



The Consultative Group on Early Childhood Care and Development

TOWARDS AN ANALYSIS OF THE COSTS AND EFFECTIVENESS OF COMMUNITY-BASED EARLY CHILDHOOD EDUCATION IN KENYA

The Kilifi District

Robert G. Myers
The Consultative Group on
Early Childhood Care and Development
February 1992
A report prepared for:
The Kenya Institute of Education
The National Centre for Early Childhood Education
The District Centre for Early Childhood Education in Kilifi
The Aga Khan Foundation

INTRODUCTION...	2
THE PROGRAMME CONTEXT...	6
A SURVEY OF SCHOOLS, CHILDREN, AND ACTIVITIES...	10
COSTS...	20
ISSUES, COMMENTS, AND SUGGESTIONS...	27
ATTACHMENT 1: PARTICIPANTS IN THE STUDY...	32
ATTACHMENT 2: INSTRUMENTS DEVELOPED FOR USE DURING FIELD VISITS...	34
ATTACHMENT 3...	35

I would like to express my thanks to NACECE staff, particularly Margaret Kabiru, Anne Njenga, and Gichia Kimani, for the opportunity to participate in this study of costs and effects of the pre-primary programme in Kenya. In addition, I congratulate and thank the DICECE staff in Kilifi for their programme, their dedication, their insights and their good attention to all the arrangements that had to be made to carry out the study. This was a learning experience for me and I can only hope that it was possible to provide some useful information and ideas in return.

This final version of the report of the report study incorporates information and suggestions provided by NACECE staff after reading a draft. However, any omissions or errors or misinterpretations that might remain in the report are my responsibility.

Introduction

Since independence, early childhood education (ECE) in Kenya has expanded rapidly throughout the country, in the spirit of harambee. The Kenyan programme is notable in several respects:

- It is community-based. With its roots in the harambee movement, early childhood education in Kenya has a more legitimate claim to its community base than most programmes found in other countries.
- It is a large programme, found in 28 of the country's 41 districts (68%). It enrolls approximately 800,000 children, i.e., almost 30 percent of the estimated 2.8 million children, ages 3 to 5 in the country. The enrolment today is also more than four times what it was twenty years ago. Size brings some economies of scale, but it also means that many communities are included in the programme that are difficult to reach and/or that are extremely poor and need additional attention.
- It is a low- cost programme. Putting figures on the cost is one purpose of this evaluation. But even without the calculations, it is evident that costs to the government are not high.
- It is decentralised. County, town and municipal governments take an active role in administering the programme. District training programmes, operated by District Centres for Early Childhood Education (DICECE) are found in 18 districts.
- The programme is sensitive to cultural diversity. The curriculum exists in at least 13 languages. An important part of teaching is based on local stories, dances, and games.
- It is located administratively within the education sector. This administrative location has resulted in a boost to the educational component. It also means that extra effort is needed to strengthen non-educational components requiring coordination with other sectors. (At the time of independence, ECE was located within the Home Affairs in the Government. From 1966 to 1979 its administrative home was Housing and Social Services and only in 1980 did it come under the Ministry of Education.)
- The quality is being upgraded, even while expansion continues. An improved curriculum and development of a decentralised system of training and supervision have been the main

vehicles for this improvement. Training occurs primarily in the DICECEs, coordinated and supervised however, by the National Centre for Early Childhood Education (NACECE).

- Efforts are being made to integrate Madrassa (Koranic) pre-schools with secular, developmentally- oriented pre-schools within the ECE programme.

Origin and Purposes of the Study

Nationally, this growth and shaping of the ECE programme has brought with it an increased need to monitor and evaluate the programme so that its strengths can be built upon and its weaknesses overcome. In 1989, an evaluation was carried out by the NACECE in order to see where improvements might be made in the training, teaching, content, organisation and administration of the early childhood education process. Strengths and weaknesses were identified and suggestions were made for actions that would improve implementation of the programme. However, the 1989 evaluation did not attempt to provide information about costs and financing. Nor did it provide information about the impact, or effects, of the programme on the participating children and their families.

To complement the 1989 evaluation, a study of programme costs and effectiveness was proposed that would provide information useful for national policy and planning purposes. The Aga Khan Foundation agreed to provide some additional support to carry out the evaluation. In so doing, the Foundation also indicated that it would like the evaluation to serve as a means of providing information for other countries and for international organisations where planners are grappling with questions about when and where and how to invest in ECE. The several features of the programme described above (its community base, large scale, low cost, decentralised training, and cultural sensitivity) have, in combination, generated a great deal of international interest.

It was proposed that the study try to estimate the overall cost of the ECE childhood programme, the cost of particular activities, and the cost to different groups providing resources. Attention was to be given also to the expected effects of the programme on children, families and communities. In addition, the study should attempt to identify ways in which costs might be kept low or reduced (without a loss of effects).

Given the variation among the districts in terms of needs and available resources, it was decided that undertaking analyses at the district level would be useful. The Kilifi District, one of four districts which receive support from the Aga Khan Foundation, was chosen as the location in which to try out a methodology for analysing costs and effects at the district level. At the same time information was to be gathered permitting cost estimates at both national and community levels.

A major purpose of the exercise was to provide experience in the evaluation of programme costs and effects for all of those involved in the study team, both at national and district levels.

Also, in line with the above, specific purposes of the evaluation exercise became:

- To provide information about costs and effects in the Kilifi district, with suggested implications for planning that could help to improve the programme and/or overcome constraints to improvement.
- To develop and try out a method for estimating costs of early childhood education at the district level, with some attention also to national costs and community level costs.
- To analyse patterns of financing. Who bears the costs? What are the implications of different financing arrangements for programme operations and outcomes?

Participants

The study was organised by NACECE, with the participation of individuals from the Ministry of Education, from Kenyatta University, from the Embu and Bungoma DICECEs and from the Aga Khan Foundation. A list is presented in Attachment A of the people involved in the initial discussions leading to formulation of instruments and of those who participated in the fieldwork. The role of the consultant was to provide information to the team about methods of estimating costs and measuring effects, to help in the design and trial of instruments, and to write up a first draft of the results of the exercise.

Methods and Sources of Information: Goals, Outcomes, and Effects

A study of costs must begin by defining the activities and the outcomes or goals of a programme. A cost is always a cost of doing and trying to achieve something. In this case, we are concerned with the costs that are involved in mounting and operating a system of early childhood education for children ages 3 to 5 that takes as its goals the physical, socio-emotional, mental, moral and spiritual development of young children, the building of good habits for effective living, the appreciation of their cultural heritage, and the ability to cope with demands upon entering primary school.

Trying to determine whether or not these goals were being met through the programme proved to be very difficult within the time and cost limitations of this evaluation. Some of the commonly used indicators of a child's condition were often not available (e.g., immunisation, nutritional status, or developmental indicators). The time available did not allow testing, nor did we have baseline data or a comparison group to help sort out changes that might have occurred as a result of involvement in the programme. We will return to this point later in the presentation.

Nevertheless, an attempt to get at effects was made in the field work by observing children, and by interviewing parents, chairmen of pre-school committees, teachers, and others to obtain their perceptions of the effects the programme has had on the children and the community. Copies of the instruments used for this purpose are included in Attachment 2.

Costs

Actual costs. There are many ways of going about reaching desired goals, each involving a different mix of resources, a particular set of activities, and therefore, a different level of costs.

Here, we are concerned with actual programme costs, not hypothetical costs that might result if the programme were organised in a different way or if different activities were carried out as part of the programme.

To get at programme costs, therefore, we began by setting out the various activities at national, district and community levels that are part of the early childhood education process, including start-up and development activities as well as daily activities in running the programme. This list was then re-examined in order to describe the resource inputs involved in each activity and the source of these inputs (parents and community members, town, municipal or county governments, the national government, international assistance, or private sources such as church groups or companies). This exercise provided a basis for identifying the sources of information that would be needed to obtain a reasonably complete picture of programme costs.

What should it cost? In the case of the Kenyan early childhood education programme, the approach being used includes working with parents and community members as well as children. It also involves some attention to the health and nutritional condition of the children affecting their mental, social, and physical development. Therefore costs of these activities (mobilising and working with parents and community members, feeding, and health care) needed to be included, and a way to estimate the resources used in each of these activities needed to be worked out.

Many kinds of resources are provided to make an early childhood programme function. Most of these resources are expressed in monetary terms and appear in budgets and/or as actual expenditures—the costs of salaries of people running the programme, the costs of vehicles and fuel for transportation necessary to carry out the various activities, the costs of buildings and equipment, rented or purchased, etc. But some of the resources used in a programme will not appear in budgets or carry a price tag. These include the donations of materials and time in various pre-school activities that are made by parents and other community members.

