MINISTRY OF EDUCATION, SCIENCE VOCATIONAL TRAINING AND EARLY EDUCATION

EVALUATION OF THE INTERACTIVE RADIO INSTRUCTION (IRI) PILOT PROGRAMME IN EARLY CHILDHOOD EDUCATION IN THE EASTERN PROVINCE OF ZAMBIA

COMMISSIONED BY UNICEF

PREPARED

BY

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availability of the mentors. Even where the mentors and the radios were available, broadcasting was inconsistent in certain areas especially in Chadiza due to poor radio reception. Evaluation of efficiency proved to be problematic as consolidated budget expenditures for conventional ECE were not availed to the evaluation team.  

3.0 Presentation and discussion of findings

3.1 Relevance

3.2 Effectiveness

Output 1.2: increase access to ECE to children located in rural and hard to reach areas.

During the site visits in the four districts, the evaluation team took an advantage to get the views of teachers/caregivers, parents and the community radio stations of the IRI as a mode of delivery of ECE services. Presented below are the views from stakeholders.

Teachers/caregivers were asked to state whether IRI was an effective and alternative mode of delivery of ECE services.

From the foregoing, it is clear that the IRI project raised community awareness on the importance of ECE and most importantly parents recognised the feasibility of learning using technology.

Output 2.3: Capacity building through training or teachers/caregivers in IRI methodology

Whether IRI methodology influences school readiness

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Acronyms

DODE- Directorate of Open Distance Education
EBS- Education Broadcasting Services
ECE- Early Childhood Education
EFA- Education for All
IRI- Interactive Radio Instruction
MDG- Millennium Development Goal
MOE- Ministry of Education
NIF- National Implementation Framework
RAN- Rapid Automatised Naming
UNESCO- United Nations Education, Scientific and Cultural Organisation
UNICEF- United Nations Children Emergency Fund
SNDP- Sixth National Development Plan
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Executive Summary

Context and project background

This is the report of the evaluation of the Early Childhood Education (ECE) Interactive Radio Instruction (IRI) pilot project that was conducted in the four districts of the Eastern Province of Zambia namely: Chipata; Chadiza; Katete; and Petauke. In first section, the report presents the context and background of the project. Section two presents the evaluation process that was applied comprising the purpose and objectives, as well as the methodology. In the third section, the findings and analysis of the results are presented. These are discussed under the following sub-headings: relevance; effectiveness; efficiency; sustainability; and lessons learned. In the fourth chapter, the report presents conclusions and recommendations drawn from the evaluation

Project Description

The main objective of the ECE IRI pilot project was to find out whether IRI could be used as an alternative mode of providing ECE services especially in the hard-to-reach rural communities of Zambia. In this regard, the goal was to increase access to ECE in these remote areas, where there are limited services. ECE service provision is inequitably distributed with access higher along the more urban line of rail. In addition, the project aimed at improving the quality of ECE by using the IRI mode of delivery. The target beneficiary groups in the IRI initiative were children in the age bracket 3-6 years.

In its implementation process, the IRI project constituted the delivery of early childhood education through the use of radio and this is what defines the Interactive Radio Instruction methodology. Solar powered radios were provided to various ECE centres in target communities, and these were managed by an IRI mentor. The IRI mentors underwent training on how to effectively facilitate the IRI programmes. The objective of the IRI intervention was to model an approach which if found to be effective, would then be rolled out strategy for increasing access and improving the quality of ECE. The Education Broadcasting Services (EBS), under the Directorate of Open and Distance Education, is the department of the Ministry of Education with the responsibility to produce the IRI materials and manage the delivery of ECE through local radio stations in selected areas.

UNICEF provided the funds for the Ministry of Education, Science, Vocational Training and Early Education to implement the project in four districts; Chipata, Chadiza, Katete and Petauke. The project was implemented from 2011 to 2014.
Project Background

As a nation committed to meeting the benchmarks set in the Education for All declarations and the Millennium Development Goals, Zambia has made respectable progress in improving access and quality of education for her citizens. As a way of further strengthening the foundation of education in the country, much emphasis was placed on early childhood education sector in the Sixth National Development Plan (SNDP) and the National Implementation Framework (NIF 2011-2015). The policy intentions and target in the two documents was to increase access to ECE from 17.3% in 2010 to 30% by the year 2015. Thus, these national goals on ECE saw an increase in the number of early childhood education centres, particularly in the more urban locations.

In spite of the marginal increase in the number of children accessing ECE, 14.7% in 2013 to 15.1% in 2015, Zambia still continues to be plagued by a number of challenges, which have hindered the desired progress in this sub-sector. Among the many challenges that Zambia has continued to face are the following: lack of infrastructure for ECE; inadequate teaching-learning materials; lack of trained personnel; poor funding; poor community involvement, to mention but a few. While these challenges are common in both urban and rural locations, they are most critical in far flung rural communities and have resulted in low access rates and poor quality of ECE services.

Purpose and objectives of the evaluation

The main purpose of the evaluation was to: evaluate the ECE IRI pilot project that was conducted in the four districts of the eastern province of Zambia namely; Chipata, Chadiza, Katete, and Petauke. The following specific objectives guided the evaluation in accordance with the terms of reference for this evaluation:

1. To determine to what extent the objectives and outcomes of the project have been achieved.
2. To assess to what extent the IRI methodologies constitute an effective and alternative approach to delivering early childhood education services.
3. To identify lessons learned and provide recommendations for future programming for early childhood education.

The evaluation approach focused on assessing the project from the following perspectives:
I. **Relevance**: The evaluation of the project relevance was based on the analysis of the extent to which the initiative fits into the local, and national priorities and international commitments, including its contributions to the achievements and in addressing challenges in the ECE sub-sector in Zambia.

II. **Effectiveness**: The evaluation of effectiveness consisted of assessing the extent to which the results obtained from the implementation of IRI activities, have contributed to the attainment of the planned objectives. The evaluation further highlights the factors that contributed or hampered the achievement of results with regards to: increased access to ECE; capacity building through training of mentors; and community mobilisation. The extent to which synergies were developed between activities on national and local levels was also analysed.

III. **Efficiency**: Efficiency was based on the assessment of outputs/activities in relation to project inputs, costs and planned timelines. This includes an assessment of the cost-effectiveness of IRI in comparison to the conventional ECE service provision

IV **Sustainability**: The evaluation team reviewed the sustainability factors in terms of project design, implementation process, and extent of fit with national priorities. Sustainability was analysed from various perspectives: policy, institutional, capacity building and financial. The report also highlights the factors that facilitated or decreased the sustainability prospects of the results of the project.

**Evaluation Methodology**

The evaluation methodology comprised the following three phases: desk review; field data collection; and synthesis phase.

During the desk review phase, the evaluation team reviewed various national and international documents on the provision of ECE through the IRI mode. The desk review was done to familiarise the evaluation team with the local and international trends on ECE provision through the IRI mode.

The field phase used a mixed methods approach as follows: quasi-experimental design and qualitative design. The quasi-experimental design was used to assess children from IRI centres, non IRI centres, and those not enrolled in any ECE centre in language skills, cognitive skills, as well as attention skills. While not being exhaustive, testing children in the above mentioned developmental domains, was the most reliable way of determining whether or not IRI could be used as an alternative mode of providing ECE by
comparing the means in performance learning outcomes between children receiving ECE through the IRI mode and those who are not. The qualitative data were collected through semi-structured interviews with participants to get the views from teachers/caregivers and parents on the IRI methodology as a mode of delivery of ECE services. Qualitative data were sought in this evaluation in order to hear the voices of the participants, regarding what they felt about the IRI project. In addition, observations were made of the availability of the IRI facilities in the centres that were visited.

