FINANCING ECD IN TANZANIA

COST AND FINANCING SCENARIOS TO SUPPORT THE IMPLEMENTATION OF THE INTEGRATED EARLY CHILDHOOD DEVELOPMENT POLICY OF TANZANIA

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This study was conducted in November and December 2009. A first draft was circulated for comments among ECD stakeholders in Tanzania in early 2010. This is the latest version, of 19 April 2010, in which the comments have been taken into account.

The UNICEF Office insisted that this study remained faithful to the Integrated ECD policy of Tanzania, which was essentially a policy promoted by UNICEF with limited genuine support from within the country. The significant problems that come with such integrated ECD policies are described in several of the Global Reports on this website.

The policy assumed no less than three phases for early learning:
- **home-visiting up until age three. This is a very expensive modality unless volunteers are used. This was indeed the case and caused very serious continuity issues.**
- **community-based centers for ages 3 and 4. These institutions appeared to be very fragile and unsustainable.**
- **the regular preschool program for ages 6 and 7. This was the only program that actually existed at some scale.**

In a Concluding Remark (page 55) I took the liberty of sharing some of these concerns.

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Acronyms

CGECCD	Consultative Group on Early Childhood Care and Development
C-IMCI	Community Integrated Management of Childhood Illness
CORP	Community Own(ed) Resource Person
ECCE	Early Childhood Care and Education
ECD	Early Childhood Development
EFA	Education for All
ETP	Education & Training Policy
FTI	Fast Track Initiative
GDP	Gross Domestic Product
GER	Gross Enrolment Rate
GNP	Gross National Product
HDI	Human Development Index
IECD	Integrated Early Childhood Development
IMCI	Integrated Management of Childhood Illness
MoEVT	Ministry of Education and Vocational Training CHECK
MoHSW	Ministry of Health and Social Welfare
NBS	National Bureau of Statistics (of Tanzania)
NER	Net Enrolment Rate
NGO	Non-governmental Organization
OECD	Organization for Economic Development and Cooperation
REPOA	Research on Poverty Alleviation
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
URT	United Republic of Tanzania

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Executive Summary

The Integrated Early Childhood Development Policy (IECD) of Tanzania is about to be finalized after a thorough process of consultation. The objective of this policy is to ensure that all the children aged between 0 – 8 years and their families have access to integrated early childhood services in a holistic manner that will promote their growth, development and prosperity. However, despite the strong commitment of the government in moving ECD forward, the mobilization of adequate financial resources is a major challenge today. As a result, access to quality ECD services for the most vulnerable and poor children is still very limited. Therefore, the new ICED policy needs to be underpinned by financial analysis that (i) clarifies the costs of implementing and sustaining the policy and (ii) suggests ways to cover those costs (funding).

This is the main objective of this report. It focuses on the three core programs of the policy:
- Home-based care and home visiting services for children from pre-natal to 3 years;
- Programs in Community-based ECD Centers for children between 3 and 4 years;
- Pre-primary education services for children between 5 and 6.

For each of these programs, and just for mainland Tanzania (not for Zanzibar), this report first estimates the distinct costs with some variants or scenarios (chapters 2, 3 and 4). Then it discusses overall costs and funding (chapter 5).

The first programme in the sequence of three – the home-based programme – supports both the family and the young child and provides an integrated service with special attention to early stimulation and learning. The entry point for this service is the Community Integrated Management of Childhood Illness (C-IMCI) programme. The new approach has been successfully piloted. Scaling it up for all families that are likely to be in need of this service would cost 4.2 billion Tsh. annually. This includes a quarterly day of refresher training for the volunteers who provide the service; for advocacy; and for sensitization of key leaders in a district. However, to combat attrition of the volunteers and to enhance sustainability, an incentive of 5000 Tsh per month is recommended, raising annual costs to 14.7 Tsh.

The second programme concerns the Community-based ECD Centers that provide age-appropriate group learning activities. Again there have been positive experiences with this form of ECD, but again there is a risk that the expansion and persistence of the service will be hindered by insufficient financial support. Relying mainly on contributions from the community, these centers appear unable to offer a reasonable salary for the teachers. Evaluations of similar initiatives abroad suggest that not all families in all regions of Tanzania will be able to afford a fee from which the teacher can live. A modest per child subsidy would bring the annual costs at national level to 40 billion Tsh for a program of 20 hours per week. This can be reduced to 12 hours without a significant loss of development gains, bringing national costs down to 24 billion Tsh. The classrooms for these centers are built by parents themselves using mainly local materials. Providing the remaining materials would cost

between 4.5 and 6 billion Tsh, but this is an incidental investment which can be spread over a number of years.

Estimating the costs for the third programme, pre-primary education, is complicated by the unusual enrolment pattern of Tanzania. Although only about 40% of the six year olds are in pre-primary education, another 50% of them are already in *primary* education. In urban areas the latter figure is even higher. For five year olds we see a similar pattern with about 35% in pre-primary and 30% in primary. Urban parents seem to prefer primary education because of the longer school-day. The lack of a tight admission policy hinders the roll-out of the IECD policy as well as budgetary control. A solution could be to lower the entry age for primary education to age six as is now suggested in the draft Education and Training Policy. Doing so, Tanzania would follow a global trend, and it is relatively easy given the fact that so many six year olds are already in primary education. But even then it remains critical to ensure that *all* five year olds are in pre-primary while *all* six year olds are in primary education, so that each child receives an age-appropriate education. Such an admission policy would also enhance cost-efficiency: universal enrolment of five and six year olds – in pre-primary and primary education respectively - can be achieved by an additional (annual) input of only 15 billion Tsh, since so many children are already in the system. Furthermore it would be desirable to improve the teacher/pupil ratio from 1:55 to 1:25, at least for the five year olds. However, this would cost about 50 billion Tsh more, annually.

The total recurrent costs of the three programmes together would be about 43 billion Tsh. annually if the minimum scenario would be chosen for each of the programmes. If the maximum scenarios would be preferred, total recurrent costs would rise to 120 billion Tsh. In addition there are the more incidental costs including construction; these are generally more limited than the recurrent costs and could be borne from external sources.

To put the resource requirements of 43 billion Tsh and 120 billion Tsh in perspective, they are contrasted in this report with the future development of the budget of the Ministry of Education and Vocational Training (responsible for pre-primary education) and the budget of the Ministry of Health and Social Welfare (strongly involved in the home-visiting for the under-3). The Ministry of Community Development, Gender and Children plays a critical role in the community-based ECD centers for 3 and 4 year olds, but has a more limited budget.

Based on the expectation of the Tanzanian Treasury that economic growth will return to a level of 7% in 2011 and thereafter, one may expect the joint budgets of the Ministries of education and health to grow by 180 billion Tsh per year, even if these budgets will not grow as a share of GDP. This estimated annual budget increase is modest compared to actual growth in recent years. Over the last decade, the annual growth of this budget has been about 160 billion Tsh on average and over the last five years even 200 billion Tsh.

On the one hand, other sectors will claim their share of the 180 billion Tsh increase. Secondary and higher education will continue to expand while primary education needs to

raise quality and reduce class sizes. Also, new hospitals, dispensaries and other health facilities will need to be opened up. On the other hand, the budget increase is annual. It accumulates. The full roll-out of the IECD policy is likely to take in the order of five to ten years. In that time-span, the accumulated budget increase will be between 900 billion Tsh and 1800 billion Tsh. This *dwarfs* the resource requirements of 43.3 to 120.4 billion Tsh.

As an illustration: the extra investment needed annually to provide an incentive of 5000 Tsh per month to the C-IMCI volunteers is 10 billion Tsh per year. This is in the order one percent of the accumulated budget increase after five years, and it is half a percent of the increase after ten years. Indeed, this is a very limited amount of money which can have a substantial impact on the development of young children all over Tanzania. At the same time it is a justified reward for the hardworking volunteers and a financial impulse in local economies.

The case for prioritizing certain regions in the roll-out process is strong. Enrolment in pre-primary education is very much correlated to the average per capita GDP of regions, and Kigoma and Morogoro stay far behind at 20% and 25% respectively. This clearly reflects a lack of preparatory services for children to facilitate enrollment in pre-primary education and it underscores the need for an IECD policy. Another pronounced gap is the one between the regions with a pre-primary enrolment of 48% or higher and the ones below that level. It can thus be recommended to prioritize all regions below 48% enrolment in pre-primary education, with a high-urgency approach for Kigoma and Morogoro. Although this analysis cannot be made for the first two programmes of the IECD policy – home-based care; community based ECD-centers – it is likely that poorer regions also stay behind in coverage of these services.

Alternative sources and mechanisms of funding may play a role in financing the IECD policy. For instance, Tanzania has an active donor-community. While recurrent costs should not be covered by external funding – when donors withdraw this would jeopardize continuity of service provision – donors may well sponsor the construction of ECD centres, pre-primary classrooms, inventory, and such. Support can also be sought from international NGOs that are active in Tanzania such as Plan International, Action Aid, Save the Children, the Aga Khan Foundation, Care International. The Bernard van Leer Foundation I a unique source of expertise. The Tanzania Social Action Fund is also an important player when it comes to supporting local initiatives, and micro-credit organizations may want to buy into the plan.

The scope for substantial involvement of the business sector in ECD is limited in Tanzania, given the fact that most people live in rural areas and make a living from subsistence farming and small livelihoods. Few people have a regular job, and these are usually not the ones with most difficulty accessing ECD services. For the same reason, payroll taxes will not make the difference. Innovative funding tools such as vouchers and conditional cash transfers will not work either, and the same goes for mean-tested fees. What could work, however, is a per capita contribution from the government that is highest in the poorer regions and lower in the richer ones. This would mitigate the financial burden for the government, while access for the poorest families would still be safeguarded.

Introduction

The key objective of this report is to support the implementation of the Integrated Early Childhood Development Policy (IECD) of Tanzania (URT, 2009a) which has a draft status at the time of writing of this report. The focus is entirely on the *financial* elaboration of the three IECD programmes that young children in Tanzania will go through between birth and entry in primary school. These programmes were succinctly described in a report of the Joint Inter-Sectoral ECD Service Delivery Initiative (URT, 2007:10):

- Home visiting services for children from pre-natal to 3 years. More in particular, this concerns the integration of a strong *cognitive and psychosocial* component in existing Community Integrated Management of Childhood Illness (C-IMCI) programs.
- A center-based ECD program for children between 3 and 4 years
- Strengthened pre-primary services for children between 5 and 6

Given this clear and broadly supported starting point, this report can afford to omit a number of issues that reports on (I)ECD usually address. For instance, there is no need to make the case for ECD and elaborate on its individual, social and economic benefits. All relevant stakeholders in Tanzania, both within government and outside it, are fully aware of these benefits. Nobody needs to be convinced. Arguments for the choice of the three programmes - home-based, community-based ECD centers, and pre-primary education - are also unnecessary to repeat. Several documents have substantiated this approach (URT, 2007; URT, 2009a; ECD Partners Tanzania, 2008), while ECD has also found a firm place in the Education Sector Development Programme (URT, 2009b:12). Last but most certainly not least, Tanzania's national Strategy on Economic Growth and Poverty Reduction, MKUKUTA, called for the preparation of "an integrated framework to guide early childhood development initiatives" (URT 2009a:6).

Structure of this report

Thus, the core of this report is formed by three chapters (numbered 2, 3 and 4) that elaborate the three respective programmes for young children. More in particular, these three chapters propose scenarios for the implementation and costs of the three programmes. The preceding chapter 1 discusses the overall architecture of the envisaged IECD system of Tanzania and makes preliminary points, while the concluding chapter 5 draws together the outcomes of the three core chapters and addresses the issue of finance, i.e. the covering of the costs. Chapter 6 presents conclusions and recommendations. It should be noted that the report focuses on mainland Tanzania; for Zanzibar, a similar study may be undertaken at a later stage. Two remarks conclude this introduction.

The preliminary status of this report

First, there is a certain scarcity of data on IECD in Tanzania, especially on costs. This has been resolved by making substantiated assumptions and estimations. But it is hoped that in the further process of policy development, various people and organizations become aware of data and information that could strengthen the analysis. As a consequence of the scarcity of data, this report does not yet provide detailed operational plans. It does however provide underpinned indications of overall costs for the various programmes and their scenarios; inform discussion about the pros and cons of each scenario; and enable stakeholders to plan and to make informed decisions regarding services for young children.

Awareness of financial constraints

The second remark concerns the financial situation of the United Republic of Tanzania. This report has been drafted in the full awareness of the fact that Tanzania, for example, has invested heavily in the recent past in order to expand and improve education at various levels, especially at primary level. The results are impressive; Tanzania is close to universal primary education. Moreover, important investments have been made to improve healthcare for mothers and children and expand its coverage. The clear decline in child mortality is one of the outcomes. However, all this has required substantial investment. One could imagine that a costed plan that seeks to universalize IECD services be perceived as an additional burden to state finance.

For this reason it must be emphasized that this report has been written in a spirit of modesty. The report is not a wish-list of services that children would *ideally* receive. Instead, it concerns services that children *minimally* need. And in elaborating the three programmes, everything has been done to identify ways to mitigate costs. The C-IMCI, for instance, is based on volunteering and on instruments that are replicated on a very large scale, reducing development costs per child to the absolute minimum.

IECD is the last frontier. In combination with universal primary education, achieving EFA Goal One will create a pathway for Tanzanian children to school and through school, from which fewer will drop out and that will bring better, healthier and more productive lives for all. The scientific evidence for this is ever accumulating, and chapter 5 of this report will show that it is financially feasible to surpass this last frontier.

1. The IECD policy of Tanzania

The three proposed programmes identified by the key ministries are in full conformity with the international state of the art. Out of a number of sources that confirm the adequacy of thee programmes, we select two for a brief discussion.

Supporting parents, and adding group learning experiences

In January 2007, the authoritative medical journal The Lancet published a series of articles on the importance of ECD. In one of them, Engle et al (2007:238) recommend to *implement early childhood development interventions in infancy through families and caregivers, and add group learning experiences from 3 to 6 years, particularly for disadvantaged children as a poverty reduction strategy.*

The intervention in infancy through families and caregivers relates to the first programme in Tanzania's policy: home-based visiting for children from conception to age 3. The effectiveness of forms of parenting education is nowadays beyond discussion (Evans, 2006), and there are various sub-modalities. ECD personnel can visit the parents at home, as is the case in, for instance, the approach developed in Kibaha District (UNICEF and MediaNet Limited, 2008). Indeed, this is a very logical approach: the home is where the children are at this age and so they can best be addressed through the parents. Few countries in the world, even in the richer parts of it, can afford to attend large numbers of children under age three in institutional forms of ECD. Alternatively, parenting education can take place in groups. This can be less costly (van Ravens and Aggio, 2008) but against the lower cost stands a smaller impact on child development compared to home-visiting. Combinations of home-visiting and group-wise parenting education could thus be worth considering.

The *group learning experiences from 3 to 6 years* that Engle et al recommend relate to (i) the home- or community center-based programmes for children of three and four years old (the second programme in the Tanzanian policy), and (ii) to the enrolment in preprimary education (the third programme). The reason that this period of group learning experiences ends at age six in the recommendation by Engle et al, is probably that primary education starts at age six in a large and growing number of countries in the world. Obviously, in Tanzania, where primary education officially starts at age seven according to current legislation, this period could be extended by one year, making it *3 to 7*. However, it may be good to briefly address the issue of entry age in a global perspective. Table 1 provides an overview of primary entry ages all over the world, per 2006 and by region.

Table 1: Countries' entry age in primary education, by region, 2006

Entry age	Arab States	Central & East Europe	Central Asia	East Asia & Pacific	Latin Am. & Caribb.	North Am. & West Europe	South West Asia	Sub-Sahara Africa	Total
5	-	-	-	8	20[1]	4	3	1	**36**
6	20	8	2	16	18	18	6	28	**116**
7	-	11	7	3	3	4	-	15	**43**

Source: compiled by the author based on UNESCO, 2008:292-298

It can be seen from table 1 that primary education starts at age six in a large majority of the world's countries (116), while only in 43 countries it starts at age seven and in almost as many at age five, especially in Latin America and the Caribbean. In absolute numbers, Sub-Saharan Africa has the most countries with an entry age of seven. As we shall see in chapter 4, there is an issue in Tanzania of children entering at an earlier age than the official age of seven. This early entry comes on top of the "older" problem of late entry. Taken together, this leads to a situation in which we find a rich variety of ages in standard one, and beyond. Since any curriculum should be age appropriate, this is not desirable from a pedagogical point of view. Therefore, chapter 4 will investigate the consequences of officially lowering the primary entry age from seven to age six, as a scenario for the third programme.

The second authoritative source that confirms the adequacy of Tanzania's IECD policy is called the Four Cornerstones. This is an international policy statement issued by the Consultative Group on Early Childhood Care and Development (2008) in which UNICEF, the World Bank, the Aga Khan Foundation, the Bernard van Leer Foundation and several other organizations are represented. This global group recommends that, at the very least, children participate in school preparatory programs – such as Tanzanian pre-primary education – during the two years before entry in primary school, and that the preceding years from birth be covered by forms of parenting education. Here we actually do see a small difference with the IECD policy of Tanzania, in that the advice of the Consultative Group on Early Childhood Care and Development would imply that, in the case of Tanzania, group learning activities would only start at age five, not at age three. In other words, the second programme of the Tanzanian policy would be left out. However, the Four Cornerstones is a statement that describes the very minimum that children need. So if we would seek to establish an order of priority in the three programmes of the IECD policy, the parenting education and the pre-primary school would deserve the highest priority- they are absolutely indispensable - while the home- or centre-based ECD programs for three and four year olds could be seen as more optional. However, it should be clear that if and as long as these programmes for three and four year olds are not yet present, parental support should continue until entry in pre-primary education. Without this continuation, we would have a two year gap in the sequence of early childhood services, at a very critical age.