There is some debate about whether (or when) donations of time should be labeled as costs, assigned monetary values, and included in the calculation of total costs. In this evaluation, we decided to try and make estimates in order to include them in our discussion of total costs. There are two main reasons for their inclusion. First, the programme could not function in the same way if donations were not provided. In order to get the same programme outcomes, it would be necessary to purchase the materials and labour that are at present being donated. Second, by not placing a value on these resource inputs, we fail to give credit to important contributions being made at community and individual levels.

Sometimes, resource contributions to a programme will not be labeled as part of the programme; the contributions are hidden. For example, a headmaster may be carried under a general education budget or his time may be associated with running of the formal primary school, but he or she may also spend time supervising and helping to run a pre-school in the same compound. Therefore, a portion of the headmaster's time should be counted as a cost of early education. The same would be true for part of the time of general administrators, inspectors, county clerks, etc. who must devote some of their time to activities related to early education. In this study, an

attempt is made to look beyond budgets labeled specifically as "pre-school" to include these hidden costs of running a programme.

Cost to whom? There are many different people and institutions involved in an early childhood programme—parents and community members, town, municipal, county and national governments, private enterprises and other non-governmental organisations such as the church, and independent donors, national and international. For each person, or institution or group, the most relevant cost figure is the cost of the resources he, she, or they provide. But for the programme as a whole, it is necessary to add up all of the resource inputs. We will try to include as many of these as possible in estimating total programme costs. And, by looking at the various contributions, it should be possible as well to say something about the distribution of total costs among the different participants.

Sources. At least three sources of information were used in estimating costs (for instruments, refer to Attachment 2). First, we examined budgets (or actual expenditures). Second, we interviewed relevant individuals to find out how they apportioned their time (and thus what portion of their salary should be included in programme costs). We visited schools and communities where, through questions and observations, it was possible to determine the costs of particular resource inputs, either in terms of time or in terms of the value of particular buildings, educational materials, food, etc., used in the schools.

Organisation of the Report

Following this introduction, the report will briefly describe the context for the study, with emphasis on the Kilifi District. Results of the field visit will then be reported dealing with the condition of the schools, a description of the children, with perceived effects on children, with nutrition, the roles of the headmaster, committees, the local authority and other sponsors, and with parental participation. Then costs will be estimated, at the national, district and community (school level). In addition some attention will be given to the costs of particular activities, and to who bears the costs. The final section will set out some issues and will provide a set of comments and suggestions both with respect to the cost and operation of pre-schools and regarding the method used in this pilot study of costs and effects.

The Programme Context

The National Programme

In addition to citing overall enrolment (800,000 children, aged 3 to 5) and the spread of the ECE programme into 28 of the countries 41 districts, we noted in the introduction the following characteristics of the ECE programme: its community-base, large size, low-cost, decentralised operation (administration, in-service training, and curriculum development, with guidance from the centre), and sensitivity to cultural differences. We noted also on-going efforts to improve the quality as well as the reach of the ECE programme and to integrate Madrassa and secular pre-schools. To these should be added recent initiatives to strengthen the health and nutrition

components of the programme and to increase community participation through mobilisation activities. Full descriptions of the programme are available in other documents and will not be repeated here. However, for our purposes it is important to say a word or two more about the organisational relationships involved in the early childhood education programme and about the activities that are part of the programme.

■ ORGANISATION

At the national level, three parts of the Ministry of Education are concerned with ECE: the Educational Directorate, the Inspectorate, and the Kenya Institute of Education. Each of these branches of the ministry is also represented at the district level. Study team member E. Mugo Karuguti in Figure 1 has set out the chain of responsibilities. The Ministry of Education works in partnership with a wide range of other governmental and non-governmental organisations to carry out the programme. Within the government, these include agriculture, local government, health, and culture and social services. In addition, communities and private organisations such as churches and companies are involved. These relationships were also diagrammed by E. Mugo Karuguti and are presented in Figure 2.

■ ACTIVITIES

A pre-school programme involves many other activities than simply instructing and supervising children in the pre-schools. To set up the programme in a particular location involves creating awareness in the community, formation of a committee, providing advice to the community, locating and equipping a site, and choosing a teacher. At the community and classroom level, running the programme can involve, in addition to classroom teaching, working with parents and community groups, making lesson plans and creating materials, feeding (including obtaining, storing and cooking food) and growth monitoring, cleaning and maintenance, attending to health problems (directly or through referral). Teachers may also participate in teacher welfare groups or in periodic meetings of teachers. Supporting these activities are: training (on-the-job and short courses), curriculum development and research, monitoring and evaluation, the assessment of teachers, supervision, planning (annual reports, reporting, work plans), liaison with other groups, and general coordination and management.

The 1989 Evaluation

As additional background, or programme context, it may be useful to summarise findings from the 1989 evaluation which took as its purposes to examine how effectively the programme was being implemented, to highlight emerging issues and to make recommendations. Specifically, the evaluation looked at training, curriculum development, the growth and welfare of pre-school children, community linkages and research activities being carried out within the framework of the ECE programme.¹

¹ Ministry of Education, Kenya Institute of Education and the National Centre for Early Childhood Development, "Evaluation Report of the Aga Khan Foundation sponsored by DICECE: Part I. Research Findings," Nairobi, June 1990.

Training. The evaluation indicated that teachers who participated in the two-year in-service programme not only gained in knowledge, but they were better able to solve problems on the job, to work with parents, to carry out child-centred activities and to organise and lead materials development. They also increased their own confidence and were more accepting of ECE as a field and as a vocation. Short courses did not seem to have the same level of impact on the participants as the longer in-service training. The evaluation team made suggestions for improving the training syllabus, organisation and assessment of the training. The need to extend training to the vast majority of teachers who remain untrained was emphasised.

■ CURRICULUM DEVELOPMENT

The general guidelines and the system of participatory development based on the use of local customs and materials seem to have worked well in general. It was suggested that additional attention needed to be given to developing materials for outdoor activities, music and movement, and arts and crafts. To promote the making and use of materials, a recommendation was made that attention be given to providing proper storage; that is not done at present in many pre-schools.

■ INTEGRATION

The evaluation suggested that parents found the combined programme superior to the Madrassa programme in preparing children academically. At the same time, however, some problems were noted in the areas of reading and writing, related to differences in the languages forming the base for the religious and secular teaching.

■ CHILD WELFARE

Teachers most frequently mentioned preparation for Standard I as a goal of the pre-school programme. That was followed by developing social values and molding character. Most teachers gave play an important place in teaching and learning, but the value of play was under-utilised. In a high percentage of the schools, charts and children's work were displayed and sufficient learning materials were present (although not always well organised).

According to the evaluation, most schools ensured that children have food to eat, have clean toilets and piped water, and have a routine for teachers to check cleanliness. Most insist on birth and immunisation certificates for participating children. In all four of the DICECE evaluated, growth monitoring and promotion programmes had been set up in selected pre-schools. In some schools, however, there was no water. Few of the pre-school teachers had been trained in first aid. Sometimes eating habits were not sanitary. A need to reinforce health-related activities was emphasised in the recommendations of the evaluation, including additional training, insistence on health criteria at the time of registration, and the promotion of growth monitoring and better feeding practices.

Although the evaluation dealt with child welfare in terms of goals, expectations and practices carried out, it did not attempt to measure the effects of the programme on specific measures of the welfare of the participating children.

■ COMMUNITY LINKAGES

A varied set of outreach activities in selected communities over the preceding 3 years brought improvements in terms of more permanent buildings, feeding programmes, greater integration and the health of the children. "A notable improvement in the reduction of disease" was suggested even though most parents did not see health as a priority area. The outreach programme was hampered by lack of funds, time, transport and personnel. Sometimes people do not participate.

■ RESEARCH AND EVALUATION

Specific studies were described in the evaluation dealing with the status of pre-school children, community and parental involvement, and the development of localised curriculum. This research identified a number of areas in which actions needed to be taken (e.g., the management of programmes in one-teacher schools, the treatment of younger siblings who come to the pre-schools, the handling of emotionally disturbed children, etc.). In addition, the evaluation pointed to a need to involve district personnel more in the research.

■ ADMINISTRATION AND NACECE/DICECE LINKAGES

The evaluation concluded that the administration of the programme was being adversely affected by scarcity of funds and personnel. Improvements in funding and staffing would help to overcome sluggishness in field administration and enable more specific attention to pre-school matters and to follow-up activities by the central offices of the Ministry.

The present study reinforces a number of the recommendations made in the 1989 evaluation while adding several observations regarding questions of attendance, fees, participation, nutrition and health, and linkages.

The Programme in Kilifi District

■ THE AREA

Located on the Kenyan coast, the Kilifi district is tropical in climate and vegetation. The soil supports production of maize in many parts of the district. Fruits are abundant. Malaria is endemic. Two main urban areas, Kilifi and Malindi, are found within the district. However, most of the pre-schools in the programme are in rural villages. Many of these villages can only be reached on foot. A paved highway runs along the coast, but travel inland is over dirt roads, some of which are not passable in the rainy season.