In the synthesis phase of the evaluation process, findings that emerged from the quasi-experimental design, semi-structured interviews, as well as data from the observations that were made were integrated. These findings were then related to the literature review that was done during the desk review phase. The synthesis of the findings helped determine the relevance, efficiency, effectiveness, impact, and sustainability of the project. Meaningful conclusions, lessons, as well as recommendations were finally drawn.

**Main Findings and Conclusions**

The ECE IRI pilot project, which was implemented in the four districts of eastern province was in line with the national objectives to increase access to ECE to 30% by the year 2015, as indicated in the Sixth National Development Plan and in the National Implementation Framework. Seeing that one of the major challenges Zambia faces in the provision of quality education is low access rates to ECE. IRI is considered as a feasible strategy for increasing access to a larger population of the target group in a cost effective way, given the limited resource envelope for education.

The findings of the evaluation indicate that, the pilot project was effective in terms of achievement of the planned objectives. The effectiveness was observed through: an increase in the number of established ECE centres in the sampled districts; an increase in ECE enrolments in target areas, and improved human resource capacity through training of IRI mentors. IRI mentors were mainly Grade Twelve school leavers or school drop outs. Further, the IRI management committees were set to coordinating ECE activities and sensitization the community on the importance of ECE. A review of the project documents from Educational Broadcasting Services, revealed that the projected target with regards to access was 700 children in the four pilot districts. By 2014, a total of 2,711 children had been enrolled in established ECE centres across the four districts. The enrolment increase can be attributed to the increase in the number of ECE IRI centres from the initial 21 to 42 in the stated period. A total of 31 caregivers and 19 ECE teachers were trained in the IRI methodology. However, after the initial two years in the implementation of the
programme, the earlier realised gains were negated by a number of challenges including; inadequate community support, inadequate funding, lack of monitoring and supervision, and disruptions in broadcasting. These challenges resulted in a drastic drop in enrolments, high mentor attrition rates, closure of some IRI centres, and continued reduction in the number of radios that were in operation in the sampled centres.

With respect to **efficiency**, financial documents from EBS revealed that implementation of the project was timely and in compliance with the budgetary allocation guidelines. The budget line covered programmatic, management and operational support. The evaluation identified implementation strategies that enhanced efficiency such as the community based approach in expansion of physical infrastructure; training of teachers/mentors from within the community lowered the direct costs towards programming. However, transmission of lessons through community radio stations somehow hampered efficiency of the project in that broadcast was erratic due to power outages and payment for airtime was sometimes delayed.

Regarding **sustainability** of the project, the evaluation revealed that the project might have been sustainable if there was continuous training of IRI mentors to run centres (see strategic recommendation 2). Secondly, sustainability might have been achieved if community involvement was well coordinated. The study revealed that there was active community participation at the inception of the project. The community was responsible for mobilizing recruitment of mentors and provision of incentives for the mentors, maintenance of ECE facilities. However community participation could be not be sustained probably due to lack of monitoring and supervision. At the inception of the project, it was envisaged that monitoring would be undertaken by the Ministry of Education Science Vocational Training and Early Education officials at the provincial and district levels on a quarterly basis. However, constant monitoring and supervision was not feasible due to inadequate funding. Thirdly, it was found out that using community radio stations in broadcasting lessons made sustainability unattainable due to constant power outages leading to disruptions in broadcasting (see operational recommendation 4). Further, lack of easy-to-operate, easily serviceable radios made sustainability difficult. Finally, sustainability was further hampered by the fact that the IRI mentors were not paid, making it difficult for them to remain committed (see strategic recommendation 3).

The project made a major contribution to the attainment of the **rights of children** through creating an opportunity where education, a basic right for all children, regardless of their background, creed, gender, or religion, could be accessible to all children. Secondly, the project fulfilled the children’s right to play in an organized environment under the guidance of a mentor. Most importantly IRI contributed to positive
learning outcomes in areas such as language, fine motor skills and problem solving. Finally, the project helped children appreciate their culture more through the use of the local language and local stories in the lessons.

Recommendations

Following the evaluation, a number of recommendations have been made for the Ministry of Education as follows:

**Strategic Recommendations**

1. Training of mentors: There is need for Continuous Professional Development for mentors to ensure that mentors who have left are easily replaced without necessarily creating a gap in the delivery of IRI lessons. This would also enable the mentors to remain up to date with the current trends in ECE. Given the high attrition rate, it is recommended that Continuous Professional Development be undertaken at least every 6 months through the District Resource Centres.

2. Payment of mentors. Among the major challenges found in the running of IRI programmes, in all the four districts was the low motivation of mentors due to the inadequate incentives /non-payment of salary for the work they do. This led to a number of mentors, some of whom were trained, leaving the programme midway. There is need to come up with a systematic approach in providing incentives to mentors/caregivers.

**Operational Recommendations**

3. Enhance quality through effective monitoring and evaluation. In almost all the centres sampled in this study, participants indicated that there was no sustained monitoring and evaluation of IRI programmes. This weakness meant that challenges could not be detected early enough to prevent discontinuation of programmes in due course.

4. Community participation to ensure sustainability. The study revealed that even if the introduction of the IRI programme had improved access to ECE, a number of centres ended up closing because partnerships with the community members could not be sustained. As the people who are more in touch with the children, community members need to be more actively involved in the running of the IRI programmes.
5. Decentralisation of IRI broadcasting. Among the major complaints that arose from the current study was that the lessons were inconsistently delivered due to power cuts and other disruptions. To avoid this limitation, there is need to provide the ECE centres with lessons on CDs so that the local level stakeholders are in control of when to transmit the lessons. Such decentralization will allow local level mentors to have more active interaction with the children and respond to individual needs of children.
1.0 Context and project background

1.1 Project context

There is cumulative evidence indicating both short and long term economic benefits of ECE to the community. Children who have had access to ECE are less likely to repeat grades; less likely to drop out, and less likely to be placed in costly special education classes, a real saving for tax payers (Heckman and Masterov, 2004). It is upon this realisation that Zambia along with many countries around the world started placing emphasis on the institutionalisation of early childhood education.

ECE in Zambia dates as far back as 1957 when the Day Care and Nurseries Act (Chapter 313 of the Laws of Zambia) was passed in recognition of the importance of Education for Child Development. In 1972, the Lusaka Pre-school Association was formed which later became the Zambia Pre-school Association. Preschool education was placed under the auspices of the Ministry of Local Government and the sector was run by the local council and local communities, Non-Governmental Organisations (NGOs) and families (MoE, 1977). In 201, the mandate of ECE was allocated to the Ministry of Education, Science Vocational Training and Early Education (MESVTEE) and since then the MESVTEE has put in place programmes to improve access and quality are: development of an ECE curriculum, national teacher education curriculum, development of a core package of ECE materials and provision of ECE Standards guidelines. Notable developments since 2012

The Ministry of Education, Science, Vocational Training and Early Education took the responsibility to assist pre-school institutions by training pre-school teachers, monitoring standards, and preparing curriculum guidelines. ECE is a national priority supported by a legislative and policy framework through the Education Act of 2011, Sixth National Development Plan and the Education Sector Plan (NIF III). The major challenges of the sector relate to low access rate to ECE (standing at only 15% in 2014) and poor quality services mainly caused by inadequate qualified human resource for ECE, lack of infrastructure, equipment and materials. Government has prioritized the rural areas for increasing access due to the existing rural-urban disparities in terms of service provision. For example ECE enrolment in Eastern Province is lower than that of Lusaka Province at 8.1 % and 38.9 % respectively. Children aged 3-6 years from the rural hard to reach locations and from the poorer communities are more likely not to have access to ECE. The Ministry of Education, Science, Vocational Training and Early Education has been working with collaborating partners like UNICEF, line ministries, district local communities, NGOs, religious groups, families and individuals to expand ECE sector in Zambia (UNESCO, 2006). Through these strategies the enrolment of children in Grade one with preschool experiences is on an upward trendhtly from 2013 to 2014 at 14.4 % to 15.5 % respectively. Additionally, the number of Grade One entrants with preschool experience increased from fewer than 37,000 in 2004
to 77,986 in 2014 c. Recently, Ministry of Education, Science, Vocational Training and Early Education embarked on a more programmatic approach of annexing preschools to primary schools as a way of increasing access to ECE especially to children in rural areas and are implementing a number of activities aimed at improving quality of ECE. Table 1 presents the trend in enrolment patterns since 2004.