[1] In one of these 20 countries, primary school starts at age 4, not 5.

This raises another question: if programs for three and four year olds are available in a community, should parental support end once the child enters such a program, or should it continue until, for instance, entry in pre-primary education? Engle et al are clear in this respect. They advise to *add* learning groups to parenting education at age three, not to replace parenting education by these groups[2]. Admittedly, one could argue that this implies duplication of services which can be difficult to defend in resource constrained contexts. However, the frequency of home-visits and or parental group sessions – whatever the modality is – may not need to be as high beyond age three as it needs to be before that age. Moreover, the person that runs the home- or centre-based program could combine that role with providing some parental support. This can be done selectively: parents of children who develop well may require less support than parents of children who are observed to have certain developmental delays. In addition, community-based centres require parental involvement anyway in order to build strong support networks in the community. In other words, selective parental support during ages three and four may not be costly and it may fit quite naturally in the social dynamics of the community.

International comparison of enrolment patterns

We conclude this chapter by "benchmarking" the IECD policy of Tanzania. Figure 1 (next page) shows enrolments patterns for some low, middle and high income countries. The dark-brown bars represent enrolment in pre-primary education, while the light brown bars represent enrolment in primary education. The ages are at the horizontal axis of each figure. Along the vertical axis we find the percentage of children that is enrolled at that particular age. In each of the four countries, the official primary entry age is six. The figure has been copied from the 2007-edition of the EFA Global Monitoring Report (UNESCO, 2006:140-141) where many more of such profiles can be found; this provides an interesting look at the situation in other countries, including in sub-Saharan Africa. Unfortunately, a figure for Tanzania is not available but it is nevertheless possible to contrast the enrolment pattern of Tanzania with these four countries.

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[2] The IECD policy of Indonesia is an interesting example of a policy that follows this advice. Indonesia's emphasis is on "holistic-integrative ECD" – as in Tanzania – and it is seen as an implication that programs for children (playgoups and school preparation programs) be flanked by parental support and healthcare, throughout early childhood. Given the fact that ECD in Indonesia relies strongly on volunteering – which again resembles the situation in Tanzania – the cost implications of continuing parental support alongside playgroups are moderate. For reference: Bappenas (2008): The (draft) National Strategies for Holistic-Integrative Early Childhood Development. Jakarta, Bappenas.

Figure 1: Enrolment patterns in selected countries, 2004
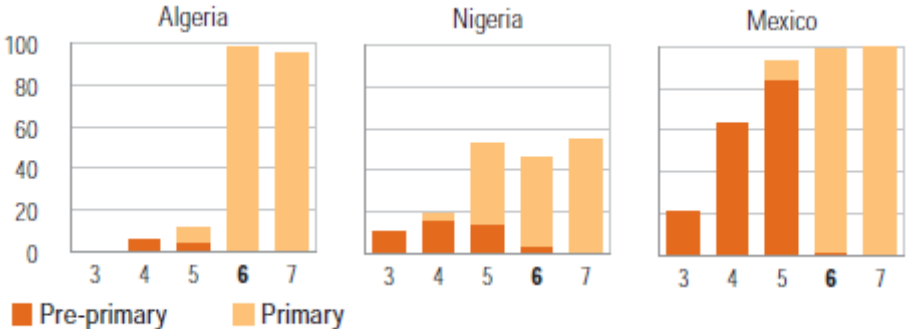
Source: compiled by the author using elements of figure 6.8 of the EFA Global Monitoring Report (UNESCO, 2006:140-141).

Algeria, like Tanzania, has (nearly) achieved universal primary education, albeit that it starts a six, not at seven. Expanding pre-primary education is clearly the next challenge for Algeria, as in many other developing countries. Yet, we see no dramatic inequalities in Algeria: most children go to primary, and most children do not go to pre-primary. This makes the age composition in school-classes fairly homogeneous. This cannot be said for Nigeria. While half of the children do not even go to primary school, more children than in Algeria do go to pre-primary. Since it is very unlikely that any children do attend pre-primary but not primary, we can conclude that resources in Nigeria are very unequally distributed: some children get all, others get nothing. Mexico sets a better example. As Algeria, it has universalized primary education, but it is also close to providing at least one year of school-preparation to all children of age five. Enrolment among three and four year olds, however, is much less equitable.

This international comparison may provide guidance for Tanzania's strategy for the expansion of ECD. The main message is: expand by age group, not by income group. In other words: begin by enrolling *all* the six year olds, then *all* the five year olds, et cetera. Without paying very close attention to this recommendation, there is a danger that we first enroll children of high income groups of any age, then children of middle income groups, and only at the end reach to low income groups, as seems the case for Nigeria. This pattern would not be historically unique; in fact, expansion of education always tends to take place along these lines. But it would be great if Tanzania would manage to escape this trend by achieving equitable expansion, including rich and poor children, and urban and rural alike. And it would be the most beneficial for families, society and the economy if we could start with the children most in need.

2. Home-based services for the 0-3 year olds and their families

As indicated in the introduction, the programmes and scenarios in this report have been elaborated in a spirit of utmost financial modesty. Everything has been tried to deliver ECD services that are "good enough" rather than perfect, and to do so against minimal costs. One of the important lessons in development has been that whenever possible, existing structures must be utilized for the introduction or expansion of public services. This lesson has been applied wholeheartedly for programme which is addressed in this chapter: the services between conception and age three. The C-IMCI is the key reference and entry point.

C-IMCI as the vehicle for enhanced ECD

Tanzania has a growing coverage of C-IMCI, which is a powerful and cost-effective approach to child health developed by UNICEF and the World Health Organization. According to the "One Plan" (URT, 2008:89), 41 Local Governance Authorities were implementing C-IMCI in 2008, while the remaining 73 should do so in the near future. The objective is that by 2015, all districts should have the system up and running in at least 75% of all villages (ibidem).

IMCI[3] has proven its effectiveness both in Tanzania (URT, 2009a:10) and beyond (www.who.int/imci-mce). The operational costs of IMCI are very limited if not negligible when they are expressed as a percentage of total government spending, as figures on Zanzibar show (REPOA, NBS, UNICEF, 2009:85). These costs repay themselves largely. As figure 2 shows, there are minimal extra costs induced by IMCI, partly at national level and partly in primary health facilities and households (probably caused by a small extra demand for health care resulting from a higher level of health awareness among parents), while savings at districts level and especially in hospitals are far more substantial.

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[3] Do note that this paragraph discusses the cost-effectiveness of IMCI in general, not of C-IMCI as such

Figure 2: Costs of under-5 care in Tanzanian districts with and without IMCI, 1999
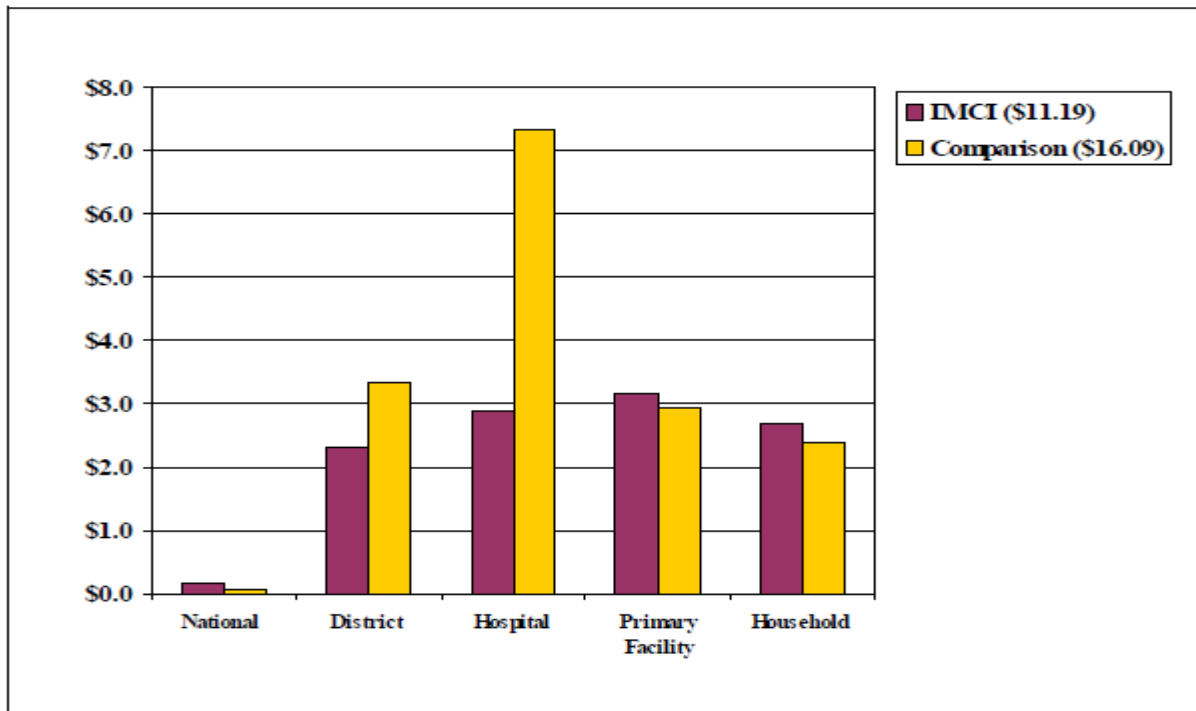
Source: copied from Multi-country evaluation of the IMCI; Analysis report on the costs of IMCI in Tanzania (World Health Organization, 2004:20).

The key actor in the C-IMCI is the Community Own(ed) Resource Person (CORP). They are the ones who "deliver" home-based counseling sessions, while they also play a critical role in community sensitization, mobilization, and advocacy (REPOA, NBS, UNICEF, 2009:74). The role or position of CORPs is not yet formalized (ibidem). They are volunteers, and there is discussion about the sustainability of their activities in the absence of incentives[4].

The home-based sessions are the vehicle for C-IMCI. The CORPs visit each family once a month in principle - though in reality the frequency is often lower - starting during pregnancy and ending when the child reaches the age of entry in group learning activities. In practice this is often the age of five, since this is the entry age for pre-primary education. However, where community-based ECD programs are available (step 2 of the Tanzanian IECD policy), the exit age of home-visiting could be lowered to age three, especially if some selective counseling would continue to be provided by that center (see previous chapter)[5].

The duration of a visit is between 30 and 60 minutes, depending on the situation and the amount of time that has passed since the last visit. The content of the interaction during the

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[4] This signal was received during a number of interviews conducted for this report, and also during a meeting with a group of CORPs in Kibaha district. There are also signals of attrition of CORPs – though not in Kibaha – but concrete figures have not been found. As a strategy to combat attrition it was recommended to promote the recruitment of elderly and/or retired people as CORPs.

[5] In fact, one could imagine very tight cooperation between CORPs and ECD center. The center could be the "base-camp" for the CORPs where they meet, discuss concrete cases, and exchange experiences

visits consists of a selection out of the seventeen key practices of healthy behavior depending on the age and situation of the child. The amount of visits that one CORP can make is limited, partly because CORPs are volunteers and may have to spend time on work, study or care for their own children. In practice, CORPs make five visits per week. Given the ideal frequency of one visit per month for each family, this would result in a case load of 20 for the average CORPs.

Integrating cognitive and psychosocial elements in C-IMCI

The very essence of the home-based visiting services as mentioned in the Tanzanian IECD policy, is that *cognitive and psychosocial components are integrated in the existing C-IMCI practice*. One of seven learning districts in which this has been implemented successfully, is Kibaha district. This case is well documented in a joint report by the Kibaha district authorities, Plan International and UNICEF (UNICEF and MediaNet Limited, 2008). Kibaha district was also visited during the preparation of this report. Although the experiential basis for enhanced C-IMCI is broader than just Kibaha district, we shall use this case as a model in this chapter.

In terms of costs, the integration of cognitive and psychosocial elements requires minimally the following two things: extra training of the CORPs, and materials.

Normally, the preparation for regular C-IMCI requires five days. An extra five days of training are needed for the cognitive and psychosocial elements. This total of ten days may seem insufficient in light of the various years of training that professionals in the fields of healthcare and education usually go through. Yet, the ten days are in accordance with the amount of training for ECD workers in resource constrained countries such as Bangladesh and Nepal and even somewhat richer countries such as Indonesia and Kyrgyzstan. It is usually found that ten to fifteen days of training *can* be enough if ECD workers are dedicated and motivated; if they have a good basis of regular education (e.g. completion of secondary education); and if there are more thoroughly trained professionals in their vicinity to provide feedback and guidance. It should also be kept in mind that CORPs are instructed to refer the child to other professionals whenever the CORP observes a problem that he or she is unable to handle by him/herself. CORPs would never embark on interventions for which they are insufficiently prepared.

In Kibaha district, the ambition is to have a quarterly follow-up training. However, due to financial constraints the follow-up tends to be annual. The training is not only important in that it enhances the quality of the service delivery, it is also an important motivator for the CORPs. In the absence of a financial or material incentive, they enjoy the training and they appreciate it as an event that strengthens their sense of belonging to the community. It generates the social capital on which the community can build other common activities.

The costs of the training in Kibaha were 10 to 15 million Tsh in the year 2004. This includes the "cascade" of training at three levels. First, professionals are trained at district level. They pass on the knowledge and skills to those at ward level. On their turn, the ward level people train the CORPs at village level. Most of the 10-15 million Tsh is spent at village level.

The second costs that are entailed by the integration of a cognitive and psychosocial dimension in C-IMCI concern material costs. In the case of Kibaha, a total amount of 14 million Tsh was invested. UNICEF provided resource books as well as individual counseling cards on which the CORPs keep track of the development of the child, including specific events such as visits to dispensaries or hospitalization. Another critical tool – provided by the Ministry of Health – is the guidebook which is handed out to each CORP and provides visual support in explaining the seventeen key practices. It also contains sets of items and questions to be addressed by the CORPs. This guidebook is key in enabling CORPs to do their work on the basis of minimal training. The Ministry of Health also provides monitoring and referral tolls. Plan International supports the programme by providing T-shirts, stationary, bags and a monitoring form for their own reporting.

Estimating the unit costs

We now have to make a step that is critical in any costing study: to estimate the unit costs. These are the costs per beneficiary of a certain service per time-unit, usually per year. In our case, it concerns the costs per child per year. Generally, if we divide overall costs at district level by the total number of children of the relevant age, we arrive at very small amounts of money. Yet this step is necessary in order to make the next step: to extrapolate, meaning to estimate what it would cost to provide this service to all children in Tanzania.

One of the problems in estimating unit costs is that some costs are recurrent while other costs are development costs, also referred to as start-up costs, incidental costs, or capital investment. Examples of recurrent costs are salaries of teachers or nurses. These require continuous funding and are easy to calculate on an annual basis. Examples of development costs are capital investment in school buildings or initial training. Such costs are generated at the start of a program or activity only. Once these initial investments have been made, it normally takes a long time before they need to be repeated. For instance, the life cycle ("or useful life") of the building of a school or dispensary, is usually estimated at 50 years in Tanzania (World Health Organization, 2004:61). The initial education of a nurse lasts for a lifetime.

So how do we handle this difference between recurrent and development costs? A common solution is to dedicate distinct budgets to recurrent versus development costs, logically referred to as recurrent budget and development budget. In our case it is possible to pursue an alternative and simpler approach, which is to "annualize" the start-up costs.

For instance, if a new CORP needs five days of specific training for the integration of the cognitive and psychosocial dimension, and if the average CORP would keep doing this work for seven years, then seven years is the life cycle of this set of knowledge and skills. Hence, one could divide the total training costs for a CORP by seven in order to arrive at average annual costs. And if the life cycle of materials such as guidebooks is three years, we can divide the price of a guidebook by three. Of course there are also development costs involved in guidebooks, such as research, development of methodology, drafting the texts and making the drawings, et cetera. But these costs weigh very lightly on total costs since guidebooks are being used for very large numbers of children; what counts most is the physical production and distribution of the guidebooks.

In practice, it is too early to estimate the average number of years that CORPs do their work. As mentioned earlier, there are indications of attrition among CORPs in other districts, but no concrete figures have been found. However, if we accept a small error, there is a more simple way of resolving the issue. It was noted earlier in this chapter that a short initial training of just a few days is only appropriate if there is frequent refresher training. In Kibaha, it is seen as desirable that at least one day of follow-up training take place quarterly. It may be the case that in practice this refresher training is annual rather than quarterly, but this is something we ignore, because in this report we estimate the costs of "good enough" ECD services, not of services that are below the minimum acceptable quality level. Existing practice is on the one hand our source of inspiration, but on the other hand we do not wish to replicate those aspects of existing practice that are inadequate. So if we assume that CORP will really receive a proper quarterly update to keep up their knowledge, skills and motivation, then this makes four days per year. This comes close to the five days initial training. In other words, we can "annualize" the costs of training by assuming five training days for each CORP in each year, regardless whether it is the first year of one of the following years. In this manner, we overestimate the recurrent costs by just one day per year. This small volume of productive time could well be used by the supervisor for some extra coaching of CORPs on-the-job. The annual training costs for a district like Kibaha would thus be 10-15 million Tsh. Since this was based on the year 2004, we round off to 15 million Tsh, taking inflation into account.

A similar approach needs to be pursued for the physical production and distribution of the materials that we discussed at the end of the previous section. In Kibaha, these materials were provided by the Ministry of Health, UNICEF and Plan International. But if the programme is to be scaled up to national level in a sustainable manner, there will need to be a strong national funding arrangement. In order to develop this, we first need to know what the materials will eventually cost per child per year, regardless how and by whom these costs will eventually be shared.

