Getting the basics right

Contribution of Early Childhood Development to quality, equity and efficiency in education
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Executive Summary

Support for early childhood development (ECD) can help to meet Education for All (EFA) goals and achieve Universal Primary Education (UPE) by reinforcing children’s learning in multi-risk environments. Specifically, ECD interventions can:

- contribute to age-appropriate enrolment in grade 1;
- lower repetition and drop-out rates;
- lead to higher school attainment and completion;
- improve learning achievement;
- increase participation of girls in school, also freeing them to attend school;
- influence positive behavioural characteristics such as attention, self-esteem, and social relations among pupils.

Support for ECD can also be viewed as an issue of child rights. The rights argument does not contradict but complements the more results-oriented case for ECD as a means to improve the effectiveness and efficiency of education. Investment in ECD is a rare example of a policy which supports the foundations of human development, economic productivity and social equity, without requiring a trade-off among these goals.

ECD is not a low cost strategy, but it is the most cost-effective way to further education. Inequality is entrenched by the time children start school, but the effects may not yet be visible. Societies that wait until the consequences are visible pay a high price to fix problems later on, often with limited results. An upstream investment is more efficient – the earlier, the better – because early childhood has such long-lasting effects on development.

ECD need not require trade-offs with other sectors of education, nor additional resources. It should be considered as an “advance” against later savings elsewhere. Improvements in educational efficiency alone are calculated to pay back close to 85% of the costs of ECD interventions for underprivileged children. Counting the broader social benefits, more than the full costs of ECD interventions can be covered by their benefits.

The benefits are likely to be greatest when interventions prioritise support to families most at risk. Collecting data on the status of young children as they enter school is therefore important as it can act as an “early warning system”, pointing to the situations of multiple risks which predict weak educational outcomes. A population-based overview of risks can allow countries to steer educational investment towards areas of greatest need.

There are international differences in notions of “quality” in ECD, which makes benchmarking difficult. But much agreement exists about general principles. In any case, quality is an evolving concept, not an absolute one: first steps may be much better than nothing, and can create the demand for higher standards.

About this paper
This paper is the result of an extensive desk study, analysing research and new findings from developing and developed countries. It was commissioned by the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) to present evidence about how ECD can contribute to reaching the EFA goals and promoting quality and equity in education, especially primary education,
and indicate areas for action, policy initiatives and research. It primarily addresses decision-makers in the education sector, aiming to give them a practical overview of a complex field.

ECD also encompasses policy sectors other than education, notably health and social welfare, and should ideally be approached in an integrated, multisectoral way. But due to the complexities of planning and implementation when stakeholders are diverse, this may not be feasible in an acceptable timeframe. It is often necessary for one sector to take the lead. This study makes the case for a more active role of the education sector in promoting ECD.

Readers desiring more depth will find in Annex I a selected overview of the different organisations working in early childhood, and in Annex II greater detail on the evidence base for ECD interventions in high-income and developing countries.

A note on terminology

The acronyms ECD (early childhood development) and ECCE (early childhood care and education) are both commonly used to refer to services aimed at children in the 0-8 age group, the latter being the preferred term of UNESCO and the Education for All initiative.

Alternative acronyms in common use are ECCD (adding “care and” between “childhood” and “development”) and ECEC (reversing the order of “education” and “care” in ECCE). There is no formally unified term. The author’s preference, reflecting currently prevailing usage, is generally to prefer ECCE when talking in a context of Education for All, and ECD otherwise.

Nor is there a single, universally accepted definition of ECD. One good definition is “socialisation, education and readiness for school, as well as the provision of basic health care and adequate nutrition, nurturing and stimulation within a caring environment for children aged up to 8 years of age”.

The UN Committee on the Rights of the Child defines “early childhood” as under the age of eight. For statistical data collection, a distinction is generally made between the age range before school, i.e. 0-6 years, and school-aged children. The inclusion of 6-8 year olds in the definition was aimed at ensuring that children’s rights would be equally and consistently addressed as children moved from their home environments to school.
1. Introducing ECD: rights, returns, responsibilities

Investment in early childhood development is a rare example of a policy which supports human development, social equity and economic productivity, and does not require any choice or trade-off between these goals. Quality early childhood programmes, targeted at the most vulnerable and combined with parenting support, present a "rare opportunity to mitigate the effects of poverty and disadvantage on the future of many millions of children."

Every child has the right to education, according to the United Nations Convention on the Rights of the Child (CRC), which was adopted in 1989. In 2005, concerned that insufficient attention was being paid to young children, the UN Committee on the Rights of the Child issued General Comment 7: Implementing Child Rights in Early Childhood. GC7 urges state parties to the CRC to develop a comprehensive framework of services for young children, backed up by information and monitoring systems. It is the task of state parties to ensure that all young children are guaranteed access to appropriate and effective services. The right to education explicitly embraces education during early childhood as beginning at birth.

Strengthening ECD has a double effect. Firstly it is directed towards ensuring the implementation of the right of young children to optimal development. Secondly it supports the implementation of the right to education in general, as it is a positive step towards making quality education accessible for all children. As this study will show, ECD has the potential to level out disparities to a certain degree and strengthen equity; ECD is both a right as such and highly significant for the realisation of other rights, including education.

This study will make the case for investing in ECD and will elaborate on the importance of the early years for fundamental basic physical, emotional, cognitive and social development. It will show how ECD substantially improves an individual's opportunities for successful learning and makes a meaningful contribution to social and economic development as a whole.

Therefore the first chapter introduces the social and economic case for investing in ECD, and the role of the education sector in taking the lead to promote a greater role for ECD. The next chapter lays the groundwork by explaining why early childhood is such an important life phase, focusing in particular on the evidence for nutrition and quality of early caregiving as being important to promoting healthy brain development; these are not areas in which the education sector has an obvious role, but some potential avenues are explored.

Chapter 3 looks at the effects of the "transition years" - the first years of primary schooling - on educational efficiency. It examines factors affecting the success of transitions, and evidence for the effects of ECD programmes on the making of efficiency savings. Chapter 4 discusses the importance of ECD in meeting the Education for All goals and Millennium Development Goals, and Chapter 5 asks why, given its evident importance, more attention is not paid to early childhood already.

Chapter 6 turns the spotlight onto ECD interventions - what are the options, and what are the debates surrounding ECD implementation in industrialised versus developing countries. Chapter 7 looks at trends in how ECD programmes are being financed and delivered, and Chapter 8 tackles the issue of costing ECD programmes. Evidence shows that programmes targeted at disadvantaged children are most cost-effective. Chapter 9 looks at efforts to develop population based indicators that enable ECD interventions to be focused on children most in need.

Chapter 10 distils the evidence into a concise series of conclusions and recommendations, broken down for public policy-makers and the education sector. Readers desiring to explore further will find in Annex I a selected overview of the different organisations working in early childhood, and in Annex II greater detail on the evidence base for ECD interventions in high-income and developing countries.
The social and economic returns of early investment

Arguably, no researcher has done more than University of Chicago economist and Nobel Laureate James Heckman to establish proof that investment in quality early childhood programmes can pay for itself through gains in efficiency and productivity which pay off over a lifetime. In the 1990s, Heckman began to research government spending on human capital programmes. He came to two major findings:

- Firstly, the workforce in the USA was of low quality, and the costs of crime in terms of prevention and intervention are high. In addition, adverse childhood environments tend to lead to disadvantages for children and to continue the cycle of poverty.

- Secondly, human capital – that is, education and skills – determines productivity. Investing in increasing human capital for individuals can yield exponential and sustainable benefits to both the individual as well as society.

Heckman used cost-benefit analysis to determine what types of human capital programmes (for example, job training, tax reform, higher education subsidies, and early intervention programmes) produce the most benefits and savings to society. He concluded that returns on investment were greatest for the young for two reasons:“(1) younger persons have a longer horizon over which to recoup the fruits of their investments; and (2) skill begets skill”.11

Heckman's work demonstrated that investing in the earliest years produces high benefits and savings to society – more so than at any other stage of life. And he specifically illustrated how benefits and savings are diminished for each year the investment is delayed. In other words, societies pay a very high price for investing at a later stage in programmes which cost more with fewer results. Heckman's famous curve depicting the rate of return to investment across the life course is presented below.

Finally, Heckman concluded that traditional views of learning needed to value non-cognitive skills and informal learning to the same extent as formal learning measures. Drawing from Heckman's work, the Centre for Economic Development redefined education as a “process that begins at birth and encompasses all aspects of children's early development, including their physical, social, emotional and cognitive growth”.12 When schools and teachers talk about the qualities needed to succeed educationally, the list is not confined to academic skills. Qualities such as motivation, persistence, sense of agency, concentration, self-regulation, and getting along with others are also seen as critical.

Karin Hyde has reviewed a range of other evidence, and reaches conclusions about the cumulative benefits of ECD that mirror Heckman's. She concludes that:

- A good pre-school programme can make a significant difference to a child's persistence in school – which entails a range of activities and skills, including the willingness to study hard, the ability to get on with teachers and fellow pupils, and a greater ability to avoid the pitfalls of adolescence such as early pregnancy and drug-taking.

- There is a positive and substantial return over the lifetime of the children who benefit from attending pre-schools. The higher than expected educational attainment leads to higher lifetime incomes.

It is not only over the long term that investments in ECD pay off – and, as we will explore later, it can be important when making the case for more investment in ECD to focus not only on these cumulative social benefits of ECD but on the short-term payoffs as well. As much of the strongest evidence for short-term gains comes from increases in efficiency in the early years of primary schooling (the subject of Chapter 3), it is the education sector which has most to gain from making the case for more ECD programming.
The education sector’s responsibility to promote ECD

ECD encompasses policy sectors other than education, notably health and social welfare. And, over the years, the ECD community has consistently argued for comprehensive services for young children, requiring an integrated approach among the various relevant sectors. This makes sense in light of what science tells us about human development, and what experience tells us in terms of effective programmes. But it has perhaps held back the success of advocacy for ECD, as policy-makers perceive the difficulty of achieving such an integrated approach.

The Wolfensohn Center is currently investigating the challenges of integration across sectors:

1. In a world where policies, services, budgets and knowledge are organised according to sectors, it is difficult to organise cross-cutting processes in which roles, responsibilities, allocation of resources and learning cross different sectors. Territorialism is not just a feature of governments. It also affects academia, donors, NGOs and a whole range of other actors.

2. Integrated approaches can be time-consuming and labour-intensive to implement. They are also difficult to sustain. Integrated approaches often tend to rely on the willingness of individuals to cooperate at a given time. Following changes such as elections, the work of keeping all sides on board may need to start all over again.

3. The demands of an integrated approach in terms of complexity, cost, time, labour, capacity, and political willingness may outweigh the benefits if there are other ways to ensure effective approaches.

There are possible solutions to these challenges: the next best thing to an integrated strategy where ownership is multiple is for a strong lead agency to be given ultimate responsibility for the outcome, and take the lead in encouraging other sectors to participate. In the case of ECD being included in EFA-Fast Track Initiatives, the education ministry is given the central role.

However, when there is no strong commitment from the various sectors, it may be a misdirection of effort for ECD advocates to put too high a priority on arguing for integration. While some countries (such as Chile and Cuba) are often pointed to as examples of where an integrated approach has been achieved effectively, experience in others suggests that surmounting the practical obstacles can be so time-consuming as to make its value questionable. In Brazil, for example, it took over nine years to implement a policy of integrating day care centres for 0-3 year olds with pre-schools for 4-6 year olds. UNESCO, which has long favoured integration, has launched a new study into what conclusions can be drawn from various attempts to achieve it.

The perceived complexity of implementing early childhood programmes is often cited as a bigger challenge than the lack of appropriate policies. If this is true, then efforts need to be made to reduce complexity in the ECD sector, for example, by concentrating on one aspect and – following a systemic approach – supporting other sectors to fall in. More studies into governance, financing, accountability, and support systems are needed, taking into account current trends such as decentralisation, privatisation of services, and the role of civil society organisations in ensuring the fulfilment of the state’s obligations towards young children.
There are sensitive periods in this rapid development of the brain in the early years which are associated with specific abilities and areas of neurological circuitry, and these periods follow a consistent order, building one upon the other. Later cognitive and emotional development therefore depends largely on the strength of the foundation laid in the first months and years of life, which in turn depends mainly on two factors which this section will look at consecutively: the quantity and quality of interactions between children and their primary caregivers; and nutrition.

Deficiencies in essential micronutrients such as iodine and iron can have profound effects on the developing brain. So can persistently elevated levels of stress hormones such as cortisol. Some stress is normal in the lives of infants, and learning to regulate and respond to it is part of human development. A close and responsive caregiver can return stress hormones to a normal level by comforting a child. But in the absence of such a caregiver, stress hormones remain chronically high, affecting how neural pathways in the brain develop.

It is important to note, however, that even when early brain development has been compromised, there are interventions and strategies that can go a long way to strengthen children's competencies. Children are very resilient, and a child who has had a very difficult beginning can certainly achieve positive outcomes where external support is available from schools and teachers, services and programmes, or friends and families. Where children have access to ECD programmes or good quality schools or other supportive environments, many risk factors can be mitigated.

Globally, it is estimated that close to 200 million children under the age of five are at risk of not developing to their full potential because they lack such basics as good health, adequate nutrition, safety and intellectual stimulation. The importance of good quality out-of-home provisions is most critical in situations where caregiving is under the most stress.

The quality of caregiving

Caregivers – that is, people in the home who take care of young children, including not only parents but also grandparents, siblings, aunts, foster parents and so forth – exert a powerful influence on a child's psychological adjustment or maladjustment early in life. Consistent and responsive relationships and mutually rewarding interactions with one or a few key caregivers are essential for the development of healthy brain circuits.

The techniques employed by caregivers to cultivate children's development differ across cultures, classes, gender and other dividing lines. Meanwhile, parental beliefs, attitudes and practices are very much influenced by social norms. It is clear, however, that some child rearing strategies are more effective than others in enabling children to reach their potential – and that communities can either help or hinder parents in employing effective strategies.

There is a rich literature documenting the association between parenting beliefs and practices, and the range of difficulties children may encounter in school. Inadequate emotional support and intellectual stimulation within the home environment may account for up to half of the deficiencies in mathematics, reading, and verbal skills among children who live in poverty. The literacy status and educational expectations of mothers, and their degree of interest in schooling, have a significant impact on children's reading achievement scores. Home-based early intervention programmes in developed countries

2. Sculpting the Brain: early caregiving and nutrition

Children's early environments have a profound impact on brain development, literally sculpting the way a child's brain develops. A baby is born with billions of brain cells, and as the brain develops through learning, these cells form physical connections through neural pathways called synapses. Synapses are formed by stimulating interaction with the social environment, strengthen through repetition, and wither through disuse. Depending on the degree of stimulation, around 85% of synapses are created in the first three years. Distinct differences in brain development due to environmental influences are visible by age three. By age four, a child's brain is 90% of its adult size.
show low to modest effects on children's intellectual development; their effect in developing countries could potentially be higher, though there is not enough evidence to draw conclusions.24

One important quality of caregiving is the room made available for children’s “agency” – the feeling of being able to influence events and situations in one's life. Where adults encourage this, children often feel more motivated, confident and competent. The degree to which children have room to exercise agency has to do with cultural perceptions of childhood. In developing societies, where children tend to engage from an early age in household activities and responsibilities, children may have an early sense of agency. Children often comment themselves on how important it is to them to contribute to household sustenance.25 In other societies, such as the USA, in which children are highly sheltered and programmes have to take more account of issues like liability, childhood may be more associated with dependency than agency.

Nutrition and stunting
It is well-known that nutrition and good health are very important to supporting brain development. One key indicator of long-term malnutrition is stunting, a failure to reach biological potential for growth, resulting in low height-for-age. Stunting occurs mainly in the first three years of life and is usually the result of an inadequate quality and quantity of food, poor health, or both.

Stunting is strongly correlated with parental education and economic status; those who are poor and minimally educated are more likely to ‘pass on’ poverty to the next generation. In addition, stunting is often associated with minority caste and ethnic groups, pointing to an impact of discrimination.

Tackling chronic malnutrition and discrimination in the early years is an important strategy to counter both poverty and diminished learning outcomes. This is especially true where groups of young children, such as girls or children with special needs, tend to receive less of the family's food and economic resources.