Although the number of children accessing ECE has steadily increased over the years, participation in preschool varies across geographical regions with urban provinces. Lusaka and Copperbelt having the highest coverage rates of Grade One entrants with preschool experience at 38.9% and 23.8% in 2014 respectively. Conversely, the rural provinces such as North Western (6% in 2004 to 6.2% in 2004), Western (4.4% in 2004 to 7.9%), Luapula (5.7% in 2004 to 8.6% in 2014) have continued to record the lowest coverage rates. Whereas Eastern Province (5.9% in 2004 to 8.1% in 2014) and was ranked 3rd lowest in 2015. The disparity clearly shows the gaps that exist between rural and urban areas with regards to access to ECE and is reflective of low participation in ECE for children in hard to reach areas.

The following are some of the challenges affecting the provision of quality ECE in Zambia as highlighted in the NIF III 2011-2015;

(a) Inadequate teaching and learning materials. The UNICEF mapping report of 2012 revealed that most of community based ECE centres in Zambia do not have adequate teaching and learning materials. For any Early Childhood Education curriculum to be effective, it must be accompanied by a range of materials and activities which will ensure that children actively interact with their environment. Earlier developmental psychologists, in particular, Piaget and Vygotsky (see Piaget, 1970; Vygotsky, 1978), established that children attain best learning outcomes if they are given adequate play materials to interact and play with. Therefore, the situation of not having adequate teaching learning materials is an impediment in the provision of quality ECE in Zambia.

(b) Lack of appropriately trained human resources. One way of improving the quality of Early Childhood Education is to increase the number of qualified early childhood education teaching staff. Quality teachers are able to sustain quality interactions between parents and children in class. However ECE in Zambia is associated with volunteer teachers/caregivers with inadequate formal training. Volunteerism for teaching staff in the ECE sector has resulted into high staff attrition rate with teachers/caregivers leaving for greener pastures thereby making programmes less attractive to parents. The number and proportion of staff resigning may affect sustainability of the ECE sector.
(c) Absence of monitoring and evaluation systems for ECE. According to UNICEF mapping report of 2012, monitoring and evaluation has received little attention in the current provision of ECE. The study further revealed that there were no guidelines to use in assessing standards of ECE provision. The absence of monitoring has a bearing on the provision of quality ECE.

(d) Low community involvement and parental participation in ECE programmes.

(e) Insufficient resource allocation to the ECE sub-sector. The ECE sector in Zambia is grappled with inadequate resource allocation to ensure provision of quality ECE services. Funding for ECE is at 0.5% of the education budget in 2015 budget a marginal increase from 0.1 % in 2014.

It is against this backdrop that Zambia has embarked on implementing strategies such as the IRI mode of ECE delivery as a way of increasing access to ECE especially for children in rural areas where the present coverage rate is seemingly low, in a low cost manner.

1.2 Project Description

The provision of quality Early Childhood Education (ECE) has been identified the world over as one of the most effective ways of meeting the Education for All (EFA) goal and Millennium Development Goal (MDG) on education (see UNESCO, 2000). For this reason, Zambia, has been making efforts to improve this key foundational education sector as outlined in the Sixth National Development Plan (SNDP) and the National Implementation Framework (NIF III 2011-2015). The overarching target set out in the Implementation Framework (NIF III 2011-2015) was to increase access to early childhood education to 30% by the year 2015. In an effort to attain the set benchmark, the Ministry of Education, through EBS introduced the Interactive Radio Instruction (IRI) programme in 2012 as an alternative mode of low cost delivery of ECE services at community level, targeting children that have had no opportunity of accessing early learning through the formal avenue. Although findings from previous research on the effectiveness of IRI programmes in the provision of education have not been conclusive, some studies, for instance, Kariuki, et al., (2000) report that in Haiti, third graders who were taught mathematics using the IRI mode had a 13% improvement, while their counterparts who were taught using other modes only had a marginal improvement of 7%. Similar trends were observed in Guinea where second graders recorded an improvement of about 8% in French and mathematics higher than their colleagues who were not taught using the IRI mode. The superiority of the IRI mode in mathematics over the other modes was also reported earlier by Tilson (1991) in Bolivia, Nicaragua, and some parts of Thailand. The Zanzibar Ministry of Education (2009) also reports that learners who were exposed to the IRI programme did better than their counterparts who did not benefit from the programme.
IRI methodology is not relatively new in Zambia. The Ministry of Education Science, Vocational Training and Early Education through Education Broadcasting Services has been offering IRI lessons from as far back as 1999 under the brand name “learning at Taonga Market”. The aim of the IRI was to promote access to education targeting out of school vulnerable and orphaned children predominantly in rural and hard to reach areas. IRI lessons were first piloted in Lusaka, Central and Southern Provinces in a total of in 22 learning centres and the programme was then rolled out to other government schools across the country targeting children in Grade 1. The programme was later extended to Grade 2 in 2008. EBS was responsible for producing IRI lessons and technical guidance was provided by the Education Centre through QUESTT project. Children received broadcast lessons either at the community learning centre or at the government school with the help of a mentor. The IRI learning centres and schools were provided with a wind up solar powered free play radios and mentors’ guide. The IRI had successfully enhanced access to education for children at the lower primary grades and a total of 263,000 children were reported to be enrolled in 822 learning centres country wide.

In 2011 the Ministry of Education Science, Vocational Training and Early Education with support from UNICEF extended the use of IRI methodology to ECE as a pilot project in Eastern Province.

Eastern Province is one of Zambia’s ten Provinces and the Provincial capital is Chipata. The Province has an estimated population of 1,306,873 which is about 13% of Zambia’s total population. The province has a total of 7 districts; Chadiza, Chipata, Katete, Lundazi, Mambwe, Nyimba and Petauke. The IRI project was piloted in four districts namely; Chipata, Chadiza, Katete and Petauke.

The overarching goal for the implementation of the IRI methodology as a mode of delivery of ECE services was to increase access to and improving quality of ECE delivery. Similarly at ECE level, the IRI methodology utilises low cost technology using MP3 solar powered radios to deliver lessons. With expertise from EBS, a total of 72 lessons were pre-loaded and evaluated by experienced teachers for contextual appropriateness. Two community radio stations; Radio Explorer for Petauke and Radio Maria for Chipata and surrounding areas were engaged to broadcast the lessons while trained mentors facilitated the lessons. Each mentor was provided with the caregiver manual to guide them on how to handle the lesson.

The ECE IRI is packaged under the theme “Tiyeni Tiphunzire ndi Kusewera Radio Programme (Let’s lean and play). The core areas of focus of the IRI at ECE are Language and literacy, mathematics, prescience, life skills, social development and play. The programme consists of 72 radio lessons broadcast three times a week followed by two non-broadcast lessons, which is Tuesday, Thursday and
Friday. The other two days are dedicated for play related activities such as; games, songs, dance, creative activities and other outdoor games (MESVTEE, 2011).

Figure1. Components of the IRI methodology.

Each radio lesson was broadcast for 30 minutes duration whereas duration for the two non broadcast lessons ranged from 2 hours to 2 hours 30 minutes to enable the teacher practice the skills the children acquired during the broadcast lessons.

The activities of the IRI lessons as outlined in the caregiver manual include the following;

An opening signature song. The lesson begins with song and information for the caregiver regarding the content of the day’s broadcast, teaching and learning and learning materials that the caregiver would require to deliver the lesson.

The Theme song agogo is followed to put the children in the mood for learning.