The investment in materials concerns their physical production and distribution, not the research and development (which we assume to be a one-off investment with very limited costs per child per year). In Kibaha, this investment was 14 million Tsh. The question is: what is the average life cycle of these materials? Generally, a life cycle of three years is seen as a

good estimation for these items. In principle, this three year life cycle is independent of the average duration of CORPs' involvement. Some CORPs may stay longer than three years and need several sets of materials, others may leave earlier and can hand over materials to their successors. If we divide the 14 million Tsh by three years, we get 5 million Tsh per annum, once again rounding off.

If we add up the 15 million Tsh for training plus the 5 million for materials, we find a total annual expenditure of 20 million Tsh. In order to calculate the unit cost – per child per year - we need to divide this amount of 20 million Tsh by the total number of children under three in Kibaha, since this is effectively the target group in this district (UNICEF and MediaNet Limited, 2008:9). After this, we will multiply the unit costs with the total number of children under three in Tanzania.

Although we do not have the number of children under 3 in Kibaha, we do have the number of under-5, which is 26,409 (UNICEF and MediaNet Limited, 2008:6). Taking into account (i) that younger age cohorts are somewhat larger than older ones due to a district population growth of 2.4% per year, and (ii) that the home-visiting starts during pregnancy so that about half a cohort of unborn children must be incorporated in the target group, we estimate the total target group at 26,409 x 3.5 / 5.5 = 16806. This means that the unit cost - i.e. the cost per child per year - is 20 million Tsh divided by 16806, which makes 1190 Tsh (i.e. 0.89 US$ using the exchange rate of 7 December 2009), which we round off to 1200 Tsh.

As said, this may seem to be an extremely small amount of money, but it should be taken into account that this concerns not the total costs of C-IMCI, but rather the extra costs of integrating cognitive and psychosocial development. Unit costs of a comparable order of magnitude have been found for parental support in Bangladesh, a country somewhat comparable to Tanzania.

One important factor that keeps unit costs low is of course the fact that CORPs are volunteers. Given the signals of attrition in other districts and the wish that some CORPs in Kibaha expressed for some kind of incentive, we now look at the unit cost implication of adding such an incentive. Earlier we noted that the average CORP makes five visits per week of 30 to 60 minutes. This results in a part-time working week of 2.5 to 5 hours per week. Given the time needed for travel and preparation, it seems fair to assume 4 hours, which is a bit above the average of 2.5 and 5. In other words, the workload of CORP is about one tenth of a fulltime job of 40 hours per week.

We now have two options. The first is to give CORPs a regular salary, meaning a financial reward that is in accordance with the complexity of the work, though adjusted to the weekly workload. The second is an incentive, meaning a more symbolic reward, well below the market value of the provided labor. We first explore the salary option.

Postulating that a CORP's work content is comparable to that of a beginning teacher who earns 150,000 Tsh per month, we would arrive at a monthly incentive of 10% of that salary, i.e. 15,000 Tsh. Given the caseload of 20 children that we found earlier in this chapter, this is 750 Tsh per child per month, or 9000 Tsh on an annual basis. Compared to the bare unit cost (excluding salary or incentive) that we found above – 1200 Tsh – this is quite a lot. It would raise the unit costs to 10200 Tsh, and the cost implications at national level would be considerable. The second option, consisting of an incentive well below the market value of the labor, seems more realistic. To determine the value of that incentive is a bit arbitrary, but if we set it at one third of the full salary, it would be 5000 Tsh per CORP per month. Knowing that the average monthly household expenditure in rural areas was about 16,000 Tsh in 2007 (URT, 2009d:47), this seems a meaningful incentive. Per child per year it would cost 3000 Tsh, bringing the total unit costs to 1200 Tsh + 3000 Tsh = 4200 Tsh. We now turn to the implications of the low unit cost (1200 Tsh) and the higher unit cost (4200 Tsh) at macro-level.

Macro level: demographic assumptions

In order to translate unit cost to overall cost requirements at macro-level (for mainland Tanzania), we first need to know how many children of ages zero to three will live in Tanzania. This is far from a straightforward issue. Figure 3 provides a first indication. It shows the population pyramids of Tanzania (though including Zanzibar) for 2010 and 2020.

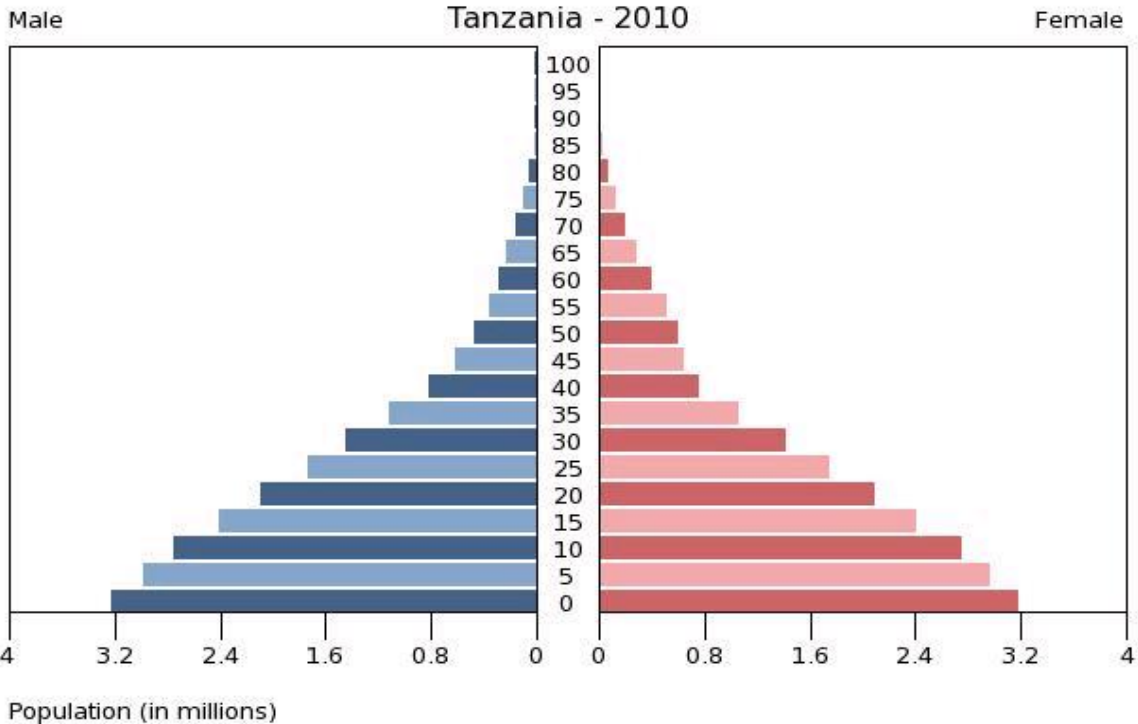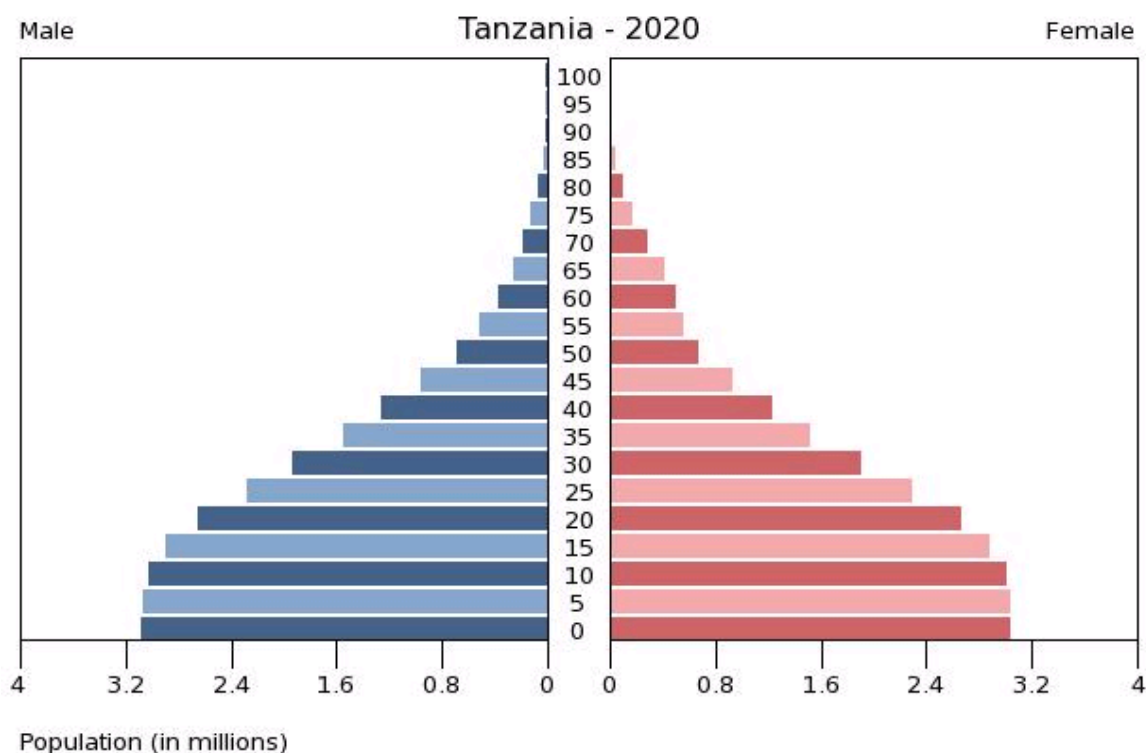Figure 3: Population pyramids for Tanzania, 2010 and 2020

Figure 3 continued

Source: International Data Base at www.census.gov/ipc/www/idb accessed on 8 December 2009

For the year 2010, figure 3 still shows the classical population pyramid in which each and every new age cohort is larger than the previous one. This situation is typical for countries that have managed to reduce mortality through improved healthcare, but have not yet managed to reduce the Total Fertility Rate to a level in the order of two (which is the level at which the size of the population will eventually stabilize). For 2020, the figure suggests that this second transition – to lower fertility – will be accomplished in the coming years, and that the annual number of newborns will stabilize at about 1.2 million per year[6], slightly lower than the current 1.3 million per year.

If this prognosis would be correct, it would certainly not be the end of overall population growth. It will take a few generations before most age cohorts – including youth, adults and some of the elderly – will have reached a size of about 1 to 1.2 million, and the population will more than double until that situation has been reached. The recent, rapid decline in child mortality and an increasing life expectancy will also play a role. What counts for this report, however, is the number of newborns, because that is what determines the demand for IECD

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[6] This figure is found by adding up boys and girls (= 6 million) and dividing by five, since the bars in the figure concern groups of five age cohorts.

services. Meanwhile, the prospect of a larger working age population relative to the education demanding population is a positive one: in the future it will be easier to collect sufficient taxes to finance services for children. To this we will return in chapter 5.

Total Fertility Rates can tell us more about the likelihood of this scenario. Table 2 shows these rates as measured by the Tanzanian Demographic and Health Surveys of 1991/2, 1996 and 2004/5[7] (National Bureau of Statistics, 2005:61).

Table 2: Total Fertility Rate of Tanzania, 1991-2005

	1991/2	1996	2004/5
Total Fertility Rate	6.3	5.8	5.7

Source: compiled on the basis of table 4.4 of the Tanzanian Demographic and Health Survey 2004/5 (National Bureau of Statistics, 2005:61)

Table 2 shows that the reduction of the Total Fertility Rate has slowed down after the mid 1990s, casting some doubts about the prognosis in figure 3. Yet, it is known that the education level of parents, especially mothers, is a strong predictor of family size. In Tanzania, the Total Fertility Rate stands at 3.3 for women who have completed some secondary education, against 6.9 among mothers with no education (REPOA, NBS and UNICEF, 2009:2). And since educational attainment is strongly on the rise in Tanzania, an acceleration of the reduction of the Total Fertility Rate is not unlikely and is most probably already taking place. If we would assume, cautiously, a stabilization of the annual number of newborns by 2010 that is slightly above the current level, an estimation of 1.5 million would be defensible, admitting that it is arbitrary. Since this figure would concern all of Tanzania, and since 1.1 million of Tanzania's 38.7 million inhabitants live in Zanzibar, we must bring it down to 1.46 million for mainland Tanzania.

Macro-level: which proportion of the children in need of the service?

The next question is: which proportion of these children are in need of or eligible for parental support in cognitive and psychosocial development? It is generally accepted that not all of the population is strongly in need of this type of counselling. Those parents who have sufficient knowledge, skills and access to information may not need the service, and/or they may not be willing to accept it. It is clearly not feasible to draw an exact line between those who need the service and would be willing to accept it, and those not in need. What we can do is to use a proxy: a figure that can give us a rough indication of the size of the social group that is (or is not) in need. A reasonable option in this case would be educational attainment, since this is a strong predictor of knowledge and the ability to find information[8]. More concretely, one could

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[7] We limit ourselves to the Demographic and Health Surveys since these publications use the same definitions and methodologies throughout time.

[8] Of course there would be alternative proxies to choose from. An example is the poverty rate. However, poverty is strongly correlated to educational attainment anyway, and, more importantly, the service in question is about

argue that those families where one or both of the parents have participated in secondary education are not strongly in need of the service. It should be emphasized once more that this is just a proxy or working assumption. It is certainly not suggested that all people who participated in secondary education are excellent parents, nor that all of those who did not reach that education level are bad parents. Neither is it proposed to formally exclude parents with secondary education from the service. The proxy is mainly a tool to estimate the proportion of the population that needs the service strongly and would be willing to accept it.

Given the fact that 29% of young Tanzanians participate in secondary education grades 1-4, with only a small difference between males and females (URT, 2009b:16), we can take 71% of the annual number of newborns found above (1.46 million), which results in 1.03 million, rounded off to 1 million. As was noted in the introduction of this report: this is a preliminary analysis, not yet meant to be the basis for concrete planning. This means that this estimation of 1 million annual and eligible newborns is indeed just an estimation. It is open for discussion, and it would be altered if consensus would be reached on a different and better estimation, based on different criteria.

Macro-level: final outcomes

The last calculation is relatively easy. There are 1 million annual newborns in need of the service; the C-IMCI service spans a period of about 3.5 years in the lives of children; and the unit cost is 1200 Tsh (per child per year) without incentive and 4200 Tsh with incentive for the CORPs. Total annual costs would thus amount to 4.2 billion Tsh without incentive and 14.7 billion Tsh with incentive. This is based on current prices; due to inflation, the amounts will of course be higher in 2020. Also, these levels of expenditure will be reached gradually since the program takes time to be rolled out. So in the coming years, expenditure will lower, even if implementation costs are taken into account.

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knowledge and skills, not lack of resources. If the service would entail the distribution of food, then clearly the poverty rate would be a better criterion for eligibility. But for assessing the presence of knowledge and skills needed to raise children, educational attainment seems the best option.

3. Community based ECD: 3+4

The second program of the Tanzanian IECD policy consists of enrolment of the three and four year old children in group learning experiences as Engle et al (2007:238) have put it. This would either follow after the home-visiting that we discussed in the previous chapter (C-IMCI for the under-3) or it would be provided alongside continued home-visiting on a perhaps somewhat more selective basis.

More in particular, the plan is to expand community-based ECD delivered in centers or, for smaller groups, in homes. This ECD modality is sometimes referred to as "playgroup" to underscore that the emphasis is on play, singing and similar group activities and nurturing emerging literacy in young children. In many countries there seems to be a temptation among parents and even teachers to view group learning activities as a downward extension of school, resulting in a relatively academic curriculum including basic mathematics and reading and writing, sometimes even in a second language. In this chapter we will try to elaborate this second programme in the IECD policy in an age appropriate way, once again in a spirit of financial modesty.

The target group

Before elaborating the concept of community-based ECD for the three and four year olds, it should be kept in mind that Tanzania already has a system of daycare centers under the aegis of the Department of Social Welfare of the Ministry of Health and Social Welfare. At present, 1569 of these centers are catering for about 200,000 children. The official age range is 2-6, but the emphasis is on the three and four year olds, since pre-primary education starts at age five. If we again – see previous chapter - assume that by 2020 there will be 1.46 million three year olds and the same number of four year olds, we should subtract a majority of the 200,000 children enrolled in daycare centers to avoid double counting. In fact, this number is likely to rise further in the coming ten years, due to the rise in the number of families in which both parents are employed and can afford the fee. Therefore, it seems even better to repeat the approach in the previous chapter and to use the proportion of young adults with secondary education (29%) as a proxy to estimate the group that is unlikely to use the service. This would mean that our target group for this chapter consists of about 1 million children of three years olds and another 1 million of four years old, for mainland Tanzania.

Cost components

Typical for community based ECD is the fact that most or all of the costs are borne by the community, partly from the official funds of community authorities, partly through financial and in-kind contributions from parents, community elders, private enterprises, and benevolent organizations. This strongly enhances the "ownership" by the community. An excellent example of a community-owned center was found in Kibaha; we use this as a model for exploring the costs.

A small community in Kibaha district has recently taken the initiative to start a community based ECD center by mobilizing all parents. With their own hands community members have constructed a simple building with a light and spacious classroom and a small space which is used as office and storage room. The toilet is external; it's a separate construction. Not only the labor was provided for free - three quarters of the building materials was locally available, such as sand, stone and wood. The only purchase concerned the remaining building materials, such as corrugated sheet for the roof and cement. The 1.6 million Tsh needed for this purchase was funded from the community budget. If this same building would have been built by a commercial construction company, the costs would have been in the order of 5 to 10 million Tsh. All over the world one can find examples of ECD centers built in this manner, and it underscores the enormous power that communities can generate once they are united for a common goal. It does imply however, that a professional approach to community mobilization is required in many cases. For instance, in a large scale program funded by the World Bank in Indonesia, the main investment was indeed in the preparation of community members and teachers for this ECD endeavor; this was the driving force for everything else. In other words, an intangible investment (in social capital) is often needed before the tangible investment (in the building) can be made. This is why professionals such as Social Welfare Officers and Community Development Officers are critically important. The Ministry of Community Development, Gender and Children has recently doubled the contribution to Local Development Centers from 3 million Tsh per district in 2008 to 6 million Tsh in 2009.