Stunting leads to lower educational outcomes. One study among 79 countries, which found 26% of children to be stunted, also found that for every 10% increase in stunting the proportion of children reaching the final grade of primary school dropped by 7.9%.26 Longitudinal research by Young Lives27 found stunting is associated with lower educational outcomes by age 12 even after controlling for family resources and other child, family and community characteristics.28 Stunted children were found to have lower grade attainment across the four countries of research – Ethiopia, India (Andhra Pradesh), Vietnam and Peru. Young Lives research in India and Peru found that the status of children’s early health and nutrition at age 1 has a positive and statistically significant effect on cognitive achievement at age 5.29

It is not only the nutrition of infants that needs to be taken into account. The level of a mother’s nutrition – which itself is often linked to gender status – is also very important to bearing full-term, normal birth weight babies and breastfeeding them successfully. In India, nearly a third of babies are born underweight, often caused by the weak nutritional status of the mother.30 From the age of three months, a developmental lag is often detected among these low weight infants, with mothers struggling to provide adequate sustenance through breastfeeding or substitute foods. When underfed girls reach adolescence, they too are likely to become young mothers bearing underweight babies.
Good caregiving mitigates the effects of disadvantage, enabling children to succeed in spite of adversity, even with low levels of systematic intervention.

The multiple benefits of good nutrition also include a healthy psychosocial development. Young Lives has found that the perspective children have on life, their aspirations for the future, and their own sense of well-being are strongly associated with nutrition. Psychosocial indicators of self-esteem, agency and a sense of respect are negatively associated with stunting in all the four countries studied, that is, after controlling for the effects of household material circumstances. Hungry children often feel shame. In Ethiopia and Vietnam, stunted children had lower educational aspirations than non-stunted children. Even where educational opportunities are radically expanding, children with low aspirations may lack the motivation to take advantage of them. ECD can make a difference here.

There is an important interplay between health, nutrition, and the quality of the caregiving environment. Research into positive deviance and resilience concludes that some children, under similarly disadvantaged situations, thrive more than others due to their caregiving environment. Good caregiving mitigates the effects of disadvantage, enabling children to succeed in spite of adversity, even with low levels of systematic intervention.

Role of the education sector in nutrition and caregiving

Clearly, nutrition and caregiving are not factors which the education sector is best positioned to tackle; they are best addressed by a more integrated approach that uses measures such as home visiting and centre-based ECD programmes. While this paper seeks primarily to address the education sector, it is important to note that the education sector can potentially influence both factors, if not in the first years then later when children are closer to school age. For example, the midday meal scheme in Indian schools was shown to have a positive and protective effect on weight-for-age (wasting) for a younger cohort of children and on height-for-age (stunting) among children from backward classes and scheduled tribes. If there is no direct intervention by the education sector in caregiving environments or in nutritional support, then it becomes important to have a signalling mechanism that flags the children with risk factors before they enter school – a topic explored in more detail in Chapter 10. This is especially true in communities where caregiving is under consistent stress. Such signalling mechanisms would equip the education sector to predict where extra intervention will be needed in order to ensure good educational outcomes. The greater the degree to which the risks are known, the more effective the strategies that can be developed.
3. Improving Educational Efficiency: the transition years

Impressive advances have been made in recent years in expanding access to education. But these accomplishments in turn raise new challenges, notably with respect to quality and efficiency. For example, the explosive rates of school enrolment following the abolition of school fees in East Africa have not led to higher rates of school completion. Instead, there have been massive rates of drop-out or push-out, caused in part by quality issues such as overcrowding, lack of desks and materials, lack of trained and motivated teachers, lack of food and inadequate facilities.

Globally, there is a range of evidence pointing to a high degree of inefficiency in education. For example:

- In the developing world, it takes an average of 1.4 years to complete one grade year. In Cambodia, it takes on average 14 years for a student to complete a six-year cycle. In Uganda, while 50% of students complete primary education eventually, only 3% do so without having had to repeat at least one year.

- In Latin America, two out of five children fail to complete primary school, and the average student repeats at least two years of primary school. In Malawi in 2001, an average of one quarter of the students in each grade repeated the grade. Repeating grades is often a precursor to dropping out.

- Reading scores in many countries between SACMEQ I (1995-6) and SACMEQ II (2000-1) actually decreased on average at the end of grade 6. In some countries, the decrease is drastic. Only 1% of Malawian and 2% of Zambian pupils achieve language proficiency at the end of grade 6. Across 486 districts of India, more than a third of school children aged 7-14 could not read grade 1 text. This inefficiency is extremely costly. Grade repetition takes up classroom space, teacher time, textbooks and materials. It has been calculated, for example, that children who are repeating grades in Cambodia account for 10,000 additional teachers, 5,000 additional classrooms and 20% of the national education budget. Uruguay could save $1.6 million in teacher salaries by reducing the repetition rate from 19% to 10%. Malawi could save $12,000 teacher salaries by reducing the repetition rate from 25% to 11%. Across sub-Saharan Africa, where the problem of inefficiency is most acute, UNESCO (2005) estimates that 33% of public expenditure on education is spent on grade repetition, adding up to a cost of $6.2 billion.

- Nor is it only the public purse which suffers. As children get older, there is an increasing opportunity cost to their families of having them repeat grades in school rather than contribute to household income through economic activity. It has been estimated that as much as three-quarters of the total cost of grade repetition is borne by households in this way.

Although it is common to hear about children dropping out at later ages in order to work or support the household or to meet other obligations, educational inefficiency is in fact firmly rooted in the first years after children enter school, known as the “transition” years. Some indicative statistics:

- The majority of the 88 million children who drop out of primary school across the world every year do so during their first 2 years.

- For 63 countries whose drop-out rates by grade were available, grade 1 drop-outs were twice as high as the number for grade 2.

- In Belize, Brazil, Equatorial Guinea, Guinea-Bissau, Madagascar, Nepal and Rwanda, more than half the children who enroll either repeat the first grade or drop out. Following the introduction of Universal Primary Education (UPE) in Uganda, the number of students repeating grade 1 increased tenfold.

The failure to establish basic literacy and numeracy skills in the first year or two of school creates inefficiencies that reverberate all through the system. If children cannot read within three years of entering the education system,
another three years of the same education will probably make no difference. By the time standardized tests are given, usually in grades 4-6, many children are way behind and unlikely to catch up. Failures in the transition years are at the root of why many school graduates in the world today are not functionally literate.

**Factors affecting the success of transitions**

Three kinds of factor lie behind the success or failure of transitions to primary school. Firstly, the qualities that the children themselves bring to the schooling process, such as good health, persistence, self-regulation and motivation. Secondly, the quality of the schools that receive the children – especially important is the level to which teachers are trained. And thirdly, the learning support that children receive from home and in their communities, which is often linked to their socioeconomic background. Attention to these three factors can make transitions to primary school more successful, thereby improving educational efficiency.

The more risk factors children face on first entering school, the less good are their chances of success. Risk factors include, for example, poor nutrition, poverty, low parental education levels, inconsistency of care, urban slum or remote rural location, environments marked by conflict, violence, pandemics, substance abuse, etc. Indeed, 34% of children with 2-3 risk factors do not pass fourth grade numeracy and 43% do not pass fourth grade reading. These figures increase to 57% and 68% respectively if there are 4-5 risk factors involved.50

Data from literacy, mathematics and vocabulary tests confirm other studies showing that achievement is strongly correlated to household wealth, consumption, and caregivers’ levels of education.51 Yet the relationship between socioeconomic status and learning outcomes is not straightforward. It is the home learning environment, rather than socioeconomic status, which has most effect; in other words “what parents do with their children is more important than who parents are”.52 It is well documented that caregivers can get children off to a good start even in difficult situations.53 This demonstrates the importance of incorporating parent support and education into ECD initiatives.

The transition to school is particularly fragile when children do not speak the language of instruction. In a relatively short time, children have to learn to read and write a new language well enough to be able to function in school. Such children face an obvious need for additional time and attention from teachers. However, class sizes are usually largest in the first years of school, and most primary teachers do not have specialised training to teach literacy and language, especially in multilingual environments. Indeed, the medium of instruction may be an imperfectly mastered second or third language even for the teacher.

The developmental window of opportunity for rapid language learning is most widely open before children enter school, at age 6-7. Language levels at age 3 accurately predict those at age 10.54 Phonological awareness has been shown to be an important predictor of readiness to learn, although it is measured mostly only in industrialised countries. At home, practices such as reading to children, storytelling, singing, or reciting rhymes and riddles all promote language. Children who live in poverty tend to have less verbal interaction and begin school with fewer linguistic skills than peers from higher income groups.55

For many children, especially first generation students, the classroom culture itself is foreign and intimidating. Corporal punishment and discrimination are often common. Teachers do not generally have the kind of training...
they need to educate a widely diverse group of children, and this diversity is most marked in the first year, before children have adjusted to school routines and norms. Nor are teachers adequately trained or supported to manage extremely large group sizes of children, often ranging in age from 4-8 or even 3-9. These wide age ranges result from a large proportion of children entering school either too late or too early: the number of under-age students tends to increase as school fees are removed, and girls often form the majority of late entrants. It is late entrants who are more associated with early drop-out.

The effects of large class sizes on student achievement in primary school are not consistently considered a trade-off with quality. However, the effects for young children are considered detrimental to learning.56 Large early grade classes interfere with teaching and learning processes. Class sizes of 75-100 pupils in the first year make it difficult to instil the fundamental skills and competencies that affect later learning. The terms 'crowd management' and 'class control' are often used to describe a first grade context. If one adds to that the challenges of a very broad age range, including both under-aged and over-aged pupils and a high degree of social diversity among children, it is clear that teachers can be overwhelmed.

Primary schooling is often linked to services, such as regarding food supplements, health monitoring, and access to social programmes (e.g. conditional cash transfers). But lack of communication or cooperation between early childhood services and schools means that provincial education offices and even schools may not know enough about the children entering education, resulting in inadequate preparation for meeting their needs – for example, how well they speak the language of instruction, their nutritional status, or their previous exposure to learning environments. Education, therefore, runs the risk of becoming irrelevant to the real lives of children, or may not address the difficulties that prevent children from learning effectively. Much needs to be done on the side of school management, supervision, finance, training and family support in order to strengthen the transition process.

Evidence for the effects of pre-school on educational efficiency
Evidence that ECD interventions can reduce repetition, and thereby increase educational efficiency, exists from both industrialised and developing countries. Again, this evidence base is explored in greater detail in Annex II, including the well-known Perry Pre-School Project and Abecedarian studies. Some indicative examples of different types of ECD intervention will serve as a summary here:

• An impact study in Nepal found that 95% of children who went through ECD centres went on to primary school, compared to 75% of those who had not. Children from ECD centres were seven times less likely to repeat grade 1, and were projected to be more than twice as likely to complete primary school within five years.67 A separate study in Nepal found that ECD programmes dramatically improved boy-girl ratios in primary school.14

• Seven years into the Turkish Early Enrichment Project, which combined ECD with mother training in low-income, low education areas of Istanbul, 86% of the children whose mothers participated were still in school, compared to 67% of those whose mothers had not.59

• A study in Brazil found that girls from poor backgrounds who attended pre-school were twice as likely to survive to the fifth year, and three times as likely to reach the eighth year, than girls who had not.60 Another study in Brazil found that grade completion rates increased from 2% to 40% as a result of a community-based ECD programme.61

It is important to note that the critical success factors that empower children to learn are not necessarily the scholastic or cognitive inputs. Many studies point to how participating and active learning lead to differences in attitude and motivation among children themselves, and how early successes in school in turn trigger “higher motivation, better performance and higher regard from teachers and classmates”.62 Similarly, nutritional and health inputs in ECD programmes can have long-lasting benefits.63
Karin Hyde writes that “increasing coverage of preschool [in Africa] to 30% by 2015 would result in an efficiency gain of 15% in resource use in primary education”. Further important evidence comes from the work of researchers Adriana Jaramillo and Alain Mingat. Comparing the data from 133 countries, they find that children who do not experience some form of pre-school or ECD services have a 50% primary school completion rate; in countries where at least half the children are in pre-school, there is 80% primary school completion. Interestingly, significant benefits are found even in programmes where children spent relatively little time, for example 1-2 sessions per week.

In another study, Mingat estimated the impact of pre-school on the numbers of children persevering to grade five of primary education. Data was available from 40 countries, 24 of them in sub-Saharan Africa. The findings were the same: a positive association between pre-school enrolment and school survival, and a negative association between pre-school enrolment and class repetition. The higher a country’s pre-school enrolment, the higher the proportion of the cohort that survives to grade 5, at which point some core skills should be firmly rooted. Mingat estimates that, on average, one additional percentage point in the Gross Enrolment Rate (GER) for pre-school implies a reduction of 0.12% in the repetition rate. A reduction of 1% in the repetition rate for primary school leads to an increase of 0.875% in the survival rate to grade 5.

The simulation suggests that reaching an Africa-wide pre-school GER of 30% would yield significant benefits. Repetition rates would decrease from 20.4% to 16.7%; survival to grade 5 would increase from 65.3% to 75%. Mingat estimates that attaining 50% coverage of pre-school would improve the flow of students, representing a gain of 20% in the efficiency of resource use in primary education. In a six-year primary cycle, 20% savings means 1.2 years less redundant time in school.

Jaramillo and Mingat estimate that investments in ECD in sub-Saharan Africa would be offset by 87% as a result of higher efficiency in primary education alone. The rest of the costs, and probably much more, would be recovered if we took into account the benefits that accrue at higher levels of education, namely social skill formation and increased emotional competence. Pre-school enrolment contributes to grade 5 survival rates both directly and indirectly. Directly, it influences the demand for schooling. Indirectly, it brings down repetition, which in turn increases survival to grade 5.

Pre-school classes are especially likely to pay for themselves where they are proactive in areas such as nutrition, health monitoring, language learning, and in providing safe and inclusive learning environments. It is also important, when reducing repetition and drop-out rates, to make schools gender-friendly – that is, safe for girls, with safe transport to and from school, water and hygiene provisions, female teachers, and so forth.

### Simulation of grade 5 survival and repetition rates according to pre-school coverage in 24 sub-Saharan African countries

<table>
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<th>30</th>
<th>40</th>
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<td>20.3</td>
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<td>Anglophone Countries</td>
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<table>
<thead>
<tr>
<th>Survival Rate to Grade 5 (%)</th>
</tr>
</thead>
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<tr>
<td>All African countries</td>
</tr>
</tbody>
</table>

Source: Mingat, A.2005 Early Childhood Care and Education in Sub-Saharan Africa. Towards expansion of coverage and targeting of efficient services. CNRS, IREDU and University of Burgundy.
4. Achieving EFA and MDGs: the relevance of early childhood

Since the 2000 World Education Forum held in Dakar, great strides have been made in achieving parts of the EFA agenda. Between 1999 and 2005, the number of children not in school was reduced by 24 million to 72 million and the global net enrolment rate for primary school increased from 83% to 87%. Sub-Saharan Africa, South Asia and West Asia have all increased access to primary school. Starting from very low enrolment rates, countries such as Burkina Faso, Ethiopia, Zambia and Yemen have made large gains in providing education.

As we have seen, however, this impressive progress has brought new challenges. The gains in access to education have not only enabled millions of vulnerable children to enter school, they have also led to a surge in the demand for education. Now, more than ever before, parents and caregivers perceive the profound significance of quality education to the future of their children. They are impatient for the advantages of education to take root as early as possible. This is therefore an ideal time for the education sector to argue the case for investing in young children: parents, governments and international partnerships share common interests in a better quality education for all children.

The education sector can take the lead in this field, building on the successes of EFA, UPE and the guidance provided by General Comment 7 of the United Nations Committee on the Rights of the Child, by pointing out that early learning begets later learning and improves efficiency throughout the system. There is also a good case for taking EFA and the Millennium Development Goals (MDGs) into account together, because the factors affecting poor school achievement and diminished intellectual development – notably the interrelated factors of stunting and poverty – are strongly tied to MDG indicators.

Early childhood and the Dakar Framework for Action

At the 2000 World Education Forum held in Dakar, Senegal, the international community reaffirmed its commitment to achieving Education for All; a movement introduced 10 years earlier at the World Conference on EFA held in Jomtien, Thailand. At Dakar, participants adopted the Dakar Framework for Action, which put forward six goals:

1. Expand and improve early childhood care and education (ECCE), especially for the most vulnerable and disadvantaged children.
2. Provide free and compulsory primary education for all.
3. Promote learning and life skills for young people and adults.
4. Increase adult literacy by 50%, especially for women.
6. Improve the quality of education.

