

Nutrition makes for better learning:
mealtime at a pre-school in
Johannesburg, South Africa.





PART III. Early childhood care and education

Chapter 5

The compelling case for ECCE

The early childhood years set the foundations for life. Ensuring that young children have positive experiences, that their rights are guaranteed and that their needs for health, stimulation and support are met is crucial to their well-being and development. In a context where family and community structures are evolving and countries are going through rapid social and economic changes, early childhood programmes complement the roles of parents and other carers in raising children during the early years. After discussing the rights of children, this chapter reviews the evidence on the multiple benefits of early childhood programmes: easier transition to primary, better completion rates, reduced poverty, increased social equality and high economic returns. It makes the case for expanding and improving ECCE programmes in order to meet EFA goal 1.

Early childhood in a changing world

Current social and economic trends are disrupting many existing child care arrangements

All societies have arrangements for taking care of and educating their young children. These arrangements have evolved over time and are diverse across cultures, in keeping with differences in family and community structures, and the social and economic roles of men and women (Blumberg, 2006). However, current social and economic trends are disrupting many existing child care arrangements. In Central and Eastern Europe, and Central Asia, the transition from planned to market economies has led to the breakdown of institutions that took care of young children while their parents were at work. In developing countries, urbanization, work-driven migration and the increasing participation of women in the labour market are transforming family structures. The prevalence of nuclear families, in which fewer adults are available to take care of young children, is increasing, while extended families are declining. Armed conflict, the HIV/AIDS pandemic and environmental degradation have resulted in large numbers of orphans and, more generally, of families confronted with major difficulties in the upbringing of young children.¹

Expanding and improving comprehensive early childhood care and education (ECCE), especially for the most vulnerable and disadvantaged children can help to meet these challenges. Early childhood programmes may include basic health and nutrition interventions, such as vaccination campaigns; parenting programmes, through which parents receive support and advice; and various centre-based activities, ranging from crèches for very young children to pre-primary schools that lay the foundations for primary schooling. They can help compensate for disruption of societal arrangements and ensure that young children's rights and interests are promoted; they can also contribute to the well-being of families and societies. Their aim should not be to substitute for the care provided by young children's primary carers – who may include parents and other family or community members – but to improve and supplement it when needed.

There is less consensus among policy-makers about the need for early childhood programmes than there is about the desirability of achieving universal primary education. Although the 738 million children aged 0 to 5 represented 11% of the world's population in 2005 (see Chapter 6),

early childhood programmes either are universal or cover at least two-thirds of the population in only a minority of countries, mostly developed and transition ones.² Moreover, some developed countries, notably the United States, do not provide for universal coverage. In many developing countries, especially those of sub-Saharan Africa, early childhood programmes are available only to a small fraction of the population, typically affluent urban families. For instance, the Democratic Republic of the Congo, with 12 million children aged 0 to 6, has only 1,200 pre-primary schools, and 60% of these are private schools located in the capital province of Kinshasa, where just 10% of the total population lives (Youdi, 2005).

This chapter makes the case for early childhood programmes. First, young children have rights, and early childhood programmes are one instrument to guarantee that these rights are respected. Second, research on human development emphasizes that young children have specific needs and that the extent to which these are satisfied affects the outcomes of their development into youth and adults. In this developmental perspective, participation in early childhood programmes is beneficial because it leads to improved outcomes, including better nutrition, health and education, in both the short and the long run. Moreover, from an economic point of view, investment in early childhood programmes offers a high pay-off in human capital and there is a strong case for public intervention. Early childhood programmes not only benefit children and families, they reduce social inequality, and benefit communities and societies at large. Most of the evidence presented in this chapter comes from programmes influenced by evolving perceptions of early childhood in Europe and North America; much more empirical research on programmes influenced by other traditions is needed.

Guaranteeing the intrinsic rights of young children

There are several human rights instruments specific to children's rights. In 1959 the United Nations General Assembly adopted the Declaration of the Rights of the Child. Although not legally binding, the Declaration affirms some of the most basic principles of children's intrinsic rights, including the provision of health care,

1. According to UNAIDS (2006), there were 15.2 million AIDS orphans aged 0 to 17 in 2005, 12 million of whom lived in sub-Saharan Africa.