The inventory of the ECD center consisted mainly of mats. Once again this is common practice around the world and more age appropriate for the three and four year olds than the more expensive school benches. The mats cost 20000 Tsh each, and 8 mats are needed for the 20 children enrolled in this center. Apart from a blackboard, learning corners were not created, while learning materials were very scarce and toys were nearly absent. In community based ECD there is a tradition of teachers and parents producing learning materials and toys using locally available materials. The teacher of this center, however, was not yet sufficiently trained to make this happen. So once again we note the strong need for both an intangible investment in training, and a tangible investment in supplementary learning materials such as posters and stationary.

The position of the teacher is comparable to that of the CORPs that we discussed in the previous chapter. She receives no official state salary but she does receive an incentive of

70,000 Tsh per month, financed from contributions from parents. In this sense she would seem to be in a slightly better position than the CORPs if it wasn't for the fact that hers is a much more substantial job. Attending the group of children from 08:00 to 12:00 during five days of the week is difficult to combine with other income generating activities, especially since the teacher needs to spend time preparing lessons, interacting with parents, and producing toys and materials. It may be the case that in practice many teachers do not undertake such additional activities, but this is not a desirable situation. As stated earlier, the purpose of this report is to estimate the costs of scaling up "good enough" ECD services, not services that are incomplete or of insufficient quality.

So if we assume that a teacher needs, for instance, one hour extra time for each half day of teaching (08:00 – 12:00), the weekly time-load would be (4+1)*5= 25 hours. For this time-investment, the small incentive that the parents could spare is not sustainable. Initially, one may be able to find people willing to do the chore, but once these people have the opportunity to get a "real" job with a more substantial salary, there is a serious risk of attrition. Although this risk could be reduced by raising the parents' fee, this has the obvious disadvantage that some families – usually the ones that need the service most – drop out. A few simple calculations may illustrate this point.

Suppose an ECD center receives no external funding at all so that the teacher's salary needs to be financed entirely from parents' fees. Suppose a monthly salary of 60,000 Tsh is really the absolute minimum for a job of 25 hours per week, and that there are 20 children in the group. This would result in a fee of 3,000 Tsh, even if we ignore for the moment that more needs to be financed from the fee than just the salary (e.g. materials, utilities). In order to contrast this fee with the income of poor Tanzanians, we can use the so-called basic needs poverty line. This is the income level under which it is difficult for people to secure food, shelter, health and clothing. In 2007, this basic needs poverty line stood at 13,998 Tsh per capita per 28 days (REPOA, NBS and UNICEF, 2009:15). No less than 34% of all Tanzanians live under this basic needs poverty line. Half of them even live below the food poverty line, under which it is difficult to secure a minimum of food (2,200 calories per day) alone. In 2007, this food poverty rate stood at 10,219 Tsh per capita per month. The conclusion from this calculation is that even a fee of 3,000 Tsh per month would be directly at the cost of essential food intake for about 17% of all children, and indirectly for 34% of all children.

In relatively wealthy communities this can be resolved by giving poorer families a discount or by waiving the fee altogether. But in poorer communities – where, once again, the needs are highest – there are limits to this solution of means-tested fees. If nearly all people in the community are poor, who will compensate? This trade-off between quality and affordability bedevils community based ECD initiatives all around the world. So before we embark estimating unit costs in detail, we make a side-step by looking at experiences in four other developing countries.

International comparison

Everyone who has visited this ECD center in Kibaha district will become convinced that local people have done their utmost to make the best out of very scarce resources. There is no way in which they could have reduced costs any further. A similar story can be told for countless ECD centers in Nepal, a country slightly poorer than Tanzania and with a smaller population.

Nepal has a system of ECD centers and school-based pre-primary classes that cater for the three and four year olds. Since primary education in Nepal starts at age 5, there is no pre-primary programme between these institutions and primary school as there is in Tanzania, but in many respects the Nepali ECD centers resemble the Tanzanian community-based ECD centers strongly. Figure 4 shows the correlation between poverty and ECD participation. An explanation follows below the figure.

Figure 4: Nepali Districts by ECD entrants (2007) and HDI (2004)
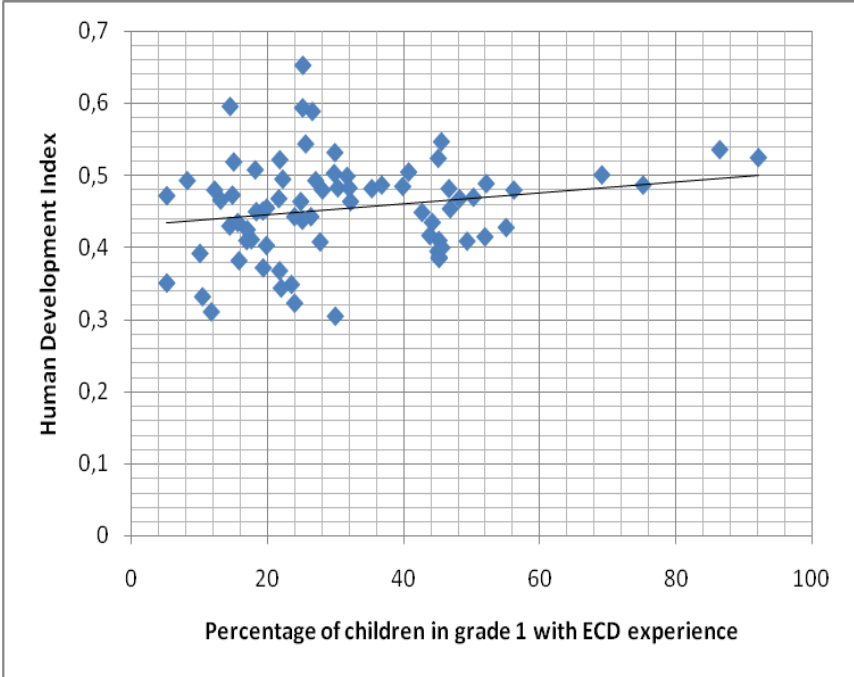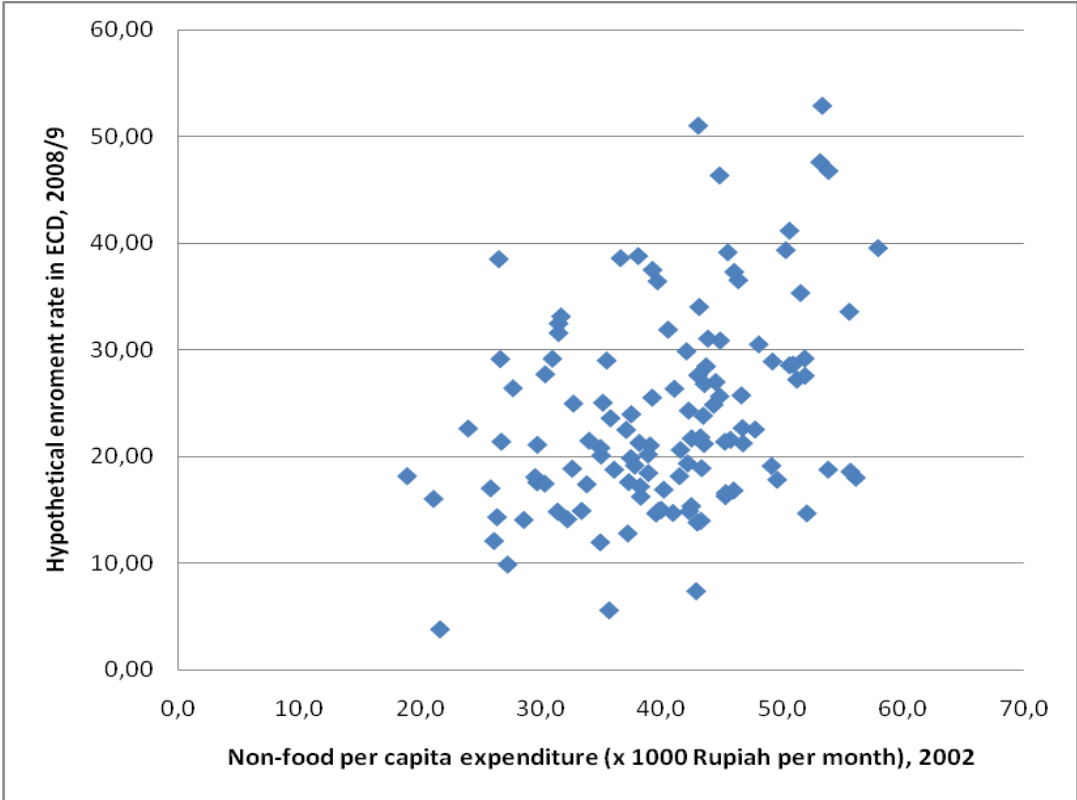

Source: van Ravens (2009a:21)

Each dot represents one of the districts in Nepal. On the vertical axe of figure 4 we find the number of children in grade 1 of primary education that have attended public ECD center before they entered primary school. This number is expressed as a percentage of all children in grade 1, including the ones who did not attend a public ECD center. The figure shows that in most districts, between 15% to 55% of all children attended ECD; only four districts have enrolment levels above 60%.

On the vertical axe, we find the Human Development Index. This index can be used as a good indicator for the average poverty level of Nepali districts. Most districts are between 0.30 and 0.55. Only a few districts are clearly above this level, so these are comparatively prosperous.

Figure 4 clearly shows a correlation between Human Development Index and enrolment in ECD: the higher the index (or: the wealthier the district), the higher enrolment. This correlation occurs notwithstanding the fact that the Nepali government provides a basic salary to ECD teachers that equals about one fourth of the salary of a primary school teacher. The idea is that parents and communities will supplement this salary to a more acceptable level. In practice this is usually the case, but the extent to which it happens varies. As one would expect, teachers earn significantly less in times of economic decline than in more prosperous times, and there are strong indications that teachers in richer villages get a higher supplement from the community than those in poorer villages, and that, by consequence, attrition is a bigger problem in poor districts than in rich districts.

In Indonesia, even a basic teacher salary is lacking, and indeed, as one would expect, the disparities are even stronger. The fourth largest nation in the world, Indonesia has a per capita GDP that is three times that of Tanzania or Nepal, and there are many districts where the philosophy of community-financed ECD actually works. Village elders are willing and able to donate land; nearby factories or tea-plantations act upon their feeling of Corporate Social Responsibility; many parents can afford to pay the fee; and there is usually enough solidarity to reduce or waive the fee for the minority of parents that cannot pay regularly. Yet, significant disparities persist and even more so than in Nepal, as figure 5 shows. Once again, an explanation follows after the figure.

Figure 5: Non-food expenditure (2002) and ECD enrolment (2008/9) for the 120 poorest districts in Indonesia

Source: van Ravens (2009b:51)

Once again, each dot represents one district. On the horizontal axe we find the amount of money that people in a certain district have available on a monthly basis for household spending after subtraction of what they need to spend on food. The rationale for choosing this indicator is that people usually secure the food that they need before securing other goods or services. So if we take people's household budget as a starting point and subtract the expenditure on food, we get the budget that they have left for clothing, transportation, fixing the house. It is this non-food part of the budget from which families need to pay fees for ECD.

On the vertical axe we find the enrolment rate in ECD centers for each district[9]. Do note that the figure focuses on the 120 poorest districts, of the more than 400 districts of Indonesia.

The strong correlation between the two indicators underscores that it is not possible to successfully expand ECD in severely resource constrained context without external support. The causes are obvious: if 20% of the community members are poor, the other 80% can compensate for them, but if 80% is poor, the remaining 20% cannot carry the whole burden. Likewise, large private companies can support the wealthier communities, but the poorer communities have no such donors within their borders, otherwise they would not be poor. As a result, ECD enrolment lags far behind in the remote areas of the Indonesian archipelago, despite the wealth of the country as a whole.

Even South Africa, a country ten times richer than Tanzania and Nepal, does not escape this trend. Despite a system of state support that is stronger and more elaborate than in Nepal, many centers for the under-5 are struggling to make ends meet while quality is at risk. Carter, Biersteker and Streak (2008) studied the costs and the funding of ECD centers located in communities that are sufficiently poor for the centers to receive the targeted state subsidy. It was found that only very few teachers earn a salary that can be regarded as acceptable and that learning materials are far too scarce. Notwithstanding the presence of a well-developed business sector, corporate support has never reached any significant level. The experience with fund raising from donors is mixed. Some centers manage to obtain financial contributions, while others gave up trying. But even if all managers of ECD centers would improve their fund raising skills, the total volume of available money for donations would not grow beyond certain limits. Volunteering, finally, is not recommended by the authors since people who live in dire poverty need all of their time for income generation and survival.

Bangladesh is relatively successful in expanding ECD if we take its low income status into account. In this case, the critical success factor is large scale NGO involvement. Serious natural disasters in the past have led to the development of a substantial NGO community that fund even the recurrent costs of ECD programmes. Such a situation of structural reliance on external funding does not seem to be the way forward for other countries, since enrolment

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[9] It concerns the "hypothetical" enrolment rate because the available data are based on a very broad age range (0-8) while in practice these centers cater for a much narrower age range. So in reality, enrolment is higher than the values suggest. But since this bias affects the figures for all districts in an equal manner, this is not a problem in this argumentation.

would be at risk of falling sharply once external support is discontinued. However, it should be added that some of the major Bangladeshi NGOs are actually domestic, such as the Bangladesh Rural Advancement Committee (which has its own ECD center of expertise) and the Grameen Bank, a leading microfinance institution. It might be worth investigating whether similar arrangements can be developed for the financial support of ECD in Tanzania.

The conclusion of this section on international comparison is that ECD centers that are entirely financed by communities and parents cannot be expected to thrive when inhabitants are poor and have little or no support from wealthy community members, private companies, or NGOs. Financial support from government is absolutely essential to prevent the exclusion of the children who need the services most.

Development costs

In order to eventually determine the required level of financial support to community based ECD centers, we first need to zoom in the actual costs of these centers. As we did in the previous chapter, we distinguish development costs and recurrent costs and begin with the former.

The main upfront investment that needs to made concerns the construction of the building and its preparation for use. These costs cannot be "annualized". We assume that parents help in the construction work and that most of the materials are locally available. What remains to be covered are the cost of the material for the roof and some other items. Given the experience in Kibaha, a start-subsidy of 1.5 million Tsh per center seems adequate. This should not be entirely earmarked for the building but leave the recipients some flexibility. E.g. by economizing on the building costs, recipients could spare some money for the initial purchase of items of a more recurrent nature, such as floor-mats, toys and learning materials.

The life cycle of the capital investment in buildings is on the order of 50 years. If we assume that half a century from now Tanzania is in a better state to finance services for children – see remarks in previous chapter about demography – we can see this as a once-only investment. This justifies external funding. Even if the organizations that donate money would cease to exist right after the start of an ECD center, the building will still be there. The money could be donated by a coalition of government and donor- and benevolent organizations such as the Tanzania Social Action Fund, Plan International, Save the Children, Aga Khan Foundation, Acton Aid, the African Development Bank, and various other multi- and bilateral donors.

Since the roll-out will inevitably be a gradual process – see chapter 5 - the total investment can be spread over a period of ten years. This implies that the investment in each of the years between 2010 and 2020 will be one tenth of the total amount (expressed in current prices; in reality the annual amount will increase as a result of inflation). We calculate this annual amount by multiplying the unit cost by the total amount of children, and dividing it by 50

children (assuming that two shifts of 25 children on average make use of each classroom) and finally dividing by the number of years (10):

- 1.5 million Tsh * 2 million children / 50 children / 10 years = 6 billion Tsh.

An alternative scenario departs from the assumption that communities make more use of existing space, for instance homes or, on the condition that safety is guaranteed, spaces available in school buildings or other public buildings. This scenario is inspired by the so-called satellite model introduced by the Aga Khan Foundation in Kyrgyzstan (van Ravens, 2009c). This model implies that one ECD center has a small number of decentralized "outlets". For instance, in sparsely populated areas where it is difficult to find two groups of 25 children within walking distance, the center could run a small group in the home of a teacher. This can lead to savings in initial investment, though recurrent costs may be a bit higher since the number of children per teacher may be somewhat lower. Moreover, the manager of the central ECD center needs to provide supervision which leads to some extra salary costs as well as travel costs. Yet, this satellite concept may be the only way to reach children in sparsely populated areas in a cost-effective manner.

Again, an assumption is needed in order to estimate costs. The experience in Kyrgyzstan shows that for every 50 children enrolled in the central ECD center, there may be another 25 in a home-based outlet and another 25 in an existing public space. The per child costs for making the home and the public space suitable for the ECD groups is about half of the costs of building a new community based center. As a result, total investment cost would be 75% of what they would be otherwise. This would bring down the annual costs in the ten year investment programme from 6 billion Tsh to 4.5 billion Tsh. In this scenario it is even more important to give recipients the flexibility needed to develop cost-effective arrangements. The grant could be provided on the condition that the satellite ECD organization enrolls a normative number of children, under specified conditions safeguarding quality. This organization would further be free to decide how exactly they manage their housing situation.

Recurrent costs

For the coverage of the recurrent costs we could assume as a principle that parents would continue to pay a fee, but that this fee should be low enough to prevent exclusion. It should also be feasible for communities to reduce or waive the fee for poor families and orphans. This would require a subsidy that allows the payment of a teacher salary that is high enough to justify the expectation that teachers will generally stay on the job. Ideally, the teacher should earn a salary that is comparable to that of a primary school teacher, since working with children of three and four years olds is not essentially easier than working with somewhat older children (van Ravens and Aggio, 2008:21). However, given the scarcity of financial resources, we could assume for the time being a salary that is roughly half of that of a beginning primary education teacher. This would imply a salary of 75,000 Tsh per month, roughly equal to that of teachers in the private center in Bagamoyo.