While there are indicators for some goals, unfortunately, the framework did not set indicators for progress on Goal 1. This means that there is no commonly agreed framework for data collection by governments. However, given that ECD programmes are far from universal in most countries, under EFA Goal 1 it is wise to focus first on the most vulnerable and disadvantaged children rather than the easier option of developing programmes in the least challenging contexts. Although various agencies are using some indicators to track young children, there is clearly a role for governments to ensure systematic monitoring of EFA Goal 1 to do justice to the Dakar Framework for Action.
Common indicators and clear objectives would facilitate focusing scarce resources on those areas where they generate the highest level of social return. Although national data on enrolment, drop-out repetition and achievement are often available, they are seldom disaggregated by age or grade so it is difficult to know where to focus efforts. By identifying trends at school level, it is possible to influence school development plans as well as broader systems such as regarding educational reform and quality improvement. While teachers and teaching materials curricula often serve as a first entry point to improving quality, head teachers/principals, school management committees, school supervision/support, governance and accountability (with an explicit role for communities) are all important. More research is needed to make grade-specific data available and to establish a better understanding of why the transition years warrant higher investment upstream rather than downstream in the primary school trajectory.

The problem of ECD data was recently addressed in a publication by UNICEF’s Innocenti Research Centre, “The child care transition. A league table of early childhood education and care in economically advanced countries”. This puts forward ten benchmarks which will now be tracked regularly and used as a basis for comparison in OECD countries. They are:

1. A minimum entitlement to paid parental leave.
2. A national plan with priority for disadvantaged children. The proxy measure here is whether governments have drawn up a national plan for the organisation and financing of early childhood services.
3. A minimum level of child care provision for under-threes (set at 25% of children under three).
4. A minimum level of access for four year olds (80% of coverage of four year olds in publicly supported, accredited services for a minimal 15 hours per week).
5. A minimum level of training for all staff (80% of staff with relevant training – all staff should have an induction course).
6. A minimum proportion of staff with higher level education and training (50% of staff in publicly accredited services with three years of tertiary training).
7. A minimum staff-to-child ratio (1:15 for the age group 4-5; group size should not exceed 24).
8. A minimum level of public funding – not less than 1% of GDP to be spent on ECD for children aged 0-6.
9. A low level of child poverty – a child poverty rate of less than 10% according to OECD definitions of child poverty.
10. Universal outreach – a proxy measure is the extent to which basic child health services have been made available to the most marginalised families. This benchmark is considered fulfilled if at least 2 of the following 3 goals are met:
   a. The infant mortality rate (IMR) is less than 4 per 1,000 live births.
   b. The proportion of babies born with low birth weight is less than 6%.
   c. The immunisation rate for 12-23 month olds is higher than 95%.

These benchmarks present a challenge even to developed countries and would clearly need to be calibrated differently or adapted for use in developing countries. They also illustrate the difficulty of setting any quantitative benchmarks on a broad basis. However, benchmarks along similar lines could serve as a basis for consistent data collection to measure progress towards EFA Goal 1.

EFA Goals 3 and 4, which address adult learning and literacy, are also highly relevant to early childhood. The number of out-of-school children (72 million) globally is dwarfed by the number of illiterate adults (776 million, two-thirds of them women). Children whose parents are unable to support them in developing literacy skills are generally more in need of quality external support in early childhood if they are to succeed educationally. But even illiterate parents can successfully support children’s emergent literacy, for example, by making print or pictorial materials available to children within the household. Raising awareness of this is another reason why the participation of parents in ECD programmes is so important.
Early childhood and the Millennium Development Goals
Whereas the EFA goals explicitly highlight the importance of early childhood as a life phase, young children are implicitly important for reaching almost all Millennium Development Goals: the situation of young children is strongly relevant to these goals. It is worthwhile therefore to look at the MDGs and their indicators in turn, and assess their significance in relation to early childhood.

Goal 1: Eradicate extreme poverty and hunger
One of the indicators of this goal is prevalence of underweight children up to the age of five. The significance of this goal to young children is enormous. Poverty affects young children more profoundly than older children because, as we have seen, stress and lack of essential micronutrients undermine brain development. In many countries, including even rich ones such as the USA, the proportion of 0-6 year olds in poverty is far higher than for any other age range, and it is often the fastest growing group in poverty. Nutritional status is often used as a proxy for school-readiness of children, given its effects on cognitive development and associations with poverty, low educational status of parents and home environments that lack stimulation.

Goal 2: Achieve Universal Primary Education (UPE)
UPE is a proxy indicator for educational status and achievement. As we have seen, however, progress towards achieving universal primary education often then raises questions of educational quality. Performance in primary school, school completion and literacy levels are strongly associated with the quality of the early learning experience, both at home and in pre-school provisions.

Goal 3: Promote gender equality and empower women
According to recent Global Monitoring Reports, enrolment in early childhood provisions often shows relatively good gender parity. However, a closer look reveals a more nuanced picture as girls may often be placed in poorer quality services than boys. Only one-third of countries have achieved gender parity in primary and secondary school enrolment, with gender gaps being most pronounced in South Asia and sub-Saharan Africa. ECD services have been shown to be associated with not only better school completion for girls but also better employment opportunities for women.

The education sector can take the lead in this field, building on the successes of EFA, UPE and the guidance provided by General Comment 7 of the United Nations Committee on the Rights of the Child, by pointing out that early learning begets later learning and improves efficiency throughout the system.
Goal 4: Reduce child mortality
Involves direct measures in early childhood. The indicators here are the IMR, the mortality rate for under-fives (U5MR), and the percentage of 1 year olds immunised.

Goal 5: Improve maternal health
Lack of progress on maternal mortality, combined with large numbers of illiterate mothers, is particularly worrying as the well-being of mothers has a fundamental effect on children's developmental and educational outcomes. Maternal orphanhood can be more detrimental to children than paternal orphanhood, leading to greater stunting, wasting and less education. Indicators here pertain only to mothers, but have a big influence on early childhood, i.e. low birth weight babies, inadequate breastfeeding, etc.

Goal 6: Combat HIV/AIDS, malaria and other diseases
The number of children orphaned by HIV/AIDS is one of the indicators here. Young children are affected by mother-to-child transmission of HIV, and by the loss of parents, caregivers, and other family members. HIV status affects decisions about breastfeeding, while both malaria and tuberculosis are also major sources of mortality among young children.

Goal 7: Ensuring environmental stability
Here there are no direct indicators pertaining to young children, but the environment does affect young children, particularly with respect to food security, migration due to environmental degradation, natural disasters (e.g. droughts and floods), and conflict over natural resources (e.g. water, fertile land or minerals). The environment also affects child labour from an early age, such as with regard to collecting water and firewood over increasingly longer distances. Environmental toxins are a significant risk for young children. Under the sustainable development agenda, climate change is rising in importance as an issue for children.

Goal 8: Develop a global partnership for development
Again, there are no direct indicators involving young children in this goal. But official development assistance, market access and debt sustainability all affect the macroeconomic context for children. Making the link between young children and these high profile political and economic issues would be helpful in terms of raising the profile of young children as citizens who are heavily affected by the global economy. There are civil society organisations, especially from the child rights circuit, that conduct child budget monitoring and function as a watchdog to ensure that public commitments are being implemented and accounted for.

Considering early childhood in relation to EFA and the MDGs shows clearly that early intervention to support children's education is relevant for achieving all goals. On reflection this should be a self-evident conclusion, as healthy and educated children are a cornerstone of future social and economic development. Nonetheless, it is important to note that neglecting the needs of the marginalised at a very young age will undermine later efforts in other areas.
5. Raising the Profile: challenges for early childhood advocates

Making the case for the importance of early childhood as a life phase, and realising its crucial importance for successful learning raises the question of why more attention and investment is not already focused on ECD. One reason, discussed above, is that clear and accurate data is typically hard to come by, as there is no consistent framework for data collection and monitoring of progress on EFA Goal 1.

Another is that insufficient attention is paid to evaluating the outputs and impacts of the many diverse approaches to ECD programmes that currently exist, especially in the developing world. The absence of a stronger evidence base on the relative costs and benefits of different ECD programmes in the developing world impedes decision-making about where to allocate resources, whether in the public, private, or NGO sector.

Related to this is the fact that investment in ECD tends to be fragmented among many budgets, both in terms of governments and donor support. Most countries lack a strong national lead agency for early childhood. Ministries of education are generally responsible for formal preschool education, while other ECD initiatives may fall under different ministries with different degrees of influence, resources and capacities. It can be difficult to track how much money is going towards support of the 0-6 age range.

All of these factors could themselves, however, be seen as symptoms as well as causes of the lack of attention paid to the situation of young children. Deeper explanations are needed, and three underlying challenges for ECD advocates can be suggested.

Firstly, under traditional perceptions of gender roles it is seen as natural and expected that women will take care of young children for free or at very low wages. This helps to explain the notable lack of mass movements agitating for more attention and investment in young children. The importance of caring for young children, and the skills required to do this well, are insufficiently appreciated.

Anecdotal evidence suggests that one consequence of this is that ECD workers tend to be excluded from trade unions and other formal representative bodies in the education sector, weakening their negotiating position in terms of pay and training. More effective representative bodies for early childhood educators could improve recognition of the importance of their role.

Secondly, children do not vote. It would only be natural, therefore, if they tended to feature less prominently on the radar screens of elected representatives than other social groups which do vote and articulate their needs in a visible way. There are child rights groups which effectively advocate for the rights of children, but these groups often tend to neglect the rights of the youngest children, who are least able to speak up for their own interests.

It is also noticeable that there are few high-profile champions for ECD, along the lines of UNICEF’s “ambassadors”. For instance, the World Bank is a main investor in early childhood, but its profile on ECD is low compared to that on other issues. High-profile champions backed by institutions with a reputation for rigour and authority could force ECD up the public agenda. Parents and caregivers of young children generally do not think of themselves as a voting constituency, but could wield influence if they did.

Thirdly, time horizons are short. Politicians and the private sector generally depend on achieving visible results quickly. ECD programmes keep paying off over a lifetime, but only those payoffs expected to become visible quickly will tend to be taken into consideration. Investment in young children is thus often framed as a trade-off with other educational priorities instead of...
Answering the arguments against investment in early childhood

Funds are limited. Aren’t there more pressing priorities?
ECD services are a rare example of a policy that has the potential to pay for itself, largely by generating savings in educational efficiency. Skimping on early childhood programmes may therefore free up resources for other policies in the short term, but it is a false economy in the long term.

Families have always looked after young children. Why not leave it to them?
Many features of modern life - pandemics, conflict, migration, displacement, food and fuel insecurity, female work patterns - undermine the traditional support role of families. ECD interventions should involve and strengthen families, and proactively prioritise families in which risk factors are highest and where returns on investment in ECD services are therefore likely to be highest.

The education sector can’t do it all. Isn’t an integrated approach needed?
An integrated approach is preferable, but not always practically possible. The education sector can achieve much by taking a lead role while certainly making efforts to bring in other sectors where feasible.

Can low-income countries really afford programmes of sufficient quality?
“Quality” is a relative and evolving concept, not an absolute one. Kindergartens which would be considered of low quality in some settings can still be much better than nothing.

What’s in it for people who don’t happen to be parents of young children?
The developmental significance of this life phase is such that public awareness of the cumulative social benefits of ECD needs to be raised at large, not just among caregivers of young children. Everyone is affected by what kind of society is formed by rising generations of young people whose characters have been shaped by the degree of support they received in their early years.

Politicians seem to be short-sighted: how can they be convinced?
While ECD interventions have benefits that continue to be realised long after electoral timeframes, there are also significant short-term and medium-term benefits in terms of educational efficiency, learning outcomes, and social equity. These start to become visible soon after the first cohorts enter school.

Isn’t it better to prioritise quantifiable goals identified by the EFA and MDG initiatives?
ECD interventions can contribute to those quantifiable goals. Having said that, it would be helpful to have indicators also for ECD itself for which governments could be held to account. Efforts to establish such indicators are being made by the UN Committee on the Rights of the Child and the OECD, as well as the Early Development Instrument and under the Early Learning Development Standards.

The choice of intervention models is too confusing. Which is best?
More evidence is needed about the differing effects of different models, especially in developing country contexts. But much is known already. It is not only fully fledged pre-schools that have been shown to have measurable effects, but participation even in basic programmes for only a couple of hours a week.
6. Choosing ECD Interventions: options and debates

ECD interventions fall into four broad categories, which are not mutually exclusive. First, formal pre-schools or reception year classes, often attached to primary schools. Second, centre-based approaches, such as kindergartens, play groups, day care or nurseries, either stand-alone or combined with existing services. Third, small-scale, home-based arrangements located in households. Fourth, home-visiting approaches, involving parent education or support, counselling, family literacy and so forth. There are, of course, other approaches, such as mobile services, distance education (i.e. community radio), ‘camps’ or ‘fairs’ on a systematic basis – but we suggest here a general classification along the line of the transition from family settings to those attached to schools.

Globally, ECD provision has nearly tripled in the past 30 years, driven by social and economic trends such as migration, urbanisation, female participation in the labour force, and increasing school enrolment. In some countries, however, the expansion looks dramatic only because of starting from an extremely low level, and there remain wide disparities between countries and regions. In 2004, pre-primary enrolment rates of 3-5 year olds were around 73% in developed and transition countries, compared with 32% in developing countries. This needs to change. A range of researchers assert that investing in early childhood is one of the best, most effective choices that a country can make for human capital, with returns over the life course many times the amount of the original input.

The difficulties of making cross-national generalisations

It is notoriously difficult to compare the benefits of ECD programmes across countries because the motivations behind such programmes represent diverse goals, values and practices. Some societies believe that young children should play, while others expect them to prepare for school or work. Policies for ECD are influenced by cultural, political and demographic contexts. They differ significantly, depending on whether the care of children is considered a public responsibility or the responsibility of families. These differences also affect governance and financing, such as the role of the public and private sectors, families and communities, NGOs and international aid.

Michael Lamb and Lieselotte Ahnert suggest that international comparisons of ECD dichotomies can be made along four dimensions:

1. whether there is equality between men and women or boys and girls;
2. whether child care is viewed as a public or private responsibility;
3. whether child care is viewed as a social welfare intervention or an early education intervention; and
4. whether basic conceptions of early human development are similar or different across cultures.
A range of researchers assert that investing in early childhood is one of the best, most effective choices that a country can make for human capital, with returns over the life course many times the amount of the original input.

In assessing pre-school performance, measures should reflect the national priorities and cultural conceptions that inform policy choices. For example, in some countries and among some donor agencies, early childhood may be seen as valuable primarily for cultivating a work force that can compete in a global knowledge economy; in other countries and among other donors, it may be seen primarily as a lever to help break cycles of poverty and foster pro-poor economic growth. In still other countries and donor agencies, early childhood is seen as the right time to inculcate values of social equity and democratic citizenship. Of course, these purposes are not mutually exclusive.

Some key differences between developed and developing countries

Detailed findings from a range of programmes in both developed and developing country contexts are presented in Annex II. This evidence suggests that the benefits and risks of early childhood are not identical between developing and high-income countries, and if programmes in developed countries were transplanted directly into developing countries, it is highly unlikely that the very same benefits would be seen. Likewise, the benefits that are seen in developing countries may not be those one would find in developed countries.

For instance, while the Perry Pre-School Programme had many positive effects, one of the most significant is unlikely to be repeated in other contexts: lower incarceration rates among young African American men. A large proportion of this segment of the population in the USA ends up in jail; in the state of Mississippi, which has among the worst educational indicators in the country, the prison industry is the biggest employer. As developing countries do not generally imprison people to the same extent, nor allocate such a large amount of public resources to prisons, the potential for economic gains is substantially lower.

To take another example, the biggest rate of return on investment in the Chicago Child-Parent Centers is the increase in mothers' employment. In developing countries, in contrast, mothers of young children may have no choice but to seek income in the informal economy and the benefit of ECD may be more that it would allow them to concentrate on their work while still knowing their children are in a safe environment.

In developing countries, evidence of the benefits of high quality programmes is limited. Yet there are few convincing cost-benefit studies that would make it possible to plan the financing of further expansion, adaptation or quality improvement. Comparing findings across the studies that exist is difficult because many do not explicitly define quality, or if they do, the definitions differ. Many studies assess quality at the group level – for example, the characteristics of the setting or the activities – but not in terms of learning outcomes or other individual benefits. The majority of evidence is descriptive and does not allow for making firm causal links between the types of programmes children attend and their developmental consequences.

Data about early childhood programmes in developing countries tends to only capture formal, centre-based modalities such as pre-schools or kindergartens, mostly in urban settings. The data often does not account for
widespread non-formal modalities such as “community-based” initiatives, which generally receive no or only partial public support. Nor is there much data in developing countries on non-centre-based programmes for 0-3 year olds - home visiting, play groups or parenting programmes.

The strength of the case for investing in ECD programmes depends on their quality. Most quality criteria in developed countries include indicators pertaining to structural issues (such as child-adult ratios, group size or training of teachers), process issues (such as cognitive stimulation, teacher responsiveness and social interaction) or pedagogy (what is being taught and how it is taught). In some contexts, indicators such as quality of infrastructure, educational management, and how inclusively schools relate to families and communities are also used. There is much debate about whether such quality attributes are too “Western”, and whether it is advisable to export them to the developing world.