The radio teacher then welcomes the learners and the caregiver to the day’s lesson and children are expected to respond to the radio teacher.

Physical activities. After the welcome remarks from the radio teacher, children would then be engaged in a number of physical activities such as clapping, standing, counting and jumping.

Songs: the lesson involves songs which help to reinforce key concepts and the caregiver would guide the learners with actions that accompany the song.

Stories and Drama. The stories and drama illustrates key concepts and skills. The caregiver being a facilitator would be expected to translate stories and ask the learners to interpret what happened in the story or drama.

Drills. The caregiver facilitates the drills by asking learners to repeat words or practice skills.
**Simple games and activities.** Children are engaged in simple games and activities using materials from the caregiver kit.

Reading words or identifying shapes. Learners would be required to read words and identify shapes drawn by the caregiver.

*Life skills segment.* In the social skill segment, the caregivers discuss with the learners important social skills and practical skills such as hygiene and interpersonal skills.

As already indicated, the caregiver manual provides a guide for the delivery of IRI lessons. The manual is organised in 3 sections: section 1 comprises the overview on the IRI, guidelines on how to use the manual and learning activities; section 2 provides an outline of lessons from lesson 1 through to lesson 72 providing adequate guidance on activities to be undertaken before, during and after the broadcast. The lessons are structured according to weeks from week 1 through to week 24; section 3 presents teaching and learning activities to be done on the days when there are no broadcast lessons.

### 2.0 Evaluation of the project

#### 2.1 Purpose, objectives and scope

In line with the Terms of Reference (ToR) the scope of the evaluation was to get views on the performance of ECE IRI project. The evaluation covered the period 2011 to 2014, that a period of three (3) years in the four (4) pilot districts; Chipata, Chadiza, Katete and Petauke. The evaluation was instituted by the Ministry of Education Science Vocational Training and Early Education with support from UNICEF. Results from the evaluation will provide an insight into whether the objectives of the project had been met. The outcome of the evaluation will further document lessons learnt from the project and inform policy direction regarding the delivery of ECE.

*Objectives/target*

The overall objective of the evaluation was as follows:

1. To determine to what extent the objectives and outcomes of the project have been achieved.

2. To assess to what extent the IRI methodologies constitute an effective and alternative approach to delivering early childhood education services.

3. To identify lessons learned and provide recommendations for future programming for early childhood education.

The evaluation assessed addressed the following:
I. **Relevance:** The evaluation of the project relevance was based on the analysis of the national and local context, international commitments, the achievements and challenges in the preschool education sector in Zambia.

II. **Effectiveness:** The extent the results obtained following the implementation of IRI activities have contributed to the attainment of the planned objectives was analysed. The evaluation further highlights the factors that contributed or hampered the achievement of results with regards to increased access to ECE, capacity building through training of mentors, Ministry of Education officials, and community mobilisation. The extent to which synergies between activities on national and local levels was analysed.

III. **Efficiency:** Efficiency was based on the assessment of outputs/activities in relation to project inputs, costs and planned timelines. The report also incorporates discussion of issues related to the assessment of cost-effectiveness of funds management in comparison conventional ECE implementation.

IV. **Sustainability:** The evaluation team reviewed the sustainability factors in terms of project design, process, implementation and national context. Sustainability was analysed from various perspectives: policy, institutional, capacity building, financial. The report highlights the factors that facilitated or decreased the sustainability prospects of the results of the project.

**Specific Tasks**

The following were the specific tasks:

1. Develop inception report detailing the methodology and timeframe for the evaluation.
2. Undertake desk review, interviews and field visits at national level, provincial, district, school and community level.
3. Evaluate performance of the ECE IRI project against the objectives and outcomes contained in the project document.
4. Identify lessons learned and provide recommendations for future programming.
5. Submit a final evaluation report.

**Project Partners**
The project was implemented using a collaborative approach involving the following stakeholders;

**UNICEF**
UNICEF has over the years been supporting the Ministry of Education, Science, Vocational Training and Early Education to expand the Early Childhood Education sector in Zambia through policy and curriculum development. Under the IRI project therefore, UNICEF provided financial and material support to facilitate implementation of the pilot project that would inform policy dialogue around cost effective approaches of ECE delivery. Firstly, officials from the Ministry of Education, Science, Vocational Training and Early Education were sponsored to undertake a feasibility study to Zanzibar to acquaint themselves with the technical requirements in the implementation of the IRI methodology at ECE level. UNICEF further provided financial support for EBS to undertake a baseline study that was undertaken in Eastern Province in 2011. From the baseline study, existing centres were identified and community was mobilised to establish new centres. Subsequently UNICEF provided financial support for training of teachers and IRI mentors as well as funding for the implementation of the three (3) year pilot of the project.

**Ministry of Education, Science Vocational Training and Early Education**
Education Broadcasting Services (EBS), a department in the Directorate of Open Distance Education (DODE) of the Ministry of Education, Science Vocational Training and Early Education provided technical support in the implementation of the project. EBS conducted the baseline study in the four pilot districts, development and piloting of the IRI methodology at ECE level, training of teachers/caregivers in collaboration with the Curriculum Development Centre, development and distribution of the caregiver manual. At the provincial and district level, Ministry of Education officials were responsible for professional support, monitoring, supervision of the project sites and evaluation of caregiver performance as well as children’s progress.

**Community Radio Stations**
The two community radio stations; Radio Maria and Radio Explorer were responsible for broadcasting the IRI lessons in the target communities. Broadcasting coverage for Radio Maria was Chipata to neighbouring districts such as Chadiza, and Katete. Whereas Radio Explorer provided coverage for Petauke and neighbouring areas. The programme was broadcast three times a week for 30 minutes duration. Broadcast was done at 11:25 on Tuesday, Thursday and Friday.

**Members of the community**
Members of the community formed IRI committees to raise awareness among parents and the wider community on the importance of ECE. The committees were also responsible for recruitment of eligible children as well as mobilising incentives for mentors, following up on children in their homes to ensure regular attendance, provide the site for IRI lessons, provision of materials for the caregiver kit and supply of batteries for the radio. These incentives were either in monetary form or in kind.

**Caregiver**
The caregiver was responsible for registering children at the centre, setting up the centre for the lessons, prepare and facilitate lessons.

**Children**
Children being primary beneficiaries of the programme were required to attend and participate in the lessons.

**Project Target**
The project target was to increase access to ECE for vulnerable children. Children aged 3-6 years were the primary target.

### 2.2 Evaluation methodology

This evaluation used a mixture of approaches to ensure that rich data are collected. Firstly, a number of documents were reviewed to have a better understanding of the IRI mode of ECE delivery. Secondly, qualitative and quantitative methods were used to collect data in the field.

**Desk Review Phase**

The evaluation begun on 19th May 2014 after the contract between UNICEF and the consultant was concluded. The first phase of the evaluation was Desk review that involved review of relevant reports on the IRI methodology and other relevant policy documents. UNICEF Zambia, Ministry of Education, Science, Vocational Training and Early Education, Education Broadcasting Services (EBS) provided a comprehensive set of documents, relevant to facilitate this evaluation.

Desk review provided the evaluation team with background information and basic aspects of the IRI methodology as a mode of Early Childhood delivery and its linkage to the national priorities and Zambia’s international commitments in ECE. The following documents were reviewed, the National Implementation Framework 2011-2015, the Sixth National Development Plan, Ministry of Education Statistical Bulletin, IRI baseline report, and other relevant documents.