Furthermore, it would be efficient to make the salary dependent on the workload. A teacher who attends one group per day (either in the morning or in the afternoon) would earn 37,500 Tsh per month, while a teacher working two shifts per day would earn the full salary of 75,000 Tsh. For our overall cost estimations this makes no difference; the human resources needed for any group of 25 children costs 37,500 Tsh per month in any case, regardless the way in which it is organized. The 2-shift system has the further advantage that parents who want their children to stay all day, incidentally or structurally, can do so. It would be reasonable to have them pay an extra fee, which can be seen as commercial revenue for the ECD center[10].

If one teacher earns 37,500 Tsh per month for attending one group of 25 children, this results in a unit cost of 18,000 Tsh (per child per year):

37,500 Tsh * 12 months / 25 children = 18,000 Tsh.

The experience is further that teacher salaries are by far the largest costs component in ECD centers (van Ravens and Aggio, 2008), which is illustrated by figure 6, copied from the aforementioned study on South Africa by Carter, Biersteker and Streak (2008). The figure shows that almost 60% of the expenditure is for salaries.

Figure 6: Breakdown of ECD center expenditure in South Africa
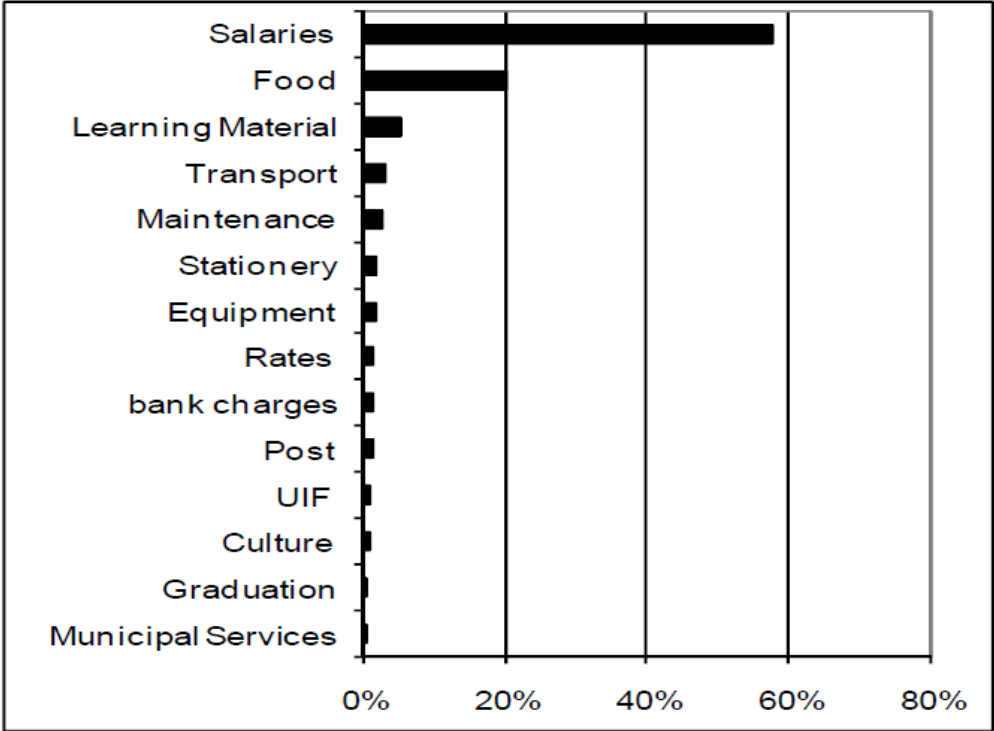
Source: copied from Carter, Biersteker and Streak (2008:45)

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[10] The philosophy would be that a half day program is essential from a child development point of view and therefore subsidized, while the full-day attendance is predominantly an economic good for the parents – in that it enables them to work fulltime - so that asking an extra fee is appropriate. Obviously, food must be provided to children who stay all day.

The second largest cost component in figure 6 is food, costing about one third of the teacher salary. Food supply, however, is not foreseen in our model of half-day programmes. All other cost components are small compared to teacher salary, even taken together. One example from the Kibaha visit may clarify this. The mats on the floor of the ECD center cost 20,000 Tsh each. For a group of 25 children, 10 of them would be needed, costing 200,000 Tsh. The total number of children using them is not 25 but 50 (there are two shifts). This makes 4,000 Tsh per child. If the life cycle of a mat is four years, the unit cost is only 1,000 Tsh (per child per year). Compared to the salary component of the unit cost – 18,000 Tsh – this is a relatively small amount.

However, as we are assuming a very modest teacher salary at half the level of primary school teachers, the relative weight of the other (non-food) cost-components may be a bit larger than it would otherwise be. It seems defensible, therefore, to augment the salary component of 18,000 Tsh to an integral per capita subsidy of 20,000 Tsh. The annual recurrent costs of this arrangement at macro-level will then be:

- 20,000 Tsh * 2 million children = 40 billion Tsh.

Finally, there is one defensible way of reducing these costs further: by reducing the number of hours of attendance on a weekly basis. In the present situation, children attend four hours per day, during five days per week. For children of this age, these 20 hours on a weekly basis is not entirely overdone but it can be reduced to about 12 hours per week without significant reduction of development gains (Sammons et al, 2007; Reynolds and Temple, 2008; Maclean and Orozova, 2007; Evans, 2008; Comenius Foundation for Child Development, 2009). So a possible alternative weekly schedule would be four days of three hours each or three days of four hours, both resulting in a total of 12 hours per week.

The possible disadvantage of a reduction of service hours, is that it affects the more utilitarian function of ECD of freeing parents and older siblings from the task of looking after children. However, it is defensible from a public policy point of view to prioritize the core function of ECD – i.e. child development – above the utilitarian function. To enroll millions of young children in institutions during most of the working week would be very difficult for the government to finance – few countries in the world do this - while the provision of a good short program in a relatively small group is much more feasible and at the same time critical from a child development perspective. And it is the child development perspective that justifies public spending. The experience in some countries is that once children are enrolled in ECD and parents are well involved, they usually develop their own informal arrangements for childcare beyond service hours, either within the ECD center or school, or elsewhere. The implication of the reduction of the weekly number of hours for the unit cost is that it would be reduced with a factor 12/20, and the same goes for the overall outcomes. These would amount to 24 billion Tsh.

The direct economic impact of the creation of ECD-jobs

A final remark about the teacher salary concludes this chapter. Most of the 24 or 40 billion Tsh that the government of Tanzania would be spending annually will be disbursed to teachers. This is not an expenditure, but an investment, not only because of the high social and economic returns that ECD will eventually yield, but also in a more direct sense.

In many villages and hamlets in Tanzania, salary employment is scarce. About 75% of the population are in rural settings (REPOA, NBS and UNICEF, 2009:2) and most people live from farming or small livelihoods. Only few people have a steady, more or less guaranteed income. By creating thousands of ECD-jobs in this context, the government would not only do children and families a great favor, it would also give a tremendous financial impulse to local communities. Economists call this a multiplier effect: the teacher will use the money to buy goods and services from other community members, and on their turn they spend more as well. Thus, the extra money starts revolving.

More in particular, the creation of these ECD-jobs is an incentive to raise education levels. Remarkably, people in Tanzania with secondary education are far more often unemployed than people with lower levels of education, and this is especially the case for women (National Bureau of Statistics, 2005:38-39). This tends to discourage young people to continue their education beyond primary level. Jobs for which secondary education is needed are therefore badly needed in Tanzania, and creating ECD-jobs can make a difference.

4. Pre-primary school; 5+6

The third and last programme that Tanzanian children would go through before entry in primary education, is pre-primary education. Catering for about 900,000 children (URT, 2009c:5), it is the most developed ECD-service of the three at this moment. The Primary Education Development Programme II (2007-2011) urges "Local Government Authorities and communities to ensure that a pre-primary school/class is attached to each primary school in their areas of jurisdiction by 2011" (URT, 2006:9). This does not necessarily imply universal enrolment, since the pre-primary school may be too small to cater for all children in the catchment area. However, the Primary Education Development Programme II also provides more concrete targets: 1,894,337 children enrolled in 2010, and 2,043,984 in 2011 (URT, 2006:10). The target for the pupil teacher ratio is 1:40.

The current enrolment pattern of pre-primary education

The problem with enrolment targets that are expressed in absolute numbers is that they do not show which *percentage* of children are included, concealing also the percentage (or number) of children that are not enrolled. In this chapter we will therefore follow the more common approach of using Gross and Net Enrolment Ratios (GER and NER)[11]. Figure 7 shows the development of these two indicators in the period 2005-2009.

Figure 7: Pre-primary NER and GER, 2005-2009
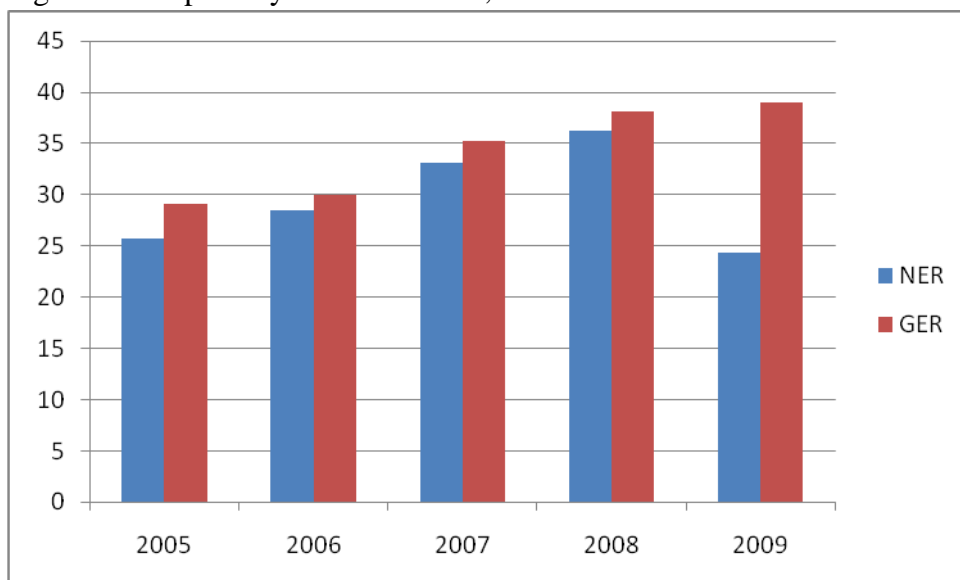
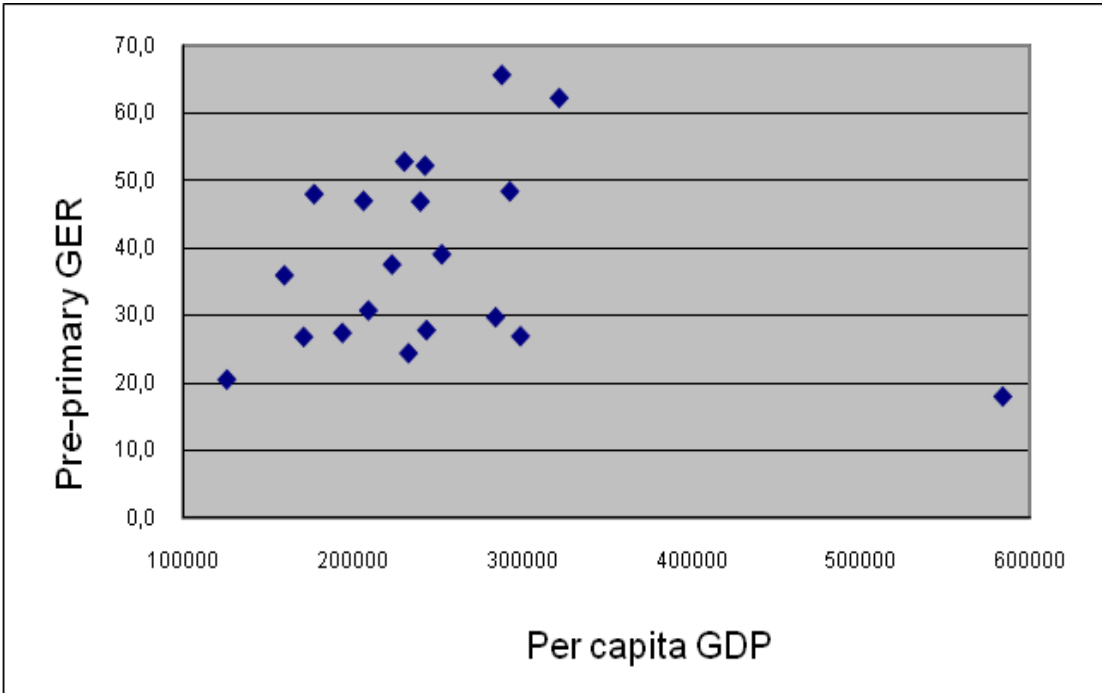Source: compiled by the author based on URT, 2009c:5

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[11] The GER is the number of children <u>of any age</u> that are enrolled, divided by the total number of children in the official age range for that type of education; it can exceed 100%. The NER limits itself to the children of the right age that are enrolled, again divided by the typcial age group.

Regarding the GER – the red bars – we know from other sources (UNESCO, 2005:302 and UNESCO, 2006:252) that Tanzania's GER stood at 23.9 in 2002 and at 29 in 2004. Throughout the period of 2002 to 2009 this entails a steady but rather slow increase of the GER. If the current pace is not interrupted by a significant acceleration, it would take about 25 years before the GER has reached a value of 100%.

The development of the NER raises a question. Between 2005 and 2008 the NER is very well in pace with GER. Moreover, the gap between the two is small in this period, which indicates a strong admission policy: by far most of the enrolled children are indeed five and six years old. But then the NER suddenly seems to drop from 36.2 in 2008 to 24.4 in 2009. Of course one wonders if this is not an error, but the same figure of 24.4 is found in the recent Joint Education Sector Review of October 2009 (URT, 2009b:12) so we must assume the figure has been checked.

A remarkable feature in Tanzania's enrollment patterns is shown by figure 8, in which 20 regions[12] of Tanzania mainland are plotted against their per capita GDP and their pre-primary GER. Each of the dots is one region. On the horizontal axe we find per capita GDP, and on the vertical axe the pre-primary GER. Further comments follows after the figure and the data are presented for each region in Table 3 (below).

Figure 8: Pre-primary GER (2009) and Per Capita GDP (2002[13]), by region

Source: compiled by the author based on URT, 2009c:8 (for GER) and NBS website (pcGDP)

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[12] Manyara is missing because of a lack of comparable data on per capita GDP

[13] More recent data on per capita GDP by region have not been found. Without a doubt, the pcGDP has risen since 2002. What counts here, however, is not the level as such but the differences between the regions. The chance that these differences have changed significantly, is relatively small.

Figure 8 shows a clear distinction between a cluster of 19 regions versus one region that is entirely isolated, all the way to the left. This region is Dar es Salaam. It has by far the highest per capita GDP – almost 600,000 Tsh – but pre-primary enrolment is the lowest.

Within the cluster of the remaining 19 regions, there is:
- Relatively limited variation in per capita income;
- Significant variation in pre-primary GER, ranging from 20.6 in Kigoma (this is the dot most to the left in the figure) to 65.6 in Mwanza (the highest dot in the figure).
- A fairly strong correlation between income and enrolment. The poorer the region, the lower the enrolment.

Table 3 shows the data on which figure 8 is based. To put these data in perspective it can be noted that the so-called basic needs poverty line stood at about 14,000 Tsh per month in 2007, as we saw in chapter 3 of this report. On an annual basis this would be about 170,000 Tsh. Even though the income data in figure 8 and table 3 are somewhat outdated, we could still draw the conclusion that there are four regions where even the *average* inhabitant lives near this basic poverty line (Dodoma, Tabora) or below it (Kigoma, Kagera).

Table 3: Pre-primary GER (2009) and Per Capita GDP (2002), by region

Region	Per capita GDP in Tsh per year (2002)	Pre-primary GER (2009)
Dodoma	177147	48.0
Arusha	284406	29.8
Kilimanjaro	252611	39.1
Tanga	230454	52.8
Morogoro	232931	24.5
Coast	193877	27.5
Dar-es-Salaam	584086	18.1
Lindi	223191	37.6
Mtwara	292795	48.4
Ruvuma	242702	52.2
Iringa	321936	62.2
Mbeya	239939	46.9
Singida	206344	47.0
Tabora	170983	26.9
Rukwa	243600	27.9
Kigoma	125593	20.6
Shinyanga	299071	27.0
Kagera	159541	36.0
Mwanza	288072	65.6
Mara	209199	30.8

Source: compiled by the author based on URT, 2009c:8 (for GER) and NBS website (pcGDP)

A question that arises from figure 8 and table 3 concerns the special position of Dar es Salaam. Given the correlation between wealth and enrolment that we find not only in Tanzania but in many other developing countries, one would expect that Dar es Salaam, with a per capita GDP that is about three times higher than the average region in the cluster, would have a much higher level of pre-primary enrolment than it does. In other words: why does the richest region have the lowest level or enrolment in pre-primary education? If we look at other countries we find that it is not unusual that the capital district lags behind in terms of enrolment. The usual explanation is that private provision is often dominant in the capital district, leading to a lower level of enrolment in the public system. However, this cannot be the explanation for Dar es Salaam since the statistics used in figure 8 and table 3 concern public and private provision alike[14].