Culturally, the area is extremely varied. The sisal plantation and other economic opportunities combine with the climate to attract many migrants to the district. The prominent Muslim community is reflected in the Madrassa schools. The district includes Bajuu and Mijikenda groups. Swahili is the main language, but Mijikenda, Arabic, and other languages are also common.

■ THE PRE-SCHOOLS

It is difficult to be exact about the number of pre-schools and participating children in the Kilifi district at any one time because schools open and close and enrolment changes constantly. At the time of the field visit, 421 pre-schools were on the district list. The enrolment in these pre-schools was estimated at 19,700 children. The number of pre-schools in each of the five divisions that make up the Kilifi district is as follows: Malindi, 92; Bahari, 110; Kalolini, 130; Magharini, 25; and Ganze, 64.

The main responsibility for running pre-schools varies considerably in Kilifi district. More than one-half of the Kilifi pre-schools are parent (community) schools. About one-sixth are run by the Kilifi County Council. The remaining schools are sponsored by a municipal (Malindi) or town (Kilifi) council, religious groups (Muslim, Protestant or evangelical, and Roman Catholic), or private organisations (including plantations).

A District Centre for Early Childhood Education (DICECE) became operational in 1986. The catchment area for the DICECE extends beyond the district to include Mombassa, Tana River and Lamu, but these districts are not included in the study. DICECE personnel operate under the jurisdiction of the District Education Officer (DEO). The DICECE staff consists of a Programme Officer in charge, assisted by a Deputy Programme Officer and four other staff members. Although a main function of the DICECE is training (in-service and short courses), staff are also charged with coordinating inspection, supervision and continuous assessment of pre-schools and teachers in the district, assisting with curriculum development, running seminars and workshops for parents and for district officials at different levels, mobilising communities through an awareness programme, promoting integration of Madrassa and secular education, overseeing feeding and growth monitoring, and compiling statistics and making reports. The staff also has links with health, cultural services, agriculture, and the various sponsors of pre-schools in the district. DICECE staff work closely with field officers in the Ministry including tutors in Teachers Advisory Centres, primary schools inspectors and headmasters of primary schools, and with officials of local government including the clerk to the council.

Since the creation of the DICECE, approximately 100 pre-school teachers from the district have completed the two-year training course. The number of untrained teachers is estimated at 400. Various seminars have been organised to deal with such topics as working with parents, making learning resources, establishing feeding programmes, enrolment, etc. Several feeding and growth monitoring programmes have been started in the district.

A Survey of Schools, Children, and Activities

Over a period of one week, a survey was conducted in a sample of 20 pre-schools. The survey had several purposes:

- To provide information about the costs of running schools at the local level;

- To provide information about the condition of schools and children in relation to costs and to the type of financing arrangements being used to cover the costs.
- To provide information about the perceived effects of the programme; and,
- To identify problems, constraints, and recommendations from participants in the system: parents, teachers, committee chairmen, and administrators.

Selecting the Pre-schools, Children, and Adults to Be Included in the Study

■ SELECTING THE PRE-SCHOOLS

According to information provided by the DICECE staff, there were 421 pre-schools in the Kilifi District at the time of the study. Of these, only 20 could be chosen for visits (the number that could be visited by five teams visiting one school each day during the four days available for on-site visits).

Schools were sampled from within types of pre-schools defined by the source of financing that pre-dominated for a particular school. Seven types of were defined: community, county council, municipal council, town council, Madrassa (integrated), church, and private. An effort was made also to see that the sample was distributed across the five divisions within the Kilifi District. The distribution of schools within the district and within the sample is presented in Attachment 3, which contains a listing of the 20 schools chosen, by category.

An examination of the two distributions shows that community schools are under-represented and that schools administrated by town and municipal councils, and by religious and private organisations are over-represented in the sample.

■ CHOOSING THE CHILDREN AND PARENTS

Five children from each pre-school were selected randomly from registration lists available in the school. To identify the five children, the total number of children on the registration list was divided by 5 and the resulting number was used as the interval between children in the list, once a starting number was chosen randomly. The lists were usually divided into boys and girls so that following an orderly sequence assured a proportionate distribution of boys and girls among the children chosen.

The choice of the children determined the choice of the parents to be interviewed. Once children were chosen, an attempt was made to locate the parents of those children. In some cases this proved difficult because the parents were in the fields or otherwise unavailable. Therefore, the number of parents is smaller than the number of children.

The choice of children was complicated somewhat by the fact that some pre-schools contained more than one class. In those cases, one class list was used to obtain the sample—usually the list of the class with older children in the 4 to 6 age range. This allowed observers to concentrate their observations on children in one place rather than move among classes which would have been difficult, given the short time available to gather information.

If there was more than one class, the teacher from whose class the children were chosen was the teacher interviewed. In several cases, and especially in those where there was a "head teacher," a second teacher was also interviewed.

In reporting results of the survey, we will often combine information from the community and county council schools and compare that information with results from the town, municipal, private and religious pre-schools. That is in part because the community and council schools seem to share many characteristics and the town or municipal council and religious or other private schools also seem to group together. But at least as important is the fact that the sample of schools is biased so that simply reporting totals in a fashion would not give an accurate picture. In the overall distribution, community schools are under-represented and should, therefore, receive much more weight than others, constituting more than half of all schools in the district.

By combining information and attempting to draw out some more general patterns, we lose a great deal. In a real sense, every one of the 20 communities and pre-schools visited was unique.

Survey Results

■ HOURS, ENROLLMENTS AND ATTENDANCE

All but one of the twenty schools visited functioned for three-and-a-half to four hours daily, according to their teachers. However, schools are not necessarily in session every day. In several cases, it was found that the teacher had not opened the school on a particular day for personal reasons, including the need to go to Kilifi to get paid. This was not a frequent occurrence, but may happen as often as once a month on the average. Potentially more serious, it was found, in choosing the sample (or at the time of a visit), that two of the chosen schools were not functioning, requiring the choice of a replacement school in the sample. In one case, the teacher was not present because she had not been paid for three months. The other involved a change of teacher. How widespread these closings are throughout the district could not be determined from the study.

According to the registration lists, enrolments in the schools visited ranged from 22 to 160. Whereas half of the community or county council schools had enrolments of less than 40 children, only one of the municipal or private schools was in that category.

The enrolments also varied over time in particular locations, affected by changes in fees, by the ability of parents to pay (linked to particular economic conditions), and by other factors such as increasing banditry in an area. We will return to the question of fees and payment later in the report.

Five of the 20 schools did not have attendance records available (four of these were in community or county council schools) at the time of the visit. For the 15 schools in which attendance records were available, the time attended by the children sampled was 83 percent, on the average, of the days the pre-school was open. The period for which this observation was made was the last three months (i.e, May, June and July). Among these schools, attendance varied between 68 percent and 100 percent for the children sampled.

In at least one case, the number of children present on the day of the visit to the school was **greater** than the number of children officially enrolled in the programme and entered on the registration/attendance list. This seemed to be related to the ability to pay. In others, several under-aged children were present who were not officially enrolled, swelling the attendance.

■ THE CONDITION OF THE SCHOOLS

Within the sample, a wide range of physical conditions was found. Generally, the predominantly rural community and county council schools were functioning in much more rudimentary conditions than the town-run or religious and privately run schools, many of which were in urban areas. For instance:

- In only 2 of the 10 community or county council schools was there a concrete floor in the school building, whereas in the others 8 of 10 had a concrete floor. In two cases (both community schools), classes were being held under a tree.
- Six of the 10 community or county council schools had no toilet facilities (the other five were pit latrines), while only one of the municipal or private schools had no facilities (6 had WCs and 3 had pit latrines).
- None of the 10 community or county schools had water available within the school, whereas 9 of the 10 municipal or private schools had water.
- Only 4 of the 10 community schools were rated as "clean" by the visiting teams, whereas 7 of the 10 others were so rated.

■ MATERIALS

One school was observed not to have any materials. Eight of the 10 community or county council schools were observed to have few (or no) materials, whereas only four of the 10 municipal and private schools were classified as having few materials. In all but three of the schools (the three were town or privately run), the materials being used were classified as improvised and collected materials. In the three exceptions some purchased materials were present, but these complemented rather than replaced the collected and improvised materials. In brief, almost all materials within the system had been made or collected rather than purchased.

■ THE TEACHERS

Among the community schools visited, five of seven were one-teacher schools. One of the three county council schools also had only one teacher. This contrasts with the municipal and private schools, all of which had at least two teachers per school. In the municipal or private schools, the principal teacher in all ten was either trained or in training. By contrast, five of the ten community or county council teachers were untrained. Of the remaining five, two were undergoing training, one had participated in a pre-service training in 1979 and two had finished the Kilifi DICECE programme. Again, we see a notable difference between the two groups of schools. This seems to be related to the differential ability of the rural and urban teachers to meet the qualifications placed on entrance into the training programme. As will be evident below, the differences in training tend to correspond to differences in the children found in the schools.