2. It should be noted, though, that the regional gross enrolment ratio in pre-primary education for Latin America and the Caribbean is close to two-thirds at 62%.

housing, social security, education, and protection from neglect, cruelty and exploitation.

In 1989, the United Nations General Assembly adopted the Convention on the Rights of the Child (CRC), the most widely ratified human rights treaty in the world. As a legally binding instrument, the Convention marks the beginning of a new stage for children's rights during which new international standards need to be translated into domestic laws and practices.³ The CRC has since served as an example for human rights documents such as the 1990 African Charter on the Rights and Welfare of the Child and the 1996 European Convention on the Exercise of Children's Rights.

The CRC rests upon four major interdependent principles:

- life, health and development (Articles 6, 24);
- non-discrimination (Article 30);
- consideration of the best interests of the child (Article 3);
- the right to be heard (Article 12).

The Convention emphasizes child well-being as well as child development and calls upon States Parties to assure that the views of children are given due weight in accordance with their age and maturity (Article 12). Children should be guided in a manner consistent with their 'evolving capacities' in the exercise of their rights (Article 5). The CRC emphasizes the right of all children to education and calls for primary education to be made compulsory and available free to all (Article 28). It also calls for parties to provide assistance to parents and legal guardians in their child-rearing responsibilities, and to make childcare services and facilities available, especially to working parents (Article 18) (OHCHR, 1989).

Providing ECCE of good quality is a powerful means of guaranteeing the rights of young children, especially those who are vulnerable and disadvantaged.

Using the Convention on the Rights of the Child to promote early childhood programmes

The CRC itself has few provisions specific to the youngest age group. Recently, however, a broader discussion has developed on how to apply child rights in early childhood. In 2005 the Committee on the Rights of the Child⁴ put early childhood on its agenda, noting that young children have particular needs for nurturing, care and guidance. The working document that emerged (OHCHR,

2005) gives a clearer understanding of the human rights of all young children and the obligations of parties to fulfil them.⁵ It gives a working definition of early childhood as from birth to age 8, encompassing 'all young children: at birth and throughout infancy; during the pre-school years; as well as during the transition to school'.

The committee warns in particular about discrimination against young children through such practices as inadequate feeding, selective abortion, genital mutilation and neglect. It also mentions discrimination against children with disabilities, infected or affected by HIV/AIDS, and on the basis of ethnic origin, class or caste (Paragraph 11, a and b). Parties are reminded of their obligation to develop comprehensive policies covering health, care and education for young children. The document also states that parties should provide assistance to parents and carers, including provision of parenting education, counselling and quality childcare services, backed up by monitoring systems (Paragraphs 20, 21) (OHCHR, 2005).

The document specifies that early childhood education should be directly linked to children's right to develop their personalities, talents and mental and physical abilities from birth. Early childhood development programmes are among several activities to meet young children's right to education. These activities may be home- or community-based, or they may be pre-school programmes. They should allow for empowerment and education of parents and other carers.

The committee actively monitors national progress in children's rights, including those of early childhood (Box 5.1).

Tensions between a universal standard and culturally specific contexts

The CRC establishes a universal standard. While the CRC recognizes parents as having primary responsibility for their children, it also makes clear that parents are expected to give 'appropriate' direction to and guidance on children's active exercise of their rights. This has been interpreted by some to mean that parents are supposed to adapt their actions to reflect the rights of the child as coded in the CRC and that children's evolving capacity to exert autonomy over their lives and to exercise their rights has greater weight than the parents' right to decide what is best for the child.

The Convention on the Rights of the Child is the most widely ratified human rights treaty in the world

3. General Assembly Resolution 44/25 of 20 November 1989 adopted the convention, which entered into force on 2 September 1990, after ratification by twenty parties. Two optional protocols (on the sale of children, child prostitution and child pornography, and on the involvement of children in armed conflict) entered into force in 2004. As of May 2006, 192 countries and territories had ratified the CRC, the latest being Timor-Leste (2003).