Another possible explanation would be an overrepresentation in the capital district of non-formal and informal modalities of care (e.g. nannies, company-based kindergartens, et cetera), but this is unlikely to produce all of the gap that figure 8 reveals between Dar es Salaam and the other regions. The most important explanation is most probably that many children in the pre-primary age group are actually in *primary* education, as early entrants so to speak. Figure 9, which was copied from the NBS' Household Budget Survey of 2007, reveals this quite important finding. The figure shows age specific enrolment in primary (not pre-primary) education, broken down by three areas: (i) Dar es Salaam, (ii) all other urban areas, and (iii) the rural areas of Tanzania (where most of the population live).

Figure 9: Age specific enrolment in primary education by locality, 2007
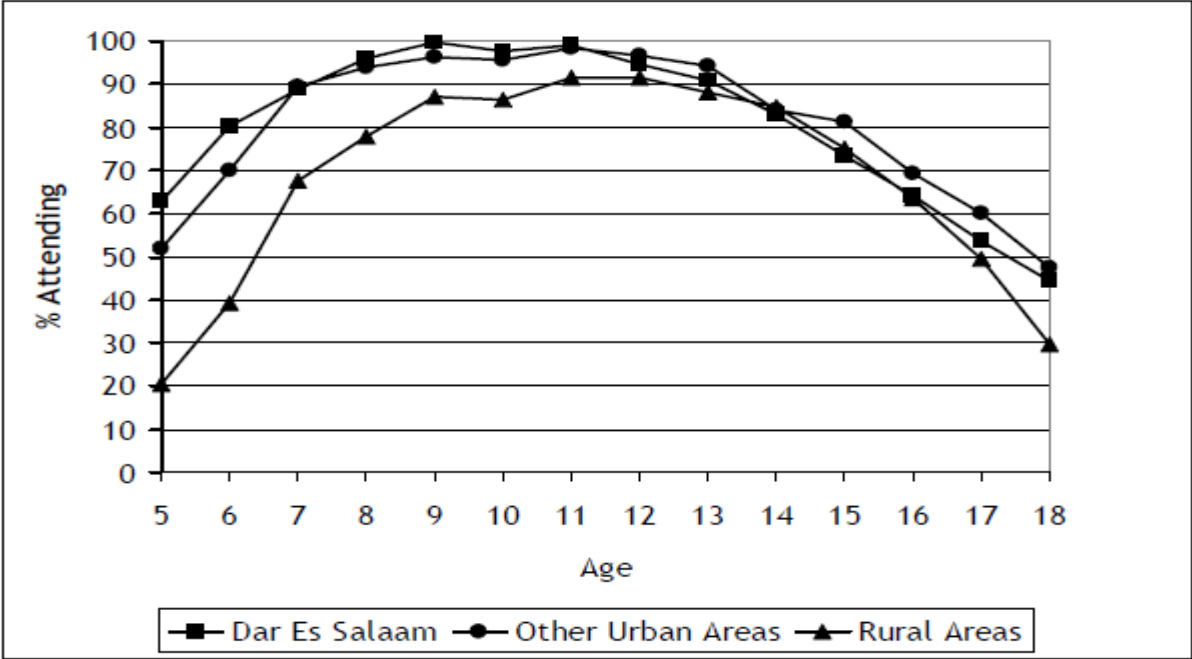
Source: copied from the 2007 Household Budget Survey (NBS, 2007, page 5 of the education chapter)

[14] By the way, private enrolment in Dar es Salaam is indeed quite high. No less than 41.9% of all pre-primary enrollees are in private institutions (Ministry of Planning, Economy and Empowerment, 2007:25). But as said, this cannot be the explanation for the low position of the capital city in figure 8.

Figure 9 shows very high primary enrolment levels at age 6 and even at age 5, and much more so in the urban areas than in the rural areas, with the capital city on top. To put in basic terms: we can hardly have many children in pre-primary education in Dar es Salaam, simply because too many of them are already in primary school. The Tanzania Demographic and Health Survey contains a figure that is similar to figure 9, though not for 2007 but for 2004 (NBS, 2005:19). In that year enrolment among 5 and 6 year olds was much lower. This remarkable difference between 2004 and 2007 implies that early enrolment is a relatively new phenomenon, possibly related to the introduction of free primary education. The no-fee policy – appropriate as it is – first had the side-effect of attracting over-aged children to primary school. Now, so it seems, parents in urban areas seem to discover the possibility of using primary school as a place to drop their children, as if it were a form of nearly free daycare[15]. Given the school hours from 08:00 until 14:00 and the school lunch, this is an understandable thought, because the service hours in pre-primary education are from 08:00 to 12:00, so this is a less preferred option from a daycare point of view.

Harmonize the entry age for primary education

However, there are important pedagogical disadvantages to this development. Early entry comes on top of the persisting problem of late entry, of which figure 9 also provides the evidence. This leads to a situation in which an increasingly wide range of ages is represented in standard 1, and beyond. As said in chapter 1, any curriculum should be age appropriate, and this cannot possibly be the case if standard 1 is populated by children ranging from age 5 to age 8, 9 or even 10. Moreover, the youngest will have a difficult time finding their place in the group and partaking in the learning process when so many children are older.

One of the core recommendations of this report is therefore: harmonize the entry age, not only de jure but also de facto. Make sure that all children enter at the same age. The next question is: at which age. Chapter 1 signaled the large and growing number of countries where primary school starts at age six. This seems to become the world standard, partly under pressure of international learning achievement surveys such as SACMEQ and PISA. Figure 9 suggests that families, not policy makers and politicians, have already made the decision to lower the entry age to six in Tanzania. This is the daily reality for about 75% of all urban children, for 40% of the rural children, and for a weighted average of nearly 50%[16] of all Tanzanian children. This existing practice will be difficult to reverse. Apart from pedagogical arguments to lower the entry age to age six, there is also a financial argument. Figure 10 provides the starting point for this argumentation.

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[15] The school-lunch usually costs 2000 Tsh per month

[16] About 75% of the Tanzanian population is rural (REPOA, NBS and UNICEF, 2009:2). Taking this into account, we find a weighted average for Dar es Salaam (80%), other urban (70%) and rural (40%) of about 50%.

Figure 10: Enrolment in pre-primary and primary for five and six year olds, 2007/2009
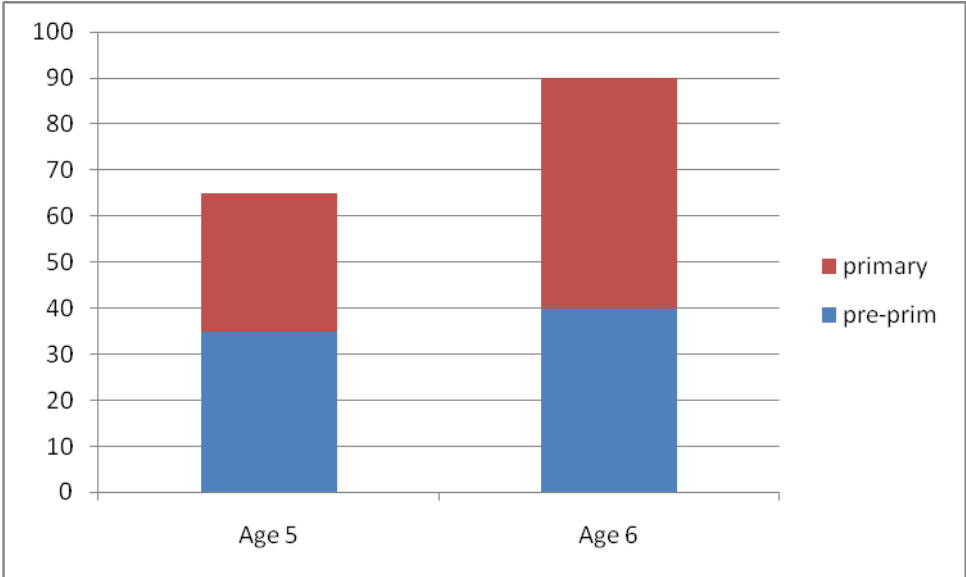
Source: compiled by the author based on URT, 2009c:5 for pre-primary and NBS, 2005:5 for primary

Figure 10 is based on a number of estimations. We already calculated the weighted national average enrolment of 50% for six year olds in primary education (see footnote 13). The same logic leads to an estimation of 30% for five year olds. For pre-primary education, figure 7 suggests an NER in 2009 of about 37% to 38% (we assume the 24.4% is an error). We have found no breakdown between five and six year olds for this NER, but it is common that enrolment among five year olds is a bit lower than among six year olds. Hence we estimate that pre-primary enrolment among five year olds stands at 35%, and among six year olds at 40%. It should be kept in mind that we are using different years for primary (2007) and pre-primary (2009). Given the slow pace of expansion this does not seem to be a big problem.

Now if we look at figure 10, we see that the enrolment situation of five and six year olds in Tanzania is actually far from hopeless: about 65% of the five year olds are enrolled in either pre-primary of primary, and the same goes for as many as 90% of the six year olds. Only 10% of the six year olds are neither in pre-primary nor in primary. The main problem is that many children are not in the right place given their age: many are in primary while they should be in pre-primary.

Figure 10 strongly points towards one of the key recommendations in this report: lower the official entry age of primary education to age six, and ensure that indeed children enroll not earlier and not later than that age. The result will be that all of the red in figure 10 will move to the column on the right hand side, and all of the blue will move to the left column. The costs of this harmonization process will be very limited, since it would mainly be a trade-off between pre-primary and primary education, while the unit costs of these two do not differ much. After this harmonization step, we will still face some degree of exclusion: about 35% of the five year olds are not in pre-primary where they should be, and about 10% of the six year olds are not in primary; so this will be addressed later in this analysis.

Harmonizing the primary entry age at six - eradicating both early and late entry - seems a difficult task. But without a tight age-specific admission policy it is not possible to govern the Tanzanian system of basic education; to exercise control over the expenditure; and to implement the IECD policy. And while the task seems difficult, it is especially in the broader context of the integrated ECD policy of Tanzania that this task becomes feasible. On a pathway where children of 0-3 are first supported through their parents (the first programme of the policy) and then enter community-based ECD centers (the second programme), we can deliver the longitudinal guidance that is required to make parents aware of not only the need to enroll in school but also to do it at the right age. Clearly, CORPs and teachers in community-based ECD have an important role to play here.

Assuming a choice for age-harmonized primary entry at six (as now stated in the draft Education Training Policy of the Republic of Tanzania), we now focus on two cost estimations:
- The cost of universalizing primary enrolment for the six year olds; this will be done in a general approach based on macro-level unit costs;
- The cost of universalizing pre-primary enrolment for the five year olds; this will be done in a more detailed manner.

Estimating the costs of enrolling all six year olds in primary education

In order to universalize primary enrolment for the six year olds we need (i) to "transfer" the 40% pre-primary enrollees to primary, and (ii) to close the remaining 10% overall enrolment gap. For the unit cost in primary education, the Public Expenditure Tracking Survey for Primary and Secondary Education provides several different figures (URT, 2009d:3). These figures are brought together in table 4.

Table 4: Unit costs in primary education, fiscal year 2008

Source or nature of primary education unit cost	Value
Official Central Government allocation	65,646 Tsh
Received by Local Government Authorities from Central Government	57,417 Tsh
From Central to Local Government and actually spent on education	52,541 Tsh
Total spent on education (in general) by Local Government[17]	59,697 Tsh
Total spent on primary education alone by Local Government	53,788 Tsh
Un-weighted average of the above	57,818 Tsh
Capitation and Development Grant transferred to primary schools	6,436 Tsh
Capitation and Development Grant received by primary schools	6,046 Tsh
Un-weighted average of the two above	6,241 Tsh

Source: URT, 2009d:3

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[17] This money comes partly from central government and partly from local government's own resources.

It is difficult to decide which of the recurrent unit costs must be applied here. The total amount of money that is actually spent on primary education at local government level (53,788 Tsh) seems the purest indication of real costs. However, if the disbursement by the central government is much higher at 65,646 Tsh, we must assume that the leakage of about 8000 Tsh is a reality of life which is going to remain for some years to come; some administrative costs are unavoidable even when inefficiencies are eradicated. It is therefore proposed to use the average (57,818 Tsh) of the various recurrent unit costs in table 3, partly also because it sits somewhere between the central disbursement and actual spending. The same is proposed for the capitation grant of 10 US$ (meant for various minor expenditures) and the development grant (meant for for school construction, refurbishment, major repair). The last piece of information needed for our estimations is the share of recurrent expenditure that is spent on salaries; this share is 84% (URT, 2009d:4).

In order to estimate the costs of "transferring" 40% of the six year olds from pre-primary to primary education, it is important to know that the cost-structure of the two forms of education is very similar, even if they are funded in different ways. Teachers work under the same conditions. Pre-primary classrooms are often the same as primary classrooms, except that they are empty and unused after 12:00, while primary classrooms are empty after 14:00. So in terms of physical space, school benches and other items, the transfer only means that existing infrastructure will be used more fully and efficiently. The main difference in terms of costs is the time spent by the teacher. Pre-primary teachers dismiss the class at 12:00 and do other things afterwards (often they teach primary classes in the afternoon), while primary teachers go on until 14:00. Hence, our "transfer" would imply that an extra X-number of teachers will have to continue until 14:00, going from teaching 4 hours per day to teaching 6 hours per day[18]. At school level, this can be dealt with in a variety of ways, but at macro-level it means in any case that the salary-component of the recurrent unit cost will have to be raised. To be more precise: in pre-primary education the salary component is 66,7% of what it is in primary, and this will have to be raised to 100%. So the unit cost of this operation is 33.3% of 84% (the salary component) of 57,818 Tsh, i.e. 16,189 Tsh. This amount needs to be multiplied with 40% of the total number of children. The capitation and development grants play no role here because they are the same for pre-primary and primary. We now turn to the numbers of children.

In previous chapters we worked on the basis of the estimation that future age cohorts will eventually consist of 1.46 million children. This was reduced by a certain percentage on the assumption that not all families would need or accept the home bases visiting and community based ECD services as implied in the IECD policy. But for pre-primary education this is different. Pre-primary education must be seen as a universal service, with a possibility of making in compulsory. So we base our calculation on all of the 1.46 million children, without

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[18] Initially, and at micro-level, this increase may not always be noticed. In the present day-to-day reality in schools, many pre-primary teachers are teaching primary classes after 12:00 anyway. However, on the long run, and at macro-level, the increase from 4 to 6 hours will eventually have a significant impact on the need for teaching capacity which cannot be ignored.

reduction[19]. The final calculation for the costs of the "transfer" from pre-primary to primary thus becomes:

- 33% * 84% * 57,818 Tsh * 40% * 1.46 million = 9,454,376,000 Tsh. Rounded off, this is about 9.5 billion Tsh., which is less than 1% of the primary education budget.

Regarding the closure of the 10% overall enrolment gap for six year olds, the calculation is comparable to the one above. The differences are (i) that the factors 33% and 84% are not relevant this time, (ii) that the factor 40% must be replaced by 10%, and (iii) that in this case we need to add the average for the capitation grant and development grant:

- (57,818 Tsh + 6,241 Tsh) * 10% * 1.46 million = 9,352,614,000 Tsh. Rounded off, this is about 9.4 billion Tsh.

However, it is quite important to note that this is an *incidental* cost, not a structural costs that repeats itself each and every year. The reason is that primary enrolment already is (nearly) universal in Tanzania. So the 10% of the six year olds that we now enroll earlier, would have enrolled anyway. The only difference is that they come one year earlier, but they also leave school one year earlier. On the long run, this makes no difference financially, neither for salary costs nor for costs on infrastructure. For these children, the policy measure only creates a once-only effect on expenditure of 9.4 billion Tsh.

Estimating the costs for the five year olds

The last issue for this chapter is the cost of universalizing pre-primary education for the five year olds. As figure 10 shows, 35% are already in pre-primary. Another 30% are in primary education and need to be "transferred" to pre-primary. Finally, 35% are presently not enrolled. In principle, it would be possible to follow the same logic as we did for the six year olds. However, there are compelling reasons for a more bottom-up approach, departing at classroom level. It is better to partly "rethink" pre-primary education than replicate existing practice.

For instance, the average teacher/pupil ratios in pre-primary education stands at 1:55 with extremes of 1:70 in Dodoma and 1:80 in Ruvuma (URT, 2009c:6). The 1:55 is even worse than the 1:54 for primary education (URT, 2009c:35). And while large classes are detrimental in primary education, they are disastrous in pre-primary. Children at this age really need to be attended in smaller groups. The problem of large groups is exacerbated by the fact that they are often multi-age (five and six year olds together). During a visit to Kibaha district – known for its ECD minded leadership – we observed a classroom with 40 five year olds and 45 six year olds. In that situation clearly a developmentaly appropriate curriculum is needed with a

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[19] Strictly speaking, we should also take private provision into account. But at 1% (UNESCO, 2008:306), the percentage of children enrolled in private primary schools seems insignificant, despite some growth from 0.2% in 1999 (ibidem). For pre-primary education, private provision is more important, as we shall see later in this chapter.

trained teacher to meet the developmental and learning needs of the two age groups. As in many – perhaps most – pre-primary classrooms, all 85 children were seated in benches facing the blackboard and there was little to distinguish the space from a primary classroom. So in practice, the pre-primary schools and classes are in many respects a downward extension of primary education, as in many other developing countries.

For the teacher/pupil ratio, the Education Sector Development Programme for 2007-2011 sets a target of 1:40 (URT, 2006:10). Although this report takes existing policy statements as its point of departure, it is difficult to accept a ratio of 1:40 as a target for pre-primary education. For pedagogical reasons it is not recommendable. Preferably, teacher/pupil ratios in ECD are above 1:20, ideally around 1:15; and minimally 1:25.

We will now estimate the cost of universalizing pre-primary school for five year olds under two scenarios: the current teacher/pupil ratio versus ratio of 1:25. We first estimate the annual costs of the two scenarios as such, and then we subtract what we are already spending currently, in order to establish the extra costs.