The emphasis on small class sizes and small adult-child ratios is especially problematic in developing contexts, as it radically drives up costs. It is also important to remember that even very basic programmes with minimal staffing or facilities may be much better than the alternative of leaving young children spending their days in unsafe environments – locked up at home alone, roaming the streets, or in the workplace – and that their existence can lead to a gradual increase in demand for better programmes as perceptions of quality evolve.

Lessons that apply in both developed and developing contexts

Although the evidence base is biased towards more rigorous studies that have been done in industrialised countries, two key lessons do stand out from the evidence across both high-income and developing contexts. Firstly, the greatest rate of return on investment in early childhood comes from focusing on the most disadvantaged children, especially if these children receive good quality services. Poor children who receive poor quality services are likely to remain behind compared to their more advantaged peers. Secondly, results are often cumulative during the life course, and this is what makes early investment so profitable.

Similarly, despite the differences between different country contexts, literature reviews on ECD do generally point to some common characteristics that are consistently associated with positive developmental outcomes:

1. well-educated and trained teachers
2. small class sizes
3. small adult-child ratios
4. responsive relationships between staff and children
5. high and consistent levels of child participation in the classroom
6. a language-rich environment
7. an age-appropriate curriculum
8. stimulating materials in a safe environment
9. a proactive approach to social inclusion of all children and their parents
10. sustained communication with parents, families and community representatives

Not all of these aspects may always be necessary, but enough of them to achieve a critical mass will generally be most successful in supporting children's development.
Only a few exceptional countries have large-scale public ECD programmes other than pre-schools, or have – like Chile, Brazil and South Africa – developed national frameworks to finance and coordinate services for young children with a clear lead agency. Where governments have mandated 1-2 years of education prior to primary school as part of compulsory education, the outlay by the respective education ministry is significant, but rarely matches the actual expenditure required. Implementation of compulsory pre-school consequently moves very slowly, generally beginning where conditions are most favourable but least needed.

In most developing countries, most costs of ECD programmes are assumed by families and communities, CBOs or NGOs, or international donors – although the percentage of bilaterally donor-funded education budgets that is committed to education before school is a minuscule 0.5%. Even in OECD countries, parents’ share of input can be as high as 60%. In sub-Saharan Africa, where ECD coverage is by far lowest, less than 1% of education ministry budgets are allocated to ECD in 13 of 19 countries studied (see table).

The three countries with the highest coverage of public ECD services are Benin, Niger and South Africa, but as the table shows, this does not necessarily mean that they spend the most. Because the vast majority of education budgets go towards staff salaries, where coverage of ECD is quite high but investment is very low, one can assume that much of the expense is in fact covered out-of-pocket by parents/caregivers. This is the case in Kenya, Lesotho, Namibia, and Zimbabwe, where the pre-primary Gross Enrolment Ratio (GER) ranges from 18% to 41% yet public expenditure is low. Gabon, Mali, Niger and Senegal have a lower GER for pre-primary, but their governments spend relatively more.80

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7. Finding the Money: trends in financing and provision

Given the particular challenges of the first years of school – extremely large group sizes, foreign language of instruction, mixed ages and so forth – plus the high rates of drop-out and repetition, the first years of school warrant a significant degree of investment. Relatively little public money, however, is currently spent on ECD programming. Research by UNESCO has found that data on public expenditure on pre-primary education is available in only a few countries, and that it ranged from 0.2% of GDP in Latin America to 0.5% in Central and Eastern Europe. UNESCO also found no discernible upward trend anywhere and a downward trend in Central and Eastern Europe.79

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<td>1999</td>
<td>0.96</td>
</tr>
<tr>
<td>Namibia</td>
<td>1998</td>
<td>0.00</td>
</tr>
<tr>
<td>Niger</td>
<td>2000</td>
<td>2.30</td>
</tr>
<tr>
<td>Senegal</td>
<td>1998</td>
<td>2.59</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>1998</td>
<td>0.00</td>
</tr>
<tr>
<td>South Africa</td>
<td>1999</td>
<td>1.23</td>
</tr>
<tr>
<td>Swaziland</td>
<td>1998</td>
<td>0.03</td>
</tr>
<tr>
<td>Togo</td>
<td>2000</td>
<td>0.51</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>1999</td>
<td>0.02</td>
</tr>
</tbody>
</table>

These percentages would be higher if one included funds allocated from health, nutrition and other sectoral budgets. Information about the actual costs of running ECD programmes is, however, generally weak. The wide range of service delivery models entails very different cost structures, and the evidence base comes from a limited number of research studies. Costs are potentially covered from various sources which are not always visible, especially regarding in-kind inputs such as labour and food. This leads to underestimating the true cost of running services.

Private sector and civil society provision
The private sector plays a rapidly expanding role in ECD, especially in Asia. When public education is popularly equated with low quality education, then even low-income families tend to make increasing use of private services (especially when instruction is in a foreign language) in the belief that this increases social mobility over the long term. This option tends to be used selectively by families, for example, for boys or for those children most likely to succeed. Similarly, in many countries of Africa, ECD is confined to a very small private market, primarily in urban areas, and primarily for the more advantaged populations. These formal provisions are of relatively high cost compared to community-based approaches and rarely penetrate into rural or disadvantaged regions. The risk is that private provisions are generally less rigorously regulated and supervised by public authorities. Quality may be very low or developmentally inappropriate for children at a young age. For instance, goals may be over-ambitious, with children expected to read and write before they are developmentally ready. In the 1990s, the state of Tamil Nadu in India launched a campaign about the “burden on the pre-school child”, criticising the expectations fostered in the private pre-school market.

In the absence of large-scale public ECD services for young children, various NGOs and donors have filled the gap to a minor degree. At best, some of these efforts have achieved quality and addressed the most urgent issues among children on the basis of rigorous situation analysis, despite the constant pressure to identify low-cost, financially sustainable strategies. But due to the shortage of longitudinal evaluation and costing analysis, it is difficult to know how benefits have compared to costs. It is also increasingly clear that community-based ECD provision has its limits in localities where communities are already stretched beyond their means, notably in areas affected by HIV and AIDS.

Experience shows that when left primarily to civil society and donors to finance, the ECD sector becomes fragmented and disconnected. This is avoided only if public investment forms the backbone of financing in early childhood, with external resources or civil society inputs being seen as complementary to public support, and donor money primarily serving to leverage domestic resources and expand the repertoire of possibilities. As we have seen, the social benefits created by ECD programmes create significant savings in public expenditure down the line, so governments have a vested interest in investing in ECD.
Moreover, it is not the role of civil society to ultimately guarantee service provision to a country’s youngest citizens. This is a child rights issue, and the obligation to support quality ECD and provide adequate resources lies ultimately with the government. Of course, ECD services do not need to be delivered solely by the state – public partnerships with private or civil society groups can be appropriate. But the groundwork of creating an equitable ECD sector needs to start with an overall, comprehensive national policy and plan in which the roles and responsibilities of different sectors are elaborated, and a financing plan that allows for progressive improvements in coverage and quality is detailed.

International financing for early childhood remains on the fringes of the education agenda. The indicative framework of the Fast-Track Initiative (FTI) encourages 50% of recurrent spending on education to be allocated to the primary cycle, usually of six years, which means the remaining 50% is competed for by all the other levels – secondary, tertiary, vocational, adult, etc. Similarly, external funding is also prioritised for “basic education”. And whereas the term “basic education” includes ECD, its perception has narrowed down to predominantly primary schooling. Universal Primary Education tends to have a strong claim on public investment, due partly to quantified international commitments.

Monitoring budgets with respect to young children is especially complicated given the need to track money across different sectoral budgets (such as health, education and social welfare), at different levels of governance, and with respect to different stages of the financial pipeline: allocation; commitments to local government; and actual expenditure. There are, however, civil society organisations that have developed expertise in this area in different regions of the world. These often work with local governments and communities on activities such as child budget monitoring, public expenditure tracking, and child rights reporting with respect to education budgets.

Decentralisation does open up important opportunities for communities to influence local resource allocation for programmes and to exercise accountability for how resources are used. As decentralisation continues, there is an important role to play in building the capacities of local government to include the interests of young children in their policy development and planning. At a municipal level, there are interesting initiatives underway where communities and child rights agencies are working together with municipal government authorities and city mayors to take young children into account in all aspects of their planning. One example is UNICEF’s “Child Friendly Cities” initiative, in which municipalities in Peru and Brazil have devised mechanisms to represent young children’s interests.

Decentralisation of public ECD programming is a complex issue for which there is currently little literature, and on which it is difficult yet to draw generalised conclusions. Research currently undertaken by Save the Children in India and by the Innocenti Research Centre intends to investigate both governance and financing issues in disadvantaged contexts. Findings are expected to be published in 2010.

Whereas the term “basic education” includes ECD, its perception has narrowed down to predominantly primary schooling. Universal Primary Education tends to have a strong claim on public investment, due partly to quantified international commitments.
Options for financing ECD provision

There are cases across industrialised and developing countries where ECD is being financed under structural arrangements, for example:

- Education sector plans for Fast Track Initiative (FTI) funding that includes ECCE (Mozambique, among others)
- Dedicated income tax revenues from families and businesses for ECD (Sweden, USA, Brazil, Germany)
- Conditional cash transfer programmes (Mexico, Brazil, South Africa)
- Poverty reduction schemes that include ECD (Tanzania)
- Payroll taxes in the formal sector for social programmes (Colombia 3%, France 7%)
- Excise taxes on, for example, tobacco, alcohol, and luxury goods (Thailand)
- “Social contracts” between the government and the private sector in strategic sectors such as oil and mining (Peru), construction (India) or other forms of corporate social responsibility (Brazil and others)
- Special funds such as the Commonwealth Education Fund 2002-2009, Jamaica’s Social Investment Fund, the newly-proposed Global Education Fund, the Millennium Development Fund of Brazil and other pooled funds making resources available to ECD
- Public lotteries that pay for social programmes, for example, as in Jamaica, the UK, and some states of the USA.

Joan Lombardi lays out four ways that funding for ECD is structured, looking at different promising experiences:

1. Direct funding to communities for services for children aged 0-6. This could include a matching amount from the community, and a role for central or provincial government in terms of providing technical and logistical support. The Indonesia Early Childhood Education and Development Project is an example of this, with grants going to low income communities in selected districts.

2. Funding for specific sectoral programmes such as regarding health, nutrition, parenting and child care. In this model, funding goes into service provision, either as grants to service providers, or as subsidies to parents for the use of services, or both. In New Zealand, services receive public support and, in addition to that, low-income families receive child care subsidies.

3. A combination of funding for parental leave and early childhood services. This is very much the approach in OECD countries, but the balance between the two components varies greatly from place to place.

4. Income support for parents. The impact of household poverty on children is well documented. Conditional cash transfer programmes are one way to tackle this. Aside from decreasing stress on income earners/caregivers, the conditionality ensures that children go to school or receive regular health check-ups. Results from cash transfer programmes in Mexico, Colombia and South Africa are documenting positive results for young children across a spectrum of indicators.
High quality programmes are generally associated with both higher costs and more robust results. However, there is evidence that only a limited increase in cost may be required to achieve significantly better performance. The most expensive programmes do not necessarily ensure the best results.

Quality and workforce issues

Quality is far less standardised in ECD than in primary education or adult literacy, partly because of the greater diversity of services that exist under ECD and the fact that many of them operate as informal services rather than as formal, public provision. High quality programmes are generally associated with both higher costs and more robust results. However, there is evidence that only a limited increase in cost may be required to achieve significantly better performance. The most expensive programmes do not necessarily ensure the best results.

This is true for both individual and social rates of return. One study has shown that children from low cost pre-schools performed better on some tasks than children in high cost pre-schools. India's public Integrated Child Development Services (ICDS) programme is very low cost, and while it is often criticised for its pedagogical value, the nutritional and health inputs for young children have played a significant role in bolstering their learning capacity. By addressing the most immediate risks to children's development, there is much good that an ECD programme can achieve at relatively low cost, and quality-enhancing programme components can be added over time.

Given that the quality of teachers has a major influence on quality of education, the situation of ECD workers is worth mentioning. Across the world, there is a huge workforce of primarily women who educate children in the years before school. They are little studied, and have little influence. In California alone, there are 125,000 people – mostly women - employed in child care, making it the second biggest employment sector in the state, yet it is a very poorly paid occupation. In developing countries, the vast majority of ECD personnel work in the informal sector. Whether formal or informal, these workers will generally not receive an equitable salary compared to other similar professions.

A typical ECD worker is a woman who has graduated lower secondary school, speaks both the local language and the language of instruction, has some amount of experience, and is trusted by the community to care for their children. She will often receive a short pre-service induction course prior to starting work, and some in-service training that varies greatly in terms of duration and quality. Supervision, support and mentorship will be minimal or absent. She will likely lack possibilities for formal accreditation or continuing professional development.

In order to sustain quality in ECD, it is advisable to put ECD personnel, including those in the informal sector, onto a gradual pathway for accreditation. This would serve several purposes, such as monitoring the quality of performance, providing incentives to ECD personnel to advance their skills, and promoting greater equity in the labour market. Accreditation would entail putting in place a differentiated salary scale for workers that potentially crosses the divide between formal and non-formal services, and increasing possibilities for in-service professional development.

The fact that ECD workers generally receive lower compensation than teachers (due to their lower levels of training) often explains the lower per capita cost of ECD services compared to primary school or formal pre-school. Working out a balance between, on the one hand, an equitable salary scale for ECD personnel to sustain quality and, on the other hand, containing costs in order to increase coverage, is a major aspect of any costing scenario.
8. Calculating the Cost: methods and estimates

There are various criteria to consider when gauging how much investment is required in ECD, such as:

- Demographic trends: what percentage of the population is aged 0-8, and is that group growing or shrinking?
- What percentage of 0-8 year olds is affected by poverty? Often, this age group is most affected – potentially because the care of children comes at the expense of economic activities.
- The effects of poverty on young children, for example, statistics on stunting, wasting, diminished cognitive development, under-five mortality and morbidity.
- Fertility rates – how many young children are there per family? This has implications for the overall childminding burden on the household.

Among the most critical areas to invest in with respect to quality are:

- staff/child ratios
- staff wages
- training for staff and administrators
- monitoring and supervision
- special inputs on a selective basis, for example, nutrition and developmental screening

Costs of ECD programmes vary far more radically than in primary education. One study found that among six countries with similar developmental status, unit costs of ECD programmes ranged from US$46 to US$1222.85. Unlike the far more limited differences in the unit costs of primary education, this difference could not be explained by variations in per capita Gross National Product (GNP).

Unit costs of ECD services in Africa and Asia are on the order of US$25 to US$50. There are of course exceptions. India’s large-scale public ICDS programme costs US$10 per capita, partly because workers in this programme are costed as volunteers. The three main causes of the variation in unit cost relate to how many hours the service is provided for, whether labour is voluntary, and the incidence of relatively high cost, small-scale programmes generally run by the NGO sector.

The elements of cost differentials

By working out the cost parameters of different approaches, it is possible to make choices for efficient modalities while still aiming for maximum benefit. In general, there tends to be a fundamental distinction in approaches for 0-3 year olds, 4-6 year olds (pre-school), and 6-8 year olds (children beginning school). Simulations of different approaches have been used by various authors to compare programmes with different levels of unit cost and coverage. By using simulations within a given budget ceiling, one can add or detract costs such as salary level, coverage and degree of targeting, depending on relative priorities and availability of resources. An example of one simulation exercise is given later in this section.

Among the potentially cost-effective options to consider is the addition of ECD components to existing services (e.g. by adding coaching classes for first generation school goers in schools). Where inputs (e.g. supplementary nutrition for young children) are selectively targeted, the criteria for eligibility need to be clearly delineated in order to be costed. Karin Hyde elaborates four areas that serve as parameters for analysis:86

1. Either adding ECD to existing programmes or schemes, or setting up stand-alone initiatives.
2. Finding a feasible balance between public sector input and community input, including in the governance structure.
3. Addressing the distinct needs of different age groups.
4. Deciding on the degree of targeting in favour of disadvantaged groups, taking into account that universal provision will be a gradual, phased process. Targeting also raises the question of how much customisation of services will take place for specific populations at risk, or whether there will be general models with extra inputs for those who need it.
Proposed benchmarks for ECD investment

Karin Hyde has proposed some benchmarks for investing in ECD, with the aim of achieving 25% ECD coverage in Africa by 2015 and 30% in 2020. She suggests that 5% of the total recurrent budget of education should be dedicated to ECD by 2015. But to meet the multiple needs of young children, she also recommends that an extra “envelope” of 0.1% of Gross Domestic Product (GDP) be put aside for young children from various relevant sectors such as health, social welfare, water and sanitation. This envelope would be managed by a sector other than education with cross-cutting responsibilities, for example a Ministry of Social Affairs, the Interior, or Human Resource Development. It is reasonable to expect that there would be variation among governments in terms of what they commit, but the combined amount should increasingly approach the actual figure needed to implement EFA Goal 1.