Teachers were asked what activities they carried out, in addition to their teaching, and how much time was devoted to each activity. All but two of the teachers indicated that they spent additional time each day making materials or preparing lesson plans. Six (of 21 teachers for whom there was information) mentioned home visiting. Two teachers reported spending about 9 hours each day in activities directly related to the pre-school; eight estimated their time at between 6 and 8 hours per day, seven spent between 5 and 6 hours, and 4 estimated their time at between 4 and 5 hours.

During the visits, an attempt was made to see how active teachers were in their communities. Five of the 11 teachers interviewed from the community and county council schools indicated that they were involved in other community activities, whereas eight of the nine teachers for whom information was collected in the municipal, private and religious schools gave that same response. The most common position held was as an officer of a women's group, mentioned by 8 teachers. Other activities included primary health care, literacy work, participation on a school committee, union or co-op involvement, and church work.

The salaries of teachers ranged widely from 300Ksh to 3,600Ksh per month (including benefits).² The highest paid teacher in a community school earned 1,050Ksh per month, but no teacher in the other 6 community schools earned over 600Ksh per month. The range for teachers paid by the County Council was between 1,200Ksh and 2,100Ksh per month. The Municipal and Town Council teachers were paid between 1,500Ksh and 3,600Ksh. Private and church school teachers' salaries ranged between 700Ksh and 1,700Ksh. Again, we see a marked difference between the community schools and others. Schools run by the County, Municipality or Town Councils pay teachers at the highest levels. In none of the community or County Council schools was the teacher helped by a paid assistant. Five of the other schools hired an assistant to help with the cooking or cleaning.

■ THE CHILDREN

Several standard indicators that might have been used to describe the children were not generally available. For instance, health cards and immunisation records were usually not found. In several cases we were told that this information was kept in the home of the teacher. Growth monitoring was being carried out in only a very few schools, and even where it was done it was a relatively new activity and there was some question about the reliability of the information being collected.

The instrument used in this study to obtain information about the children provides, at best, a very rough picture of the condition of the children. To get at health and cleanliness, for instance, visitors to the schools were asked to observe the children who were sampled and to offer a judgement about the following: general healthiness, appropriateness and cleanliness of dress, the wearing of shoes, cleanliness of fingernails, and whether the child had a cough, cold, jiggers, ringworm or body sores. To get at a child's social character, observers made judgements about whether or not the child played with others, about shyness and about aggressiveness. Inter-observer reliability was not checked for these subjective readings. Nevertheless, it was felt that the observations provided a general basis for describing the children.

² At the time of the survey. US\$1.00 was equal to about 28Ksh.

Most of the children observed were judged to be generally healthy (88%). The sound of coughing was a constant in most of the schools visited, and 12% of the observed children were judged to have a cough or cold. Most children were also judged to be dressed appropriately (91%) and to have clean clothes (85%).

The variable that most separated children in the community and county council schools from the town and private schools was the wearing of shoes. In the former, only 3 of 52 children were seen to wear shoes; in the latter, 24 of 49 children wore shoes, with the 24 cases of "no shoes" concentrated in four of the ten schools.

Most children were observed to play with other children (83%). Whereas 11% of the children observed were judged to be shy, only 6% were thought to act aggressively. The differences between community or county council schools and town or private schools in the degree of shyness was minimal, with slightly more shyness observed in the latter.

■ PERCEIVED EFFECTS OF THE PROGRAMME ON CHILDREN

Parents, teachers and the chairmen of the pre-school committees were asked what effects the programme had on children. The answers can be classified in several general categories, as presented in Table 1. In the categorisation, a somewhat false distinction is made between indicators of cognitive development which are grouped with specific mention of preparation for school and indicators of social development which are treated apart but which are also part of a child's preparation for primary school.

The results show that most people mentioned several perceived outcomes. The greatest attention was placed on social traits and behaviour. Next came mention of mental development and the academic preparation for primary school. The frequency with which these were mentioned and the way in which they were mentioned suggests that people perceive a real effect of the programme on children, even discounting for the fact that people often tell visitors what they think the visitors want to hear.

Notable by its relative absence were references to health, nutrition and the physical development of children. Teachers were more likely to mention this outcome than either parents or the chairmen. In general, however, the programme does not seem to be perceived as one that has (or should have?) these effects.

TABLE 1
PERCEIVED EFFECTS OF THE ECE PROGRAMME ON CHILDREN

<i>Effects</i>	<i>Number of times mentioned by:</i>		
	<i>Parents</i>	<i>Teachers</i>	<i>Chairmen</i>
Attitudes toward school-going and attendance	12	6	4
Academic preparation for primary school and improved cognitive development	50	10	11
Improved social traits	82	27	20
Physical improvements	6	6	2
Religious improvements	2	0	2

Notes:

Attitudes towards going to school (likes school, improved attendance).

Preparation for primary school/cognitive development (academic improvement, writing, colouring, recognising shapes).

Improvement of particular social traits (social interaction, sharing, dependability, discipline, patience, cooperativeness).

Religion (improvement, mix of religions, secular and religious mix).

Physical development (improved weight, physically fit).

■ OTHER PROGRAMME EFFECTS

On the education system. The District Education Officer indicated that the presence of DICECEs had served to create greater awareness among communities of the importance of pre-school education and had led to increases in enrolments. The ability of teachers had been upgraded, and local authorities had been sponsoring their teachers for "alternative courses," indicating their continuing interest in improving the quality of the pre-schools.

On teachers. Teachers were asked specifically about effects the programme has had on them. Some replies were made in terms of their abilities to teach and handle children, to plan, and to make materials. These professional responses were consistent with those that emerged from the more extensive 1989 evaluation which examined the effects of DICECE training on teachers.

The professional responses were, however, often accompanied by testimonies of more personal changes—in confidence, in dress, in social abilities, in home relationships and administration,

and in the ability to get along with others. Such responses did not come spontaneously in most cases, and a specific question about these effects was not asked of most teachers, but once the question was asked, teachers had little hesitation in pointing to these effects.

On communities. In what may have been an important oversight, specific questions about the perceived effects of the pre-school programme and its activities on the community were not included during the visits. This might have been pursued in terms of effects on the community environment as well as on community organisation. An attempt was made, however, to get at parental and community participation in the programme.

■ PARENTAL PARTICIPATION

In interviews with parents, several questions were directed toward identifying the various monetary and non-monetary ways in which they participate in the pre-school programme.

Monetary contributions. The main form of participation seems to be through the payment of fees. Table 2 presents information about fees and other monetary assessments, providing the reader with a rough idea of the average monthly payment within groups of pre-schools and of the range of payments within those groups. The table shows clearly the huge range of fees (the 500Ksh fee at the upper range seems to be an aberration because the next highest fee was 100Ksh per month). Also revealed again is the difference between the community or county council schools and the others.

TABLE 2
MONETARY CONTRIBUTIONS BY PARENTS TO THE ECE PROGRAMME
(IN KENYAN SHILLINGS)

Type of School	Fees per month		Total expenditure per month			
	Average	Range	All (N= 20)		Middle 16 Schools*	
			Avg.	Range	Avg.	Range
Community & County Council	21	0-25	28	15-50	27	20-40
City, Private Church	93	0-500	104	20-500	46	20-105
All schools	57	0-500	66	15-500	46	20-105

Note: (*) The fees charged by schools at each extreme of the distribution within each of the two groups were eliminated from the calculation. Therefore, the averages are based on the eight schools in the middle of each distribution, or 16 schools in all.

Non-monetary contributions. In addition to financial contributions made through the payment of fees and other assessments, parents participated in the programme by donating their time and by contributing "in kind". The following donations of time were mentioned:

- Raising funds (mentioned by 1 person)
- Creating awareness (1)
- Helping with food preparation (5)
- Fetching water or firewood (6)
- Clearing or cleaning the compound (2)
- Repairing furniture (1)
- Attending parent meetings (6)
- Making materials (5)

The time that individual parents contributed each week to these tasks varied widely, from a few minutes to several hours. To these more specific tasks, should be added time bringing and picking up their children; this was mentioned explicitly by only a few parents. One parent mentioned teaching the child at home as a contribution to the programme. Parents were also asked whether they visited the pre-school and how often. Forty-eight of the 72 parents interviewed indicated that they visited the school, with most saying they visited once every 1 or 2 weeks. Those who visited daily usually did so to bring or pick up their children.

Contributions in kind. The contributions that were mentioned specifically by parents were: food (in 2 schools, children brought their own food and in another parents contributed food for porridge); materials and playthings (mentioned by 4 parents), and supplies (2 parents).

