to consist of protection from physical danger; adequate nutrition and health care; attachment with an adult; sensory stimulation; support in acquiring and developing language; motor skills and thinking skills; self-control and independence; cooperation, helping, and sharing; basic prewriting and prereading skills (Young 1995:12, based on Donohue-Colletta 1992).

The problem with this list is that it is too broad. If the criterion is whether ECCD programs meet the “basic” needs of children (Myers 1992; Young 1995), then they have to be concerned with infrastructure, housing, citizens' safety, environmental protection, legal initiatives, and so on. These are not the kinds of programs that one runs across in a review of the literature on the subject. Consequently, parameters must be defined that will make it possible to draw the proper distinctions.

Without such parameters, it is impossible to ascertain the costs of ECCD programs, for one may never be certain that the appropriate programs are being considered. In fact, the entire gamut of “social policy” programs might well be defined as ECCD. This makes it particularly difficult to estimate the total spending and cost of ECCD programs.

In this discussion, ECCD programs are those that provide a variety of services responsive to the physical, socio-emotional, economic, and cultural needs of children of preschool age. These services might include health, nutrition, early stimulation, education, and custodial care. The way different inputs are defined and organized, as well as the emphasis each program places on some of those services, will constitute the special features of the program, which will in turn be reflected in its cost.

Several variables can be used to classify the enormous variety of ECCD programs. From the standpoint of costs, three variables play a prominent role: the focus of intervention, the operating site, and the delivery system.

Focus of Intervention. Although the main beneficiary of all ECCD programs is the child, program interventions can be applied directly or indirectly. Direct interventions work directly with the children; indirect interventions work through parents, siblings, or other community agents.

Site of Program. Some programs operate at sites specially designed and equipped for their activities, whereas others use whatever sites are available, such as churches, community centers, and private homes.

Delivery System. Interventions may be delivered through one or more systems under the guidance of professional educators, paraprofessionals, trained parents, community members, the mass media, or others. For purposes of classification, only the main delivery system is considered here.

The combination of these variables and their respective categories provide a simple framework for classifying ECCD programs, determining why they vary, and providing an idea of available alternatives (see typology below).

The range of ECCD programs examined in this paper is restricted to those of primary and direct benefit to the population from zero to six years of age. This approach is used because it establishes clear parameters but is not intended to suggest that other programs are not ECCD programs.

Typology of ECCD Programs

| Delivery System | Direct Intervention | | | Indirect Intervention | | |
|---------------------------|--|--|------|--------------------------|------------------------------|------------------------|
| | Schools or Centers | Home-based | Both | Schools or Centers | Home-based | Both |
| Mainly Professionals | Formal pre-primary & kindergarten | | | Child to Child (Jamaica) | | |
| Mainly Para-Professionals | CADEL (Chile) PRONOEI (Peru) PROAPE (Brazil) | | | | | |
| Mainly Trained Parents | INTEGRA (Chile) | Hogares Cuidado Diario (Venezuela) HC. Bienestar (Colombia) PIDI (Bolivia) | | | | |
| Mainly Mass Media | | | | | Proyecto Familia (Venezuela) | Padres e Hijos (Chile) |

III. Coverage

Data on supply, demand, and quality of ECCD programs is scant. The United Nations Education, Scientific and Cultural Organization (UNESCO) is the best source of information to analyze the coverage of ECCD services provided to children in an organized setting. This information is presented by UNESCO as preschool and pre-primary gross enrollment rates—whereas pre-primary refers only to children aged one or two years younger than the official age to start primary education, preschool includes all children below 6 years. According to this source, from 1980 to 1989, the population of children below six years of age in Latin America and the Caribbean increased from 62.0 million to 66.4 million, or 7.1 percent. At the same time, the number of children enrolled in preschool programs increased 80 percent, from 5.18 million to 9.3 million. However, these rates varied greatly in the subregions: in South America, the rise in population was 6.7 percent and the rise in preschool enrollment 64.6 percent, while in the Gulf of Mexico subregion the figures were 6.6 percent and 134.4 percent, respectively.

The average preschool gross enrollment ratio was 8.3 percent in 1980 and 14.0 percent in 1989—an increment of 68.7 percent. Some countries experienced increases well above that average: Brazil increased 91.4 percent, Ecuador 96.6 percent, Costa Rica

84.5 percent, the Dominican Republic 233.0 percent, and Mexico 133.0 percent. In other countries the ratios fell: they dropped by 8.3 percent in Bolivia and 13.1 percent in Uruguay.

Despite recent progress, access to preschool education for the population under six continues to be very limited in the region, and it varies greatly across the subregions and from country to country. In 1989 the gross enrollment ratio for this age group was 14.0 percent on average, but only 6.5 percent for Central America and Panama. By contrast, it was up at 31.5 percent in the Anglophone Caribbean, with Jamaica, Guyana, and Cuba reporting the highest ratios. In the region as a whole, however, less than one out of seven children have access to preschool programs (see Table 1).

The great disparity among countries may be due in part to lack of agreement on the kinds of services each country includes in enrollment figures of preschool education. A great variety of programs might account for the total enrollment. Some programs may focus entirely on formal education for children between four and six years of age in kindergartens or pre-primary schools staffed by university-trained teachers, whereas others may be operated by trained mothers in their homes or community centers. ECCD programs also vary in their schedules, from a few hours a week to up to 12 hours a day. In fact, if one takes into account only the population at pre-primary level, coverage is much higher.

Table 1
Population 0-5 years and
Preschool Gross Enrollment Ratios. LAC Region 1980-1989

| Sub-Region & Country | Population Age 0-5 (thousands) | | | %▲ | Gross Enrollment Ratios (in percentages) | | | %▲ 1980-89 |
|-------------------------|-----------------------------------|-------|-------|----|---|------|------|---------------|
| | 1980 | 1985 | 1989 | | 1980 | 1985 | 1989 | |
| South America | 40968 | 43965 | 43707 | | 8.4 | 11.4 | 13.0 | 54.8 |
| Argentina | 3877 | 4148 | 3896 | | 13.6 | 16.7 | 19.7 | 44.9 |
| Bolivia | 1135 | 1287 | 1450 | | 8.4 | 8.8 | 7.7 | (8.3) |
| Brazil | 21995 | 23619 | 21748 | | 7.0 | 10.4 | 13.4 | 91.4 |
| Chile | 1458 | 1501 | 1739 | | 12.0 | 13.5 | 15.9 | 32.5 |
| Colombia | 4094 | 4118 | 4919 | | 5.0 | 6.4 | 7.0 | 40.0 |
| Ecuador | 1559 | 1698 | 1876 | | 3.0 | 4.8 | 5.9 | 96.6 |
| Paraguay | 619 | 685 | 762 | | 2.2 | 2.8 | 3.9 | 77.3 |
| Peru | 3196 | 3543 | 3799 | | 12.2 | 15.6 | 14.2 | 16.4 |
| Uruguay | 330 | 330 | 333 | | 12.9 | 16.7 | 11.2 | (13.1) |
| Venezuela | 2706 | 3037 | 3186 | | 15.6 | 18.5 | 17.9 | 14.7 |
| C. America/Panama | 4703 | 5061 | 5326 | | 4.5 | 5.9 | 6.5 | 44.4 |
| Costa Rica | 374 | 432 | 464 | | 5.8 | 8.4 | 10.7 | 84.5 |
| El Salvador | 941 | 943 | 979 | | 4.8 | 6.6 | 6.7 | 39.6 |
| Guatemala | 1493 | 1694 | 1743 | | 3.3 | 3.7 | 4.6 | 39.4 |
| Honduras | 957 | 946 | 992 | | 4.8 | 5.1 | 5.5 | 14.6 |
| Nicaragua | 610 | 711 | 796 | | 5.0 | 8.8 | 7.9 | 58.0 |
| Panama | 328 | 335 | 352 | | 5.5 | 7.9 | 9.1 | 65.5 |
| Gulf of Mexico | 15717 | 15387 | 16753 | | 8.3 | 17.2 | 18.3 | 120.5 |
| Cuba | 947 | 884 | 1047 | | 21.4 | 21.9 | 25.8 | 20.6 |
| Haiti | 990 | 946 | 963 | | 1.0 | 2.2 | 3.5 | 25.0 |
| Mexico | 12775 | 12456 | 13615 | | 8.4 | 19.1 | 19.6 | 133.0 |
| Dominican Republic | 1006 | 1101 | 1128 | | 2.7 | 4.8 | 9.0 | 233.0 |
| Anglophone Caribbean | 642 | 660 | 663 | | 30.2 | 29.8 | 31.5 | 4.3 |
| Guyana | 98 | 118 | 123 | | 28.7 | 25.5 | 20.6 | 28.2 |
| Jamaica | 339 | 331 | 327 | | 35.2 | 35.9 | 39.7 | 12.8 |
| Region | 62031 | 65073 | 66449 | | 8.3 | 12.5 | 14.0 | 68.7 |