4. The committee monitors implementation of the CRC, meeting three times a year to examine national reports. NGOs and national human rights institutions representing children's rights are encouraged to submit comments on the national reports.

5. A non-binding 'General Comment' called 'Implementing Child Rights in Early Education', it draws attention to rights and needs in early childhood and comments on the need to formulate policies, laws and practices that focus specifically on early childhood.

Box 5.1: Monitoring progress in children’s rights: Ghana’s example

In 2005 and 2006, early childhood policies in Ghana were the focus of an exchange among the Government of Ghana, local NGOs and the Committee on the Rights of the Child. NGOs made a case for fundamental issues such as birth registration, data collection and effective administrative mechanisms for early childhood. The subsequent government report to the committee emphasized:

- improved data management for children’s statistics, in particular through an increase in the number of assistants regularly visiting communities to register births and deaths;
- establishment of an Early Childhood Care and Development (ECCD) Policy and the formation of thirty-seven ECCD District Committees, along with a National Coordinating Committee playing an advisory role and coordinating implementation;
- inclusion of ECCD in mainstream basic education: the 2003 Strategic Plan of the Ministry of Education made pre-schools (starting from age 4) part of the Ghana Education Service and attached to every primary school.

The Ghana NGO Coalition on the Rights of the Child (2005) commented that:

- data in areas relevant to children’s rights are inadequate or unavailable because systems for data collection, collation and analysis are not in place;
- an overlap in ministry mandates (e.g. both the Ministry of Women and Children’s Affairs and the Ministry of Education contribute to early childhood policy-making) has the effect of delaying adoption of policy measures.

Finally, the Committee on the Rights of the Child, recommended that:

- Ghana should strengthen its system of data collection, e.g. by setting up an efficient birth registration system that covers the entire country and pays special attention to abandoned children and to asylum seeker and refugee children;
- budgetary allocations should be prioritized and increased, so that all levels of CRC implementation can be maintained;
- effective interministerial coordination of activities related to CRC implementation should be achieved (the committee noted that, at local level, capacity limitations on the part of district assemblies hamper implementation).

Sources: Committee on the Rights of the Child (2006a, 2006b, 2006c, 2006d); Ghana NGO Coalition on the Rights of the Child (2005); Republic of Ghana (2005b).

was not an appropriate instrument through which to impose duties upon children (Alston et al., 2005).

The CRC also establishes a direct relationship between the child and the state. The state is empowered to intervene on behalf of the child if the child’s best interests are at stake. Although the Convention has stressed the importance of the role of parents, some countries, including the United States, have objected to these provisions, arguing from a need to find a balance between children’s and parents’ rights on the one hand, and concern about public intrusion into the private domain on the other. Indeed, Somalia and the United States are the only signatory parties that have not ratified the CRC (Alston et al., 2005).

These examples reflect the difficulties of adopting a universal normative framework. Nevertheless, the near universal adoption of the CRC and its procedures of accountability through periodic monitoring by the United Nations give the CRC a status that few other international treaties can match. Despite its imperfections and its generalities, the CRC has undeniably helped shape policies to protect children’s rights, including, most recently, those of early childhood.

Early childhood: a sensitive period

Children’s physical and psychological development is shaped by their experiences during the first years of life. This intuitive idea has been amply confirmed by research. Indeed, there is a long history of philosophical and scientific interest in early childhood, and its impact on human development, in fields as diverse as biology, psychology, sociology, anthropology and economics, as well as in applied research on education, social policy, health, law and development studies.⁶ A broad consensus has emerged among those who share this ‘developmental perspective’ on early childhood:

- Young children’s physical, mental, social and emotional functioning differs from that of older children and adults, and comprises distinctive stages and milestones of development.
- Numerous progressive transformations occur in children’s physical, mental, cognitive and socio-emotional facilities from earliest infancy to the beginning of schooling. These transformations mark the acquisition of skills and capacities, ways of relating, communicating, learning and playing.