**Field Phase**

The field phase involved collection of data from the key stakeholders at the national, provincial and district levels. This included conducting interviews with Ministry of Education officials at the
Education Broadcasting Services, Provincial Education Officials in charge of Open Distance Education, District Education Officers, District Resource Centre Coordinators, and Administrators at the IRI centres, IRI mentors, parents, and officials at the two community Radio stations (Radio Maria and Radio Explorer). Site visits were conducted at the sampled IRI centres in the four districts, District Education Boards Secretary as well as the two Community Radio Stations. This accorded the evaluation team an opportunity to interact with the school administrators, mentors, parents, and the Ministry of Education officials. The field visit acquainted the evaluation team with hands-on experience on how broadcasting was conducted at the two Community Radio Stations. During the field visit, discussion meetings were held with the Ministry of Education officials and administrators at the IRI centres. In each of the four districts, a Focus Group Discussion was held with the parents to gauge the benefits of the IRI as a mode of ECE delivery at the community level.

A detailed description of the methodological approach that was applied in this evaluation is presented below;

2.3 Evaluation Design
The evaluation sought to assess the relevance, effectiveness, efficiency and sustainability of the IRI project in line with the planned activities at the time of implementation. Both qualitative and quantitative research paradigms were utilized to collect data. Quantitative information was collected using a quasi experimental design where children from non IRI centres and those not enrolled in any form of ECE were the comparison group. Given the timeframe for data collection, a quasi experimental design was the most feasible approach in the evaluation of learning outcomes by comparing means in learning outcomes between children under the IRI mode of ECE delivery and the comparison group (children in conventional ECE and those not enrolled in any form of ECE). The major shortcoming in this evaluation design was the absence of baseline data on learning outcomes for both the comparison and the treatment group. Qualitative data was collected using semi-structured interviews and Focus Group Discussions with key stakeholders.

Population
In order to have a comprehensive evaluation, the target population for this study comprised parents, teachers/caregivers and IRI mentors, children, Ministry of Education officials at both district and provincial levels, and staff at Education Broadcasting Services (EBS). It was imperative to include parents, teachers/IRI mentors were included in the evaluation as they are stakeholders in the provision of education. It was therefore important that their views were captured in the evaluation process.
Evaluation Sample

The sample was drawn from the four districts in Eastern Province where the IRI pilot project is being implemented namely; Chadiza, Petauke, Katete, and Chipata. A total of twenty eight (28) IRI centres were sampled, that is; 5 from Chipata, 10 from Chadiza, 5 from Petauke and 8 from Katete. To determine whether IRI was an alternative methodology, children were assessed in outcome measures with children conventional ECE and those not enrolled in any form of ECE as the comparison group. To achieve this, 2 Non IRI centres were sampled per district bringing the total to 8 centres from the four districts. Additionally, children not accessing any form of ECE were added to the sample as the comparison group. Thus, a total of 240 children participated in the study, that is: 80 from IRI centres, 80 from Non IRI centres, and 70 not enrolled in any ECE centre. Similarly, a total of 240 parents formed the study sample. Being limited in number, all teachers/caregivers and mentors in IRI centres that were reported to be active were included in the sample.

Evaluation sampling procedure

The study employed multi stage sampling specifically, random sampling and purposive sampling techniques to arrive at the desired sample. Teachers/caregivers as well as IRI mentors were selected using purposive sampling. The same approach was used to select Ministry of Education officials. Random sampling was used to select children and parents.

Evaluation Data Collection Techniques

Qualitative data was collected through document analysis and semi-structured interviews. To test children’s competences in language skills, cognitive skills, as well as information processing skills, sub tests such from the Zambia Child Assessment Test (ZamCAT). A parent survey was used to collect background information on ECE background, Socio-Economic Status and Social Emotional development. The ZamCAT is a comprehensive child development instrument for children aged 6 years to measure school readiness. The instrument was developed through collaboration between researchers from Harvard University and the University of Zambia (Fink, Matafwali, Moucheraud & Zuilkowski, 2012).

Synthesis Phase

Information gathered from different sources was analysed using qualitative and quantitative data analysis techniques. Qualitative data was coded into themes in line with the objectives. The statistical package for social sciences (SPSS) was used to analyse the quantitative data to generate descriptive statistics such as frequencies, means and percentages to examine general trends in the data.
Furthermore, a T-Test was performed to establish the emerging mean differences in outcome performance between children enrolled in IRI centres and those in the control groups.

Data was then integrated under the following themes;

**Relevance:** The evaluation of the project relevance was based on the analysis of the national and local context, international commitments, the achievements and challenges in the preschool education sector in Zambia

**Effectiveness:** The extent the results obtained following the implementation of IRI activities have contributed to the attainment of the planned objectives was analysed. The evaluation further highlights the factors that contributed or hampered the achievement of results with regards to increased access to ECE, capacity building through training of mentors, Ministry of Education officials, and community mobilisation. The extent to which synergies between activities on national and local levels was analysed.

**Efficiency:** Efficiency was based on the assessment of outputs/activities in relation to project inputs, costs and planned timelines. The report also incorporates discussion of issues related to the assessment of cost-effectiveness of funds management in comparison conventional ECE implementation.

**Sustainability:** The evaluation team reviewed the sustainability factors in terms of project design, process, implementation and national context. Sustainability was analysed from various perspectives: policy, institutional, capacity building, financial. The report highlights the factors that facilitated or decreased the sustainability prospects of the results of the project.

**Ethical consideration**

Ethical requirements are of critical importance in all social science research as Babbie (2003) observes, because often researchers have to come into intimate contact with their subjects. Some of the ethical principles that have to be fulfilled include: getting informed consent from respondents; ensuring that there is confidentiality, avoidance of inflicting harm to the respondents; respecting the respondents, and being honest. In order to fulfil these important ethical requirements, consent was sought from the Ministry of Education, Science, Vocational Training and Early Education through the Directorate of Open Distance Learning (DODE), ECE services providers, community leaders and parents. The research team also worked closely with officials from the Ministry of Education, Science, Vocational Training and Early Education at both Provincial and District levels. The scope and rationale of the evaluation was explained to participants at all the research sites before commencement of data collection. Assessment of children and interview with parents was done in the local language. The
The purpose of the child assessment was explained to children and their parents and parents were also asked to sign the consent form for their participation in the study.

Evaluation limitations
The first limitation was that some of the identified IRI centres were found not to be running the IRI methodology due to programme disruptions. For instance, it was learnt that some of the centres were not operational due to non-availability of the mentors. Even where the mentors and the radios were available, broadcasting was inconsistent in certain areas especially in Chadiza due to poor radio reception. Evaluation of efficiency proved to be problematic as consolidated budget expenditures for conventional ECE were not availed to the evaluation team.

3.0 Presentation and discussion of findings

3.1 Relevance
The relevance of the IRI project has been evaluated using official statistics on access to ECE in the sampled districts, relevant strategic and policy documents, baseline data, national legal framework and international obligations with regards to the rights of children.

During the baseline study of the IRI project in 2011, it was found out that there were only 21 ECE centres in the four districts and a total number of 737 children were reported to have been enrolled in ECE. That is; 347 for Chipata, 84 for Chadiza, 206 for Katete, and 100 for Petauke. The main challenges identified were:

➢ Lack of funds to sustain the ECE centres
➢ Inadequate teaching and learning materials
➢ Inadequate human resource capacity
➢ Low salaries for caregivers thereby resulting in high attrition rate as most caregivers abandoned ECE centres for greener pastures
➢ Inadequate ECE physical capacities
➢ Lack of sensitisation on the part of the parents on the importance of ECE
➢ Parents force their children to abandon ECE programmes and force them to herd cattle
➢ Lack of monitoring by Ministry of Education officials at both district and provincial levels
➢ Most parents could not afford the cost of ECE

In light of the above challenges, the IRI project was relevant to national strategies and policy framework. The policy framework Educating our Future (MoE, 1996) focuses on equitable access to
quality education at all levels, with early childhood included. The policy calls for increased participation in Early Childhood Education especially for children from disadvantaged backgrounds.