Source: UNESCO/OREALC. *Situación de América Latina y el Caribe*, 1980-1989.
Santiago, Chile, 1992 p.449.

As Table 2 shows, gross enrollment ratios for pre-primary education are well above preschool ratios in all countries. That suggests preschool coverage is associated with the age of children. In Argentina, for instance, the preschool gross enrollment ratio in 1989 was 19.7 percent, whereas the pre-primary gross enrollment was 50 percent. In the case of Chile, the figures for 1990 were 15.9 percent and 82 percent, respectively, and for Cuba they were 21.9 percent and 88 percent. Although pre-primary gross enrollment ratios are higher than preschool ratios, in 15 out of 23 countries the figure is below 50 percent, and in 10 countries it is less than 40 percent.²

As for the ratios of pre-primary gross enrollment, they differ even more than the preschool ratios. There is a difference of 85 percentage points between the country with the lowest pre-primary gross enrolment ratio (Trinidad and Tobago, with 9 percent) and the highest (Cuba with 94 percent). This difference for the preschool gross enrollment ratios was 35.8 percentage points.

Since the mid-1980s, gross enrollment ratios for preschool and pre-primary schools have more than doubled in some countries, whereas in others the rates have remained low. This inconsistent pattern raises a number of questions about the coverage of ECCD programs. Are differences merely due to a lack of agreement among countries on how to report information of ECCD enrollment? Or are they the result of differences in educational policy, the ways of defining preschool facilities, patterns of demand for ECCD services, or the availability of resources? It is difficult to answer these questions and each deserves further investigation yet, data on attendance and enrollment may help to clarify these issues.

² The 1994 UNESCO *Statistical Yearbook* reports that in 1990 pre-primary gross enrollment in France (among children from two to five years of age) was 83 percent, in Italy (among children three to five) 92 percent, in Norway (among children four to six) 90 percent, in Switzerland (among children four to six) 69 percent.

Table No. 2
Pre-primary gross enrollment ratios, LAC Region 1980-1993

| Sub-Region & Country | Age | Gross Enrollment Ratios (in percentages) | | | | | | |
|-------------------------|-----|---|------|------|------|------|------|-----------|
| | | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 | last-1980 |
| South America | | | | | | | | |
| Argentina | 4-5 | 40 | 50 | | 47 | | | 7 |
| Bolivia | 4-5 | 27 | | 32 | | | | 5 |
| Brazil | 4-6 | 14 | 26 | 36 | 35 | 36 | | 22 |
| Chile | 5 | 71 | 82 | 82 | 74 | 86 | | 15 |
| Colombia | 3-5 | 9 | 12 | | 15 | 20 | 22 | 13 |
| Ecuador | 4-5 | 11 | 18 | 21 | 22 | 23 | | 12 |
| Paraguay | 6 | 12 | 19 | | 28 | 31 | 41 | 35 |
| Peru | 3-5 | 15 | 21 | 30 | | 32 | 34 | 19 |
| Uruguay | 2-5 | 19 | 25 | 32 | 33 | 34 | 33 | 14 |
| Venezuela | 4-6 | 34 | 39 | 41 | 43 | 43 | | 9 |
| C. America/Panama | | | | | | | | |
| Costa Rica | 5 | 39 | 52 | 61 | 67 | 66 | 66 | 27 |
| El Salvador | 4-6 | 11 | 13 | | 19 | 22 | 25 | 14 |
| Guatemala | 5-6 | 21 | 26 | | 25 | | 31 | 10 |
| Honduras | 5-6 | 14 | 18 | | 19 | | 20 | 6 |
| Nicaragua | 3-6 | 8 | 14 | 12 | 13 | 12 | 15 | 7 |
| Panama | 5 | 33 | 51 | 53 | | | | 20 |
| Gulf of Mexico | | | | | | | | |
| Cuba | 5 | 59 | 79 | | 88 | 94 | 94 | 35 |
| Haiti | 3-5 | | 41 | | | | | |
| Mexico | 4-5 | 25 | 59 | 62 | 62 | 63 | 65 | 40 |
| Dominican Republic | 3-6 | 4 | 10 | | | | 20 | 16 |
| Anglophone Caribbean | | | | | | | | |
| Guyana | 4-5 | 67 | 72 | | | 79 | | 12 |
| Jamaica | 3-5 | 70 | 76 | 84 | | | | 14 |
| Trinidad and Tobago | 3-4 | 8 | 8 | 8 | | 9 | | 1 |

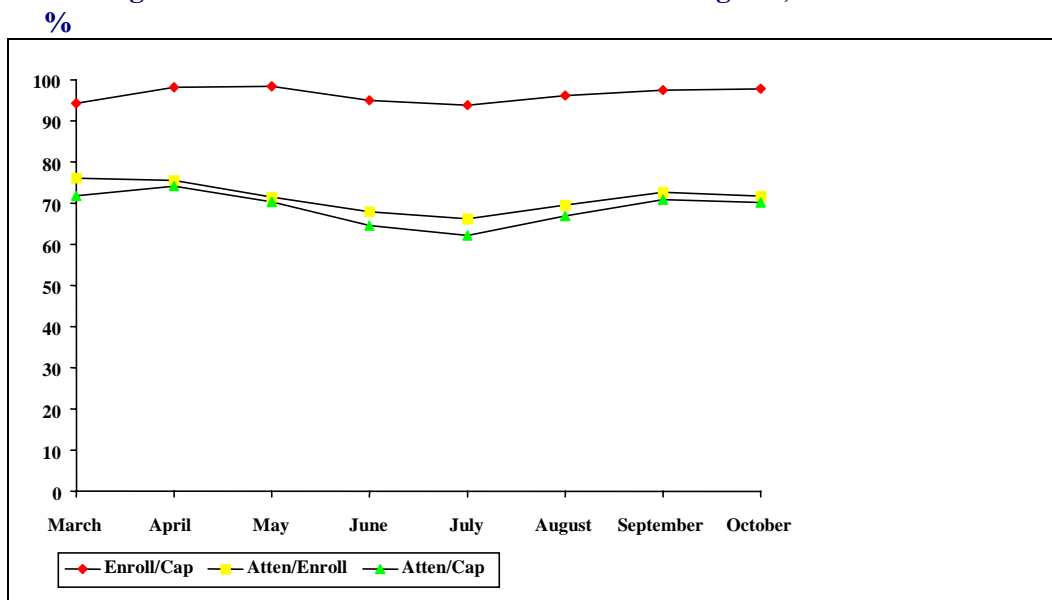
Source: UNESCO. *Statistical Yearbook 1995*. UNESCO Publishing & Bernan Press U.S.A., 1995.