Undoubtedly, some contributions are missing from the above list. But, putting together the monetary and non-monetary contributions, **it is clear that the major burden of providing resources to the programme rests with the parents and communities.** At the same time, when one focuses on forms of participation that are non-monetary and that imply giving of time for activities directly related to the content or to the day-to-day operation of the pre-schools, it is probably fair to say that the parental participation is minimal. In only two of the communities did there seem to be regular and organised participation of parents in groups—making materials, attending meetings, and helping with the preparation of food. Thus, while the programme is firmly rooted in the communities, and depends very heavily on the communities for the resources needed to run the programme, participation on a regular basis in activities related to the educational process does not seem to be common.

■ NUTRITION AND FEEDING

As indicated earlier, it was not possible to obtain systematic information about the nutritional status of the children. In some of the schools, particularly in rural areas, signals of mild to moderate malnutrition were present, and in one location a case was noted of what appeared to be marasmus. It was difficult to tell, however, whether a distended belly was a nutritional problem or a parasite problem. Detecting possible deficiencies in micro-nutrients (Vitamin A, iron, etc.) was out of the question during the visits.

Apparently, other studies in the region suggest that children do need additional food. For that reason, some attention is now given to providing supplementary food in pre-schools. In 9 of the 20 pre-schools visited children were provided with food. Only one of the 10 community or county council schools had such a programme, as contrasted with 8 of 10 municipal, private or church schools (in the other two cases within this group, it was noted that children bring their own food). The most common food provided was porridge, sometimes supplemented. A milk programme for primary schools does not reach downward (officially) into the pre-schools.

■ ADMINISTRATION

The role of the headmaster. At the community level, the headmaster was the person officially charged with administering and overseeing the pre-schools. According to the teachers interviewed, the most important role of the headmaster is to provide materials to the pre-school. This was followed in importance by: providing advice to teachers, convening parents meetings and mobilising them in support of the pre-school, and checking records, physical facilities, and other features of the operation of the pre-school. Parents saw the main role as one of giving advice to teachers and seeing that physical facilities were provided.

Involvement by headmasters in the communities visited with the pre-schools ran from one extreme in which the headmaster indicated he had not visited the pre-school at any time during the year, to the other extreme in which the headmaster was in daily contact and requested lesson plans from the pre-school teachers. In general, it did not seem that the headmasters took a very active role with respect to the running of the pre-schools.

The role of committees. As with headmasters, the degree of involvement of the pre-school committee with the pre-school varied greatly, ranging from extremely active chairmen and committee members to inactive members. In a few cases, the pre-school committee chairman and committee members were the same as for the primary school.

■ PROBLEMS IDENTIFIED IN INTERVIEWS

Committee chairmen, teachers and headmasters were asked to indicate what problems needed to be dealt with to improve the functioning and results of the pre-school programme. The results of these interviews are summarised in Table 3.

From the table it is clear that funding and facilities (including the lack of buildings or an adequate location for the pre-school, furniture and storage) are the principal concerns of all three groups. Somewhat further down the list are health, nutrition and sanitation problems which seem to be secondary, with specific problems defined in different ways by each group. Neither parental participation nor materials was seen as a pressing problem.

At another level, the District Education Officer was also asked what recommendations he had to improve the programme, each of which implied a particular problem. He suggested that more funds were needed to support a larger number of teachers during residential training and to meet the expenses of those who do participate (the per participant amount was judged insufficient). Also, immediate attention should be given to the maintenance of the vehicle assigned to

DICECE activities. These last comments provide us with a natural lead into questions of costs and financing of early education.

TABLE 3

PROBLEMS IDENTIFIED BY CHAIRMEN, TEACHERS, AND HEADMASTERS

<i>Problems</i>	<i>Number of times mentioned as a problem by:</i>		
	<i>Chairmen</i>	<i>Teachers</i>	<i>Headmasters</i>
Funds/Financial	14	10	5
Facilities			
Building	7	9	1
Furniture	7	9	1
Storage	2	3	–
Health/Nutrition/Sanitation			
Toilets	4	3	–
Water	2	–	2
Feeding	1	1	2
Sickness/accidents	–	3	–
Parental Participation	2	2	–
Materials	2	0	1
Others			
Integration	1	–	–
Teachers' time	–	2	–
Underage children	–	–	1

COSTS

Costs at the National Level

Within education, organisational and administrative matters related to pre-schools are handled by the director of education, the responsibility for supervision falls to the inspectorate, and professional direction (training, curriculum development, evaluation, etc.) is carried out by the Kenya Institute of Education, primarily through the National Centre for Early Childhood located within the KIE. Within each of these three lines, a portion of the budget is allocated to early

education. Table 4 shows the amounts in the 1990/91 education budget for each of these three lines. It also includes an estimate of the general administration/ planning and miscellaneous services lines that might be used for ECE, assuming that the percentage of these line items relevant to ECE corresponds to the percentage of ECE funds to the total education budget.³ Finally, the table includes extra-budgetary amounts contributed by international organisations to ECE the programme.

Focussing on the governmental figures and leaving aside the international contributions for the moment, let us compare the amount spent on early education (643,981 Kenyan pounds) with the total amount of the education budget (561,902,163 Kenyan pounds). We see that ECE commands only one-tenth of one percent of the national budget for education. This compares with 60 percent for primary schooling, 15 percent for secondary, and 22 percent for universities. If only 1 percent of the primary school budget were allocated to ECE, the ECE budget would increase by 460 percent. This amount would cover two-thirds of the costs of the NACECE budget, now covered from foreign sources. When budgeted funds from national government sources are added up and that figure is divided by the number of children enrolled in the ECE programme, the per child per year expenditure by the national government is approximately 17Ksh (US\$0.61). When the same is done for the international sources, the per child per year cost is about 13Ksh (US\$0.46). It will be instructive to compare these amounts with the yearly contributions by local governments, private organisations and parents to the operation of the system.

TABLE 4

PRE-PRIMARY EXPENSES, KENYA 1990/91

(National government and international funding)

<i>Source</i>	<i>Shillings</i>	<i>Pounds</i>
Government Budget		
Pre-primary education line item	12,879,620	643,981
General administration/planning	552,339*	27,617*
KIE/NACECE	200,000**	10,000**
Sub-total	13,631,372	681,598
International Contributions		
KIE/NACECE (Bernard van Leer)	41,955,300	209,765
DICECE (Bernard van Leer)	2,097,072	104,854

³ The calculations assume that general administrative/planning and miscellaneous services expenses are distributed proportionally among the various levels of education.

DICECEs(UNICEF)	2,160,000	108,000
DICECEs (Aga Khan Foundation)	2,160,000	108,000
Sub-total	10,612,372	530,619
TOTALS	24,244,331	1,212,217

Notes:

(*) To calculate this amount, the line items for general administration and planning, and for miscellaneous services were added together (21,243,815 pounds); then, the percentage of pre-primary to all remaining funds (.0013) was applied to that amount to get the part of those expenses that pertain to ECE.

(**) From the NACECE budget, these funds are provided for panels that are brought together three times a year.

Costs at the District level

In order to estimate costs at the district level, we estimate the contributions to costs that are made through transfers from the national budget, by local governments (County, Town and Municipal), by the Aga Khan Foundation, in support of the DICECE, by parents in parental/community schools, and by private or religious organisations. Table 5 provides a summary of estimates for each of these sources. In the paragraphs that follow, we will explain the basis for arriving at each of the figures in the table.

TABLE 5: COSTS OF PRE-PRIMARY EDUCATION AT THE DISTRICT LEVEL,

KILIFI DISTRICT, 1990			
<i>Source of Funding</i>	<i>Amounts (in Ksh)</i>	<i>No. of Children</i>	<i>Amount per child(annual)</i>
Transfer from national	146,750	19,704	7.5
NACECE costs	93,229	19,704	4.7
Local government			
Kilifi County Council	2,347,700	5,108	453.2
Kilifi Town Council	376,688	660	570.7
Malindi Mun. Council	1,382,480	1,920	720.0
Sub-total	4,106,868	7,760	529.2
International (AKF)	540,000	19,704	27.0
Private/church schools	962,560	1,504	640.0
Parents' schools	2,818,800	10,440	270.0
Totals	8,668,207	19,704	440.0

Notes for Table 5:

1. Transfers from the national budget. According to the District Education Officer, a sum of 169,500Ksh was transferred in 1990/91 to the District Office of Education for pre-school education. Of this amount, 4,250Ksh was earmarked for transportation and 142,500Ksh was used for DICECE training. A sum of 22,750Ksh was used for expenses other than pre-school expenses. The DEO also reported that another 44,100Ksh had been provided by training from budgets of the County, Town and Municipal Councils. (This amount is not included in the Table as a transfer from the national government; the amount comes from the several local budgets which are listed separately.) That means that the national and local governments provided 186,600Ksh for training. This corresponds closely to the figures provided by the programme officer of the DICECE who indicated that his budget for the year was 183,000Ksh.