The IRI project was also consistent with the Sixth National Development Plan (SNDP 2011-2015) which seeks to improve the quality of education and skills development and this has seen prioritising education as one of the key sectors for increased investment. The IRI project is also in line with the objectives of the Education Sector National Implementation Framework (NIF III 2011-2015) which aims at providing equitably accessible to early childhood education, basic education and high school, tertiary education and skills training opportunities for sustainable livelihood and development. As regards the early childhood sector, the framework specifically sets out the following objectives;

(i) Improve the quality of ECCDE provision,
(ii) Increase access to quality ECCDE from 17 percent to 30 percent by 2015
(iii) (iii) Provide qualified human resources.

The IRI project has positively responded to Zambia’s national commitments towards the realisation of equality of access to ECE in hard to reach areas. For instance, the number of children accessing ECE increased tremendously from 737 children enrolled in 2011 to 2,711 in 2014 in the four pilot districts. The launch of the IRI as a mode of delivery of ECE services has also seen an increase in the number of community based ECE centres from 21 in 2011 to 56 in 2014. This steady increase could be attributed to sensitisation and awareness among the local communities on the importance of ECE during the launch of the IRI project.

The IRI project had also contributed to capacity building through training of teachers/mentors. For instance, from the initial number of 20 caregivers trained in 2011, a total of 31 caregivers and 19 teachers of ECE have so far been trained in the new ECE curriculum by specialists from the Ministry of Education, Science, Vocational Training and Early Education.

Under the IRI pilot project, funds were allocated towards procurement and production of teaching and learning material and these were delivered to IRI centres. This was facilitated with support from UNICEF that provided funding in the period 2011 and 2012 respectively. Additionally, 50 solar powered radios were distributed to all IRI centres in the four districts to facilitate broadcasting of lessons. EBS developed ECE lessons which were uploaded on CDS and broadcasted through two community radio stations. The Caregiver Manual was also developed with support from Curriculum Development Centre to guide the mentors in the delivery of IRI lessons. The IRI mode of ECE delivery was also relevant to policy priorities of the Ministry of Education, Science, Vocational Training and Early Education with regards to language policy. Unlike the conventional
ECE where teaching and learning is predominantly in English, the IRI methodology uses the local language thereby making the programme contextually relevant and responsive to curriculum direction.

Furthermore, the IRI project objectives resonate with the national legal framework to education such as; the Education Act 2011 which identifies the right of every person to Early Childhood Education, basic education and high school education (s14), and that every child has the right to free basic education (s15). The act prohibits discrimination by education institutions (s19) and ensures equal access to all learners, including poor and vulnerable children (s22). The IRI project enhanced the right to Education for vulnerable children in the rural area.

As far as community participation is concerned, the IRI project created synergies with local communities. For instance, the IRI baseline study of 2011 highlighted the following challenges; lack of sensitization on the part of the parents on the importance of ECE, it was also established that some parents forced their children to abandon ECE in preference to herding cattle. Thus taking cognizance of the role of parents as duty bearers of ECE, the IRI project addressed these challenges by raising awareness of parents on the importance of Early Childhood Education. To enhance community participation each IRI ECE centre were coordinated community support committees. This was confirmed by feedback from teachers/caregivers during site visits when they were asked whether ECE committees existed and their role in the provision of ECE. Details are provided in Box 1 below;

**Box 1. Level of community participation under the IRI project**

<table>
<thead>
<tr>
<th>A teacher/caregiver at Chembema IRI centre in Petauke district indicated the role of the ECE community committees, “yes, there is a committee in place. The role of the committee is to encourage members of the community to take their children for the IRI programme”.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Another teacher/caregiver at Kazulamane IRI centre in Petauke district observed, “the role of the committee is to oversee IRI programme, to collect contributions from the parents, to ensure general maintenance of the radio and to check if the teacher is coming to teach or not” A teacher/caregiver at Chamwala IRI in Petauke noted, “yes the committees are there and they help in the provision of ropes, mats and tyres which are used to make play materials”.</td>
</tr>
<tr>
<td>At Kagoro primary IRI centres, a teacher/caregiver reported that the committee members assist in the construction of learning and cleaning the surrounding.</td>
</tr>
<tr>
<td>A teacher/caregiver at Naviluri IRI in Chadiza observed, “the committee is there and helps in the running of the programme. For instance, they had previously recruited a mentor who was trained but she got employed elsewhere”</td>
</tr>
</tbody>
</table>

At Chiyembekezo IRI centre in Chipata, the teacher/caregiver reported that the committee was there to help in making boards and local play materials, construction of toilets and for routine support of centre activities.
The relevance of the IRI project was recognised by the community as evidenced by the level of community participation.

As far as international commitments are concerned, the objectives of the IRI project were in tandem with the provisions of the Convention on the Rights of the Child (CRC) which recognizes the right of the child to education on the basis of equal opportunity. The strategy applied by the IRI project was relevant in that the project was implemented in the rural areas with the lowest coverage rate of participation in ECE for the target age group. Most of the project sites within the four districts were located in hard to reach areas where children did not have access to ECE before commencement of the project. Even in sites where ECE services existed, vulnerable children could not still afford the service. In this regard, implementation of the IRI project in the four districts had enhanced equality of access to ECE, promotion of children’s’ rights such as the right to play and the right to education.

From the foregoing, it is clear that the IRI project was highly relevant on the following grounds; increasing Early Childhood Education opportunities especially that the four pilot districts are located in the rural area where children have a much lower participation rate in ECE, capacity building through training of teachers/caregivers, increasing physical capacities through establishment of new ECE centres and enhancement of community awareness.

3.2 Effectiveness

The project envisioned to achieve to the following outputs at the time of implementation; (i) to increase access to Early childhood Education to children located in rural and hard to reach areas using low cost technology. (ii) to improve quality in the provision of ECE. Findings on the effectiveness of ECE IRI project in meeting the stated objectives are presented below;

Result 1: To increase access to ECE to children aged 3-6 years located in rural and hard to reach areas using low cost technology.

Output 1.1: identify existing ECE centres and establish new centres in the four pilot districts (Chadiza, Chipata, Katete and Petauke) for the implementation of the IRI project.

In order to determine whether the objectives that were put forth in the implementation of the ECE IRI project had been achieved, it was imperative to review the number of ECE centres that have been established in the sampled districts during the project implementation period. Review of the project documentation and deliverables from EBS indicate that the ECE IRI project envisioned establishing Twenty Five (25) centres in the four pilot districts bringing the total to 100 (100) centres. The evaluation results revealed that this output was partially achieved as 42IRI centres were created through establishing new ECE centres and adaptation of existing ECE centres to the IRI methodology.
Figure 2: Number of centres per district before and after implementation of the ECE IRI methodology

Figure 1 presents the progression in the number of ECE centres following the implementation of the IRI programme in the sampled districts were as follows:

Chipata: The number of community based ECE centres increased from the initial six (6) to a total of Eight (8) ECE centres namely (Chisomo, Munga, Madalitso, Rejoice, Chongololo, Mpezeni Park, Mchini, and Chiyembekezedo).

Petauke: The district had Five (5) centres (Chandema, Chamwala, Kalulamame, Mulawa, Chiwizi) adapted to the ECE IRI methodology. However, two (2) of these centers were non functional at the time of the study (Kalulamame and Chiwizi).

Chadiza: The number of centres increased from five (5) to ten (10) centres (Manje, Khomani, Kavumo, Tafelansoni, Kapachi, Naviluli, Zemba, Chanida, and Kazimule) although four (4) centres were nonfunctional (Manje, Chanida, Khomani and Kavumo) at the time of the study.

Katete: The number of centres increased from the initial five (5)to fourteen (14) Centres (Jersey, Sengela, Chiligondi, Tikondane, Kwenje, Gileya, Kagoro, Kawaza, Mwandafisi, Kambila, Kalimeta, Nzima, Chimtende, Chikwanda ).
Output 1.2: increase access to ECE to children located in rural and hard to reach areas.