Although not all ECCD programs report information on actual attendance, among those that do, attendance is frequently more than 20 percent lower than enrollment. In the case of Peru's *Programa No Formal de Educación Inicial* (PRONOEI), most of the children registered do attend, but do not attend regularly. On average, children attend only 9 to 10 days a month rather than the 21 to 22 days scheduled (Myers et al. 1985:23–29).

From a survey of Colombia's program *Hogares Comunitarios de Bienestar*, it appears that 67.2 percent of the *hogares* have 12 to 15 children enrolled, and 31 percent have 16 to 20 (Ortiz 1992:1667). The day before the survey was conducted, attendance was below 10 children in 9 percent of the *hogares* and around 11 children in 88.9 percent. In another study of the same program, the *Instituto Colombiano de Bienestar Familiar* (ICBF) reported a total of 877,710 children enrolled in 1992, but a subsequent survey found only 305,659 children actually attending (Flores and Méndez 1993:78–79).

In Chile, several indicators have been used to assess program attendance for *Centros de Atención de Desarrollo del Lenguaje* (Pontificia Universidad Católica de Chile, Instituto de Economía. 1989:142-145) attendance/enrollment, attendance/capacity, enrollment/capacity, dropout/enrollment. In this case, attendance was less than 75 percent of enrollment, and even lower during the winter months. In some regions, attendance was around 50 percent of enrollment. The average enrollment was 97 percent of capacity. However, attendance was only 70 percent of capacity on average. More than 5 percent of enrollees dropped out of the program each month (see Figure 1).

Figure 1: Attendance Indicators for CADEL Program, Chile: 1989



Source: Pontificia Univ. Católica de Chile, 1989: pp. 142-145

In short, actual attendance gives a pessimistic picture of access to preschool. Moreover, it points to excess capacity in some programs, which might indicate that the shortage of financial resources is not the only relevant factor behind the low coverage of preschool programs. Factors related to the demand for these services, not just their provision, may be at the heart of the problem.

Research on the demand for preschool services in Chile (Waiser 1995) clearly shows that low preschool coverage is closely linked to cultural traditions and beliefs about adequate norms for rearing children, rather than to the supply of programs for children under the age of six. Some 95 percent of parents with children not attending preschool programs thought that their children were too young to be enrolled in those programs.

Furthermore, although most of the programs financed by governments or international agencies are targeted to reach the poorest members of society, access to preschool programs appears to be lower for those groups. In Colombia, for example, less than 20 percent of the households in extreme poverty use the services provided by the program *Hogares Comunitarios de Bienestar* (Flores and Méndez 1993). And in Chile, preschool coverage in 1992 was 24 percent as a whole, but only 19 percent for the children of the 20 percent poorest households, compared with 43 percent for the children of the 20 percent richest households (Waiser 1995).

In sum, preschool and pre-primary school coverage is low. Preschool coverage is lower than pre-primary coverage, indicating probably a correlation between age and the supply/demand of services. Important differences can be detected among countries and also among income segments of the population in each country. Low coverage cannot be explained solely in terms of scarce investment or deficiencies in supply. Other factors—such as norms, traditions, and beliefs—also need to be considered when trying to increase the coverage of ECCD programs.

IV. Cost of ECCD Programs

To date, little attempt has been made to investigate the long-term outcomes of investments in ECCD programs in Latin America, even though some of these programs have been functioning for more than 30 years. Although a strong case has certainly been made for the benefits such programs bring to society at large—through their potential to increase economic output and their high rates of return (Carnoy 1992), not to mention the benefits to individuals and their families³—the problems surrounding the cost and financing of these programs have not received adequate attention. In particular, a great

³ For a summary of research results on ECCD programs effectiveness, see Robert Myers (1992).

deal of confusion arises when cost analysis is incorporated into program evaluation and decision-making because a number of different but related concepts and terms (“cost-effectiveness,” “cost benefit,” “cost utility,” and “cost feasibility”) are often used interchangeably (Levin 1983).

Cost-effectiveness analysis (CE) has been defined as the evaluation of alternatives in terms of what both their costs and their effects can contribute to producing some outcome or set of outcomes (Levin 1983). Under this definition, both the costs and effects of alternatives should be taken into account in evaluating programs with similar goals. It is assumed that (1) only programs with similar or identical goals can be compared, and (2) a common measure of effectiveness can be used to assess them. Effectiveness data can then be combined with costs in order to arrive at a cost-effectiveness evaluation that will make it possible to select those approaches that provide the maximum effectiveness per level of cost or that require the least cost per level of effectiveness (Levin 1983:18).

When studies of ECCD programs in the LAC region are reviewed with this definition in mind, it seems that only one has focused specifically on cost-effectiveness, namely, the evaluation of ECCD programs being conducted in Chile.⁴ Yet this type of analysis is exceedingly useful in allocating resources more efficiently, since “it can reduce the costs of reaching particular objectives; and it can expand what can be accomplished for any particular budget or other resource constraint” (Levin 1983:11). In addition, it can be an important source of persuasion.

In this conceptual framework, *cost-benefit (CB) analysis* can be defined as an evaluation of alternatives that proceeds by comparing both their costs and their benefits when each is measured in monetary terms (Levin 1983:21). Whenever cost-benefit analyses of ECCD programs have been conducted in the LAC region, however, their scope has been limited to tracing the effects of programs only in terms of the cost savings due to a reduction in repetition rates for primary school. For an example of a true CB, one must turn to the United States and the analysis conducted by the High/Scope Educational Research Foundation for the Perry Preschool Program (Schweinhart, Barnes, Weikart et al. 1993). Program benefits identified in that study were an increase in the productivity of children and their mothers and cost savings due to the fact that there is less need for remedial services in schools and that less social cost is incurred in combating juvenile delinquency.

What makes CB analysis of ECCD programs particularly difficult is that all the costs borne by the program need to be computed, regardless of the source of finance, and all the benefits (effects) must be assessed in monetary terms. The great advantage of

⁴A study of cost-effectiveness of ECCD programs is being conducted by the *Centro de Estudios de Desarrollo y Estimulación Psicosocial (CEDEP)* under the auspices of the Ministry of Education, and within the framework of the MECE project, financed through a loan of the World Bank to the government of Chile.

cost-effectiveness and cost-utility analyses, however, is that they do not depend on the ability to represent benefits in pecuniary terms. In *cost-utility analysis (CU)*, alternatives are evaluated by comparing their costs and the estimated utility or value of their outcomes; hence a wide range of qualitative and quantitative data can be used in the analysis. However, “the highly subjective nature of the assessments of effectiveness and the values placed upon them by the decision maker prevent the kind of replicability from analysis to analysis that might be obtained with the more stringent cost-benefit and cost-effective approaches” (Levin, 1983:26).

Since all three types of cost analyses just described obtain some measure of both the costs and results of a proposed strategy, they give one the option of choosing the approach that has the lowest cost for any particular result or the best result for any particular cost. The trouble with ECCD programs, however, is that some costs are usually omitted (such as the private costs, volunteer work, training, and/or turnover of caregivers), because of the difficulty of assigning shadow prices to costs, or because the necessary information is not readily available.