Emily Vargas-Barón has also proposed some financial benchmarks:

• Governments to devote at least 0.5 to 1% of GDP to parent and early childhood education. Over a period of 5-10 years, an investment of 14-20% of education budgets in ECD/parents, with the goal of working towards 20%.

• Governments to dedicate 0.3-0.5% of GDP to maternal and child health care. Over a period of five to ten years, an investment of 14-20% of health budgets in maternal and child health, aiming for 25% ultimately.

• International donors to dedicate 15% of their investment in education, health, nutrition, social protection and sanitation to ECD, aiming for 20% by 2015.

• Multilateral and bilateral agencies should dedicate between US$1 billion to US$1.5 billion annually for ECD.

These are ambitious benchmarks, which will be difficult for any government to fulfil. But they are important goalposts that should be kept in mind, as spending money on the early years is the best investment to make. If governments are able to set budget benchmarks for ECD, then planners can use the costing instruments that have been developed to design national level plans and budgets. Variables such as degree of quality, coverage, and wage levels can then be calibrated when deciding how best to allocate scarce resources.

Simulation of Costing the Expansion of ECD - a technical model

There are a few different models of how costing the expansion of ECD services can be calculated. One of these is illustrated in the table above - i.e. the model proposed by van Ravens and Aggio, in a simplified form. Although this table reduces many complexities, it provides an idea of how a normative model can provide a framework for planning and financing ECD.

This model multiplies two economic parameters, price (P) and quantity (Q): (P) is the cost per child enrolled, or unit cost; (Q) delineates the population that should be reached, e.g. "the most vulnerable and disadvantaged children". In practice, however, quantifying these two parameters can be complex. To develop their model, van Ravens & Aggio sought to identify basic costs that would apply to virtually any ECD modality, whether centre-based, home-based, or school-based. Although the parameters are the same, the quantification of these variables changes, depending on such factors as context and standard of living. In their publication, van Ravens and Aggio compare the normative costs of two modalities: centre-based for 3-5 year olds; and home visiting designed for caregivers of 0-3 year olds.

This table applies the model to a centre-based modality. The following are the core cost parameters that were estimated for “regular programme delivery”, or RPD (see above).
These parameters are explained as follows:

a. Teacher salaries are generally the core element of cost structures in education. They are generally calculated as a proportion of per capita GNP (pcGNP). A teacher in a rich country needs a higher salary to be able to afford a certain basket of goods than a teacher in a low income country, while the national income of that richer country would indeed allow for higher teacher salaries. There are some general reference points as to how much primary school teachers receive in different countries or regions as a proportion of per capita GNP. For instance, in Asia, teachers earn 2.9 times the pcGNP, whereas in Africa, the comparable factor is 4.4. As an average, this table uses three times per capita GNP (3xpcGNP) as a benchmark.

b. ECD staff in turn generally receives a salary that can be benchmarked according to the norm for school teachers. Although the majority of ECD staff receive less than teachers, van Ravens and Aggio set the benchmark at 100%, partly to build in a quality margin and partly as they argue that even primary teachers often receive a salary that is considered insufficient to ensure consistent attendance.

c. The total number of hours that a full-time teacher works per year is assumed to be 1800 (40 hours per week times 45 weeks per year).

d. Of this amount, 1600 hours is teaching time and the remainder is preparation time. In practice, teachers may not work full-time or work according to a wide range of possible schedules.

e. Within 1600 hours of contact time with children, a teacher can run one or more ECD classes. Assuming that many ECD programmes are not full-time, the model plans for two programmes per year, each running for 800 hours a year. Assuming an ECD salary of 3xpcGNP and the delivery of two programmes of 800 contact hours per year, then the salary component comes out at (3xpcGNP)/2. To find out how much this is per child, we need to set a normative group size. This is set at 20 under point g. below. Per capita cost is then [(3xpcGNP)/2] / 20.

f. The non-salary component of ECD needs to be set aside. In primary education, teacher salaries can often consume 85% to 90% of total education budgets. For ECD, van Ravens & Aggio set the benchmark considerably lower for various reasons, including because ECD teachers in community-based programmes generally have lower qualifications than primary school teachers and should receive adequate in-service training. The non-salary component normally also includes costs for physical infrastructure and maintenance, management, supervision, learning materials, etc. The non-salary margin is set at 40% of total cost; salaries at 60%.

g. Group size is set at 20 children.

The final calculation of RPD unit cost is:

\[
\left( \frac{(3 \times \text{pcGNP})}{2} \right) / (\text{20} \times \frac{100}{60}) = 0.125 \times \text{pcGNP}
\]

or 12.5% of pcGNP. To put this into perspective, 12.5% pcGNP is about 4% of a primary school teacher’s salary in the same country, assuming that the teacher makes 3xpcGNP. Confirmation of this formula would require comparing it with empirical unit costs, of which we have few examples. The best example so far is by Mingat (2006) who found that the average unit costs in sub-Saharan Africa are 17% of countries’ pcGNP.

If we apply the normative calculation with the African salary benchmark (5 instead of 3xpcGNP), the calculation results in 20.8% pcGNP. The difference between Mingat’s empirical calculation of 17% and the formula’s result of 20.8% can be explained by the fact that Mingat estimates ECD salaries at 81% of teacher salaries rather than equal to teacher salaries.

When calculating (Q), one choice is to use poverty statistics to identify the disadvantaged population. In the absence of consistent data about poverty rates among 0-6 year olds in the Arab region, van Ravens and Aggio used two proxy indicators where data did exist: rates of undernourishment and children with illiterate parents. Rather than using proxy indicators, it would clearly be more efficient to have accurate direct indicators of how many children are receiving an adequate start in life and how many would benefit from intervention. The quest to develop such a measure is the subject of the next section.
9. Targeting the Impact: towards universal measures

How can money available for ECD programmes be effectively targeted to ensure that interventions are most cost-effective, reaching those most in need? ECD as an area of scientific interest has arisen out of developmental psychology and education, which focuses primarily on individual outcomes and on processes such as pedagogical practices and curriculum development. Among policy-makers, planners and donors who wish to invest in ECD, there is a strong demand to come up with population-based indicators of where children are thriving or faltering. Such indicators do not ‘diagnose’ individual outcomes, but map the risks and assets among populations of children that predict later developmental outcomes.

These indicators would enable decision-makers to plan for and implement policies and programmes among those populations of children who are most disadvantaged – as EFA Goal 1 states. League tables and indices such as the PISA Report, UNICEF’s Report Card or the Human Development Index have proven their worth in terms of advocacy. Comparisons of results have spurred governments to take action to target their efforts more effectively, and equipped civil society to play a watchdog function with respect to public commitments.

Teachers College at Columbia University in the USA, with support from UNICEF, is formulating Early Learning Development Standards in many countries. This process looks into five domains of child development (the usual range of physical, socio-emotional, etc) and asks: what is it that children should know and do in order to be ready for school, or more generally, to be ready for their next stage of development? These questions are posed at a national level in order to develop national consensus on the developmental outcomes expected from ECD interventions. The process of developing the standards is similar from place to place, but the standards themselves are unique in each location, depending on context and priorities. In the end, quality standards tend to be set in terms of certain attributes that are associated with quality, without setting actual global benchmarks for those attributes. At a national level, quality standards generally reflect both internationally recognised standards of ‘good practices’ and local responses to needs and priorities.

The World Bank and World Health Organization have spearheaded an international effort to develop an internationally valid measure of readiness to learn, known as the Early Development Instrument (EDI). This instrument has been tested in an expanding number of both developing and industrialised countries and has undergone various revisions. The instrument is designed to reflect brain development (capacity), serving as a predictor of the future development of children at the time that they are entering school. The findings map out the vulnerabilities or risks affecting a population of children that are likely to affect their educational success. The maps provide the information that policy-makers and educational systems need to take into account when planning for quality services that respond to the real-life situations of children. The ‘readiness to learn’ measure is applied at age 5 or 6.

FTI countries that plan to expand ECD provision will require population-based data collection and monitoring that informs policy-makers about the percentage of children who are vulnerable, and what their vulnerabilities are. For instance, EDI mapping provides information about:

- Areas or localities that need ECD intervention.
- Schools that require additional support for vulnerable students entering primary school.
- The indicators that need to be monitored once intervention has taken place.
In countries where the EDI has been utilised for several years, such as Canada and Australia, it is possible to see the value of the findings. For instance, EDI results are predictive of later school performance at grade 4. The EDI vulnerability index correlates very highly with later failure in grade 4 tests. As the number of vulnerabilities in the population increases, the rate of failure in numeracy and reading rapidly increases. Communities in Australia that had high rates of vulnerable students in 2003 were able to reduce those rates significantly by 2006. Other comparable communities where there was no intervention showed no change in rates of vulnerability.

The EDI consists of around 20 items distributed over six areas:

1. Physical well-being, i.e. immunisation, grooming, etc.
2. Language use – communication of needs/wants/thoughts in home language, initiating and sustaining conversations, talking about a picture.
3. Approaches towards learning – enthusiasm and interest in diverse topics, curiosity, and confidence in one’s ability to succeed.
4. Cognition and general knowledge – ability to follow directions and solve problems in daily life; basic pool of knowledge within a child’s range of experience.
5. Motor development – ability to use implements such as pencils or paintbrushes; gross motor skills such as skipping and balancing.
6. Social and emotional development – taking turns and sharing; forming and maintaining friendships.

An average school teacher or pre-school teacher can administer the short version of the EDI in half an hour, a feasible time period. There are “anchor” items that appear on every EDI internationally, but communities can also choose to add unique items or optional items that are particularly important to them. The instrument is administered directly with children. When applying the EDI in developing countries, various adaptations were taken into account. It can always be debated whether different and better measures of risk could be devised for particular local contexts, but using the EDI as a basis is a pragmatic choice given the potential usefulness of establishing an international basis of comparison.

Ultimately, the idea of the measurement is to come up with a single, quantified and comparable index. The process of reducing diverse domains into a single index is known as commensuration. There is considerable debate as to whether it is desirable and valid to reduce diverse aspects of child development, influenced by different cultural expectations about what children should know and do, into one global index.

Nevertheless, for national and international actors, the value of an “early warning system” at the time of school entry potentially provides the data they need to put in place, target, and monitor ECD policies and programmes to an unprecedented degree. It helps to act proactively and target the use of scarce resources, to monitor the effects of interventions that are undertaken, and facilitates international commitments such as the FTI. And it equips educational systems to proactively prepare for diverse children and support those who start school with multiple risk factors.
10. Conclusions and Recommendations

We have seen that early childhood development is a determinant of learning outcomes in both industrialised and developing countries\(^9\). Neither quality nor quantity of primary education alone is enough to achieve learning outcomes and economic growth if the building blocks in the first years of human development are missing.\(^{10}\)

10.1. Recommendations for public policy

Ensure national ECD policies are both comprehensive and publicly funded

The starting point for ECD needs to be a publicly financed system that prioritises disadvantaged populations of children as it gradually builds up the ECD sector. Even when ECD approaches are community-based, local government should provide financing, technical support, regulation, and other core inputs. Of course, delivery can be in partnership with private or non-governmental groups. But the first step is the need for a comprehensive national policy on early childhood, embedded in the National Education Sector Plan (NESP)/Poverty Reduction Strategy Paper (PRSP), and followed by a plan for implementation, including a financing plan. This might start as a stand-alone plan, being integrated into the NESP in the next revision. In contexts where decentralisation is taking place, it is particularly important that such a plan takes account of governance and financing issues.

Invest in ECD to achieve cost savings through primary school efficiency

ECD programmes will result in lower rates of repetition, saving enormous amounts of funds now wasted in the education system. Additionally, with children better prepared, drop-out rates in primary school will be reduced, especially in the first two grades. ECD can in this way save resources that could be invested in further ECD programmes. Thus, the extra resources needed to start up ECD services will later be reimbursed to a large extent by higher efficiency in primary school.
Encourage partnerships between governments and civil society organisations
Civil society organisations (CSOs) cannot act as the primary service provider in ECD, but can deliver services in partnership with the public sector and can play an invaluable role in other ways: monitoring child rights; informing governments about needs and windows of opportunity; maintaining regular budget monitoring to draw the attention of decision-makers to unspent funds; piloting innovative approaches that can be up-scaled; informing the public about rights and entitlements; and making known parents’ demands with respect to their young children. Both public reporting and alternative reporting mechanisms concerned with child rights should give more attention to young children. CSOs should also channel social solidarity behind young children, creating a constituency that supports them from the ground up.

Make ECD services inclusive, comprehensive and standard practice
Put in place inclusive, comprehensive programmes with the flexibility to add or detract components as needed rather than implementing a broad range of customised services that are difficult to sustain or to compare in terms of results. ECD should be recognised as a standard service just like health care, school and social services.

Combine the best features of formal pre-schools and informal community models
Choosing between community-based or formal pre-school models is not an either/or proposition. Although the unit costs of formal pre-schools are higher in some countries compared to community models, this is not uniformly so. Moreover, formal pre-schools offer other important advantages such as the creation of a formal (female) workforce in early childhood with possibilities for professional development. As a public pre-school sector expands over time, there will still be a need for community-based provisions to complement government provision. Moreover, even where public pre-schools are universalised, there should still be room for communities to influence the design and performance of services through local government representation, pre-school committees or other means.

Invest in training, skills and accreditation of human resources in ECD
Investment in the quality of the human resources for ECD is critically important, especially where few institutions exist to train and support the workforce. ECD personnel should have access to accreditation, whether they operate in formal or non-formal sectors. This offers the possibility of professional mobility and upgrading of skills. Increasing the numbers of accredited ECD teachers may give rise to stronger collective representation of ECD workers and strengthen their negotiating position.

Target the disadvantaged, but aim ultimately for universal access
One risk of running multiple services is that they become unequal. If a choice has to be made, then the public sector should target services for disadvantaged sections of the population, but ultimately aim for universal access to good quality, equitable services. Best quality should go to the most disadvantaged populations. Equity should be primarily measured according to learning outcomes rather than inputs, though both are important.

Use standardised population based indicators to identify the children most at risk
Decentralisation is opening up new opportunities for partnerships at local levels and shorter lines of public accountability towards citizens. Introducing a standardised population measure gives the education sector information that it can share with local government and the local community about where the educational risks are among the children soon to enter school. On the basis of this, educational plans and resource allocation can be developed that respond to children’s status. It will also be possible to monitor progress over time, thereby improving accountability. The World Bank’s Early Development Instrument (EDI) is the best-developed measure and the most suited to providing common ground internationally.
Prioritise data collection on ECD benchmarks and indicators
In FTI countries, the World Bank documents a high correlation between ECD enrolment and primary school completion. This synergy between ECD and school completion contributes to FTI goals. Some basic data collection on ECD benchmarks or indicators would be invaluable, possibly adapted from the OECD benchmarks. Education sector plans should not only include ECD, but should subsequently lead to commitment of catalytic funding in early childhood. An instrument such as the EDI can be used to monitor progress.

Strengthen budget analysis and monitoring
The donor community has generally neglected ECD. Important measures to strengthen ECD relate to budget analysis and monitoring, such as: setting a goal for the percentage of education aid that goes towards ECD (perhaps starting with a pilot amount); monitoring the use of that investment for future planning; ensuring that education sector plans include a plan and budget for ECD at all stages of the FTI process (planning, budgeting, implementation, evaluation); and ensuring that there is a strong lead agency acting as the motor behind ECD, but which also collaborates with other sectors.

Recognise that quality is a dynamic concept
Although many definitions of quality tend to agree on a similar list of attributes, there are no global benchmarks. Quality is a dynamic concept that changes over time. ECD services should be steered and monitored by explicitly formulated objectives and strategies, bearing in mind that with the development of indicators and standards for quality these goalposts will change.

10.2. Recommendations for the Education Sector

Focus on strengthening performance in the early years of primary school
The first years of school are particularly important as the first foothold of children in education, but pose some of the biggest challenges, including large class sizes, a foreign language of instruction, mixed ages and high social diversity. Teachers need to be particularly skilled to ensure successful transitions to school. School policies and budgets should reflect a priority to strengthen performance in the first years of school.