The African Charter on the Rights and Welfare of the Child adds an extra dimension by imposing upon the child a duty to work ‘for the cohesion of the family, to respect his parents, superiors and elders at all times and to assist them in time of need’ (Organization of African Unity, 1990). A similar provision had been proposed for the CRC, but was rejected on grounds that the CRC

6. See Woodhead (2006), on which this section is based, for a critical account of the research, and Chartier and Geneix (2006) for a historical account of the development of early childhood programmes, linked to the evolution of the understanding of childhood in Europe.

- Early childhood is the period when humans are most dependent on secure, responsive relationships with others (adults, siblings and peers) to assure not just their survival but also their emotional security, social integration, and cognitive skills.
- Young children's development is especially sensitive to negative effects from early undernutrition, deprivation of care and of responsive parenting, and ill treatment.
- If children's basic needs are not met, or they are maltreated or abused, the repercussions are often felt throughout childhood and into adulthood.
- While early development can be summarized in terms of universal general principles, the development pathways vary and are linked to individual capacities and special needs, gender, ethnicity, and economic, social and cultural circumstances.

Neurobiology and other brain research fields have been especially influential in recent decades, as they have highlighted the role of the early years in the formation of the human brain (Center for Early Education and Development, 2002; Mustard, 2002, 2005). Brain cell connectors (synapses) form rapidly in the first few years of life: the density of synapses peaks at age 3, after which comes a plateau and then a period of elimination, when the density decreases to adult levels. Because of this pattern of synapse formation, the first three years of life are the most important for brain development. Moreover, research has shown that:

- the overall environment (physical and emotional) within which the child is raised has an impact on brain development;
- early exposure to toxic substances such as nicotine, alcohol and drugs can have devastating effects on the developing brain, particularly during pregnancy when the brain is being formed;
- a negative experience or the absence of appropriate stimulation is more likely to have serious and sustained effects on a young child than on older children.

For very specific aspects of brain development, certain 'critical periods' exist before age 3, during which adequate stimulation must be received or development is impaired, in some cases permanently. For instance, the absence of a reasonable amount of light in the first weeks after birth alters the development of the visual system (e.g. development of binocularity is not possible).

Similarly, a child who never hears language, or receives extremely poor care (as in some orphanages), will likely suffer developmental deficits. Such effects have led some to envisage the first years of life as an extended critical period, a window of opportunity for development, closed by age 3.

Researchers still have much to learn, however, about the persistence of such effects and the ability of the brain to overcome them. Furthermore, the brain continues to grow and mature well into adolescence. Hence, the idea of a window of opportunity closing by age 3 is difficult to support. In general, although some critical periods do exist, the concept of 'sensitive periods' is more relevant to understanding early childhood (Bailey, 2002; Horton, 2001). Sensitive periods are times in development when the absence of some kind of stimulus results in development going awry. Sensitive periods are generally longer than critical periods and characterized by more flexibility in the timing of input or experience to the brain and in the brain's ability to learn and develop over time. Thus, it may never be too late to acquire a skill (as the notion of a critical period implies), but acquiring it early is preferable. For example, adults are certainly able to learn a second language, but it is less intuitive for them than for young children, and they typically do not learn it as well.

Early childhood programmes can enhance development

The understanding of early childhood as a time of sensitive periods leads naturally to the notion that early childhood programmes can supplement the care and education that young children receive at home, in their families and communities. Moreover, recent publications (France and Utting, 2005; Luthar, 2003; Masten, 2001) emphasize the flexibility and adaptability of humans, as well as their resilience to trauma. This implies that early childhood programmes can not only benefit all children but also compensate for young children's negative experiences as a result of conflict (within the family or society) and nutritional or emotional deprivation. To sum up, participation in comprehensive early childhood programmes of good quality can significantly alter the developmental trajectory of a child. Health, nutrition and education are areas where such benefits have been consistently identified.