In addition, there may not be enough background information on the characteristics of participants in those programs (which might be related to the outcomes), measures of the program’s outcomes and its monetary value may not have been agreed upon, or there may be a long list of possible outcomes whose impact is difficult to isolate from the impact of other interventions that are taking place at the same time or that have effects over time.

Moreover, in order to assess the impact of a specific program, one has to monitor a wide range of interventions throughout the life of the program and also after its completion. This also has a cost, for the more complex the system used to gather information for evaluation purposes, the more expensive it is. Even then, evaluation research may not be capable of separating the effects of the program from external factors.

It should be pointed out, however, that estimates of costs alone are useful in certain circumstances, namely, in assessing the feasibility of a cost analysis. Hence, “*cost-feasibility (CF) analysis* refers to the method of estimating only the costs of an alternative in order to ascertain whether or not it can be considered. That is, if the cost of any alternative exceeds the budget and other resources that are available, there is no point in doing further analysis” (Levin, 1983:30).

With these definitions and caveats in mind we now turn to the analysis of per-capita cost of ECCD programs.

V. Per-capita Cost of ECCD Programs

As with other financial aspects of ECCD programs, basic information about their total and per capita cost is not readily available. The empirical evidence collected in more than 25 studies of ECCD programs indicates that many procedures are used to calculate their costs (Lira 1994). Consequently, the costs reported for different programs in a given country and for the same type of programs in different countries vary greatly.

To complicate matters, none of the countries in Latin American and the Caribbean have a single ministry or institution in charge of providing preschool services. Usually several ministries, private agencies, and nongovernmental organizations take part in this endeavor. As a result, programs differ in their goals, the age of the children participating, the operating site, type of services provided, staff/child ratio, staff training, operating schedule, and organization.

For the most part, formal preschool programs and kindergartens staffed by highly trained teachers provide education and other services in centers or schools especially devoted to those purposes. Less formal programs, operating in homes or community centers and run by paraprofessionals and trained mothers, are more likely to provide full day care with only some educational activities. Total program hours in these less formal programs vary from 10 to more than 40 hours per week and. Not surprisingly, the costs of these programs also vary a great deal.⁵ In Argentina, the total estimated cost of formal preschool programs and kindergartens in 1994 was US\$3,611 per child per year, while in Chile, the cost of operating a pre-primary facility was US\$334 per child per year in 1993.

The costs of home-based programs range from less than US\$200 to more than US\$1,000 per child per year. In Venezuela, the cost of the *Hogares de Cuidado Diario*

⁵ It is interesting to note that the U.S. Department of Health and Human Services reported that the average per child cost for the Head Start Program was US\$3,415 in fiscal 1992. This amount includes all program costs, even those associated with providing social and health services to program participants except health services covered by Medicaid and the U.S. Department of Agriculture Child Care Food Program. The average per child cost for instructional staff in this program was US\$ 1,390. The average per child cost for instructional staff in Denmark ranges from US\$1,980 to US\$2,280, in Italy from US\$1,570 to US\$2,670, and in France from US\$710 to US\$1,480 (United States General Accounting Office, 1995:30-31).

in the 1970s was approximately US\$1,125 per child per year (Terán de Ruesta and Barrios 1978), while the cost per child per year of the *Hogar Comunitario Infantil* in Ecuador was US\$175 in 1983 (J. Mejía, 1991).

The costs per child per year of center-based programs range from less than US\$100 to US\$1,080. The average cost of the “Cocoon Units”—a program of integrated day care centers for children under the age of six in northeast Brazil—was US\$1,080 per child per year in 1978 (Bittencourt et al. 1979:34). At the other extreme, the average cost per child per year in the *Programa No-Formal de Educación Inicial* (PRONOEI) in Perú was US\$52 per child per year (in 1982 dollars) (Forero and Cuervo de Forero 1986, quoted in Lira 1994:157). Another factor that contributes to the differences in cost among programs is the great variety in their operating schedule (months per year, days per month, and hours per day). For example, children remain up to 10 hours in the “Cocoon Unit,” as opposed to only 3 hours in the Peruvian PRONOEI.

The scattered and not strictly comparable information of cost per child per year of ECCD programs presented above, does not allow to make sound conclusions on this matter. Therefore, for the purposes of this discussion, the price range of ECCD programs was investigated by performing two exercises in which we compare the per-capita cost of different programs, taking into consideration those variables that account for the largest share of their total cost: site, age of children, operating schedule, nutrition and health provision, staff training, staff/child ratio, and coverage.

Exercise 1

The first exercise compares per capita costs of home-based programs in Venezuela, Colombia, Bolivia, and Ecuador. These programs were selected because cost information was available in all cases, and they were similar in their objectives and design. (A description of the programs is presented in the annex).

As Table 3 reveals, the total per capita cost of ECCD programs per year is highest in Venezuela (US\$468.00), followed by Bolivia (US\$324.00), Colombia (US\$298.18), and Ecuador (US\$175.00). The programs do not differ significantly in their operating schedules, the age of the population enrolled in them, or the training of the persons in charge. They differ primarily in the number of children in each home (8 in Venezuela compared with 15 in Colombia and Bolivia), the level of daily caloric intake of children (which ranges from 50 percent in Colombia to more than 80 percent in Bolivia), and the coverage of each program. Since food and staff per child are two of the main components of the cost of these programs, cost differences can be attributed in part to these factors. The difference in coverage might also play a role, but it is not clear that increases in scale will necessarily diminish the per-capita cost of a program.

Table 3
Annual Per-Capita Cost of Home Based ECCD Programs in Different Countries

| Country | Name of Program | Operating Schedule | | | Age of Children | No. of Children per home | Education & No. Of Adults in Charge | Nutrition % Daily Intake | Health V P/E D/C | Coverage of Programs | Annual P/C Cost US\$ | Year of US\$ | Data Sources |
|-----------|--|--------------------|------|-------|-----------------|--------------------------|-------------------------------------|--------------------------|---------------------|----------------------|----------------------|--------------|--|
| | | Mon. | Days | Hours | | | | | | | | | |
| Venezuela | Hogares de Cuidado Diario | 12 | 5 | 12 | 0-6 | 8 | One trained mother | 3 meals | | 239085 | 468.00 | 1993 | M.C. Terán de R., M. Rodriguez a Trovar (1993) |
| Colombia | Hogares Comunitarios de Bienestar | 12 | 5 | 8 | 0-6 | 15 | One trained mother & one helper | 60-70% 3 meals | | 828300 | 298.18 | 1991 | C. Castillo, N. Ortiz, A. Gonzalez (1993); M. Lira (1994) |
| Bolivia | Programa Integral de Desarrollo Infantil | 12 | 5 | 8 | 0-6 | 15 | One trained mother & one helper | 70-80% | | 4950 | 340.00 | 1993 | K. Lashman (1995) |
| Ecuador | Hogar Comunitario Infantil | 12 | 5 | 9 | 0-6 | 15 | One trained mother & one helper | | | 1035 | 175.00 | 1995 | J. Mejia (1991) |

V = Vaccines

P/E = Preventive Health Exam

D/C = Dental Care

Another important difference is the fact that costs are reported for different years. Although costs are reported in U.S. dollars, they are difficult to compare across countries because of inflation and variation in the exchange rate over time, both within and among countries.⁶ In 1978, for example, the exchange rate in Venezuela was Bs. 4.3 per dollar and the per capita cost of home-centered day care was estimated to be Bs. \$4.841 (Terán de Ruesta and Barrios 1978), or US\$1,125. In 1993, the official exchange rate fluctuated between Bs. 79.85 per dollar in January to Bs. \$106.20 in December, and the annual per capita cost of home-centered day care was about US\$468.00 (Terán de Ruesta, Rodriguez, and Tovar 1993). That means the price in 1978 was more than double the price estimated for 1993. It is therefore necessary to adjust these figures for internal inflation and changes in exchange rates, or to use the World Bank index of purchasing power parity (PPP) estimates of GNP for international comparisons⁷.