Sustain health and nutritional support for disadvantaged children
Direct interventions in nutrition and caregiving generally fall under sectors such as health, social welfare and social protection. However, educational systems should sustain such efforts where they are needed, especially in the first years of school, i.e. as regards school feeding and health monitoring, access to social protection, active outreach to ensure inclusion in school (especially among children affected by stigma or other disadvantages). Attention to child protection in schools is especially called for alongside nutritional support and health monitoring in high risk environments.

Tackle language transitions through teacher training and a pre-primary year
Where it is feasible and efficient, add at least one pre-primary year to school systems, especially where the language of instruction is different to the home language. This is the best age for children to bridge the language transition. It requires investment in skilled, bilingual or multilingual personnel. In multilingual environments, extra attention and investment is needed regarding teachers who are skilled at teaching language and literacy. Learning in the home language is best, but not always feasible.
Support community-based approaches in the absence of pre-school
Where basic education or primary education does not include pre-school, support community-based approaches where core costs and some form of regulation are the responsibility of local government together with community representation. Design such programmes as variations on a theme, reflecting a balance between generally recognised good practices and some degree of tailoring for local specificities.

Look for ways to strengthen and improve existing ECD provisions
Based on careful analysis, identify existing systems or programmes where the education sector can add value by strengthening ECD without setting up new systems. For example, by upgrading the pedagogical quality of custodial care provisions, strengthening the curriculum, adding training to childcare staff in areas such as emergent literacy, or by offering extra-curricular activities that strengthen children in non-stigmatising ways (i.e. through games and sports, cultural activities, and the use of new technologies).

Plan for receiving diverse children through risk-mapping instruments
Institute a consistent system to map the risks among pre-school children that are likely to affect educational success. Use this data to equip schools so that they can be proactive in responding to the diversity of children they will receive and can plan accordingly. This data system should be shared between (local) government and communities both for purposes of planning and monitoring results.

Promote children’s participation and build on their strengths
Design pedagogical approaches that build on children’s resilience and resourcefulness. This can be done by actively promoting children’s participation and building on the unique assets that children bring to learning from their different life experiences.

Make schools a “safe space” for children – physically, socially, and emotionally
Ensure that both schools and ECD services are inclusive, safe and stimulating spaces for children. “Safe” not only means physical safety but also encompasses social and emotional dimensions such as non-discrimination, non-violence, participation and inclusion. Special attention to non-violence, inclusiveness, non-discrimination, and self-esteem is called for. Stimulation should include special regard for the right to play, recreation and culture. In short, a rights-based approach to education actively implemented by school management and supervisory systems and cultivated in practice through training. The right to rest, leisure and play (CRC art.31) is particularly important in the early childhood years.
Global Actors
Internationally, the Consultative Group on Early Childhood and Development (CG, www.ecdgroup.com) is widely recognised as the network representing the early childhood sector. Although there are other strong networks such as Child Rights, few of these focus on young children. The CG is a consortium of individuals, agencies, donors, NGOs and foundations. It has links with various regional networks such as the ADEA Working Group on Early Childhood Development (in Africa) and the Arab Resource Collective, among others.

The CG Secretariat identifies emerging issues and gaps that require research or attention, and actively disseminates information. It puts out an annual periodical known as The Coordinators Notebook.

The CG supports international advocacy in early childhood, promoting the “Four Cornerstones” as common messages. They are:

• Start at the Beginning
Integrate child development, early stimulation and parenting information into prenatal, early health, and education services.

• Get Ready for Success
Ensure access to at least two years of quality early childhood care and development services prior to formal school entry, beginning with the most vulnerable and disadvantaged children.

• Improve Primary School Quality
Increase investments and improve quality in the first three primary grades by providing teachers with knowledge and training in early childhood care and development, plus adequate learning materials for children and smaller classes. Improve the quality of learning in the early years of primary education by introducing early childhood knowledge and skills to the pre-service and in-service training of primary school teachers.

• Include Early Childhood in Policies
Address early childhood in all national policies and plans across sectors, including Poverty Reduction Strategy Papers (PRSPs) and Fast Track Initiatives (FTIs), and ensure adequate resources and multisectoral coordination.

CG members generally address one or more cornerstones, and collaborate with each other to influence relevant audiences such as national governments, donors and the public. In recent years, the CG has forged ties regarding other agendas where the interests of young children were missing, for example, with respect to the formulation of poverty reduction strategies, the Global Campaign on Education (GCE), the International Panel on Climate Change, and the Inter-agency Network on Education in Emergencies. An important success was the inclusion of young children in Tanzania’s strategy for poverty reduction, known as Mkukuta. Research on Poverty Alleviation (REPOA) is monitoring children in Mkukuta, maintaining a focus on how children are disproportionately affected by poverty yet neglected in decision-making. This work is supported by UNICEF.

In 2008, the Annual General Meeting of the GCE voted to include ECD as one of its priority areas. This link has become increasingly important, as GCE is promoting a Global Education Fund (GEF). This new fund has been initiated partly to pick up momentum on some aspects of the EFA agenda – including early childhood, vocational training and adult education. Quality of education would receive a high focus, monitoring explicitly. The GEF would aim to work with a high proportion of ‘pooled funding’ from diverse sources. The FTI’s goal of harmonising and coordinating donor efforts behind a single government plan on education would be retained in the GEF. Alongside the idea of the GEF, multilaterals have expressed the need for a Global Alliance for ECD that carries serious political weight. Discussions are now ongoing.
### Actors in Early Childhood

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A = advocacy  
K = knowledge management  
C = capacity building  
S = service delivery

**Child Fund** = was previously Christian Children's Fund  
**OSI** = Open Society Institute, International Step by Step Association  
**ADEA** = Association for the Development of Education in Africa  
**CINDE** = Centro Internacional de Educación y Desarrollo Humano  
**CGECCD** = Consultative Group on Early Childhood Care and Development  
**ARC** = Arab Resource Collective
Collaboration between the health sector and ECD was given a boost when WHO set up a project to research the social determinants of health. Eight knowledge networks were established as part of this initiative, with early childhood being one of these. The project has come to an end, culminating in the report: "Early Child Development: A Powerful Equalizer" by Lori Irwin, Arjumand Siddiqi and Clyde Hertzman (2007). A constructive link with WHO remains as a result of this project.

Multilateral agencies such as UNICEF and UNESCO include early childhood to varying degrees, depending partly on the priorities of different regions and countries. UNICEF’s traditional strengths are in child survival, health (integrated management of childhood illnesses and mother-child health), nutrition, children in emergencies and protection – especially in conflict-affected and fragile states. Its work on education has been especially strong in terms of girls’ education. In some regions, UNICEF is also strongly associated with parenting programmes (the Caribbean) and social inclusion (Central and East Europe).

UNICEF’s relationship with governments gives it a privileged position in tackling issues such as policy development for early childhood and capacity development. Young children feature to varying degrees in programmes such as HIV/AIDS. Recent themes that are gaining ground are the effects of climate change on children, school readiness, and family and community care practices. The Better Care Network is an example of the latter.

UNESCO’s annual Global Monitoring Reports include patchy data on the number of formal pre-schools and the number of caregivers or teachers employed in pre-schools. As of 2000, two other indicators are included: GER in ECE programmes and the percentage of children entering primary school who have attended some form of ECCE programme for at least one year. These indicators miss out on the wide variety of non-formal provisions that exist, particularly those that do not fall under the education sector.

There are several global groups that represent early years education: OMEP (Organisation Mondiale pour l’Education Préscolaire), World Association for Early Childhood Education (WAEC), the acronym in Spanish being AMEI), and the World Forum on Early Care and Education. OMEP is the oldest group, dating from 1946, and is present in 60 countries. It is currently most dynamic in Latin America. WAEC started in Spain, and is strong in Spanish-speaking regions. It is a more recent organisation, making use of up to date knowledge and technologies, including communications and private sector know-how. The World Forum is best known for its annual conferences held in different parts of the world, bringing together practitioners and researchers. All of these groups tend to reflect on similar topics, including curriculum development, pedagogical approaches, quality improvement, standards and measurement, etc.

The World Bank (WB) is the largest donor in early childhood. Some of the regional banks such as the Inter-American Development Bank are also active on this front. An important, recent initiative by WB is the Africa ECCD Initiative, launched in September 2008 at a meeting of the ADEA Working Group on ECD in Dakar, Senegal. The first phase of this initiative is to provide country teams with seed money from the Education Program Development Fund (or EPDF) for capacity development and analytical support on ECCD. This first step will also include consensus building and dialogue on ECCD within the country. Ultimately, a national ECCD policy and programme should be drafted as part of education sector plans eligible for larger scale catalytic funding.
There are eight countries that are eligible for EPDF funds to conduct country-level analysis: Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Tanzania/Zanzibar, and Zambia. This endeavour is designed to address some of the gaps that currently exist. It aims to: improve knowledge about cost-effective ECCD approaches in Africa; strengthen the evaluation of intervention impacts; cultivate ECCD leadership through the Virtual University; and support key events such as the Fourth African International Conference on ECCD.

There are various institutions engaged in research on ECCD issues. One study to mention here is that being conducted by the Wolfensohn Center on the scaling up of ECCD (R. Kohl, 2008). Using a framework of upscaling developed by Management Systems International in Washington DC, this study will apply a set of questions and provide a protocol for five case studies where upscaling has or has not succeeded. The case studies will describe and evaluate what happened at critical junctures in the scaling up process that affected success or failure, taking into account (1) technical issues, (2) politics and advocacy, and (3) the role of institutions. The research questions are very instructive:

• What are the pros and cons of integrated programmes versus piece by piece efforts?
• What advocacy has been successful in putting ECCD on the public policy agenda, i.e. champions or broad coalitions? Media, meetings and messages?
• What are the advantages and disadvantages of having ECCD located in the education or the health ministry, or in both, so a separate agency?

As these questions illustrate, the research should provide a valuable insight into the politics of moving ECCD up the policy agenda. Results are forthcoming.

Another research project underway is Young Lives, conducted by the University of Oxford with core funding from the UK’s Department for International Development. Young Lives is a longitudinal study that looks into the effects of poverty on children during the period 2000-2015 in Vietnam, India (Andhra Pradesh), Peru and Ethiopia. There is a special sub-study within the research about children’s transitions within early childhood which strongly reflects how poverty is affecting children’s educational trajectories. The research findings are intended to be used for policy purposes, often within the framework of poverty reduction, Education for All, and child rights. Child budget monitoring and policy reviews within the four countries are part of the Young Lives study.

Regional Actors

Latin America

In terms of regional actors interested in ECCD, Latin America is best-endowed. The Organization of American States, the Inter-American Development Bank and the Pan-American Health Organization are all promoting early childhood investment, albeit with different sectoral strengths, i.e. OAS in education, PAHO in health, and IADB overall. The Child Rights networks are strong in the region with support from UNICEF, UNESCO, Save the Children, BvLF and others. As previously mentioned, WAEC and OMEP are also particularly dynamic on the South American continent. This region has the most active philanthropic or corporate sector investing in social issues, especially Brazil, Mexico and Colombia.

CINDE – the International Center for Education and Human Development – is based in Colombia, acting as an educational research and development centre for the region. It implements projects, tests and validates models of intervention to address the most excluded groups, trains professional staff, and generates knowledge on current issues for dissemination to policy-makers and peer institutions. It has an active publishing programme oriented towards the region. Early childhood is one of its core programme areas.

In general, the fundamental problem of ECCD in South America is not perceived to be one of insufficient resources or lack of good ECCD policies, but considered to be about inequitable distribution and the exclusion of certain sections of the population. As the GMR points out, coverage of ECCD is generally high in South America but this masks the systemic exclusion of certain groups such as highland children in the Andes, Amazonian children, urban street children, etc. The convergence of ethnicity,
language, socioeconomic status, armed conflict and displacement or migration tends to affect many of these groups. Violence as a feature of children's lives is endemic and certainly affects their developmental outcomes, including education.

The South American region has a relatively progressive and dynamic position on ECD, with many decades of experience in trying different approaches and policies. The core challenges are often posed as the need to invest more, to invest better, to implement policies more effectively in order to reach the excluded groups, and to deliver a better quality of education.

Africa
In Africa, a key reference point is the Association for the Development of Education in Africa (ADEA) which represents ministries of education, bilateral and multilateral donors, and researchers. There are a number of Working Groups set up by ADEA, including the Working Group on Early Childhood Development (WGECDF). The Consultative Group has a very close relationship with the ECD Working Group in Africa.

Africa is the continent with the least coverage of early childhood services and the greatest need judging by indicators of children's well-being (poverty, IMR, U5MR, maternal mortality, school enrolment and completion rates, etc.). Alongside this is the lack of leadership in the region that promotes investment in young children, and the limited degree of professional cadres such as trainers, evaluators, planners.

A strategy to address this problem is the ECD Virtual University (ECDVU). Started in 2000 with support from the World Bank and the Norwegian Educational Trust Fund, this programme offers a Master's degree in ECD for African mid-level professionals who may rise to fill leadership roles. The programme is delivered by African expertise and institutions, together with external input. It is delivered through web-based and teleconference distance learning, combined with a series of face to face sessions. It is designed for (full-time) employees who continue to work during the course. A range of donors provide scholarships (UNICEF, UNESCO, CIDA, BvLF) and/or contribute to operational expenses. Country-level support is provided by employers. Ever 2-3 years, a sub-Saharan African country hosts an international conference on ECD. Previous events took place in Kampala (2000), Asmara (2002), and Accra (2005). In 2009 it will take place in Dakar. Child rights in early childhood will feature strongly because the 20th anniversary of the CRC takes place this year. These events are particularly oriented towards asking questions about "what works", in an effort to learn from and expand good experiences. It aims to present an African knowledge base about effective programmes, policies, and systems, suited to the realities of African children. Following these conferences, there has been an effort to follow up ECD issues at the annual Ministers of Education Meeting in Africa (MINEDAF).

Another regional group found in Africa is the African Network for the Prevention and Protection against Child Abuse and Neglect (ANPPCAN). They have SSA-wide events every two years. The Forum for African Women Educationalists (FAWE) is a regional actor with a solid presence both in ADEA and the Working Group on ECD. The University of Zambia in Lusaka is playing an increasingly active role among African academia focused on early childhood. The University will host the next International Society for the Study of Behavioural Development (ISSBD) meeting in 2010.

Asia
There have not been regional actors specifically active in early childhood. A recent attempt to fill this gap has been the establishment of ARNEC (Asia Regional Network on Early Childhood), coordinated out of UNESCO's regional office in Bangkok. Occasional events hosted by UNICEF or UNESCO provide an opportunity to bring countries together, such as UNICEF's policy seminar for South Asia of March 2008, which was followed by the workshop on Early Learning Development Standards in the region. There are various national campaigns among Asian countries that focus attention on young children, such as the Right to Food Campaign in India, Literacy Campaigns (e.g. Pratham), Girl's Education, and most recently, a new-found interest at a policy level in multilingual education.
BRAC University in Bangladesh is playing an interesting role, similar to ECDVU in Africa, cultivating leadership in early childhood development from among mid-level professionals already at work. The Aga Khan University in Pakistan does the same. The Aga Khan Foundation and Save the Children operate in several countries, with integrated ECD services generally being attended to by their education sector.

In South Asia, issues such as skewed sex ratios, low birth weight, birth registration, nutrition, child labour and child protection, especially for girls, dominate the public agenda. Pre-primary education is not yet very visible, partly because the Ministry of Education is often not responsible for education prior to school, or only deals with a small sector of formal pre-schools. In Indonesia, it has been the government's health sector and family planning sector that have been most involved with policies and programmes for young children and parents.

Middle East and North Africa (MENA)

The Arab Resource Collective (ARC) has been one focal point for ECD in the Arab region for several years. Aside from activities such as Arabic resource production and training, ARC has been a key partner for the Virtual University in the Mediterranean region, launched in 2002. In this case, the University offers a 1-year online ECD curriculum programme, leading to a graduate diploma. The course was designed and implemented by the University of Victoria in Canada.

There are regional conferences in the MENA region on children in general, but they are not regular. One was held in Amman, Jordan (2002) and another in Genoa, Italy (2004). There has been a Mediterranean initiative to develop a comprehensive Index of Child Well-Being, first mooted at the Genoa regional meeting in 2004. MedChild Institute (based in Italy) is the motor, hoping eventually to regularly collect data in the region and publish a child well-being index.

Europe

There is much that can be said here, but just three actors will be mentioned for reference purposes. One is the European Early Childhood Education Research Association. EECERA holds annual research events, consistently at the end of August or early September. New research is presented, policy initiatives are featured, and experiences from the grassroots are showcased. A second is Eurochild, based in Brussels. It is a network of organisations and individuals working to improve children's lives with a reference to child rights. It has 92 members from among 33 European countries. Much of its work is oriented to influencing European-wide policy- and decision-making. This network is not confined to early childhood.