The first three years of life are the most important for brain development

More than 10 million children aged 5 or under still die every year

Good health and nutrition: building blocks for development

Young children are particularly fragile⁷. Reducing infant and child mortality has long been a key public health priority. Vaccination campaigns have reduced child mortality considerably, yet more than 10 million children aged 5 or under still die every year. More than half die from one of five transmittable diseases that can be prevented or treated: diarrhoea, pneumonia, malaria, measles and HIV/AIDS. (Box 5.2 discusses the impact of HIV/AIDS on young children.) Extending the provision of safe drinking water and proper sanitation would reduce infant and child mortality dramatically, especially when complemented by parenting programmes that facilitate improvements in breastfeeding and weaning practices. Whether formally classified as ECCE or not, measures designed to reduce mortality are certainly a first step towards establishing comprehensive early childhood programmes.

The case for including health and nutrition components in early childhood programmes is broader than just assuring survival. For instance, undernutrition – severe or chronic lack of essential nutrients, resulting in height or weight below normal – impairs the development of large numbers of children. Undernutrition has a negative impact on cognitive development, including language skills, both in the short term and until adolescence or adulthood; on motor development; and on socio-emotional development.

Four types of intervention have been identified in rigorous experimental studies as having a major impact on outcomes such as attention, IQ (as variously defined) and language development. These are iron supplements, deworming, nutritional supplements and psychosocial stimulation of malnourished children. Their effects were measured in the short term and mostly in children who initially suffered from iron deficiency or undernutrition, rather than the

Box 5.2: HIV/AIDS's toll on young children

Each day 1,800 children become infected with HIV (UNAIDS, 2006). Children may contract HIV during the mother's pregnancy, labour, delivery or during breastfeeding. Other routes of infection are blood transfusion, use of contaminated syringes and needles, and sexual abuse. Children with HIV suffer from common childhood diseases more frequently than other children, with greater intensity and often with less responsiveness to drugs. Illnesses that are rarely fatal in healthy children cause high mortality in those with HIV. Without antiretroviral therapy, the disease progresses rapidly and 45% of HIV-infected children die before age 2. To reduce the impact of HIV infection, early diagnosis is required, and the child should receive good nutrition, appropriate immunizations and drug therapy for common childhood infections.

Research has documented the negative impact of HIV/AIDS on children's education:

- *Cognitive development*: research in high-income countries has demonstrated that HIV infections are associated with lower IQ and academic achievement, with weaker language skills in the late pre-school and early school-age years, and with poorer visual-motor functioning in older children. These consequences are due in part to the effects of HIV on cognitive development before children enrol in school. Studies including children from

infancy to school age find that such deficits in cognitive function can be reduced or reversed with antiretroviral therapy.

- *Socio-emotional development*: the adaptive behaviour (skills required for everyday activities) of children living with HIV improves after treatment.
- *School attendance*: evidence is increasing of the impact of the HIV/AIDS pandemic on children's schooling. Children from AIDS-afflicted families suffer from the stigma attached to the disease, with some turned away from school. Probably the greatest effect of the disease on children's education comes when one or both parents die. Few data exist on the impact of orphanhood on participation in early childhood programmes, but it is likely to be similar to that in primary school (see Box 3.3). Indeed, as user fees are more common for early childhood programmes than for primary schooling, the economic impact of parental death on school attendance may be greater.

Access to treatment is thus crucial for young children. Early childhood programmes can play a role in the fight against the pandemic through provision of treatment and through efforts aimed at including affected children and compensating for the emotional and other consequences of the disease.

Source: Jukes (2006).

7. This is based on Jukes (2006).

general child population. However, there is also evidence, from a smaller number of studies, of a long-term impact of pre-school health interventions on cognition. For example, a seminal study in Jamaica (Grantham-McGregor et al., 1991) found that the impact of psychosocial stimulation on cognitive ability could be traced until adolescence.

Nutrition and education reinforce each other

Combined nutritional and educational interventions are more likely to be successful than interventions that focus on nutrition alone. Studies in Guatemala and Viet Nam (Watanabe et al., 2005) found that nutrition packages had a much larger and longer-lasting impact on children receiving sufficient cognitive stimulation. An important implication is that, where health or nutrition problems commonly recur (for example, with seasonal variations in nutritional intake or disease transmission, or where communities are constantly exposed to diseases for which no simple preventive measures exist), educational interventions are as important as those for health.