With adjustments for inflation and for fluctuations in the rates of exchange, the total annual per-capita cost of the program in Venezuela was US\$1,443, and for Colombia US\$340 (Lira 1994:228), which translates to a fourfold difference. However, if one compares total annual per-capita cost reported for Venezuela in 1993 (US\$468.00; see Terán, Rodriguez, and Tovar 1993) with the adjusted total for Colombia (Lira 1994), the difference is US\$128.00, approximately only one-third more.

Table 4
Annual Per-Capita Cost of “Hogares de Cuidado Diario” in Venezuela

| Operating Schedule | | | Age of Children | No. of Children per home | Education & No. Of Adults in Charge | Nutrition % Daily Intake | Coverage of Programs | Annual P/C Cost US\$ | Year of US\$ |
|--------------------|------|-------|-----------------|--------------------------|-------------------------------------|--------------------------|----------------------|----------------------|---------------|
| Months | Days | Hours | | | | | | | |
| 12 | 5 | 12 | 0-6 | 5 | One trained mother | 3 meals | 6,300 | 1,125.00 | 1978 a |
| | | | | | | | | 1,443.00 | 1993 b |
| 12 | 5 | 12 | 0-6 | 8 | One trained mother | 3 meals | 239,085 | 468.00 | 1993 c |

Source: **a** M.C. Terán de Ruesta y A. Barrios (1978), **b** M.C. Terán de Ruesta, M. Rodriguez y A. Tovar (1993), **c** M. Lira (1994)

⁶For a detailed explanation of problems related to these aspects in Perú, see Llanos and Winkler (1982).

⁷Purchasing power parity (PPP) is defined as the number of units of a country's currency required to buy the same amounts of goods and services in the domestic market as one dollar would buy in the United States. The international dollar (\$), used as the common currency, is the unit of account that equalizes price levels (World Bank 1995:243)

When the 1993 annual unit cost of those programs in Venezuela (US\$468.00) and Colombia (US \$340.00) is compared with the 1993 value of the international dollar (I\$) for each country using the PPP formula, the cost for the program in Venezuela is I\$154 and for Colombia I\$75.5. Thus in international dollars the cost of the program in Venezuela is approximately double that in Colombia. In sum, it seems that neither approach gives consistent results that can be interpreted in a meaningful way.

This example illustrates some of the problems involved in using adjusted exchange rates or the PPP index when making international comparisons. Program costs can be misinterpreted substantially if one approach is used instead of another. Because such calculations are extremely sensitive to the methodology used for exchange rates, they should be used only as rough measures and not as accurate indicators.

In view of the problems encountered in Exercise 1, a second exercise was attempted, in which the costs of different types of programs in one country were compared at two points in time. The rationale in this case was that even if programs have different characteristics, their costs differences should remain constant at two points in time, especially if costs are calculated by the same method in each case. Here, the annual per capita costs of programs in Chile were selected for comparison, since data on the costs of those programs are available for 1991 and 1993.

Exercise 2

Estimates of annual per capita costs of Chile's different programs were obtained by dividing the total budget of each program by the number of children enrolled (see Seguel, Izquierdo, and Edwards 1991). The annual operational per capita costs of the same programs were subsequently calculated for 1993 (see Recart and Valenzuela 1995). For some programs, such as the program *Centros Abiertos* of INTEGRA, calculations were also based on the total budget, since the institution does not keep records of itemized spending. But average annual spending of INTEGRA is close to 100 percent of its annual budget. In addition, data on costs of each institution were processed in a consistent manner, and, when necessary, the same assumptions were made for different programs (Recart and Valenzuela, 1995:31). Although the reported calculations of annual per-capita cost were based on enrollment and average attendance, in order to make comparisons with the 1991 data, figures calculated on the basis of enrollment will be used here.

Table 5 presents a comparative summary of the calculations of per-capita cost of different programs for 1991 and 1993. Although the ranking of programs according to annual per capita cost is the same in both years, differences in cost are enormous and beyond inflation, though calculations are only two years apart. The increment on annual per-capita costs for the same program range from 64.7 percent to 134.4 percent in the period 1991-1993.

Table 5
Annual Per-Capita Cost of Different ECCD Programs, Chile 1991-1993

| Name of Program | Operating Schedule | | | Age of Chile | No. of Children per class | Education & # of adults in charge | Nutrition | Cost U/C 1991 | Cost U/C 1993* | Difference cost 1993-1991 | % ▲ |
|--------------------------------------|--------------------|------|-------|--------------|---------------------------|---|----------------------|-----------------------------|---|---------------------------|-------|
| | Month | Days | Hours | | | | | Exchange Rate 1 US \$=\$350 | Exchange Rate 1 US\$=\$400 | | |
| Preschool Education MIDEUC | 10 | 5 | 5 | 5 to 6 | | one university degree teacher, one para-professional | some children 1 meal | 142.47 | 334.00 | 191.53 | 134.4 |
| Jardin Infantil Convencional JNJI | 11 | 5 | 8to10 | 0 to 5 | 32 | one university degree teacher and one para-professional | 80% in - take | 500.00 | 888.50 | 388.50 | 77.6 |
| Jardin Familiar No-convencional JNJI | 10 | 5 | 5 | 2 to 5 | | para-professional and mothers + supervision | 2 meals | 230.00 | 456.62 | 226.62 | 98.5 |
| Centros Abiertos Integra | 10 | 8 | 8 | 2 to 5 | | trained worker + volunteer + supervisor | 3 meals | 340.00 | 560 weighed x of costs centers type A-B-C | 220.0 | 64.7 |

Source:

X Seguel, T. Izquierdo, M. Edwards: "Dignóstico Nacional y Elaboración del Plan de Acción para el decenio en el Area del Desarrollo Infantil y Familiar." Comité Interministerial Económico y Social, Santiago Chile.

M.O. Recart and J.P. Valenzuela. "Educación Pre-Escolar en Chile: Una Sistematización sobre Costo-Efectividad de Programas. UNICEF, Santiago, Chile.

The most expensive program is *Jardín Infantil Convencional* of JNJI, and the least expensive is MINEDUC's preschool program. In 1991 JNJI's program was two-and-a-half times more expensive than MINEDUC's. This difference might have something to do with the fact that the operating schedule is longer and that the age of children in attendance and the number of meals distributed daily are also different. In 1993, however, JNJI is only about one-and-a-half times more expensive. How can this be explained?

Even if one examines two programs from the same institution, the relationship between the costs calculated for 1991 changes in 1993. In the case of JNJI's *Jardín Familiar No-Convencional* and *Jardín Infantil Convencional*, for example, the relationship between their annual unit costs was 1 to 1.17 in 1991, whereas in 1993 it was 1 to 0.95.

This and the preceding exercise demonstrate that the systems used to obtain information on ECCD programs need to be improved substantially. A concerted effort must be made to develop a standard procedure to estimate their costs, to identify appropriate indicators for monitoring and assessing their impact, and to arrive at a proper design for the evaluation process. Without such changes, it will be impossible to make informed decisions in the future.

VII. Finance of ECCD Program

As mentioned earlier, no single ministry or institution is in charge of providing preschool services in the countries of Latin America and the Caribbean. Rather, several ministries, private agencies, and nongovernmental organizations (NGOs) shoulder this responsibility. As a result, each country offers a wide range of programs, service delivery is fragmented, and the sources and systems of finance vary greatly.