The current unit cost of pre-primary education is about 2/3 of that of primary education, because the number of hours per day is 4 instead of 6. This produces a pre-primary unit cost of 57,818 Tsh * 2/3 = 38,545. So if we enroll all the 1.46 million five year olds against that unit cost in programs of four hours and with the current teacher/pupil ratio of 1:55, this would cost 56.3 billion per year in total. In order to reduce the teacher/pupil ratio from 1:55 to a level near 1:25, we must multiply this amount at least by a factor 2. Total cost would then be 112.6 billion Tsh.

What we also need to take into account, however, is the fact that a certain proportion of families opt for private pre-primary education. In fact, this share is growing, especially in urban areas. In 2006, only 2% of all enrolment nationally was in private institutions (UNESCO, 2006:252) while in 2009 this had risen to 5.3% (URT, 2009c:6-7). A further growth is not unlikely. In Kenya, for instance, the share of private provision has risen from 10% to 31% between 1999 and 2006, driving the overall growth of the GER from 44% in 1999 to 49% in 2006. For Tanzania, we could assume that at least 10% of enrolment in pre-primary will be in private institutions by 2020. This would bring down our overall annual cost estimations from 56.3 billion (current teacher/pupil ratio) to 50.6 billion Tsh, and from 112.6 Tsh (teacher/pupil ratio of 1:25) to 101.2 billion.

Now we estimate what we are spending for the five year olds in the current situation. About 30% of the 1.46 million five year olds are enrolled in primary, against a unit cost of 57,818 Tsh. The overall costs are 25.3 billion Tsh annually. Another 35% is enrolled in pre-primary, i.e. in programs of four hours instead of six. Their unit cost 38,545 Tsh and the overall costs are 19.7 billion Tsh. So the total current expenditure is 25.3 + 19.7 = 45 billion Tsh. If we subtract the 45 billion that is already in the books from the estimation made above, we remain with an extra financial burden of 5.6 billion Tsh for the scenario in which the teacher/pupil

ratio has not changed, and with an extra burden of 56.2 billion Tsh in case we raise the teacher/pupil ratio to 1:25.

Finally we calculate the resource requirements for the classrooms. The number of children already enrolled is 30% in primary plus 35% pre-primary. So we need to create extra space for the remaining 35% (the fact that the 30% in primary will eventually move to pre-primary makes no difference for the costs on the long run). As a unit cost we use the annualized amount of 6,241 Tsh (see table 3, bottom row). The outcome is 3.2 billion Tsh annually. If we add this up to the amounts above, we get 70.8 billion per year with a group size of 25, or 14.5 with an unchanged group size.

5. Overall costs and how to cover them

Table 5 summarizes the cost estimations developed for each of the three programmes and their respective scenarios. The second column contains the amounts, the third the nature of the expenditure (recurrent means: every year), and the fourth column indicates the scenario. The three bottom rows summarize the estimations. For "recurrent", the cheapest scenarios of the respective programmes have been added up (4.2 + 24.0 + 9.5 + 5.6) producing the overall minimum of 43.3 billion Tsh., and the same has been done for the maximum scenarios (14.7 + 40.0 + 9.5 + 56.2) making 120.4 billion Tsh in total. (the 9.5 billion Tsh of recurrent expenditure under programme 3 occurs in both the minimum and the maximum scenarios).

Table 5: Summary of cost estimations for all three steps

Costs (in billion Tsh)	Nature of costs	Scenario
Programme 1: Home-based visiting service		
4.2	Recurrent	No incentive for the CORPs
14.7	Recurrent	With incentive of 5000 Tsh per month
Programme 2: Community-based ECD services		
6.0	Annually between 2010 - 2020	Building program
4.5	Annually between 2010 - 2020	As above, assuming satellite model
40.0	Recurrent	Assuming 20 hours per week
24.0	Recurrent	Assuming 12 hours per week
Programme 3: Pre-primary Education		
9.5	Recurrent	Transfer of 40% of 6 year olds to primary
9.4	Once only	Advancing enrolment for 10% 6 year olds
5.6	Recurrent	Universalize pre-primary for 5 year olds
56.2	Recurrent	As above with group size reduction to 25
Total		
43.3	Recurrent	Assuming minimum scenario in all cases
120.4	Recurrent	Assuming maximum scenario in all cases
4.5-6.0	Annually between 2010 - 2020	(4.5 = minimum, 6.0 = maximum)
9.4	Once only	(independent of scenario)

Source: compiled based on previous chapters

It should be emphasized that table 5 shows only a limited number out of an endless variety of possibilities. For instance, one can choose the minimum scenario for one programme and the maximum scenario for another. The overall outcomes will then be somewhere in between 43.3 billion Tsh and 120.4 billion Tsh for the recurrent costs. Furthermore, one can endlessly adapt the parameters. For instance, one can reduce the group size to 30 instead of 25; one can have 15 hours per week for step 2 instead of 12 or 20; one can give the CORPs an incentive of

4000 Tsh instead of 5000. Once final decisions have been made, we can sharpen the cost requirements and start budgeting. Table 5 mainly supports that decision making process, by showing the trade offs and indicating where the main costs are. The following example may illustrate this.

If we want to provide an incentive of 5000 Tsh to the CORPs, total costs will be 14.7 billion Tsh. Without this incentive the costs are 4.2 billion Tsh. The difference between these two amounts – i.e. the extra money we spent just to provide the incentive – is 10.5 billion Tsh. By contrast, the reduction of group size in pre-primary education from 55 down to 25 costs an extra 56.2 - 5.6 = 50.6, which is almost five times more than 10.5 billion Tsh. The work of the CORPs has an impact on the critical period from conception to age 3, while the group size reduction only benefits children during one year of their lives. Securing the continuity of C-IMCI thus seems a better investment against lower costs than group size reduction, important as the latter may be. Once again, this is just an example, but it shows how transparency of costs across a number of early childhood programmes can inform decision making.

The option of targeting

Whenever our ambitions to improve conditions for children exceed the financial possibilities, targeting can be an option. We can prioritize certain groups or areas that clearly lag behind. In Tanzania, it may concern areas rather than groups, because there are important regional disparities while ethnic disparities are less pronounced. Income disparities do exist, but they are strongly related to regional disparities as figure 8 showed. Figure 11 is a tool to identify weak regions. It ranks regions by pre-primary GER, with the lowest to the left and the highest to the right. The very lowest scoring region, Dar es Salaam, should be neglected in this analysis for its special situation, discussed in the chapter 4.

Figure11: Pre-primary GER by region, 2009
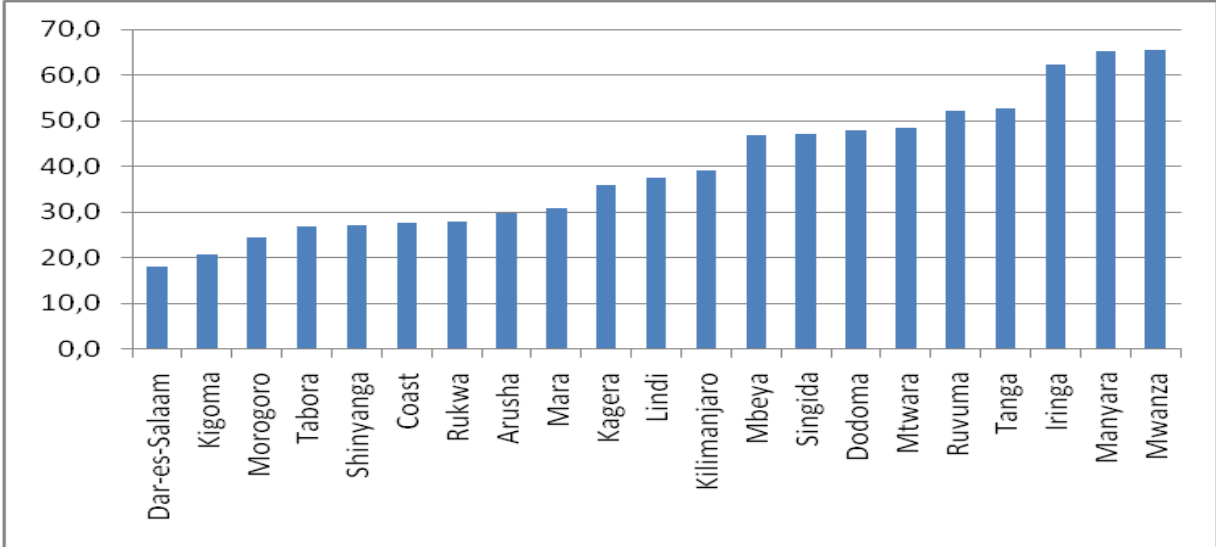
Source: compiled by the author based on URT, 2009c:8

Figure 11 helps us to identify "cut-off points" that can serve as thresholds. For instance, there four regions at roughly the same level of about 48 (Mbeya, Singida, Dodoma and Mtwara), while the gap with regions below that level is quite pronounced. Hence it could be defensible to say that regions under the level of 48 deserve to be prioritized above the regions at or over 48. The argument is that the IECD movement in the under-48 regions has not yet picked up sufficient momentum. In some districts in these regions, IECD may not even be a known phenomenon as such, not to mention that most children are without access. Within the group of under-48 regions, one could further identify a level under which regions deserve a high urgency status. We see again a small cluster of four regions (Tabora, Shinyanga, Coast and Rukwa), this time at a level of 28. Regions under that level – Morogoro and especially Kigoma – are in dire straits and could deserve extra priority in the roll-out of the IECD policy.

Mobilizing financial resources: the scope for government funding in the coming years

In the literature on ECD in developing countries it is often emphasized that parents and communities should always make their own contributions – if necessary in kind – to service provision, in order to secure their commitment and ownership. In Tanzania, parents and communities are already doing this to the full. Many services are mainly self-financed, and even for school buildings communities contribute 20% of the costs. This report assumes that this spirit of ownership will be continued. But it also provides the evidence – from Tanzania as well as other developing countries - that without enhanced assistance from outside the community, progress will be slow or even absent. With 34% of all Tanzanians below the basic needs poverty line, we should not expect the expansion of ECD to be driven mainly by parents and communities. Tanzania is still too poor to justify that expectation.

Moreover: if primary education is free, then why should ECD not be free? ECD can be seen as the integration of learning with forms of healthcare, nutrition, protection and other services, during the most critical age period. In countries that have adopted the principle of free education, there are no good arguments to make an exception for ECD.

It is against this background that we first examine the option of making a substantial contribution to ECD from the *regular* government budget. In the following section we look at alternative sources and mechanisms of funding.

We start by looking at the macro-economic picture. Figure 12 shows the growth of Tanzania's GDP over the period 1993 - 2006.

Figure 12: Real GDP growth 1993-2006 (in 1992 constant prices)
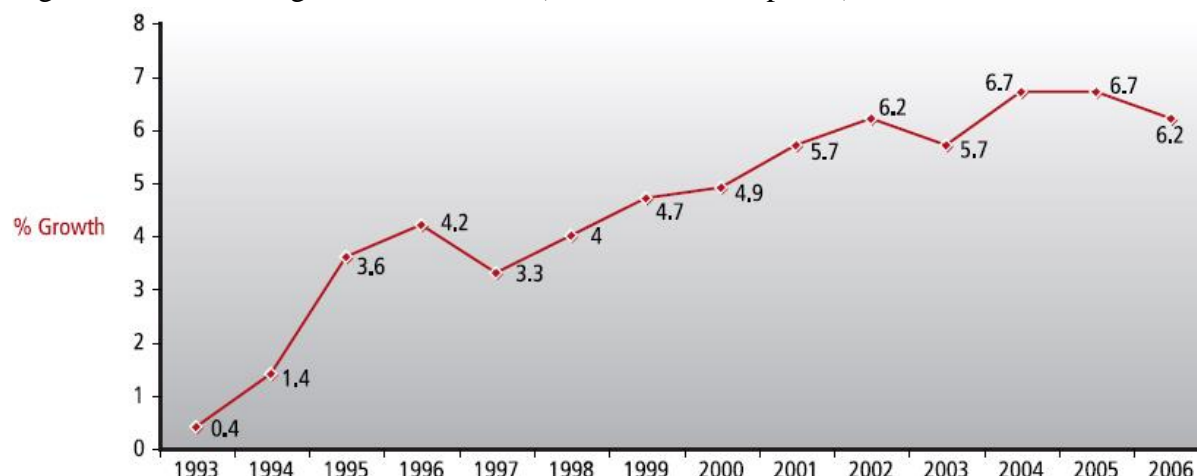
Figure 12 shows a continuous increase in GDP growth over the decade 1993-2003, and it seems to reach a ceiling at 6.7%, which is a good figure. A more recent source – the Guidelines for the preparation of medium term plan and budget framework for 2009/10-2011/12 – reports an even higher figure: an average GDP growth of 7.2% over 2001-2007 (the difference is due differing measurement methods) (URT, 2009e). The growth expectation for 2009 was 7.5%, but this has been adjusted to 5% as a result of the global financial crisis URT, 2009f:vii). For 2010 the Treasury expects a 6% growth of the economy, as well as a return to 7% in 2011-2012 (URT, 2009f:viii). To complete the big picture, it can be added that external financial assistance equaled 6.8% of GDP (REPOA, NBS and UNICEF, 2009:6), which is about 20% of the overall budget. This external assistance is mainly concentrated in the development budget. On the negative side, the fiscal deficit has grown since 2001 (Ministry of Planning, Economy and Empowerment, 2007:10).

We now shift our attention from the macro-economic picture to government expenditure. The three most relevant ministries involved in the IECD policy are:

- The Ministry of Health and Social Welfare, responsible for the home-based visiting for the under-3;
- The Ministry of Community Development, Gender and Children, which plays a critically important role in the community-based ECD centers;
- The Ministry of Education and Vocational Training, responsible for pre-primary education.

Table 6 shows the most recent budget estimates for these three ministries.

Table 6: The budget estimates of the three most relevant Ministries, 2008/9 and 2009/10

	2008/2009 Approved estimates	2009/2010 Estimates
Ministry of Health and Social Welfare	196,194,435,200 Tsh 242,067,318,100 Tsh	218,393,211,000 Tsh 260,599,867,000 Tsh
The Ministry of Community Development, Gender and Children	7,820,393,000 Tsh 6,845,477,100 Tsh	14,549,281,000 Tsh 7,145,302,000 Tsh
Ministry of Education and Vocational Training	397,889,941,300 Tsh 129,586,020,000 Tsh	377,691,167,000 Tsh 129,801,816,000 Tsh

Note: in each cell, the upper figure contains the Ministerial Budget and the lower figure concerns the Ministerial Development Programmes

Source: www.parliament.go.tz > Budget > Ministerial Budget (website was accessed on 19 April 2010)

Table 6 shows clearly that the budget of the Ministry of Education and Vocational training and the budget of the Ministry of Health and Social Welfare are much larger that of the Ministry of Community Development, Gender and Children, so the focus in this analysis will be on the former two. Yet, the picture that table 6 provides is incomplete, in that an important share of expenditure on education and health is disbursed along other channels. Figure 13 shows the development of the education budget in the period 1999/2000-2009/2010.

Figure 13: The total education budget of Tanzania (x million Tsh) 1999/2000 – 2009/2010
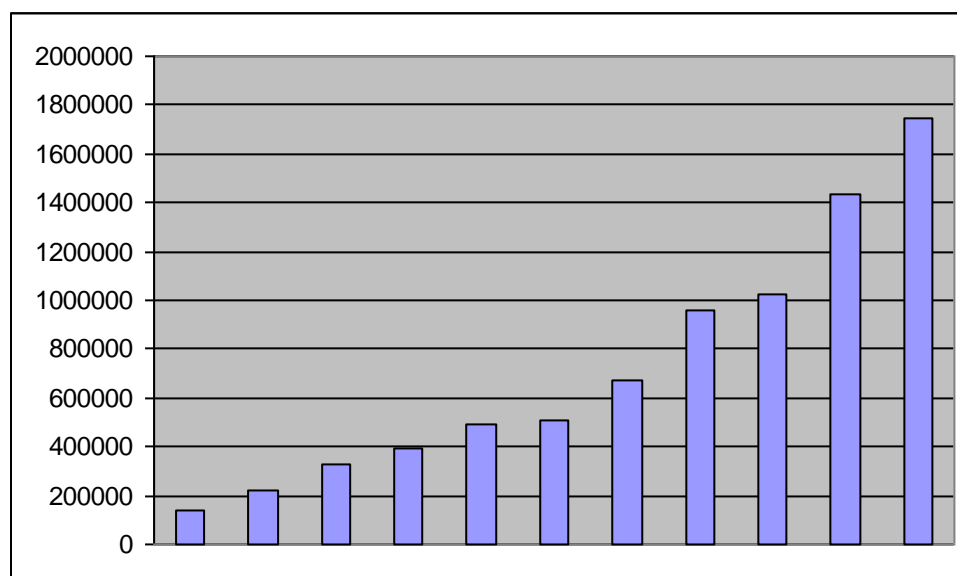
Source: compiled by the author based on Economic and social research council (2008:35) and URT (2009c:110)

At 1,743,900 million Tsh, the budget of 2009/2010 is much higher than the figures in table 6 suggest. We shall find the same for the health budget later in this section. Zooming further in on education expenditure, we find that the total education budget reached a level of about 18% of the overall government budget in 2004 (Economic and social research council, 2008:36). In 2008-2009 this indicator peaked at 19.6% to fall back to 18.0% in 2009-2010 (URT, 2009f:xxiv).

It is also common to express public investment in education as a percentage of GDP. This figure could not be found in national or international (e.g. World Bank, UNESCO) statistical sources. However, if we divide the education budget for 2007-2008 (which then stood at 1,107,437 million Tsh) by the GDP for 2008 (which was 24,782 billion Tsh (NBS, 2008:20)) we get a value of 4.3%. Although a value of 6% is often seen as the global benchmark – this is sometimes referred to as the UNESCO-norm – this is very difficult to attain for low income countries. The 4.3% is very close to the average for Sub-Saharan Africa (4.4%) and much better than Tanzania's figure for 1999 which was 2.2% (UNESCO, 2008:370).