Undernutrition has a negative impact on school participation and achievement. Studies in Pakistan (Alderman et al., 2001), the Philippines (Mendez and Adair, 1999) and the United Republic of Tanzania (Jukes, Forthcoming) have shown that stunted children (those who are short for their age) are less likely to enrol in school, and more likely to enrol later and to drop out. Poverty explains part of this correlation – children from poor families are more likely both to be undernourished and to remain out of school – but there is also a direct, causal impact of undernutrition on schooling. Parents of stunted children may consider them less mature and favour their healthier siblings instead in enrolment decisions. Stunted children may also find it more difficult to walk to school and, once there, may suffer from discrimination and stigma.

Given the links between health and nutrition, on the one hand, and education on the other, a holistic view of child development is gaining ground, with early childhood programmes designed to address both issues. For example, a programme providing iron supplementation and deworming treatment resulted in increased attendance at pre-schools in Delhi, India (Bobonis et al., Forthcoming). A pre-school feeding programme in Kenya had a similar impact (Vermeersch and Kremer, 2004).

ECCE participation improves primary school attendance and performance

The positive impact of ECCE programme participation on education at the primary level and beyond is well documented (Arnold, 2004; Bertrand and Beach, 2004; Mustard, 2005; Young, 1996, 2002)⁸. Such programmes can enhance physical well-being and motor development, social and emotional development, language development and basic cognitive skills. ECCE programmes can improve school readiness; make enrolment in the first grade of primary school more likely; reduce delayed enrolment, dropout and grade repetition; and increase completion and achievement. Effects of participation in ECCE programmes on the acquisition of both cognitive and non-cognitive skills have also been identified.

The most robust evidence comes from the evaluation of particular programmes in both developed and developing countries. Pre-school experience in the United Kingdom resulted in improved measures of intellectual development, independence, concentration and sociability during the first three years of primary schooling (Sylva et al., 2004). The benefits were higher the longer children participated in pre-school.

In a disadvantaged district of Nepal more than 95% of children attending an ECCE programme went on to primary school, compared to 75% of non-participants; the grade 1 repetition rate of participants was one-seventh that of non-participants; they had significantly higher marks on grade 1 exams (Arnold et al., 2000). The Turkish Early Enrichment Project in low-income, low-education areas of Istanbul, comprising parenting skills and pre-schooling, resulted in 86% of the children still being in school after seven years, compared with 67% for non-participants. Over the long run, participant children had higher school attainment, were more likely to attend university, began working at a later age and had higher occupational status (Kagitcibasi et al., 2001).

Participants in a Myanmar ECCE programme were more likely to enrol in primary school and had better exam results and test scores over the first three years of schooling (Lwin et al., 2004). Children who had attended pre-school in Kenya, Uganda and Zanzibar (in the United Republic of Tanzania) had better language skills than non-participants and achieved better results in school until grade 4 (Mwaura, 2005, 2006). Controlling for GDP, the higher an African country's pre-primary

A holistic view of child development is gaining ground

8. This is based on Arnold et al. (2006).

The impact of ECCE is stronger for children from poor families

enrolment ratio, the higher its primary school completion rate and the lower its primary school repetition rate (Mingat and Jaramillo, 2003; Arnold, 2004). The impact of ECCE is stronger for children from poor families in terms of lower dropout and repetition rates than those for more advantaged children (Arnold, 2004).

The benefits of making young children ready for primary schooling through participation in early childhood programmes are further enhanced if primary schools recognize that pupils in the first two or three grades are still young children and adopt friendly teaching methods and curricula. Chapter 7 looks more closely at young children's school readiness and how primary schools can be made 'ready for children'.

Investing in early childhood pays off

ECCE programmes can thus result in improved health, nutrition and education outcomes, and these persist to some extent in the long term. From an economic perspective, therefore, it is natural to consider these programmes as

investments in human capital, and to try to compare their benefits with their costs. Are ECCE programmes profitable investments? How do they compare with other investments in human capital, notably those made at other levels of education?