Sources of finance are diverse. They include the national government, local government, community and family contributions, private enterprises, and international organizations. These sources of finance are not necessarily in charge of actually delivering the services. For instance, services for one program might be provided by all or one of the following ministries: Health, Education, Social Welfare, Justice, Labor, and Family. This fact makes it difficult to consolidate in one budget the total amount invested in ECCD programs.

In most cases it is not even possible to determine the exact amount invested separately by each ministry, since ECCD programs are one component of a larger program. Although one might expect this task to be easier for the Ministries of Education, only a few countries report in disaggregated form expenditures for the pre-primary and first level of education. Indeed, as seen in table 5, eight countries in the LAC region report separately expenditures for pre-primary, eight countries report its expenditures together with the first level of education, whereas others do not report pre-primary expenditures at all.

In those countries that do report pre-primary expenditures separately, all increased their expenditures in the period 1980–93. This increase has been especially noticeable in Chile, Cuba, Guyana, and Mexico, which experienced a rise of more than 6 percent by 1993. For the other countries, expenditures on pre-primary activities range from less than 1 percent to 5 percent.

Table N°6
Public Current Expenditure in Pre-Primary and First Level of Education, LAC Region 1980-1993

| Sub-Region & Country | % for Pre-Primary | | | | % for First Level | | | |
|-----------------------------|-------------------|------|------|-------|-------------------|------|------|------|
| | 1980 | 1985 | 1990 | 1993 | 1980 | 1985 | 1990 | 1993 |
| South America | | | | | | | | |
| Argentina | | | | <———— | | 40.1 | | |
| Bolivia | | | | <———— | 59.8 | | 73.7 | |
| Brazil | | | | <———— | 44.8 | 45.9 | 48.6 | |
| Chile | 1.9 | 6.0 | 7.2 | 7.3 | 42.7 | 51.0 | 49.2 | 48.6 |
| Colombia | 0.2 | | | <———— | 44.4 | 39.2 | 32.1 | 43.6 |
| Ecuador | | | | <———— | 20.6 | 45.5 | 31.3 | 32.1 |
| Paraguay | | | | | 36.6 | 43.9 | 48.9 | |
| Peru | | 2.8 | 4.0 | | | 45.1 | 35.6 | |
| Uruguay | | | | <———— | 48.4 | 37.7 | 37.5 | 35.7 |
| Venezuela | | 3.6 | 4.0 | 3.3 | | 17.5 | 25.5 | 20.2 |
| C. America/Panama | | | | | | | | |
| Costa Rica | | | 3.6 | 3.2 | 28.0 | 35.1 | 34.5 | 36.3 |
| El Salvador | | | | | | 61.9 | | |
| Guatemala | 1.6 | | 1.6 | 5.0 | 35.7 | | 29.5 | 50.4 |
| Honduras | | | | <———— | 61.9 | 49.1 | 53.8 | |
| Nicaragua | 0.4 | 2.4 | 2.5 | 3.8 | 44.7 | 43.3 | 38.5 | 56.7 |
| Panama | | | | <———— | 46.3 | 38.3 | 37.0 | 31.5 |
| Gulf of Mexico | | | | | | | | |
| Cuba | | 5.1 | 5.6 | 7.4 | | 24.4 | 20.7 | 18.3 |
| Haiti | | | | 0.2 | | 59.3 | 51.0 | 53.0 |
| Mexico | 1.9 | 4.1 | 5.6 | 6.3 | 31.7 | 27.4 | 26.7 | 30.8 |
| Dominican Republic | | 0.7 | | 0.7 | 36.8 | 46.6 | | 46.8 |
| Anglophone Caribbean | | | | | | | | |
| Guyana | 8.5 | 7.6 | | | 33.1 | 31.1 | | |
| Jamaica | 1.0 | 2.0 | 2.7 | 2.2 | 33.7 | 29.9 | 34.7 | 32.7 |
| Trinidad and Tobago | | | 0.1 | | 46.9 | 47.5 | 42.4 | |

*Arrows indicate that % of expenditure is a total for pre-primary and first level

Source: UNESCO. *Statistical Yearbook 1995*. UNESCO Publishing & Bernan Press U.S.A., 1995.

Although the figures in table 6 do not indicate the total expenditures on ECCD programs, they do show important budgetary differences among countries that merit further investigation. Some of these differences are due to each country's particular institutional arrangement for budget allocations for these programs. For instance, the *Instituto Colombiano de Bienestar Familiar* (ICBF), which is responsible for the largest ECCD program in Colombia, obtains its resources through a 3 percent payroll tax, while the *Ministerio de la Familia* in Venezuela finances the program *Hogares de Cuidado Diario* through the national budget. In Chile, almost the entire budget for ECCD programs is allocated through the Ministry of Education.

Countries differ not only in ECCD allocations and budgetary sources but also in their distribution mechanisms. To add to the complexity of disentangling their finances, the way programs operate does not always coincide with the regulations governing their administration. Several countries have laws regulating private sector financing of ECCD programs. A good number have labor laws requiring appropriate child care for the infants of working mothers. Businesses can fulfill this requirement by managing nurseries themselves, by contracting the services of private or public nurseries, or by providing a subsidy for childcare. In general, these laws apply only to working mothers in the nursing period, and to establishments employing more than 30 women. Although these laws mandate the provision of day care services for industries, they are widely disregarded. It is feared that a more rigorous enforcement of existing labor laws might cause women to be discriminated against in the formal labor sector.

Some programs are experimenting with funding alternatives that seek to recover costs through contributions from beneficiaries. Parents participating in home-based programs in Venezuela, Colombia, Ecuador, and Bolivia, have to pay a small fee, but exemptions are granted for very low income families in Venezuela and some discounts are allowed in Bolivia when two or more siblings are enrolled in the program. The proportion of parents' fees in the total budget of these programs is not known, but if the Bolivian case is any indication, parents are generally unwilling to pay even a small fee (Lashman 1995). However, community contributions in Colombia account for 57 percent of the total cost (Castillo, Ortiz, and González 1993).

External aid has been also a main source of financing for ECCD programs. The problem here is how to sustain programs when their external support dries out. To what extent national financial authorities—in the private or public sector—will be able and/or willing to assume recurrent expenditures of programs initially launched through external aid?

Undoubtedly, more resources will be required in the LAC region to design and implement programs—including ECCD programs—geared toward reducing poverty and income inequality. But perhaps as important as more resources, it will be necessary to overhaul the institutions that deliver social services. “The main problem,” some say, “is not a lack of funds, but inefficiency and mismanagement of social programs caused by

inadequate administrative capacity, the reluctance of government employees' unions to modernize, and an absence of accountability. Major administrative reforms will be required just to raise the delivery of social services to a minimally acceptable level” (Burki and Edwards 1995:9).

Changes in organization and management of ECCD programs can help reduce costs in three main ways: (1) by identifying and correcting the wasteful use of resources; (2) by changing project design, organization, and/or technology; and (3) by realizing economies of scale (Myers 1984). Others believe that the availability of resources for ECCD programs has more to do with “power relationships” in society, or a lack of “political will,” rather than with resource constraints (Parker, 1994:1; see also Myers 1992; and Castillo, Ortiz, and González 1993).

VII. Summary and Conclusions

“Would you tell me, please, which way I ought to go from here?” said Alice. “That depends a good deal on where you want to get to,” said the Cheshire Cat.