The evaluation sought to establish whether the IRI mode of delivery had enhanced access to ECE to children in rural communities who would not ordinarily have access to ECE services. Presented below is the trend analysis in ECE enrolment since the inception of IRI mode of delivery from 2011-2014.

Figure 3 Enrolment of Learners in IRI Centres

The table below presents the enrolment trend in IRI ECE centres from 2011 to 2014.

<table>
<thead>
<tr>
<th>District</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chipata</td>
<td>347</td>
<td>600</td>
<td>590</td>
<td>304</td>
</tr>
<tr>
<td>Chadiza</td>
<td>84</td>
<td>571</td>
<td>668</td>
<td>559</td>
</tr>
<tr>
<td>Katete</td>
<td>206</td>
<td>446</td>
<td>550</td>
<td>385</td>
</tr>
<tr>
<td>Petauke</td>
<td>100</td>
<td>524</td>
<td>908</td>
<td>165</td>
</tr>
</tbody>
</table>

Source: Records from DEBS Offices in the Four Districts and EBS

From Figure 2 above, this output was fully achieved as the period 2011 to 2014 witnessed a steady increase in enrolment of children in ECE albeit the downward trend in 2014. Review of documents from EBS indicate that the projected target with regards to enrolment coverage for ECE IRI project was 700 children. To a larger extent, the introduction of the ECE IRI project has positively influenced access to ECE in the four districts. For instance, a total number of 737 children were reported to have been enrolled in ECE in the four districts, by 2014, there were 2,711 children enrolled in ECE. Upon inquiring what factors might have contributed to the increase in the enrolment in the years 2012 and 2013, it was found out that at the inception of IRI as a mode of delivery in ECE, there was massive sensitisation at the community level on the importance of ECE and at least two mentors were trained to ensure effective implementation of IRI. As earlier indicated, one of the IRI project implementation strategies was to encourage communities to set up ECE IRI committees spearhead community sensitisation and coordinate establishment of IRI centres at community level. The downward enrolment trend in 2014 could be attributed to a number of factors including low community participation. It was noted during site visits that the ECE IRI committees were no longer very active.
in most of the centres visited. For instance, out of the 28 IRI centres visited, only 13 had effective IRI committees and 14 did not have committees in place with Petauke was found to have an active involvement of the committees with four centres (Chandema, Kazulamane, Chamwala, and Mulawa) still having effective committees and only Chiwizi did not have a committee in place. On the contrary, Katete, Chadiza, and Chipata had only Three (3) centres each with effective committees. Another factor that could have negatively impacted on the effectiveness of the IRI project was lack of monitoring and supervision of ECE IRI centres by provincial and district officials from Ministry of Education, Science Vocational Training and Early Education. Inadequate funding largely contributed to operational challenges that the project encountered and this subsequently had an effect on enrolment rates.

**Result 2: To improve quality of ECE using IRI as a mode of delivery of ECE services.**

**Output 2.1 ECE IRI methodology developed and piloted in four districts in Eastern Province**

This output was timely achieved. Following the baseline study which was conducted in 2011 in Eastern Province, the Ministry of Education, Science Vocational Training and Early Education through financial support from UNICEF embarked on adapting the IRI methodology at ECE level. EBS was identified as an the implementing partner based on their expertise in IRI methodology (this is evidenced by the successes recorded from the Learning under Taonga Market project which was being implemented by EBS). 72 radio lessons were recorded in the local language chiNyanja. These radio lessons focused on core curricula areas; arithmetic, basic reading and writing as well as complimentary activities such as songs, chants and drama in the local languages. Memorandum of Understanding was entered into with two community radio stations (Radio Maria and Radio Explorer respectively) to facilitate broadcasting of the lessons in the target districts. Drawing on expertise from Curriculum Development Centre, the caregiver manual was developed to guide the IRI mentors in the delivery of lessons. Other teaching and learning materials supplied included Manila paper, crayons, chalk, toys and markers. Furthermore, a total of 50 solar powered radios were distributed to cater for the centres in the sampled districts. Solar powered radios were found to be cost effective especially in rural areas where there is erratic supply of electricity. The radio lessons were broadcast on Monday, Wednesday and Thursday at 11:25 hours during the school term. Tuesday and Friday were used for delivering lessons that were not IRI based.
During the site visits in the four districts, the evaluation team took an advantage to get the views of teachers/caregivers, parents and the community radio stations of the IRI as a mode of delivery of ECE services. Presented below are the views from stakeholders.

Teachers/caregivers were asked to state whether IRI was an effective and alternative mode of delivery of ECE services.

Figure 4: Effectiveness of IRI in ECE delivery

Out of 31 teachers that participated in the study, 29 noted that IRI methodology had enhanced the delivery of ECE. Teachers/caregiver cited some ways in which the provision of ECE through the IRI mode had been of help to them. Firstly, they observed that IRI methodology was stimulating to children and it helps children to concentrate as the programme requires children to be very attentive during transmission of lessons. Some teachers observed that IRI methodology was exciting to children, promotes interactions among children through the Agogo stories thereby promoting language skills. It was further noted that the methodology improved childrens’ attention because of the creative and interesting stories. It was also noted that IRI improved attendance at the centre because children enjoy listening to stories and songs.

Box 2: Views of mentors on the benefits of IRI methodology

| A teacher at Chamwala IRI centre in Petauke appreciated the value the programmes in adding to the listening skills of the children, “... as a teacher I have noticed that this has improved their listening |
skills because their concentration is now prolonged even in other activities where they have to pay attention”.

Yet another teacher at Mpezeni Park Primary ECE centre in Chipata observed that because of the IRI programme, “children are attentive, participation of learners is increased and children are able to learn a wide range of things”.

A teacher at Mpezeni Park Primary pointed out that IRI was effective and could help the learners to be motivated to learn through the radio... “learners become very excited when they know that they are learning though the radio”.

A teacher from Tikondane IRI centre in Katete indicated that, “children are able to follow the programme and they are able to interact with others, they are able to narrate the agogo stories and are able to count”.

Another benefit attributed to IRI ECE mode of delivery was that it aroused interest in children. One teacher from the Chandema IRI centre emphasised the children’s interest in the IRI programme, “I have observed that some children come to school just to come and listen to the radio programme. The IRI programmes have helped us reduce absenteeism among these children”

Teachers/caregivers further reported that IRI mode of delivery enables them to deliver lessons quickly because the lessons are pre-recorded. This in turn gives teachers/caregivers adequate time to interact with the learners.

Box 3: Views from teachers on how IRI promotes interaction between the caregiver and the children.

One teacher/caregiver observed “since the lesson is already pre-programmed I am only required to prepare the lesson plan and the necessary material to facilitate delivery of the lesson”.

This was echoed by another teacher at Tikondane IRI centre in Katete observes, “IRI helps the teacher to plan the work in advance”.

Another teacher/caregiver at the same centre noted that “there is more interaction between the children and the instructors during presentation of lessons, they are able to write well and count numbers without problems”.

He further noted, “the interaction that you can get through the mentors enables the children to see the lesson naturally”.

The evaluation team took an opportunity to visit Primary schools where some of the children who were in IRI centres have been enrolled to establish whether IRI promotes school readiness. The views of Grade One teachers and school administrators were that children who were in IRI centres were doing better in writing, reading, language and were able to sustain attention during lessons compared to those who had not been to preschool.
Box 4: Views of Grade One Teachers on the benefits of IRI

The Headteacher at Kamchacha Primary pointed out, “those in Grade One IRI former pupils are doing better in listening, writing and counting. It is a pity the IRI centre was closed because there was no mentor so the learners stopped coming.

A teacher/caregiver at Undi Primary school in Katete had this to say, “children who were under IRI are active when learning compared to others who were not preschool, they write better when in primary school, easily follow instructions and can easily raise their hands to answer questions when learning”.

Another teacher had this to say, “children under IRI become more active than their friends in the community who are not receiving any ECE. They are more confident and they can follow instructions easily.