Studies of the costs and benefits of specific programmes in the United States (Box 5.3) show that the returns to investment in ECCE programmes are positive. Indeed, they are higher than those of other educational interventions: the horizon over which the returns to ECCE investments are reaped is longer than for those targeting older children, youth or adults; and the skills acquired through participation in ECCE programmes are a foundation for further learning. This point has been made repeatedly in recent years by Nobel-winning economist James Heckman (2000, 2006; Heckman and Carneiro, 2003).

Comparably rigorous evaluations of early childhood programmes in developing countries are less available, but evidence has started accumulating over the past decade.⁹ A pre-school health programme in Delhi increased average school participation by 7.7 percentage points

Box 5.3: Economic returns of ECCE programmes in the United States

Rigorous evaluation of the returns to investment in early childhood programmes requires longitudinal data (following programme participants over the long run) coupled with an intervention framework in which comparisons between participants and non-participants are not biased by selection effects. Much of the evidence cited in the literature comes from a small number of experiments conducted in the United States. The best known is the High/Scope Perry Preschool programme of 1962-67 in Ypsilanti, Michigan (Schweinhart et al., 2005). In the study, 58 of 123 low-income African-American children assessed to be at high risk of school failure were randomly assigned to a group that took part in a high-quality pre-school programme at ages 3 and 4; the remaining 65 children constituted a control group. All were assessed annually until age 11, and several times later in life, most recently at age 40. Comparisons between the programme and control groups suggest that participation in the programme led to increased IQ at age 5 (67% vs 28% above 90); enhanced success at school, including higher rates of graduation from secondary school (65% vs 45%); and higher earnings at age 40 (60% vs 40% earning more than US\$20,000 a year). Detailed cost-benefit analysis suggests that the programme

cost US\$15,166 per participant and yielded US\$258,888 (in constant 2000 dollars) – a 17.1 : 1 benefit/cost ratio.

A major qualification is that this extremely high ratio is not representative of United States early childhood programmes in general. It pertains to a small-scale experiment conducted in the 1960s that provided very high-quality care and education to children with an especially disadvantaged social background. For example, 66% of the return consisted of 'crime savings', the costs of legal procedures and incarceration that were avoided because participants committed fewer offences than non-participants. Even excluding crime savings, however, the other public returns to the programme (education savings, welfare savings and increased taxes due to higher earnings) and the private returns were high enough to yield a 5.8 : 1 benefit/cost ratio.

Other thoroughly studied United States programmes include the Carolina Abecedarian Project (Barnett and Masse, forthcoming), the Chicago Child-Parent Centers (Temple and Reynolds, Forthcoming) and the Infant Health and Development Program (McCormick et al., 2006).

⁹ The following discussion is based on Jukes (2006).

for girls and 3.2 for boys (Bobonis et al., Forthcoming). With output per worker in India estimated at US\$1,037, and the returns to each additional year of education for girls in India at 5% and boys at 9%, among other considerations, the Delhi programme would increase the net present value of lifetime wages by US\$29 per child while costing only US\$1.70 per child, or US\$2.06 counting the US\$0.36 per child for teacher wages necessitated by the additional demand for education that the health programme would entail. Thus, the return in the labour market would be US\$14.07 per dollar spent.

Other developing country studies, though lacking experimental design, also suggest high returns. In Bolivia the Proyecto Integral de Desarrollo Infantil, a home-based programme of early childhood development and nutrition, had benefit/cost ratios between 2.4:1 and 3.1:1, with higher ratios for children from groups with high infant mortality, high malnutrition and low school enrolment (Van der Gaag and Tan, 1998). Other economic analyses in Colombia and Egypt find ratios of about 3:1, and the benefits in Egypt could be as high as 5.8:1 if ECCE programmes are targeted to children most at risk (Arnold, 2004).

In summary, while rigorous research (i.e. relying on experimental design and longitudinal data) on benefit/cost ratios for ECCE programmes is still limited, existing studies show high returns. United States programmes studied showed returns higher than those to other educational interventions. Evidence from developing countries also suggests strong returns but so far has been based on less rigorous analysis.