—Lewis Carroll, *Alice in Wonderland*

A growing concern among the countries of Latin America and the Caribbean is how much they need to invest in Early Childhood Care and Development programs and what programs would be most cost-effective in this regard. Before any such decisions can be made, however, it is essential to ascertain how much is currently being spent and what types of programs should be included in the ECCD category. But these steps cannot be taken without a consensus on the fundamental concepts behind ECCD programs, beginning with the meaning of early childhood, childhood care, and childhood development. At present, there is no such agreement, and hence it is exceedingly difficult to prepare estimates of costs and finance, let alone determine the coverage of these programs.

From previous analyses of gross enrollment in preschool and pre-primary programs, it appears that enrollment rates in the region continue to be low, despite important increases in the past 10 years. Yet, since preschool coverage is even lower than pre-primary, this difference might indicate that age is a contributing factor in the supply/demand of ECCD services. Other important differences can be detected among countries and also among income segments of the population within each country.

As just mentioned, ECCD programs cannot go forward without a full and proper accounting of their cost. But they must also have detailed knowledge of their impact and the extent to which poor segments of society have access to these programs, since these groups are the very targets of ECCD services. Evidence to date suggests that although the proportion of children in the general population tends to be concentrated in low-income brackets, poorer children are less likely to participate in ECCD programs, as evidence from Colombia and Chile demonstrates.

Low coverage is a complex problem. It cannot be explained solely in terms of scarce investment in ECCD programs or deficiencies in the supply/demand of their services. Any attempt to increase coverage must take into account other critical factors, particularly the norms, traditions, and beliefs prevalent in a given country.

All in all, policymakers and analysts alike seem to be pretty much in “wonderland” when it comes to the coverage, costs and impact of ECCD programs. Data are frequently unavailable or incomplete, and even when there is information, the figures are often contradictory. As a result, it is difficult to make cross-country comparisons of per capita costs for similar programs, and it is equally difficult to make comparisons over time for the same programs within individual countries.

Without doubt, the LAC region is in sore need of information systems that can provide periodic and accurate data on the costs and short- and long-term effects of ECCD programs. For the sake of the immediate well-being of children throughout the region, decision-makers and communities themselves must reach agreement on the type of programs that can best meet the needs of their individual countries and the amount of resources they are willing to invest. Such agreement will not be reached without a sound basis for comparing the real costs and impact of the various programs in the region.

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Annex

Bolivia: Integrated Child Development Project

The Integrated Child Development Project (PIDI) was established in 1993 with funds from a World Bank loan as a key element of the “Ten Year Action Plan for Children and Women”. Its objectives are: (a) to improve children's readiness to succeed in school and beyond by facilitating their physical, emotional, social and cognitive development; (b) enhance the status of women by increasing their employment opportunities, and expanding their knowledge of education, health and nutrition; and (c) increase community and private sector participation in the social development process.

The program is operated by ONAMFA (National Organization for Children, Women and the Family) and delivers integrated child development services to poor children from the age of six months to six years, through nonformal, home-based, day care centers. Each center is operated by two to three caregivers selected from the community who provide education, nutrition, and health services to about 15 children. Caregivers receive a monthly stipend equivalent to the minimum salary. The program creates employment opportunities by hiring caregivers and enabling mothers of participating children to work, and helps to improve living conditions by providing grants/loans to rehabilitate the homes of caregivers that are used as day-care sites.

The program is targeted to reach poor households in urban and peri-urban neighborhoods in cities with the highest prevalence of malnutrition. Priority is given to malnourished children and those under the care of only one person, from families with working parents and without childcare, and from large families (five or more children).

By the end of its sixth year, the program seeks to have an installed capacity of 8,670 day-care centers, to provide services to 130,050 children annually, and to have trained 20,800 caregivers. Approximately 8,600 caregivers are expected to benefit from access to credit to upgrade their homes and assistance in the payment of basic utility bills (i.e., electricity and water), to help offset the costs associated with using their homes for day-care centers.

By the end 1995, only 300 PIDs out of the 1,440 originally expected were operating. Delays can be attributed to the reorganization of the executive branch, lack of counterpart funding, and high turnover among caregivers.

Source: World Bank (1993).

Brazil: Programa de Alimentacao de Pre-escolar (PROAPE)

PROAPE was funded under a nutrition loan from the World Bank to the Brazilian government. It started in 1977 as a pilot project in the state of Pernambuco and in 1981 was extended to another 10 states of northern and northeastern Brazil, using several adaptations of the pilot project. The PROAPE model involves bringing children from four to six years of age together in centers during weekday mornings, in groups of about 100 children, for a snack and for supervised psychomotor activities. A health component is also included involving checkups, vaccinations, dental treatment, and visual examinations.

The children are attended by a combination of trained personnel and participating family members. In the original model, one certified professional was assisted by six community members. In one state, Alagoas, the centers were run by three trained paraprofessionals called "*estagiarias*," who receive help from parents. The *estagiarias* are paid 70 percent of a minimum salary for their morning's work.

One evaluation of this program revealed that the combined repetition and dropout rate for PROAPE versus non-PROAPE children was 39 percent as against 52 percent in the first grade and 27 percent as against 44 percent in the second. The total cost of schooling (including pre-school PROAPE) per second grade graduate was estimated to be 11 percent less for students who had been in the PROAPE program than for those who had not been in PROAPE. The program paid for itself.

In the Alagoas case, evaluation data showed a similar result: 73 percent of the children from PROAPE passed the first grade (in 1982) whereas only 53 percent of the children without any pre-school experience passed. This was so despite the fact that the PROAPE children attended for only 78 days. In this case, the combined pre-school and primary school cost per first-grade graduate for PROAPE children (including PROAPE costs) is 17 percent lower than for a child with no pre-school experience.

Although the PROAPE model was shown to work in a cost-effective manner and can be used as an example for others to adapt to their own circumstances, the PROAPE program is no longer functioning. One explanation that has been given for its demise is that it was formalized out of existence. The Ministry of Education, which took a leading role in the program, did not readily incorporate a nonformal alternative into its operations and slowly adapted the nonformal community-based model to a more formal preschool, creating formal preschool classrooms of 30 children each with a trained preschool teacher.

Source: Myers (1995a).

Colombia: Community Child Care and Nutrition Project

The *Hogares de Bienestar Infantil* (HBI) is the main program of a government agency called the Colombian Institute for Family Well-Being (ICBF). The ICBF was established in 1968 and supports school feeding programs, day care, legal assistance, family education, and other community development activities with a focus on children from birth to seven years. ICBF funding comes from a payroll tax levied on all private companies. In 1990 the budget of the Institute incorporated \$1.03 million from a World Bank loan.

The HBI program combines the objectives of supplemental feeding of children in poor neighborhoods with community-based day care organized by volunteer mothers. ICBF provides the program with the necessary food and nutritional supplement called *Bienestarina*, trains the volunteer mothers, pays them nominal stipends, and helps them get home improvement loans. Children are cared for in groups of about 15 in homes located within their own neighborhoods. Caregivers receive training in the care and development of child nutrition and health, and a monthly stipend equivalent to the minimum salary. In many homes, assistance to the home day care mother is provided each day by one of the mothers whose children are in the home, on a rotating basis. In other cases, an older daughter in the family is called on, or a neighbor is hired to help out.

Data provided by ICBF indicate that the average total cost per child at a day care home was US\$298.18 per year in 1991 (the World Bank loan has not been included in the cost analysis).

When the program started in 1987, it covered 112,000 children. This number increased to 800,000 in 1989 and to approximately one million by the end of 1991. It hopes eventually to target 1.7 million.

An evaluation of the program conducted in 1992 indicated that the program has had a significant effect on the psychosocial development of the children and that approximately 20 percent of the mothers improved their employment situation. However, the nutritional status of the children did not improve significantly.