2. Number of children. This figure is slightly higher than the 19,700 figure provided for over-all enrolments at the time. This total comes from the figures provided locally for the county, town and municipal councils, and estimates for private/church schools and parents schools.

3. NACECE contribution. The total budget for NACECE was divided by 45—the number of districts for which the central office is responsible.

4. The Kilifi County Council. The Kilifi County Council figure is calculated by taking the figure provided by the County Clerk for the amount allocated by the Council to the pre-school Programme in 1990/91. No adjustments were made in this figure. The budget covered the payment of 35 trained and 37 untrained teachers and the salaries of a District Supervisor and a Deputy Supervisor. When estimates are made independently for these expenditures, using a salary figure of 2010 shillings per month for trained teachers and 1295 shillings per month for untrained teachers, and estimating the salary levels for the two supervisors, the total of about 1,500,000 falls considerably short of the budgeted amount. This may be because the number of teachers is greater than shown (according to the DICECE staff, there were 76 County Council schools at the time of the study, but in the costing, only 72 teachers are mentioned, but even adding another 20 trained teachers to the budget would not bring the total up to the amount budgeted. In the table, we have carried the full amount budgeted, assuming that we have missed some expenditures covered by the County Council.

5. The Kilifi Town Council. The figure for the Kilifi Town Council was constructed by adding up the amount paid for salaries of 9 trained and 4 untrained teachers, a supervisor, a welfare officer and a social development assistant, plus a small amount for furniture.

6. The Malindi Municipal Council. The Clerk to the Council indicated that the 1990/91 budget for social services was 86,405 pounds. He estimated that 80 percent of the budget was applied to pre-primary activities, resulting in the figure entered in the table. This amount covered the salaries and benefits of 30 trained and 4 untrained teachers, of a senior welfare officer and two junior welfare officers, a supervisor, 5 development assistants, and 3 labourers. In addition, funds were allotted for printing and stationary, furniture, and clothes for the labourers. Independently estimating the costs of these items, the total is about 1,290,000 or almost at the level given in the table based on the budget estimate provided.

7. The AKF contribution. This figure was taken from a budget for phase II of the DICECE project provided by NACECE. The amount covers expenses budgeted for trainees' subsistence (315,000), materials (50,000), vehicle running (5,000), on-the-job training and assessment (30,000), in-service courses (40,000), research projects (50,000), localised curriculum (30,000), and parental and community education (20,000).

8. Private/Church schools. This very rough calculation was made by assuming that there were 25 private or religious schools in the district (this number is approximate), that there were, on the average, 95 children in these schools (an estimate made on the basis of the enrolments of the private and church pre-schools visited during the survey), and that the average amount paid in fees and other expenses in these schools was 64Ksh per child (based on the survey -- see Table 2), paid during 10 months of the year and covering the total number of days the school is supposed to be open in a year.

9. Parents' schools. This calculation is made by assuming that there were 232 parents' schools with an average enrolment of 45 children, and that the average amount paid in fees and other expenses in these schools was 27Ksh per month during 10 months of the year.

Discussion

Even though the above figures are not accurate to the shilling, the orders of magnitude for the monetary costs are probably reasonable. If this is so, the table suggests several observations:

1. Per child monetary costs of the parents' schools are well below that of the private and religious or local government schools. It is doubtful that non-monetary resource contributions by parents in these schools would narrow the difference.
2. The costs per child in county council, town, and municipal schools approximate the costs per child in private or church schools. This probably has to do with slotting teachers into a pay scale which raises the benefits for the teacher. What is not clear is whether or not the higher salaries result in better teaching and in effects on the children.
3. The overall cost per child per year at the district level probably runs at about 443Ksh (US\$16.00) if non-monetary contributions are not taken into account.
4. The international contribution runs at about 6 percent of the total district expenditure. To the extent that this contribution is for training and to the extent that training is an investment that will be used over several years, the international contribution should be amortised and, therefore, would be even less. To the extent that the training is having some payoff in improving the quality of the system, as well as in the personal growth and development of the teacher, this investment would seem to be both modest and useful.

Costs at the Community Level: Two Case Studies

To provide additional insight into questions of costs and financing it seems useful to examine costs at the community level, using case studies. The two studies that follow are for schools that were visited by the main author of the report. They have been chosen because the two community settings are extremely different.

■ PAZIANI

The pre-school. Paziani is a small, dispersed village with a poor economic base, about 30 km inland from the coast. At the time of our visit to the one-room pre-school, 22 children were carried on the rolls (26 children were actually attending). The pre-school is a mud and stick construction with a corrugated metal roof, tacked on to a primary school room. There is no furniture in the pre-school; children sit on stones or on the dirt floor. Teaching aids consist of an ancient blackboard and some cardboard charts made by the teacher presenting letters and numbers. The teacher is a recent graduate of the DICECE training programme. The school has no feeding programme and no latrine (a pit latrine was constructed at one time, but that is not functional). There is no electricity. A supervisor visited the school one time during the previous year. The headmaster is responsible for the pre-school and says he spends the equivalent of approximately one day per month on pre-school business.

Costs. We can use the above information to estimate local costs. First among these is the teacher's salary which currently runs at a level of 2,100Ksh per month or 25,200Ksh per year. Assuming a salary of 2,800Ksh per month for the headmaster, the cost of the time he dedicates to pre-school matters can be calculated at about 1,400Ksh per year ($2,800\text{Ksh} \times 12 = 33,600\text{Ksh}/24 = 1,400\text{Ksh}$). The cost of one day of a supervisor's time, plus transportation costs would not run more than 300Ksh. The total cost of teaching, administration and supervision, then, is estimated at 26,900Ksh, of which 1,700Ksh is hidden in primary school and inspectorate budgets.

An estimate of the cost of building the pre-school structure was 15,000Ksh. Assuming a life of 5 years, the per year cost is 3,000Ksh. This cost is borne by the community which donates materials and labour. The materials present in the classroom were made by the teacher, with the exception of the blackboard. A liberal estimate of the costs of materials for a year would be 100Ksh. Because there is no feeding programme and no electricity, there are no costs for these items.

Adding together the above yearly costs, gives a sum of 30,000Ksh. If that is divided by the 22 children enrolled, cost per child is 1,363Ksh (\$US48) per year, or 114Ksh (\$US4) per month.

Because the Headmaster and supervisory costs are hidden in existing budgets and because the community provides the building and materials, and because there is no feeding programme, the main cost that needs to be covered on a regular basis for this programme is the teacher's salary. If that 2,100Ksh is spread out among the 22 children on the rolls, the prohibitive monthly cost would be 95Ksh per child. The actual fee is 25Ksh per child. This amounts to only 550Ksh per month, or slightly more than one fourth of the amount needed to cover the teacher's salary. The County Council which has recently taken on responsibility for the school must fill in the remainder.

Prior to the shift from parent responsibility to the County Council, the teacher was being paid 300Ksh per month instead of 2,100Ksh which the County Council decided to pay. Then, parents were charged only 10Ksh per month. Because the 10Ksh fee was considerably lower than the current fee of 25Ksh, the previous enrolment was somewhat higher and it was possible for the community to meet the payroll. It should be mentioned that although the present teacher is the same person who was paid the lower salary before, she has, in the interim, successfully completed the DICECE in-service training course.

Under the previous system, the community could be said to cover 80 percent of the pre-school costs. Under the County Council, the community is covering approximately 20 percent of the total costs of the school.

Discussion. The case of Paziani is interesting because it points to issues that have to be met as the responsibility for pre-schools is shifted from communities to governments, in this case at the county level. The increased cost that has accompanied this shift is entirely attributable to a rise in the salary of the teacher. Presumably, the quality of the teacher has increased, but as result of training rather than as a result of the increase in salary. A mandated increase in fees could not begin to cover this rise in costs. Although it is clear that the teacher has benefited from this change, it is less clear that the community and the children have benefited. Enrolment has decreased. The condition of the school is the same as before. The increased costs have not brought, for instance, a feeding programme or better supervision or better materials. The school must be closed for one day each month while the teacher travels to Kilifi to collect her salary.

■ AL ISLAM

The pre-school. Al Islam is a Madrassah integrated pre-school located in the coastal town of Malindi. Enrolment was 154 at the time of the visit. The building in which the pre-school is housed is a solid, large, clean one-room building with a concrete floor. During the mornings the

building is used for the pre-school; in the afternoon the Koranic school is held. Space is divided into four teaching areas by dividers in which toys and other materials are stored. The dividers do not provide a sound barrier and the noise level is high. The building also contains adequate bathroom facilities, an area for preparing food and a small office for the head teacher.