Early intervention can reduce inequalities

Even before quantitative evidence started accumulating on the impact of good quality early childhood programmes on child development, proponents of such programmes were concerned with the possibility of reducing social inequality. Their argument, now supported by research, is that intervention during the early years can compensate for vulnerability and disadvantage, regardless of underlying factors such as poverty, gender, race/ethnicity, caste or religion. Thus, the large United States public early childhood project Head Start was launched in 1964 as part of the 'War on Poverty' on the basis of theoretical work

challenging conventional class- and race-based beliefs about inherited abilities and pointing to the formative significance of the early years (Hunt, 1961). The underlying assumption was that targeted intervention could compensate for less favourable family and community background. This premise has since been empirically verified.

The High/Scope study cited in Box 5.3 is an example of a programme that helped level the playing field for disadvantaged children as they entered primary school. Other United States studies demonstrating that the benefits of early childhood programmes are higher for marginalized children include the STAR experiment in Tennessee (Krueger and Whitmore, 2001, 2002). Although most studies in developing countries have not used experimental design, research in such diverse places as Cape Verde, Egypt, Guinea, Jamaica and Nepal have consistently found that most disadvantaged children benefit from ECCE programmes.¹⁰

Early childhood programmes can also reduce gender inequality. In some cases, the impact of participation on health has been found to be higher for girls than for boys (Jukes, 2006); indeed, early childhood programmes can compensate for the priority that is given to boys in access to basic health care in some societies. Similarly, girls who participate in early childhood programmes are much more likely to begin school at the appropriate age and complete primary school than girls who do not (Arnold, 2004). Among Nepalese children who took part in an ECCE programme, an equal proportion of girls and boys began first grade, compared with 39% of girls and 61% of boys who did not participate (Arnold et al., 2000). Access to early childhood programmes is relatively gender-equal in a majority of countries (see Chapter 6).

It is important to preserve this equality, especially when scaling up projects that have previously reached mostly families of privileged backgrounds. Above all, the impact of early childhood programmes on gender inequality depends on how children are socialized in these programmes, and on pedagogy and curriculum (see Chapter 7).

The differential impact of ECCE programmes on the disadvantaged, whether poor children or girls, is an important argument for targeting programmes, especially when resources are constrained. Yet, targeting can be controversial. It is not always free of the patronizing idea that the poor cannot raise their children satisfactorily,

Early childhood programmes can also reduce gender inequality

¹⁰ See Arnold (2004) for a review.

It is time to devote increased attention to ECCE

or of the belief that science-based social engineering alone can solve the political issues that generate vulnerability and disadvantage. However, there is much scope for levelling the playing field through universal programmes providing the same health and nutrition services, educational experiences and socialization to all young children, whatever their social backgrounds.

Whether countries focus on targeted interventions or aim for universal ECCE coverage probably depends on political and cultural factors (see Chapter 8). Whatever the policy, there is consistent evidence that the benefits of early childhood programmes are high for vulnerable and disadvantaged children, facilitating the reduction of social inequality. Indeed, many of the studies documenting the benefits, including several mentioned above, stem from policies or experiments intended to support young children from disadvantaged backgrounds. As James Heckman observes: 'it is a rare public policy initiative that promotes fairness and social justice and at the same time promotes productivity in the economy and in society at large. Investing in disadvantaged young children is such a policy' (Heckman, 2006: p. 2).

Conclusion

This chapter has reviewed the benefits of early childhood programmes. It concludes that the case for 'expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children', in the words of EFA goal 1, is compelling: programmes of high quality have the potential to improve the health and nutrition of young children, to prepare them for elementary schooling, to guarantee that their rights are respected and to reduce inequality. Clearly it is time to devote increased attention to ECCE. Chapter 6 reviews its provision around the world and Chapters 7 and 8 look at the way ECCE programmes are designed, function and managed, while also examining the broader policy frameworks in place for achieving goal 1. ■