Source: Castillo, Ortiz, and Gonzalez (1993); Ortiz et al. (1992); and World Bank 1990b, 1990c.

Chile: The Parents and Children Program (PPH)

The general and interrelated objectives of PPH are (1) to enhance child development, (2) to promote the personal growth of adults, and (3) to encourage community participation. To achieve these goals, weekly meetings are organized in participating rural communities in the Osorno area of southern Chile (originally 50 communities, now approximately 200). The meetings are timed to coincide with a radio broadcast over a local radio station that uses radio dramas and other devices to pose a problem and to stimulate discussion.

Discussions at the meetings originally focused on different aspects of the upbringing of children. Topics included how to help children learn to talk, to read, and to count; human relations in the family; nutrition and how to make the best use of food supplies; food preservation; and alcohol abuse. These topics have now been broadened to include questions related directly to earning a livelihood. Materials related to each theme supplement the radio presentation of the problems. The discussions, which are led by a local “promoter” chosen by the community, lead to suggestions and plans for community action in the various areas.

Within the project, the child development goal is also promoted through pre-school exercises for children in the form of worksheets. These worksheets are designed to enhance perception, thinking skills, the use of symbols, creativity, curiosity, and the motivation to learn. Parents go over the materials in their meetings, then take them home for the children who (sometimes with the help of adults) complete the worksheets to be taken back to the next meeting.

An evaluation of the program has shown positive effects on the children, on their parents, and on the community at large. Participating children score better on readiness tests and do better in school than those who have not participated. The evaluation identified changes in adult attitudes and perceptions, evident from their descriptions of the project itself, the way they spoke about changes, the ease with which they reached agreement, and their ability to act on conclusions. The basic changes identified was a move from “apathy” to participation in constructive activities as a sense of self-worth was strengthened.

The cost per child per month of the program was calculated at US\$6.38. A high-quality kindergarten costs six times that amount and the cost of a low-quality day-care center is double. The minimum wage was five times the monthly cost. If calculation is made on a per person basis (rather than a per child basis), the cost amounted to US\$ 1.62 per person per month. These costs do not include time donated by the community.

Source: Consultative Group on Early Childhood Care and Development (1993).

Jamaica: Child-to-Child Program

The Jamaican Child-to-Child Program is a school-based program directed specifically at improving the knowledge and care-taking practices of primary school children, ages 9 to 12, and through them, the knowledge of parents or guardians.

This program was established by the Tropical Metabolism Research Unit of the University of the West Indies. It began in 1979 on an experimental basis in only one school and later was extended to 14 schools, where an evaluation showed it to be well received. The Child-to-Child curriculum is now incorporated into the regular primary school curriculum for the entire country.

The curriculum provides information about health, nutrition, psychosocial development, and dental care. Children are taught how to make toys and how to help younger children play with them so as to encourage the younger child's development. Immunization lessons deal with the purpose of immunization, the diseases that can be prevented, and the times when immunizations should be done. The action-oriented curriculum includes role play, group discussions, demonstrations, drama, and song, as well as toy-making. Most of what is imparted in the program is already contained in the curriculum of the primary school in material from biology and the social sciences.

An evaluation of the pilot program showed that children's knowledge improved significantly in all areas covered. In addition, the knowledge of parents and guardians improved, as did their encouragement and support of play with younger children. Teachers also improved their knowledge of health and development and were introduced to new forms of teaching.

When all costs of the project directed to children in the 14 schools were estimated (teacher's salaries for the partial time devoted to Child-to-Child, training costs, supervision, materials, curriculum development and production of a curriculum package, and evaluation), the cost per child per year was approximately US\$15.00 per child (or about one-third of the minimum wage). As the initial development costs are spread out over many more children with expansion of the program, the per child cost is reduced considerably. This amount does not take into account the benefits to parents and teachers.

Source: Consultative Group on Early Childhood Care and Development (1993); based on Knight and Grantham-McGregor(1985:95-113).

Perú: A Non-Formal Program of Initial Education (PRONOEI)

In 1967, a nutrition education project for mothers was initiated in several villages in highland Perú in the Department of Puno, where the infant mortality rate was then greater than 150 and malnutrition was widespread. The project, initiated by volunteers from a regional university, evolved into a community program that included daily cooking and midmorning snacks for children from three to five years of age. Children gathered together for several hours each weekday morning. From this cooking program, a nonformal pre-school emerged that was intended to help the children develop mentally and socially, and to prepare them for school. Five years later, as part of a major educational reform, the government extended this small-scale community-based model, launching a major child care and development initiative in the Department of Puno. Since then, the community-based nonformal model has spread throughout Perú.

In each PRONOEI center, or “Children's House” as it is called, approximately 30 children, ages three to five, are attended to during the morning by an “animator,” or pre-school teacher. Mothers of participating children take turns cooking the morning snack. Food is provided through an international program, supplemented by local contributions. The “animators” are provided with training and periodic supervision. A general curriculum, based on Piagetian principles, has been adapted to regional differences.

At present, approximately 8,000 PRONOEI centers are functioning both in rural and urban areas, although the program is found primarily in rural villages. Community participation takes several forms: provision of a site (and often construction of a building) for the children's house; selection of the “animator,” who is paid a gratuity but is essentially serving the community as a volunteer; provision of some food; and management of the centers through a parent committee. In some cases, income-generating projects have been created as part of the program.

An in-depth evaluation of the PRONOEI in 1985 showed that PRONOEI children were socially and intellectually better prepared for primary school than a group of similar children who had not participated in the program. This difference was evident despite the minimum quality of many of the centers. The advantages provided through the pre-school program did not seem to be retained as children moved through the primary schools, presumably because of the low quality of primary schools.

The per student cost of the program to the government (not counting the major contributions made by the local community) amounted to about US\$28.00 per child per year. This was less than one-half the cost of the alternative formal pre-school programs. The government cost is covered from normal budget allocations to education.

Source: Myers (1995).

Venezuela: Hogares de Cuidado Diario

This program started on a small scale in 1974. It then underwent a massive expansion, from 10,000 children nationally in 1989 to 239,085 children in 1993. Funded by the government and implemented by NGOs, the program attends to the care, nutrition, health, education, and developmental needs of children up to six years of age in the lower-income sectors of the population. The program has four variations:

1. *Hogar de cuidado diario tradicional*: Services are provided five days a week from 6 a.m. to 6 p.m., to eight children in adequately equipped houses of the communities by one trained care mother, under the supervision of one professional for every 25 homes. Before opening, the homes are provided with a table, eight child-sized chairs, play materials, playpens, mats for naptime, basic kitchen and eating utensils, and a first aid kit. Home day care mothers receive a monthly amount for the care of each child, an allotment for the feeding of each child for 20 days a month, an allotment for the purchase of two pounds of powdered milk per child per month, and an allotment from the mother of each child. Children participate in a special routine consisting of breakfast, free and organized play, bath, lunch, nap, and snack.
2. *Hogar de cuidado diario exonerado*: This variation has the same characteristics described above but is directed at sections of the population in critical poverty, who therefore cannot contribute the monthly amount requested in the previous case. Mothers are not required to pay for the service while they are obtaining training in order to join the work force.
3. *Multihogar de cuidado diario*: In this case, 30 children up to six years of age are under the care of three day care mothers in a community setting specially selected or constructed for this purpose. It operates along the same lines as the first form described, except that families do not have to contribute monthly payments and the facilitating organism gives the day care mothers an exoneration stipend for each child.
4. *Hogares de cuidado integrado*: This variation is designed to attend to children with special needs. The number of children per home is five, two of whom must experience mild difficulties in development.

Source: Terán de Ruesta (1994).