The dynamic head teacher is responsible to a school committee which helps with expenses. She supervises directly activities of her four teachers and fills in as necessary. She also leads the planning of curriculum, making of materials, makes home visits, and looks after the budget. The school receives visitors frequently, including supervisors.

One teacher is in charge of each teaching area. Children are assigned to teaching areas according to age. Uniformed boys and girls are found together in each class, but boys sit at one table and girls at another. Teachers follow a routine but allow considerable freedom of expression to the children. Play is a central element. Children appear to be active and happy and learning.

Costs. Salaries of the 5 teachers total 6,700 Ksh per month. In addition a cook is paid 700 Ksh and a cleaner 600K per month. The overseeing committee donates its time. Assuming that all are paid 12 months during the year, the yearly cost for salaries would be $8,000\text{Ksh} \times 12 = 96,000\text{Ksh}$.

Another major cost for Al Islam is for food, provided daily to the students. That cost was estimated at 4,000Ksh per month. If we calculate a 12-month year, the total cost for food would amount to 48,000Ksh per year. Other monthly expenses include 300Ksh for water and 160Ksh for wood used in cooking. Adding these together and multiplying by 12 gives a yearly cost of 5,520Ksh per year.

Using throw-away materials the teachers make materials or they use materials that are donated. The headmaster donates his time.

When we add up these estimates of the operating expenses for Al Islam, they total 149,520 for 154 children. That means a cost of about 919Ksh per child per year or, 77Ksh per child per month. This does not take into account the value of donated materials or time. Nor have we included in the above the costs of supervision. These costs would fall to the municipality. Let us say a supervisor visits 4 times per month with each visit lasting one-half day, and let us assume that there is no transportation cost because the school is nearby. The monthly cost of the supervisor's time might be 400Ksh, a negligible cost per child in the overall picture.

It is likely that the cost estimate of 77Ksh per child per month is an underestimate of the total costs because parents are asked to pay a fee of 100 Ksh per child each month. Expenses not captured in our rough estimate might include costs of special outings by the children, costs related to repairs of the building or associated with the Madrassah classes which are held during the afternoon.

Discussion. The Al Islam case is instructive because it suggests that, for a cost of approximately 1,000Ksh per child per year, it is possible to operate a high-quality pre-school programme of integrated attention to children, given proper supporting circumstances. The qualifying phrase is

important. In the case of Al Islam, the favourable circumstances included: a dynamic head teacher capable of providing on-site supervision and training, highly dedicated teachers willing to work for a modest salary (presumably linked to the important status their work gives them within the religious community of which they are a part), a recognition by parents of the importance of the pre-school, and a concentration of children (because of the location in an urban area) allowing some efficiencies in running the school. Because these conditions do not exist in Paziani, it is unfair to make a direct comparison.

Issues, Comments, and Suggestions

The issues, comments and suggestions presented in this section will be organised around the three purposes set out to guide this study and evaluation at the beginning of the report. These are:

- To provide information about costs and effects in the Kilifi District, with suggested implications for planning and implementation that would help to improve the programme and/or overcome constraints to improvement.
- To analyse patterns of costs and financing at several levels. Who bears the costs? What are the implications of different financing arrangements for programme operations and outcomes?
- To develop and try out a method for estimating costs of early childhood education at the district level, with some attention also to national costs and community level costs.

From field observations, interviews and discussions with DICECE staff emerged a number of issues and priorities for action. In some cases, concrete suggestions were offered that could be tried out in the coming year. For the most part, the issues are not new; rather the evaluation reinforces local observations and suggestions as well as some of the results from the 1989 evaluation.

The Kilifi District

■ HEALTH AND NUTRITION

Health and nutritional conditions of the pre-school children continues to be at issue and a priority area for action within the pre-school programme. Several members of the study team gave this area the highest priority for action in the near future. This issue takes on importance for at least four reasons.

1. First, observations suggest that a relatively large number of children, particularly in community schools, have health or nutritional problems. These observations have not, however, been very systematic. Records did not show the real extent of undernutrition or morbidity. Moreover, it was not clear whether some of what was observed as a sign of malnutrition might instead be a sign of worms.

2. Second, the objective conditions (water, sanitation, hygiene, degree of immunisation, etc) were not good in a significant number of the schools visited, as documented in the previous section reporting survey results.

3. Third, although there has been an important advance in the last two years in terms of the introduction of feeding, growth monitoring and health programmes, these are still found in only a portion of schools, are new and do not necessarily work well, and tend to be carried out in isolation from other parts of the government where the main responsibility for such assistance lies.

4. Finally, this is a priority area because the awareness of the problem does not seem to be high among parents, community members or school officials.

Against this background, several suggestions were made for helping to improve the situation. One of these was to institute more systematic evaluation of the health and nutritional status of the children so as to be able to identify where assistance is most needed. That means working on the use of health records, including immunisation. It could mean instituting growth monitoring cards (at present, the system seems to be to record weight for age on a separate page but without relating this to Kenyan norms, as is done on the standard growth monitoring cards available from UNICEF or others.

In part, the solution to these problems seems to be continued education and the creation of awareness among parents, teachers, community members and education officials. This is occurring over time, but the process seems still to be at an early stage. It was suggested, therefore, that workshops and awareness meetings centred on this theme continue and even increase.

Another part of the solution seems to lie in improving the technical support given to existing and new programme efforts. For instance, technical assistance could help existing feeding programmes to improve the nutritional value of the food provided at very little additional cost by providing suggestions about what might be added to porridge (using locally available foods) to enrich it. Technical advice seems to be needed to orient and improve the effectiveness of the growth monitoring. These efforts seem to be missing younger children where identification of growth faltering is most important. Moreover, the methods of measuring and recording weights and heights need to be made clearer.

In part, the solution seems to lie in building better ties among the different organisations or parts of organisations that have as their charge to improve the health and nutritional status of children. Within education, for instance, a milk programme has been established for primary school children, but that programme does not extend downward to the pre-school children. Could collaboration be established that would allow the same programme to include pre-schoolers?

In order for the proper technical support and supervision to be given to growth monitoring and to health problems, closer liaison with the health sector seems to be crucial. Crossing bureaucratic lines is never easy, but it was the strong feeling of the study team that additional effort should be made to forge an operational link between education and health. Symptomatic of the failure to consider and construct such ties: we did not include a health person in the study team. Had this been done, it would have improved the accuracy of our observations, brought the health

problems of pre-school children (and implementation problems) to the attention of health officials, and may have led to additional suggestions about what needs to be done and how the health sector might be involved. For example, additional insight might have been provided into the extent to which parasites rather than lack of food causes poor nutritional status. Questions might have been raised with the health representative such as, "Would it be possible to consider providing deworming for all children?" Although health personnel are called upon as resource people in the training courses, they do not seem to be called upon to help follow up or supervise the in-service part of the training or to help with the establishment and supervision of growth monitoring programmes in the pre-schools.

■ PARENTAL PARTICIPATION AND AWARENESS

It is clear from the analysis that the monetary participation of parents in the programme sustains the programme. When provision of buildings and, sometimes, food and materials are added, one cannot help be impressed by the level of community participation. Without trying to exaggerate the matter, at least two issues related to participation need to be raised.

The first issue is captured in the question, "How can community participation be maintained?" Often the initial motivation to establish a pre-school is strong. But the children of the founders move on to primary school so that the current beneficiaries of a pre-school may not be the same as the children of the founders. A building is in place and much of the basic work has been done. In these circumstances, creating new forms of participation and finding ways of involving the community over time in the pre-school take on importance.

A second issue is related to the first. Why is it that in only one or two of the communities visited was there regular participation by parents in pre-school activities such as making materials or cooking food or assisting in the school? This form of on-going participation seems to be much harder to achieve than the occasional participation in a *harambee* or participation through the payment of fees.

■ FEES, COST-SHARING, AND TRANSFER OF SPONSORSHIP

As is evident from the foregoing, the question of fees and of sponsorship are of great concern at all levels of the system. From several of the schools visited came evidence that with the raising of fees the enrolment shrank, sometimes dramatically. In some communities, this corresponded with the raising of the fees as the county council took over sponsorship. Several alternatives were suggested for dealing with the fee problem.

- An experiment might be tried out in selected schools in which fees were lowered (say from 25 to 15 shillings) to see whether this increased enrolment and actually increased the total revenue for running the school. In theory, the lower fee could allow more consistent payment from parents and have a positive impact on sustainability.
- Communities should be helped to establish income generating projects (for example, goat raising or tangerines) that would raise the general economic standard and permit fees to be paid. A variant would be to establish income generating projects from which funds would be obtained to run the pre-school. District profiles of communities exist that could guide the

selection of such projects. These projects might be carried out in conjunction with the agriculture or commerce sectors. They might be run by parent committees or women's organisations.