The budget share of primary education – which includes pre-primary education – is 57.8%. Given the large numbers of children, this is relatively speaking a small share, compared to for instance the 26.2% of the budget that goes to higher education where a much more limited number of students is enrolled (Economic and social research council, 2008:35). Apart from this last indicator, Tanzania's financial performance regarding education is relatively good. So one cannot say that the education budget can easily be increased. This means that the required resources would have to be gained mainly from the *annual increase* in the budget.

As figure 13 showed, Tanzania has seen a steady budget increase throughout the most recent decade. In some years this has exceeded GDP growth, explaining the increase of the education budget as a percentage of GDP from 2.2% to 4.3%. Even if we assume that this figure of 4.3% will *not* increase and that GDP growth will return to 7% in 2011 – as the Treasury expects (see above), then we would still see an annual budget increase of about 122 billion Tsh. For comparison: the average budget increase in the entire period covered by figure 13 is 161 billion Tsh., while in the last five years of that period it exceeded 200 billion Tsh.; thus the estimation of 122 billion Tsh is not overly optimistic.

We now turn to the health budget. For this budget, we lack the kind of data we just used for the education budget, so the approach is slightly different. Figure 14 shows the development of total national expenditure on health as a share of total government expenditure.

Figure 14: Expenditure on health as % of government expenditure (2002/3-2008/9)
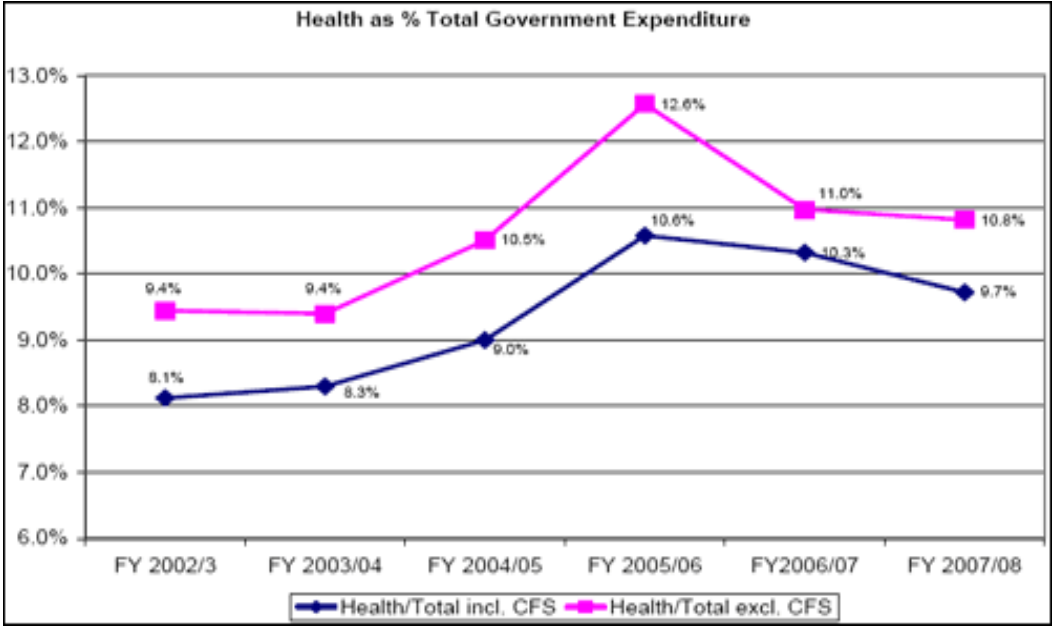
Source: copied from Ifakara Health Research and Development Centre, 2007

As figure 14 shows, the health expenditure - as a share of government expenditure - peaked in 2005/6 at a level of 12.0% and then dropped slightly to about 11%. Note that in absolute figures the health budget still increased if the growth of the total government expenditure compensated the relative decline. In the year 2005, the health budget stood at 289 billion Tsh (Mtei et al, 2007:25). This is about half of the education budget in that year. So as a crude measure, we could estimate that the development of the health budget augments the development of the education budget – estimated at 122 billion Tsh – by some 50%. In other words, for the coming years, the education and health budget taken together are likely to grow by some 180 billion Tsh per year. For a last check we look at the most recent figures for both the education and the health budget, given in table 7.

Table 7: education and health budgets as % of government spending 2008/9-2009/10

	2008/2009	2009/2010
Education	19.6%	18.0%
Health	10.3%	8.3%

Source: URT, 2009f:xxiv

Table 7 clearly confirms the downward trend in both the education and health budgets. Once again: this concerns these budgets expressed as a share of total government spending. In absolute terms these budgets are still very likely to grow as GDP growth returns to 7% as the Treasury expects. Yet, table 7 does provide a good argument for our rather modest growth estimation 180 billion Tsh, which is markedly lower than the actual growth in recent years.

We now contrast the estimation of 180 billion Tsh this with the resource requirements of 43.3 billion Tsh (minimum) and 120.4 billion Tsh (maximum) found in table 4, while keeping in

mind that the budget of the Ministry of Community Development, Gender and Children is not brought into the equation. Obviously, the annual budget increase of 180 billion Tsh is higher than even the resource requirement for the maximum scenario of 120.4 billion Tsh. However, this direct comparison is not correct; two things need to be taken into account: the first on the negative side, and the second on the positive side.

First, it must be noted that ECD is not the only sector to which the Ministries of Education and Health can dedicate their budget increases. The Ministry of Education and Vocational Training needs to expand secondary and higher education, while primary education will need to invest in quality and in smaller classes. The Ministry of Health and Social Welfare, on its turn, will need to invest in hospitals, dispensaries and many other facilities for healthcare. All these sectors will rightfully claim their share of the budget increase.

But secondly, and on the positive side, the budget increase of 180 billion Tsh occurs every year. It accumulates. Next year, the joint education and health budgets will be 180 billion Tsh higher than this year, but in two years it will be 360 billion Tsh higher, and in three years 480 billion Tsh higher, et cetera. At the same time, the required investment in IECD of 43.3 to 120.4 billion will not be realized in one year. The full roll-out of any social policy always takes several years time, since teachers and CORPs need to be trained, communities need to be sensitized, ECD centres need to be built, et cetera. This can easily take five to ten years time. So by the time the entire roll-out has been completed, the joint education and health budget has increased by 900 billion Tsh (with a five year roll-out) or 1800 billion Tsh (with a ten year roll-out). This *dwarfs* the estimated resource requirements of 43.3 to 120.4 billion Tsh.

As an illustration we could recall the extra investment needed annually to provide an incentive of 5000 Tsh per month to the CORPs. This annual investment is 10 billion Tsh per year. This is in the order one percent of the accumulated budget increase after five years, and it is half a percent of the increase after ten years. Indeed, this is a very limited amount of money which can have a substantial impact on the development of young children all over Tanzania. At the same time it is a justified reward for the hardworking CORPs and a financial impulse in local economies. Finally, it should be added that the estimated resources requirements (43.3 to 120.4 billion Tsh) can still be mitigated by asking a small fee from those parents who can afford it. This is one of the issues for the next section.

Alternative sources and mechanisms of funding

Tanzania has the attention of a large donor community and important steps have been made to act according to the Paris Declaration on Aid Effectiveness. There is a trend towards basket funding and general budget support; for instance, about one third of the health budget is from donor funding and that share is not earmarked for specific objectives. In addition, foreign

assistance is mainly concentrated – as it should – in the development budget, and less so in the recurrent budget.

This principle could well be maintained if specific contributions were asked from donors for the IECD policy. From a financial sustainability perspective, external contributions to development costs – including capital investment costs - are perfectly defensible. If a certain donor has contributed to development costs but has to discontinue its support for whatever reason, we will still have the buildings, the inventory, the curriculum, et cetera. By contrast, if (a part of the) recurrent costs depend on donors, the continuity of service provision would immediately be jeopardized if donors withdraw.

So for example, in the second programme of the ICED policy – the community-based ECD centers - there is a building component of 4.5 to 6 bln Tsh (see table 4) spread over the period 2010-2020. This is about half a billion Tsh annually, or a bit more if the period of the roll-out is shortened. The expansion of pre-primary education for five year olds, too, has a building component, even if it has been annualized in our calculations. These are good options for bilateral and multilateral donors to buy into the plan.

Important international NGOs that are active in Tanzania include Plan International, Action Aid, Save the Children, the Aga Khan Foundation, Care International. An excellent source of ECD expertise and partner in capacity building is the Bernard van Leer Foundation. The Tanzania Social Action Fund is also an important player when it comes to supporting local initiatives. Various micro-credit organizations can also be approached to buy into the plan.

In addition to donors, one could think of private companies as potential contributors to ECD. This can take the form of large companies who open up ECD centers for their own personnel (company-based ECD) possibly providing access to other parents as well. It can also take the form of sponsorship to the local community, as an expression of corporate social responsibility. However, in the case of Tanzania, the possibilities for such private sector involvement in ECD are very limited. The vast majority of the population inhabits rural areas where most people live from subsistence farming and small livelihoods, and where large companies are scarce. And it is precisely in the rural areas that the needs are highest and exclusion most pronounced.

For more or less the same reasons there is not much scope in Tanzania to fund ECD from so-called payroll taxes. Although this has been tried in more industrialized countries, it would not work in Tanzania for the simple reason that too small a share of the working population is benefiting from structured salary-employment to begin with, and that the ones who do enjoy that privilege are not among the people who have most difficulty accessing ECD services. Moreover, revenues from payroll taxes have proven to be highly susceptible to the international business cycle. If the world economy is in a recession, people will earn less or lose their jobs altogether. In such a situation, the overall revenues from payroll taxes will fall and the funding of ECD will be at risk.

Thus, if we want to *secure* the funding for ECD, it is much better to fund it from the general government budget. This budget is fed by a multitude of taxes, not just one. Admittedly, even the general government budget is susceptible to economic development, but at least the government has the possibility to secure the continuity of government spending over time: by building reserves in good times, and by spending these reserve in bad times in order to stimulate the economy and secure public services. This strategy was developed by the economist Keynes, was out of fashion for some time, but has been embraced more recently as a way out of the global financial crisis. It is by far the safest way to secure funding for ECD. The financial security of ECD could be further enhanced if a government would grant ECD special status as a sector that must be safeguarded from budget cuts even in times of recession. This could be promoted as part of the advocacy campaign for the IECD policy.

Even more questionable than the idea of using payroll taxes for ECD is the idea of "sin-taxes". This implies the financing of ECD from revenues from taxes on cigarettes, alcohol and gambling. Like payroll taxes, these are so-called earmarked taxes and as such they are illusionary: they do not create new money, but merely take a slice from the overall tax revenue, thereby even diminishing the budgetary scope for funding ECD in a more regular and sustainable manner. Moreover, sin-taxes seem difficult to reconcile with the objective of sound child development. One of the very objectives of ECD is to reduce various forms of addiction at later age.

There is also a decision to be made regarding the funding *mechanism*. A per capita subsidy seems to fit best in Tanzania's existing, modernized approach to funding. Based on the number of children in a certain catchment area (district, ward), a formula can be completed leading to the amount of money that is being received by the relevant authorities. It seems a better solution than the more traditional block grants often used in ECD. More modern funding mechanisms include vouchers or conditional cash transfers, often promoted in recent literature. It should however be emphasized that these are funding mechanism, not funding sources. They create no new money, but need to be backed up by government resources one way or another. Vouchers do have the potential to enhance choice for parents and competition among providers, but in rural Tanzania this seems not the highest priority. Conditional cash transfers can be applied when families need to be motivated to use the service. E.g. families could be given a financial reward for using ECD services. But this would only cost extra money, while it is unlikely that families be unmotivated to enroll their children in an ECD center if one is available.

The last financial modality that we discuss here are means-tested fees. The basic idea is that asking fees from families has the advantage of reducing the financial burden for the government, but has the disadvantage of excluding poor children. This could be resolved by asking a fee from most families, but waiving it for the poorest, or, as a more sophisticated option, by creating a sliding scale where the fee varies according to families' income. This, however, requires reliable information on the financial situation of families, which is usually not feasible in countries where only a minority of the people is formally employed. An

alternative would be to apply the same principle on a higher level of aggregation: one could select a number of districts or even regions where the average family income is low (see table 3). These districts or regions would receive the full government per child contribution, while other districts or regions would receive a partial contribution; the richer the area, the lower the government contribution, and the higher the average fee. Within these districts or regions, authorities should develop their own fee policy to ensure that the poorest have access. For instance, the regions of Dodoma, Kagera, Kigoma, Morogoro, and Tabora could receive the full contribution, while other regions receive a partial contribution. But as said earlier: if primary education is free for all in Tanzania, then why not ECD?

Concluding remark

So far, this report has been written entirely in keeping with the IECD policy that is being developed by stakeholders in Tanzania. It is an impressive piece of work, based on state of the art knowledge and on a rich experience on the ground. In this concluding remark, this report goes beyond the given framework of that policy.

If the entry age of primary education in Tanzania would be lowered - officially and in practice – to age six, this would shorten pre-primary education to a one year course, just for the five year olds. That institution could remain an entity in its own right, but it could also be merged with the community-based ECD centers. These would thus become more substantial local centers for children of three four and five years old. In this "merger", both parties would benefit. The pre-primary part of that new institution would be localized, bringing along its substantive government funding. It would no longer be a "downward extension of primary education" but a more age-appropriate learning environment. The community based centers for three and four year olds would expand much more rapidly if the pre-primary capacity – along with its funding – would be in place in the local community. The overall system would not look very different from the three programme model of the IECD policy. Programmes 2 and 3 would be integrated, resulting in a 3+3 model: 3 years of C-IMCI followed by three years of age-appropriate ECD in strong community based institutions. The costing of that alternative model could take place along the same lines as in this report.

6. Conclusion and Recommendations

1. Integrating a cognitive and psychosocial dimension in existing C-IMCI programs is a cost-effective way to enhance early learning and early stimulation. Scaling it up for all families that are in need of this service would cost 4.2 billion Tsh. This includes a quarterly day of refresher training.

2. However, the program is based on volunteering. The experience both within Tanzania and abroad is that this is not sustainable. Introducing an incentive of 5000 Tsh per month is recommended. This would raise total cost to 14.7 Tsh.

3. Age-appropriate group learning activities four three and four year olds have successfully been piloted in community-based ECD centers. They are predominantly financed by parents and communities but once again a modest financial incentive seems indispensable for sustainability.

4. The costs of this service at national level would amount to 40 billion Tsh for a program of 20 hours per week. This can be reduced to 12 hours without a significant loss of development gains, bringing national costs down to 24 billion Tsh.

5. About 35% of the five to six year olds and 40% of the six year olds are in *primary* education; in urban areas these figures are much higher. This hinders the development of a strong policy for the transition from ECD to school and it limits budget control.

6. It is recommended to lower the entry age for primary education to age six – as in most countries in the world – and to ensure that all five year olds are in pre-primary while all six year olds are in primary education.

7. This measure can enhance cost-efficiency. Universal enrolment of five year olds (in pre-primary) and six year olds (in primary) can be achieved for about 15 billion Tsh in recurrent costs.

8. It would also be desirable to improve the teacher/pupil ratio from 1:55 to 1:25, at least in pre-primary for the five year olds. This would cost about 50 billion Tsh more.

9. The total recurrent costs of the three programmes together would cost about 43 billion Tsh if the minimum scenarios would be chosen for each of the three programmes, and it would cost about 120 billion Tsh of the maximum scenarios would be preferred.

10. In addition there are the more incidental costs; these are generally small compared to the recurrent costs and could be borne from external sources.

11. This report estimates that the budgets of the most relevant ministries will grow by 180 billion Tsh annually. This is based on the Treasury's expectation that economic growth will return to 7% in 2011 and thereafter, and that these ministries' budgets will not grow as a share of GDP. The 180 billion Tsh is modest compared to actual growth in the last decade.

12. On the one hand, other sectors than ECD will also claim their share of the 180 billion Tsh annual increase. On the other hand, this grow is annual. It accumulates. As the full roll-out of the IECD policy is likely to take in the order of five to ten years, the relevant budgets will have grown by 900 to 1800 billion Tsh in that time-span. *This dwarfs the annual resource requirement of 43 to 120 billion Tsh.*

13. Enrolment in pre-primary education is strongly correlated with the average per capita GDP of regions, and Kigoma and Morogoro stay far behind at 20% and 25% respectively. Another gap is the one between the regions at about 48% or higher and the ones below that level.

14. It is therefore recommended to prioritize all regions below 48% enrolment in pre-primary education, with a high-urgency approach for Kigoma and Morogoro.

15. Donors and NGOs can play an important role in covering incidental costs, such as building ECD centers and pre/primary classrooms. The coverage of recurrent costs should not depend on donors.

16. The scope for alternative sources and mechanisms of funding ECD is limited in Tanzania. Private companies are scarce in the rural areas where most Tanzanians live and where needs are highest. Payroll-taxes will not work for the same reason. Regular per capita is to be preferred above vouchers and conditional cash transfers. It is recommended that the government provide the highest per capita contribution in the poorest regions, as the report presents evidence that poor groups both in Tanzania and elsewhere tend to be excluded more strongly than others.

17. A final recommendation goes beyond the IECD policy as it now stands. If the entry age of primary education would be lowered to age five, it may be good to combine programmes 2 and 3 of the ICED policy, merging the community-based centers for the three and four year olds with pre-primary education for the five year olds. This can result in strong local ECD institutions with a good budget, and where the curriculum is age-appropriate rather than a downward expansion of primary education.

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