Lastly, there is the International Step by Step Association (ISSA). ISSA started as a programme of the Open Society Institute (OSI), based on the model of Head Start in the USA and adapted in East Europe. Over time, ISSA became an independent network but is still supported, financially and technically, by OSI. ISSA runs a comprehensive, child-centred programme in Eastern Europe for 0-10 year olds. For the past ten years, it has helped to reconstruct ECD sectors that unravelled once socialist systems made way for market economies. ISSA offers a gamut of interventions for pre-schools, schools, parents, infants and toddlers, and teacher training courses. Its work on Roma education and Roma rights is well-recognised in a context where few successes are to be found.

The ISSA network extends to 27 countries in the (sub) region. It has launched an International Teacher Certification System that builds on ISSA's Teacher Observation Instrument and professional development tools for teachers. Over the years, ISSA has produced a range of training materials, modules, standards, assessment instruments, and other resources.
Evidence from High-/Middle-Income Countries

Sweden
One of the earliest long-term studies about the effects of early childhood services took place in Sweden in the 1990s. This assessed children from 128 low- and middle-income families in two of Sweden's biggest cities. It concluded that ECCE was associated with an improvement in academic performance at age 13. Dr Bengt-Erik Andersson, the study director, summarised that ‘early entrance into day-care tends to predict a creative, socially confident, popular, open and independent adult’. Despite relatively few such studies in Sweden (or Scandinavia) in more recent years, the region has nevertheless continued to be convinced of these results and has sustained a strong publicly funded ECCE sector over time.

France
A study of more than 20,000 pre-school children found that the longer a child attended pre-school, the more positive the results in all grades of elementary education. Positive effects were lasting - being greater in fifth grade than in the first - and the benefits were greatest for children from disadvantaged homes.

United States
In a 2005 study of the effectiveness of Early Head Start (EHS) in the USA, a random sample of over 3,000 families in 17 EHS programmes has shown that participating children have better cognitive and language development, are more capable of sustained attention (concentration), and display less aggression towards others.

North Carolina
The Abecedarian Project enrolled 112 disadvantaged children into a five-year, full-time, five days per week programme, starting from a very young age (sometimes as of 3 months). Children were selected who were considered to be at high risk of developmental problems. The cohort has been followed up into school and adult life. A study of effects was done by Campbell and Ramey (1995 and 2002), and later a cost-benefit analysis by Masse and Barnett (2002).

Participants show higher levels of intelligence and school achievement, higher earnings (an additional $143,000 projected over the working years), better health, and less dependence on public assistance. Mothers of children realised greater earnings due to this project, about $133,000 during their working life. School districts saved more than $11,000 per child due to less need for special education and remedial education. Children of the Abecedarian children (the next generation) are projected to earn nearly $48,000 more throughout their lifetimes due to the positive impact on their parents.

Project costs are high due to staff-to-children ratios - 1:3 for infants, 2:7 for toddlers, and 1:6 for 4-5 year olds (pre-schoolers). Cost per child was $14,000 per capita in 2002 dollars. Nevertheless, the intervention is estimated to have yielded a return of $4 for every $1 invested of public resources. This is due to the high costs associated with this population group during the life course caused by unemployment, ill health, criminality, etc.

Ypsilanti, Michigan
The Perry Pre-School Project is probably the most well-known ECD intervention in terms of scientific evidence about rate of return. The actual intervention ran from 1962 to 1967, enrolling African-American 3-4 year olds from poor households into high quality pre-school education. The cohort was selected according to likely risk of school failure. Participants attended pre-school for one year, each weekday morning, for 2.5 hours. Teachers made afternoon visits to the children's homes on a regular basis. 64 participants were compared with a further 64 who did not take part in project activities. A long-term evaluation found that the Perry children had higher IQs, on average attended one extra year of education, had a 44% higher chance of completing secondary education, and spent an average of 1.3 fewer years in special education.
When the Perry children were followed up at age 27, they were found to have a 50% lower rate of teenage pregnancy and almost 50% less likely to have spent some time in jail. They had a one-third lower arrest rate for violent crime. At age 40, the children had a median income that was 40% higher than the control group. They were more likely to own their own homes and 26% less likely to have received public assistance (L.J. Schweinhart, 2004).

The Perry Pre-School Project was intensively managed and well-resourced. Staff to children ratios averaged 1:6, with all staff possessing a university degree and trained as public school teachers. Staff made weekly home visits to support mothers and to encourage their involvement in reinforcing good practices at home.

Cost per child was around $11,300 in 2007 dollars. An evaluation in 1995 suggested that the returns amounted to about $7 for every $1 invested. However, as time went on, the rate of return increased. A later evaluation published in 2006 calculated the cost to benefit ratio to be more than $8 for every $1. At age 40, the ratio increases yet again to $17:1.

Chicago Child-Parent Centers
This was a programme to provide education and family support services to low-income children from ages 3-9. A follow-up study used a quasi-experimental design in which the behaviours of 989 children who attended 20 Child-Parent Centers (CPCs) in pre-school and kindergarten from 1983-86 were compared to a random sample of 550 eligible children from comparable family backgrounds attending all-day kindergartens but not participating in CPCs (Reynolds et al, 2001). By the time of the study, the programme was somewhat altered from the original intervention.

Relative to the comparison group, CPC participants had a 29% higher rate of high school completion, a 33% lower rate of juvenile arrest, a 42% reduction in arrest for a violent offence, a 41% reduction in special education, a 40% reduction in the rate of grade retention, and a 51% reduction in child maltreatment (Ibid).

Cost-benefit analysis (Ibid) indicates that each component had economic benefits that outweighed costs. Average cost/child = $6,730 (1998 dollars) for 1.5 years of participation which generated a total social return of $47,759 per participant. Participants were considered the main 'winners' due to increased earning capacity as a result of higher educational attainment. Tax payers benefited ($25,771 per participant) due to increased taxes from higher earnings (28%), lower rate of arrests (28%), lower costs to crime victims (24%), and savings from remedial school services (18%). Overall, each dollar invested returned more than $7 to society.

California
A report by Lynn Karoly and James Bigelow of the Rand Corporation known as The Economics of Investing in Universal Preschool Education in California (2005) finds that children who attended pre-schools were more likely to graduate from secondary school, earned higher salaries as adults, and were less likely to become involved in crime. The authors claim that even if only 25% of California’s children benefited from universal pre-school provision, the state could still expect a return of $2 for every $1 invested.

Canada
Having reviewed a large range of long-term studies on the effects of ECD, Canadian researchers Cleveland and Krashinsky (2005) concluded: ‘overwhelmingly, these studies have found that good child care can have very positive effects on these children and that these advantages can be long-lasting. In particular, good child care can compensate, at least partially, for a disadvantaged home life’.

New Zealand
 Begun in 1993, the Competent Children Project is a longitudinal study of the contribution of early childhood education to children's educational and developmental growth. Researchers have collected developmental data on over 500 children. Competencies are combinations of knowledge, skills and dispositions that seem to underpin successful learning, growth to adulthood, and adulthood itself. The identification of competencies is consistent with Te Whariki, New Zealand's national ECD curriculum woven from Maori conceptions of young children's development.
The actual items tested as competencies were: literacy, mathematics, problem solving, communication skills, perseverance, social skills with peers and adults, self-management, curiosity, and motor skills. It also looks at the effect of family resources, home activities, and school engagement on these items. Data has been collected on children through to age 12. They will be assessed at age 14 again.

Summary of findings at age 12:
- Competency levels were affected by ECD experiences. Of particular importance on learning was the quality of teachers' support and the quality of teachers' interactions with children.
- Children's dispositions and experiences prior to school entry, such as family resources and language practices in the home, affected children's literacy and mathematics scores at age 12.
- Parental education levels and family income affected children's literacy and mathematics scores. Higher education and income among parents allows children to be exposed to a greater body of knowledge and varied experiences. Family resources did not affect attitudes and social skills.
- Persistent low income resulted in lower scores at age 12 - even if family income improved for children between the ages of 5 and 10.
- The age of inception in ECD was significant. Children who started before age 2 had higher scores in curiosity, mathematics, and reading comprehension (Wylie et al., 2003 and 2004).

In general, early education is shown to contribute to children's competencies at ages 10 and 12. Children had higher average scores if they had 3 or more years of early childhood education. The quality of their final year before school – especially the teacher-child interaction – continued to show enduring associations with children's performance. The socioeconomic mix of the children's final year also had a bearing on their competency levels 5 years later.

Turkey

The Turkish Early Enrichment Project was a study of 255 children and their mothers in a low-income, low educational area of Istanbul. The study ran for 10 years beginning in 1982. Children were investigated in 3 contexts: no intervention at-home children, children in custodial care, and those in pre-school. Mothers were trained during home visits and bi-weekly group meetings. Fifty percent of the mothers in each of the options were randomly selected to receive training.

The project began as a four-year investigation of the effects of the two different types of pre-school experiences and a mother-training programme. Seven years later there was a long-term follow-up of both children and parents (Kagitçibasi, Sunar, & Beckman, 2001). In the first study, children who attended educational day care performed significantly better than the other two groups on psychosocial and cognitive assessments as well as school achievement measures.

After four years, 217 of the original 255 families were studied again. Cognitive performance was highest for those children whose mothers had been trained, particularly among children who attended pre-schools. The follow-up study seven years later indicated that fewer children of trained mothers had dropped out; they scored higher in verbal and cognitive performance and were rated higher in terms of autonomy and social adjustment.

Children whose mothers had been trained perceived that their mothers were more supportive, better communicators and less likely to use physical punishment. The training appeared to have improved the mothers' confidence and their status within the family, something which came across in both the four-year and seven-year studies.

Custodial care was shown to be a detriment to children's development, evidenced by higher grade repetition, poor attitudes towards parents and school, lower self-esteem and higher delinquency. However, children in custodial care whose mothers or parents received training did persistently better with respect to higher vocabulary scores, greater school attainment, scoring higher grades, having better a attitude towards school, and better family and social adjustment. The training of mothers produced better long-term results than any of the educational interventions.
The Effective Provision of Preschool Education (EPPE) is a long-term study of young children's development. Based on a random sample of the UK's child population, the 2003 EPPE report concludes that pre-school enhances children's cognitive and social development, with the effects being greatest for disadvantaged children—especially if pre-schools bring together children of mixed backgrounds (social diversity). Benefits are positively correlated with measures of programme quality and staff qualifications. Extended exposure to high quality ECD also led to lower retention rates in the early primary years (Sammons et al., 2002). The French National Survey (Jarousse, M ingat and Richard 1992) of pre-schools came to similar conclusions as EPPE.

The Peers Early Education Partnership (PEEP) is an intervention for 1-5 year olds located in a disadvantaged area of Oxford, UK. It is designed as a literacy project to promote school readiness, numeracy and self-esteem. There is no selection, all children in the relevant age group are eligible, but the location contains a population that is largely disadvantaged. Weekly activities are held in a community centre, offering both parent-centred and child-centred activities.

From 1998-2005, PEEP was the subject of a long-term evaluation, the Birth to School Study (BTSS). The aim was to investigate the effects of PEEP on the children and on families from the community it served. The study looked for effects within the community AND on the particular families who participated in the weekly session (Evangelou, et al. 2005). Children in communities where PEEP was available were compared with children in communities without PEEP.

The effects were not as strong as those reported for projects such as High Scope or Abecedarian. For instance, progress in socio-emotional development did not emerge as a finding. Nevertheless, PEEP children did show greater growth in cognitive, language and literacy outcomes than non-PEEP children. They also showed higher self-esteem at 5 years of age. This is consistent with findings from other studies, pointing to benefits that have cumulative effect over the life course. PEEP was not an intensive intervention so weaker results are perhaps not so surprising.

The Department for Education and Skills (DfES) in the UK commissioned a review of international evidence about the impact of ECD interventions on child outcomes (McQuail et al. 2003). It incorporated evidence from 15 countries: Australia, New Zealand, UK, USA, Denmark, Norway, Sweden, Finland, Belgium, France, Germany, Italy, Netherlands, Portugal and Spain. The bulk of evidence was generated by English-language countries. The findings:

- Potential benefits of ECD are greatest for children from disadvantaged backgrounds, although all children can benefit.
- All things being equal, studies from Sweden and New Zealand suggest that more pre-school experience led to greater benefit for children.
- ALL studies indicated that quality of provision has a direct, significant impact on children's developmental outcomes.
- One study in the USA found that children of responsive and sensitive caregivers who talked more to their children had higher cognitive and language development than others who did not. Similar results were reported in the UK.

The PISA Study (Programme for International Student Assessment, OECD, 2003) finds that across a number of countries, children who attended ECD programmes scored significantly higher in mathematics at age 15, even after controlling for family social economic status (SES), than their peers who did not attend ECD programmes.

The IAE Pre-Primary Project (Weikart, Olmsted and Montie 2003) is a rare study that looks at quality characteristics across 15 countries. It was found that in programmes which provided higher levels of autonomy and where the teachers were more highly educated, children tended to have more advanced language skills.

Researchers also found a higher level of cognitive performance among children who participated less frequently in whole-group activities.
Evidence from Developing Countries

Tracer Studies
Tracer studies in developing countries (Myers 1995) indicate that enrolment in ECD leads to more school readiness, higher probability of on-time enrolment, lower rates of grade school repetition and drop-out, and improved performance among children who participate. The Bernard van Leer Foundation has published a range of tracer studies (Kenya, Honduras, India, Colombia, Israel) pointing to similar findings, but with uneven degrees of rigour in methodology.

A study in Guinea and Cape Verde (Jaramillo and Tietjen 2001) found that pre-school students in each SES grouping in each country attain higher raw test scores than the control group who did not attend pre-school. The longer the child attended pre-school, the greater the gain.

In Kenya, the evidence suggests that attendance at a pre-school with trained teachers led to a smoother transition from pre-school to primary, with lower drop-out and repetition in Standard 1. However, these effects were mediated by the quality of the school that the children attended (Njenga and Kabiru, 2001). Among the findings of this study is that the impact of ECD are strongest for those children from the most deprived backgrounds. The opportunity for additional nutritional, health and educational inputs at an early age can address the developmental delays that are more likely to afflict poorer children.

Madrasa Resource Centres
The Aga Khan Foundation’s flagship ECD programme is the Madrasa Resource Centres. The MRC integrates active learning appropriate to the early years with religious education. Research conducted by the MRC Regional Research Programme compared 463 children in Kenya, Uganda and Zanzibar. One group attended a Madrasa resource centre, one group attended an alternative pre-school and another attended no pre-school. The children’s cognitive ability was assessed using two different cognitive tests, the African Child Intelligence Test (ACIT) and the British Ability Scale (BAS) at three different times. The Early Childhood Environmental Rating Scale (ECERS) was used to assess the quality of the service provided. Children who attended pre-school demonstrated both higher levels of cognitive ability at the two post-test periods, and also greater growth in cognitive ability compared to those who stayed at home.

Children who attended MRCs scored higher than those who attended other pre-schools. This is attributed to the higher quality of the MRCs, as documented by the ECERS measurement (Mwaura 2004).

Profiles Project, Jamaica
Two key objectives of this project were to: 1) determine the cognitive, academic and behavioural outcomes of different socio-economic and academic environments for pre-school children; and 2) to determine the relationships between the environment and the outcomes. A nationally representative sample of 5-6 year olds was used as a baseline. The first follow-up study was conducted with children aged around 7 and the second follow-up study’s subjects were around 9.

There was evidence of widening gaps in performance between the low and high SES children and increasing reports of behavioural problems. The author recommended early interventions to counter these before they became established and stable. Attendance at an early childhood programme was associated with improved academic and behavioural outcomes. The report also recommended strengthening several aspects of the programming: parenting education; stimulation of the children; health monitoring; the setting of standards; and monitoring.

Among the conclusions is that early childhood experience was one of the five strongest factors with an influence on grade repetition and failure in primary school in Jamaica (M.S. Vaughan, 2005).

Roving Care Project, Jamaica
This project responded to the fact that developmental delays among Jamaican children in socially and economically difficult circumstances were documented as early as
the first birthday. In the years leading up to age 5, poor children lagged as much as 20 IQ points behind their middle-class peers (Chambers and Grantham-McGregor, 1986). The Roving Care Project focused on the child-rearing beliefs and parenting practices of poor rural Jamaican parents, believing that more stimulation, positive reinforcement and verbal as well as social interaction by parents towards their children would do much to diminish the learning gaps that poor children manifested in school. The project is informed by a range of research from fields such as social cognition, cognitive development, behavioural theories, attachment theory, and psychodynamic theories for encouraging parent-child interaction that leads to improved child development outcomes.