- In county or town pre-schools, the community might be asked to pay the teacher (with a fee that ran between 10 and 20 shillings per month) and the county might be asked to contribute resources for other aspects of running the pre-schools including buildings and materials and food.

■ ENRICHMENT AND SUSTAINING TEACHER INTEREST

Periodic meetings of teachers seem to help sustain interest and motivate teachers. This is being done in some parts of the district but is not a generalised practice. Periodic meetings of teachers have been instituted with success in other districts.

It was suggested further that such meetings could provide an excellent opportunity for enrichment by taking up topics of particular interest to the teachers, bringing in resource people and/or related to production of pamphlets guiding discussion of the topics. The meetings at a zonal or sub-zonal level could also provide an opportunity for DICECE staff to provide follow-up supervision and advice for teachers who are no longer in the training programme. This was identified as a weakness in the present system. In part, the problem of follow-up was related to transportation problems. However, if visits could be with groups of teachers rather than to individual schools, time and transportation would be used more efficiently. At the meetings, teachers with special needs could be identified and visits could be scheduled, accordingly, for those cases in which there is the greatest need.

■ ROLES OF THE HEADMASTERS AND COMMITTEES

In some schools headmasters have taken an active role in development, guidance and supervision of the pre-schools. In many, however, the headmaster does little or nothing for the pre-schools. Two issues were identified with respect to the role of the Headmaster. First, how can the experience of the pre-schools, which is more informal, be conveyed to the headmaster in such a way that he or she will see the possible value of the curricular approach for the early years of primary school. Second, how can headmasters be convinced to provide greater support for the pre-schools that fall under their supervision?

DICECE staff indicated that in-service workshops have been organised for headmasters, but some have not attended. It was suggested that additional attention might be given to getting the headmasters involved. It was also suggested that headmasters should provide greater help with the collection of fees, taking this burden off the teachers.

Committees. In some schools, the pre-school committee is the same as the committee for the primary school. For that reason, little attention is given specifically to the problems of pre-schools. It was suggested that a pre-school committee should be established in each community.

Costs and Financing

At the national level. The analysis of costs shows that the contribution of the national government to the pre-primary programme is minimal. An argument could be made that, by a very small additional investment in pre-primary, repetition and dropout in primary schools could be reduced, increasing the efficiency of the primary schools and reducing costs. Because it is undoubtedly unrealistic to think that funds would be transferred from one level of education to another within an existing budget, a more realistic suggestion may be that the relative share of pre-primary be increased in the negotiation of a new budget. The basic argument would be that this increase would “pay for itself” by reducing primary school costs. It would not, therefore, take anything away from primary education.

At the district level. The above discussion of fees and financing contains several suggestions related to costs and financing at this level.

Suggestions for Future Studies of Costs and Effects

- Means of measuring and monitoring effects of the children who participate in early childhood programmes. To date, the emphasis has been placed on monitoring the inputs to the system under the assumption that they will have an effect. This needs to be complemented by a system that looks as well at the "outputs," including the effects on the welfare of children.
- Reflections on the gathering and analysis of cost data. The process of gathering and analysing the data was useful because it brought together central and local people in a relating objective exercise. The rough nature of the estimates is a product of:
 - continuous fluctuation in the number of children attending and the kinds of schools;
 - the subjective nature of estimates provided by supervisors and administration officers, and of construction costs;
 - the occasional transfer of funds among education budget line items, and;
 - the justifiable reluctance of individuals to specify the level of their salaries in some cases.

In spite of these qualifications, the "orders of magnitude" seem to be reasonably correct.

Some suggestions for improvements in the evaluation:

- The instruments used were very rough. These need some refinement, but should be kept as simple as possible. Some models of instruments used elsewhere were left with the team.
- As indicated above, including a person from health would have enriched the evaluation.
- Specific analyses might be done of the costs of particular activities (e.g., teacher training). This proved to be difficult to do within the time constraints.

A Concluding Personal Note

It seems appropriate to end this report in personal vein by expressing my appreciation for the work that has been done over so many years to create the present system of community-based schools. It is always easier to point to things that can be done to improve a system once it is in place than it is to establish the system itself. And although I never had the privilege of meeting him, I wish to remember the special role that was played by the late Livingston Mwuara in establishing the pre-schools and making them run. His positive presence was still felt during the evaluation.

Attachments One: Participants in the Study

NACECE

Margaret Kabiru, Programme Coordinator
Anne Njenga, Deputy Coordinator
Gichia Kimani, Head, Research and Evaluation Section**
Freda T. Nturibi, Head, Health and Nutrition Section

Ministry of Education

John Kuria*

DICECEs

Boaz S Lijoodi, Programme Officer Bungoma DICECE*
E. Mugo Karuguti, Programme Officer, Embu DICECE*
Gabriel G. Kahindi, Programme Officer, Kilifi District*
Lemmy Mule, Deputy Programme Officer, Kilifi District*
Mohammed S. Abeid, Trainer, Kilifi District*
Alice Gumo, Trainer, Kilifi District*
Kenneth Muramba, Trainer, Kilifi District*

Kenyatta University

Daniel I. Khaguli, Lecturer*
Ruthie C. Rono, Lecturer

Aga Khan Foundation

Judith Evans, Programme Officer, AKF/Geneva
Grace Lusiola, AKF/Nairobi

Others

Robert Myers, Consultative Group on Early Childhood Care and Development*
Marilyn Merritt, Education Programme Officer, USAID, Washington, D.C.*

(*) Participation in the field work.

(**) Head of the study team

Attachment 2: Instruments Developed for Use During Field Visits

5. Observation sheets for Children
6. Interview Schedule for Pre-school Teacher
7. Interview Schedule for Committee Chairmen
8. Interview Schedule for Parents
9. Interview Schedule for DEO
10. Interview Schedule for the Programme Officer
11. Interview Schedule for the Clerk to the Council
12. Interview Schedule for Other Officers participation in Pre-school Development, as mentioned by the DEO, PO, or Clerk

Attachment 3

Table 6 indicates the number of community and county pre- schools in each division, with the remaining types of pre-schools grouped together.

TABLE 6
DISTRIBUTION OF PRE-SCHOOL TYPES BY DIVISION WITHIN THE KILIFI DISTRICT
AND NUMBER OF PRE-SCHOOLS SAMPLED

<i>Division</i>	<i>Community</i>		<i>County Council</i>		<i>Others*</i>		<i>Total</i>	
	<i>All</i>	<i>Sample</i>	<i>All</i>	<i>Sample</i>	<i>All</i>	<i>Sample</i>	<i>All</i>	<i>Sample</i>
Malindi	22	1	2	–	68	5	92	6
Bahari	65	2	10	1	35	4	110	7
Kalolini	87	3	35	1	8	1	130	5
Ganze	34	1	6	1	24	–	64	2
Magharini	14	–	9	–	2	–	25	–
	222	7	62	3	137	10	421	20

Notes:

(*) "Others" include: town and municipal council schools, Madrassah integrated schools, church-run schools, and privately-run school. The specific figures for the number of schools in each category and each division are approximations. Pre-schools open and close, changing the distribution. In addition, a few schools might be classified either as county council or community schools, with one teacher paid by the community and one by the county council. A few community schools have assistance from a church group but are not directly classified as church-run schools. In one case, a school was in the process of transferring from the county to the town council. Nevertheless, the figures give a reasonable picture of the distribution.

A glance at the table suggests that the sample has some biases. Schools have been over-sampled from the "other category" which contains schools administered by town and municipal councils, and by private and church-related organisations (including the Madrassa Integrated schools and other religious groups). In order to get some sense of schools in each of these categories, it was decided that two schools should be chosen for visits from each type, even though their representation in the overall distribution was not very large. This over-sampling meant that community-run schools and county council schools are slightly under-sampled. Both the Malindi and Bahari divisions are over-represented in the sample. This occurred because both include urban centres, having their own administrative arrangements. Malindi was the location of Madrassa Integrated schools which needed to be present in the sample. The biases introduced in the sampling are useful because they help to provide a broad view of funding and administrative options. These biases are taken into consideration when reporting results.

Names of the Schools Selected (by administrative category)

Community Schools

1. Bengo
2. Matsangoni
3. Gandini Chonyi
4. Kibaokiche
5. Ndugu Mnani
6. Mitangoni
7. Masheheni

County Council Schools

8. Kizingo
9. Mwijjo
10. Paziani

Town Council Schools

11. Tezo
12. Uwanjani

Madrasah Integrated Schools

13. Al Islam
14. Tawheed

Church Schools

15. St. Thomas
16. Jeshi la Wokuvu

Private Schools

17. Casuarina Chaudry
18. Vipingo

[References not available]

Copyright © 1992 Robert G. Myers

Early Childhood Counts: Programming Resources for Early Childhood Care and Development.
CD-ROM. The Consultative Group on ECCD. Washington D.C.: World Bank, 1999.