The Roving Care project is a home visiting programme focusing on poor rural children from pregnancy through the first few years of life. Most families are isolated and face multiple risks, including the fact that many mothers are very young and single. ‘Rovers’ make fortnightly visits to households, coaching parents in various cognitive and social activities with their children in a personalised approach tailored to the home environment. The programme provides parenting workshops to eradicate harsh and controlling parenting practices, while emphasising child rights, safety and awareness of the developmental trajectory in the first years. Rovers also provide information and flag issues for referral when appropriate.

An unpublished cost-benefit analysis by Clarke (2004) is not available. However, a more rigorous, longitudinal cost-benefit analysis is currently underway. So far, documentation points to successes such as the development of a well-functioning home visiting service that effectively reaches rural households in difficult circumstances. There is a sound training module of home intervention that could be adapted to other contexts in the developing world. Parents feel reinforced in their role as the child’s first teacher. Parents are backed up with information, advice, and some income-generating possibilities. A range of home-grown materials are available for use with rovers, parents and children. Parent education provides parents with a broader repertoire of skills without undermining their status. The programme builds a strong link with community structures that can assist parents.

Environmental Enrichment Programme for 3-5 year olds, Mauritius

This study examined the effects of an environmental enrichment programme for 83 3-5 year olds in Mauritius. These children were matched with 355 others based on temperament, nutritional status, cognitive and demographic variables. A relatively unique feature of the study was that it looked at the impact of early intervention on mental health, conduct disorders and criminal behaviour. The mental health component focused on patterns of social and interpersonal deficits that manifest themselves in relationships, cognitive distortions and eccentric behaviour.

The intervention children received three key inputs: nutrition; education; and physical exercise. The education component consisted of small group sizes (a pupil to teacher ratio of 5.5:1), verbal skills, coordination, conceptual skills, memory, sensory and perception skills, and the availability of toys, art, handicrafts, drama and music. Two and a half hours per day were spent on physical activities (gymnastics, rhythm activities, outdoor games, physical therapies). Children received milk, fruit, hot meals and salads. The intervention included walking, field trips, hygiene instruction and medical evaluation. The control group attended the traditional ‘petite écoles’ that entails a grade-school curriculum, much larger class sizes (30:1), no extra nutrition and no systematic attention to exercise. The lunch input was minimal and monotonous.

Findings: (Raine, Melligen, Liu, Venables & Mednick, 2003)

- The three programme components were associated with lower scores for schizotypal personality (mental health measure) and antisocial behaviours 14-20 years later compared with children who went to the typical community petit école. Intervention children were more socially adjusted, calmer and better able to get along with peers than those in the control group.
- Children not in the enrichment programme who were malnourished at age 3 were more likely to exhibit conduct disorders and motor excesses. The greatest benefit accrued to children who were in the enrichment programme and were malnourished at age 3. This was an opportunity to catch up.
• Enriched children who were malnourished at age 3 had lower rates of cognitive disorganisation scores by age 17 compared to the control group.
• At age 23, malnourished children at age 3 in the intervention had lower schizotypal personality scores and less problems with interpersonal deficits.
• Also at age 23, the participants self-reported significantly lower rates of criminal behaviour compared to the control group.

Save the Children (USA) in Nepal (S. Bartlett et al, 2003)
In 1996, SCF initiated an ECD programme, located and managed by the community in Siraha. Girls and boys are enrolled in equal numbers, but with a bias towards enrolment of dalit children (25% compared to 17% in the population). Since the first cohort of 291 children enrolled in primary school in 2000, SCF has monitored their progress (Udayalaxmi Pradhanaga and Sheridan Bartlett cited in K. Hyde, 2004). Girls who graduate from the programme are just as likely as boys to enter primary school. Dalit children from the centre are twice as likely as other dalit children to enter primary school. This indicates a strategy that promotes both gender and caste equity.

Boy/Girl Ratios in Grades 1 & 2 in 24 Village Development Committees

<table>
<thead>
<tr>
<th>ECD Group</th>
<th>Non-ECD Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boy/girl ratio in grade 1</td>
<td>50/50</td>
</tr>
<tr>
<td>Boy/girl ratio in grade 2</td>
<td>54/46</td>
</tr>
</tbody>
</table>

Source: Save the Children USA 2003

ECD graduates passed from Class 1 to Class 2 at double the rate of other children. By July 2004, four years after enrolment, 80% had progressed without any repetition and 10% had skipped one class. These children will complete the five-year primary cycle at more than twice the rate of other children, taking into account prevailing repetition rates.

In 2003, only 50% of Nepali children who ever enrolled in primary school completed the cycle. If the current trend persists, 99% of the ECD graduates will complete primary school. Those who fail a year are, nevertheless, persisting in school rather than dropping out. Over the four-year period, only 14 children dropped out which represents an annual rate of 1.2%. The national drop-out rate is around ten times as great.

Documented benefits include gender and caste equity, higher enrolment, stronger school performance and fewer children dropping out. In addition, parents and teachers note positive social changes in the children, describing them as 'neat and clean, respectful and obedient'. They also characterise the children as self-assured, capable and highly motivated. They are perceived as eager to learn with good social skills. Teachers and parents value these qualities.

The centres are expected to be self-sustaining within five years with some support from local education offices. The Ministry of Education plans to expand coverage to about 50% by 2009. The government hopes to see reduction of class sizes in Grade 1 and removal of underage children from Grade 1 due to ECD interventions.

Gujarat Day Care Centres, India
An impact assessment of Gujarat Day Care Centres (Zaveri, 1994) that used a pre- and post-test design found that after two years in the programme, children showed significant gains in cognitive ability that were unrelated to background variables. Mothers perceived that their children were more confident and better able to relate to others. The children showed significant and sustained weight gain as compared to control children. Upon entering school, the children had higher achievement in language, mathematics and environmental studies tests. Their teachers rated them higher in terms of ‘taking responsibility for themselves'.

ECD’s Broader Effects – teenage pregnancy, employment, and parent education

Brazil’s Living Standard Measurement Study shows similar results to Perry Pre-School-Project with respect to teenage parenting. The incidence of teenage pregnancy is less than half for girls aged 10-18 who have attended preschool compared to those who had not (Young 2002a). ECD services can promote employment and education for both parents and older siblings. In Brazil, Mexico, and Guatemala, the availability of child care releases older female siblings to either enrol in school or enter the labour market (Deutsch 1998). On the other hand, the high cost of formal child care in Kenya reduces mother’s participation in the formal labour market because it depresses their wages. If child care is unaffordable, then primarily older female children are kept out of school in order to mind younger siblings (Lokshin, Glinksaya, and Garcia 2000).

Programmes for parents/mothers often have effects on young children. A parent programme in Bogota, Colombia ran a number of interventions: maternal tutoring; nutritional supplementation at various ages; maternal stimulation – and compared them to a control group with no intervention. Maternal tutoring entailed home visiting twice a week by trained para-professionals who focused on parent-child interaction, suggested play activities and directly stimulated the child. The study found that nutritional supplementation and maternal tutoring (either on its own or in combination) improved height for age and weight for age by age 7.

Anecdotes and Case Studies

There are a range of experiences written up which provide valuable insight into different approaches in different contexts, but few of these present researched evidence. These interventions often achieve change, but are not constructed in such a way at the beginning to facilitate research or evaluate that change. There is generally a description of achievements and lessons learned. K. Hyde (2006) presents a number of ‘case studies’ from Africa. As a description of approaches they are valuable, but it would be difficult to base decisions on these examples in the absence of data about benefits and costs.

Nevertheless, one can draw inspiration about indigenous delivery mechanisms and gain insight about implementation from these cases:

- Integrating Psychosocial, Education, Health and Nutrition Services: Eritrea
- Provision of Integrated Services for Children: Bisongo, Burkina Faso
- Parental and Community Involvement in Basarwa Parent-Child Playgroups and Preschools, Botswana
- Samburu Community-based Project: ECD in the Loiipi, Kenya
- Implementation of Integrated Early Childhood Policy in Senegal
- Supporting Children Affected by War and Conflicts: Angola
- Structures in Place for Taking Care of Young Children in Guinea
- Alternative Methods of Care for Children Affected by HIV/AIDS: Two Projects in Zimbabwe
- Parent Training and Community-based Support Programmes for HIV/AIDS Affected Families in Rang’ala, Kenya
- Piloting and Mainstreaming: The National ECD Programme in Kenya
- Country-wide Provision: Preschool Programmes in Cape Verde
- The Experiences of Early Childhood Networking in Mauritania: Integrated Approach to Early Childhood Development
- Clos d’Enfants, Mali

India’s Integrated Child Development Services (ICDS)

There are a range of public large-scale services for young children that have been evaluated, but evaluations are not consistently in the public domain. Programmes such as India’s Integrated Child Development Services (ICDS) are very instructive.
ICDS is the world’s largest early childhood programme, with the lowest cost per head compared to virtually any other programme of its type. ICDS provides early education as one component of a package of integrated services, but where education is relatively weak compared to other components such as nutrition, health, and maternal support. Nevertheless, ICDS’s family support and social service components are found to have a positive effect on children’s psychosocial skills, language and cognition (Gragnolati, Shekar, Das Gupta, Bredekamp and Lee 2005). ICDS is run out of the Department of Women and Child Development, not the Ministry of Education. The two sides (ICDS / education) have little if any dialogue. Recent efforts to locate ICDS centres attached to schools might diminish this problem.

Additional Examples

There are a range of large-scale programmes in South America that have been rigorously evaluated. They are best read in the original language. A sample includes (selection from Vargas-Baron, E., 2009):

• JUNJI, Fundación INTEGRA, and Conozca a Su Hijo (CASH) in Chile.
• Programa Hogares Comunitarios (from ICBF) and Familias en Acción in Colombia.
• Atención Proyecto Nutrición y Protección Social and Madres Guías (run by CCF-Honduras) in Honduras.
• Educación Inicial run by Consejo Nacional de Fomento Educativo (CONAFE), Oportunidades (formerly called Progresa, a conditional cash transfer programme), and CENDI (Centros de Desarrollo Infantil) in Mexico.
• Wawa Wasi, PRONOIE, and PAIN (Projecto de Atención Integral a Niños y Niñas Menores de Seis Años de la Sierra Rural) in Peru.
• PROAPE (Programa de Alementação de Pre-escolar) in Brazil provided daily psycho-motor activities for children, leading to decreased rates of grade repetition and school drop-out among participants compared to those without pre-school experience (Myers, 1995).

In Sudan, early play stimulation was shown to have favourable outcomes on children’s cognitive functioning and in modifying maternal interaction (Grotberg, Bardin & King, 1987; Grotberg & Bardin 1989). Similarly, in Guyana, a short-term intervention of play stimulation had positive results (Taharally, 1991). In Jamaica, a more intense intervention for a longer period was seen to effect children’s IQ and achievement well into the late teenage years (Powell, 2004).

The home-based Portage model focuses on parents as primary teachers (Shearer & Shearer, 2005). It shows positive effects on the personal, social, motor, adaptive and language development of children 3-30 months old living in the Gaza Strip.

A mediation approach to sensitise Ethiopian parents as caregivers showed noticeable increases in maternal strategies even after working with children for brief periods (Klein, 1996).
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Young Lives: Key Findings on Nutrition (March 2009), Oxford Department of International Development, Oxford, UK.

Young Lives: Key Findings on Well-Being (March 2009), Oxford Department of International Development, Oxford, UK.


Ibid - ‘Ensuring a fair start for all children. The case of Brazil’:123-142


Endnotes

1 Save the Children, 2003
2 Kagitcibasi et al, 2001; Berlinski, Galiani, and M Manacorda, 2006
3 Ibid
4 Berlinski, Bertler, and Galiani, 2006
5 Jaramillo and M Ingat, 2006
6 Hyde, 2008

7 Defined as "socialisation, education and readiness for school, as well as the provision of basic health care and adequate nutrition, nurturing and stimulation within a caring environment for children aged up to 8 years of age" by Hyde, 2008.

8 UNESCO-IRC, 2006

9 A CEI goes into greater detail on a number of studies that look at the payoffs of investing in ECD programmes.

10 Hekman, 1999

11 Hekman & Carneiro, 2007

12 CED, 2002

13 K. Hyde, 2008

14 UNESCO Policy Brief No.32, (May-June 2006)


16 C. Stevens, 2008

17 Cited in Alan Sinclair, 2007

18 That is, according to Professor Jack Shonkoff, Director of Harvard University's Center on the Developing Child.


20 NCDC, 2007

21 Berkley, Steinberg & Draper, 1991; Collins et al, 2000; Davies, P.T., Cummings, E.M., & Winter, M.A., 2004; Sigel & M.Gillisucy-De Lis, 2002

22 Konenman, Miller & Sjaastad, 1995

23 Lee and Croninger, 1994

24 For a meta-analysis, see Sweet & Applebaum, 2004.

25 Young Lives, 2009; Lansadow, 2005

26 The Lancet, 2007

27 www.younglives.org.uk

28 D'aronco, 2008

29 Sanchez, 2009 (forthcoming)

30 FOCUS Report, 2006


32 M. Zettlin et al, 1990; E. Grotenberg, 1995

33 Singh, 2008


35 Arnold et al, March 2007

36 Cambodia Ministry of Education, Youth and Sports, 1999

37 Uganda Bureau of Statistics and ORC Marcro, 2002; Cameron, 2005

38 UNESCO, 2005

39 Ibid

40 SACMEQ findings cited in UNESCO GMR, 2005

41 Pratham, 2005


43 Independent Evaluation Group, 2006

44 Arnold et al, 2007

45 Arnold et al, 2007

46 UNESCO GMR, 2005


48 Ibid

49 Ibid

50 M. Young, 4 May 2008

51 Young Lives education briefing, March 2009

52 Effective Provision of Preschool Provision (EPPE), Sylva, 2004

53 Arnold et al, 2000

54 H Art and Risley, 2003

55 Pulkodi and Templeton, 2004

56 O’Sullivan, 2006

57 Bartlett et al, 2003

58 Arnold et al, 2007

59 Kagitcibasi et al, 2001

60 World Bank, 1999

61 Arnold et al, 2007

62 Schweinhart et al, 1993

63 Kabiru and Hyde, 2003

64 K. Hyde, 2008

65 Jaramillo and M Ingat, 2003; M Ingat, 2005

66 M Ingat, 2005

67 UNESCO-IRC, 2008

68 M. Young, 2008


70 H imaz, 2009

71 Heavy metal poisoning (lead, arsenic, manganese) and pesticide exposure are sources of concern. Around 40% of children worldwide have raised lead levels, which are associated with lower IQ's. Prenatal exposure to pesticides can lead to lower analytical and memory skills (The Lancet, 2007).

72 UNESCO, 2006


74 Combined with the science on brain development (Clyde Hertzman, Fraser Mustard, Jack Shonkoff, Courtney Stevens), the lessons drawn are increasingly compelling.

75 Lamb and Ahnert, 2006

76 Digest of Education Statistics, 2003

77 R. Levine, 2004; B. Namemetang, 2005

78 This list is adapted largely, though not exclusively, from Hirokazu Yoshikawa et al (2007). There are many such lists, which overlap to a considerable degree.

79 UNESCO, 2006

80 H. Yde, 2006

81 An online publication by Robert Mers (2008) on the Bernard van Leer Foundation website has presented an analysis of how programme budgets are constructed.

82 Costing models put forward by Jaramillo and M Ingat (2003) and J. van Ravens & C. Aggio (2008) also address this issue.

83 Lombardi, 2008

84 Jaramillo and Tietjen, 2001

85 van Ravens & Aggio, 2008: 19

86 Hyde, 2006

87 In order to track benchmarks, it will be important to have clearly dedicated budget lines for ECD in different sectors. This is currently not the case, which makes it difficult to gauge existing investment.

88 The OECD puts forward an overall benchmark of 1% of GDP for ECD.

89 Coordinator's Notebook, 2008

90 In the Coordinators Notebook (No. 30, 2008), costing instruments and simulations are presented from Jamaica, the USA, and the Arab region.

91 van Ravens & Aggio, 2008

92 For data collection, UNESCO does not count ECCE programmes that run less than 200 hours year.

93 M Ingat estimates the average at 81% of school teacher salaries.


95 Mingat estimates the average at 81% of school teacher salaries.

96 Hart and Risley, 1995

97 The findings will not stigmatise children because they are aggregate population-based findings.

98 Another correlation is between low NER in pre-primary and rates of undernourished children (UNICEF, 2006).

99 See section 2.4 on the Early Development Instrument for more details.

100 Cost: benefit ratio documents the ratio of the aggregate project benefits over the life of the child to the input costs.

101 School readiness refers to both intellectual and social preparedness to meet the demands of Grade 1. This is particularly important in SSA where drop-out rates in Grade 1 are often very high.
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