A teacher/caregiver noted that, “children under IRI have improved their handwriting, they are active in class and can count with less problems”.

Views from officials at the community radio stations responsible for broadcasting ECE IRI lessons.

IRI mode of delivery is also seen to be contextual and responsive to the local community because the lessons are delivered in the local language and the content used is drawn from the local contexts which children can easily relate to.

Officials at both Community Radio Stations that transmit the IRI programme indicated that teachers/caregivers and parents with children at IRI centres have given positive feedback on how children are able to explain what they learn on radio without any problems. They reiterated the positive impact that teaching in the local language under the IRI has had on the lesson comprehension by the children.
Box 5: Views from Community Radio Stations officials on effectiveness of the IRI

The Radio Explorer official observed the following, “members of the community who tune in to our radio station seem to have increased because even adults are somehow interested in the IRI programmes. They claim that they are also learning quite a lot in terms of spellings, songs, and sentence construction”. “the wide radius coverage has made a large community access the programmes aired by the radio...The entire Petauke, parts of Mozambique, Serenje, Gonde, Mambwe, Nyimba, Kacholola, Minga, and all the surrounding towns in Petauke district catch the programmes”.

The official at Radio Maria further observed, “the content fits the rural community. Looking at the songs which are played in the local language, children are able to repeat what is being broadcast”.

“ECE is perceived as though it is for the town, the IRI mode of delivery creates an opportunity for children in the rural areas to learn. Our programme coverage is Chadiza, Katete and Chipata. This programme needs to be sustained. There is need to put up structures aimed at sustaining the programme because it is benefiting many children who are less privileged”.

Views from parents on the ECE IRI methodology

Parents who participated in the study were asked to indicate some of the benefits of the IRI ECE mode of delivery.

Out of the 230 parents that participated in the study indicated that IRI lessons facilitates learning and help children to develop listening skills.
Box 6: Views of parents on the effectiveness of IRI

One parent at Tikondane IRI centre in Katete indicated that children enjoy IRI lessons, “My child is always excited when she knows there would be radio lessons. She always tells me “mummy tizapunzila kuli ba teacher ba ku radio lelo (today we are going to learn from the teacher from the radio)” She is able to remember the agogo song. This makes me happy as a mother.

Another parent at Chisomo centre in Muchini area of Chipata District observed that, “through the radio, children learn faster, they are able to remember things they learnt at school”.

A parent at Chandema IRI pointed out; “my child usually talks of the radio programme. He even sings some of the songs that he has learnt from the programme. I wish I had a radio at home so that I could also tune in when the programmes are being aired”

Yet another parent from the same Chandema community indicated, “my daughter wants us to buy a radio at home because of the same programmes she listens to at school. It is a pity I cannot afford a radio because she likes explaining to me how they learn new words”

From the foregoing, it is clear that the IRI project raised community awareness on the importance of ECE and most importantly parents recognised the feasibility of learning using technology.

Output 2.3: Capacity building through training or teachers/caregivers in IRI methodology

As part of capacity building to facilitate implementation of the IRI project, training of teachers/caregiver was undertaken by EBS in collaboration with the Curriculum Development Centre and officials from Ministry of Education, Science Vocational Training and Early Education. Initial training took place in 2011 at Tikondane in Katete district and a total of 20 mentors were trained in IRI methodology. Subsequently, training was undertaken in Chipata in 2012 where a total of 25 mentors were trained. The role of the mentor was basically to lead the class at designated centres using a wind-up solar powered radios supplemented by the activity book. It was further reported that in the 2013 budget, at least 19 mentors and 31 caregivers were trained by specialists from Curriculum Development Centre and other officials from the Provincial Education Office on the new curriculum.
Thus, in the three (3) years pilot period of the IRI project, a total of 75 teachers/caregivers were trained in IRI methodology. However it must be mentioned that at the time of the evaluation, it was reported during site visits that a good number of mentors received training in IRI methodologies had left due to lack of motivation from the community.

**Figure 5: Number of teachers/caregivers at the centres trained in IRI methodology**

![Bar chart showing number of teachers/caregivers trained in IRI methodology](chart)

The evaluation team visited 28 IRI centres that were reported to be active, out of the 31 teachers/caregivers that were interviewed, 16 were had undergone training in IRI methodology. For instance, in Chadiza district, only one centre, Tafelansoni was found to have a mentor trained in IRI methodology while the remaining seven, Kavumo, Khomani, Zemba, Manje, Kapachi and Kamchacha did not have mentors trained in IRI methodologies. In Chipata district, out of the seven IRI centres, there were a total of five trained mentors (Muchini, Madalitso, Mpezeni Park, Rejoice, and Chiyembekezo) whereas two centres (Chisomo, and Munga) did not have a trained mentor in IRI methodology. In Petauke, all the five centres visited had at least a mentor trained in IRI methodologies. In Katete district, out of the seven centres visited, two (Gileya, Tikondane,) had mentors trained in IRI methodology while four centres (Chilingondi, Mzime, Kawaza, Kagoro Primary School, and Kagoro Jesus cares) did not have IRI trained mentors. Out of the four districts, Chipata and Petauke were found to have a high number of trained mentors in IRI methodology.

**Whether IRI methodology influences school readiness**

To further evaluate the effectiveness of the IRI project, children were assessed in learning outcomes; alphabetic knowledge, expressive language, receptive language, fine motor skills, attention skills, and problem solving. The assessment of learning outcomes provided an insight on the extent to which IRI mode of delivery of ECE services influences school readiness. A total of 230 children were assessed
in basic skills using subtests from the Zambia Child Assessment Test (ZamCAT). Children not enrolled in any form of ECE and those enrolled in the conventional ECE centres were used as the comparison group. Presented below is a description of each of the measures;

*Alphabet knowledge* lays a foundation in subsequent reading. Thus, in order for children to acquire mastery in reading, they need to be well grounded in alphabetic knowledge. In this subtest, children were asked to name the 26 letters of the alphabet on the letter template and a total number of letters the child successfully identified were recorded.

*Language skills (Expressive and receptive language)*: Oral language provides a buffer for the development of reading skills. In the expressive language subtest, children were asked to tell a story of interest or the assessor probes the child to mention the names of people he/she lives with at home. The child was then evaluated on a 5 point scale. Whereas receptive language was assessed using a non-verbal picture vocabulary test in which the child is shown a set of four pictures. The assessor mentions the target word and the children were expected to point at the picture corresponding with the target word. The overall score on this subtest was 30.

Fine motor skills: Assessment of fine motor skills is important in measuring school readiness as children are expected to have well established pencil grip and fine motor dexterity required for executing writing skills. This subtest assesses fine motor skills using a number of activities including, copying numbers and letters from a given stimuli, threading, buttoning, putting stones in a cup and putting stones in the nsolo board. *Nsolo* is an African traditional game, which is universally known among indigenous cultural in Sub Saharan Africa under a variety of names (e.g. *bao*, *bali*, *mancala*, *morabaraba*, *aware*). *Nsolo* board can be created with holes dug in the ground, wooden board or iron board (Matafwali & Serpell, 2014). The overall score for the fine motor skills subtest was 10.

*Attention skills*: Attention skills are predictive of school readiness. A child is able to pay attention, and inhibit impulsive behaviour is more likely to take advantage of the learning opportunities in the classroom, thus more easily mastering reading and math concepts taught in elementary school. Attention skills were assessed using the pencil tapping test. Children are instructed to tap their peg once when the examiner taps twice, and vice-versa. Scores represent the correct number of trials out of 20.

*Problem solving skills*: Problem solving relate to the child’s ability to identify issues, obstacles, and opportunities and then develop and implement effective solutions.

**Demographic characteristics**
Home Literacy constitutes pre-literacy activities that children are exposed to within the home environment. These activities play an important role in stimulating literacy related skills such as language. In this evaluation, Home Literacy Environment (HLE) was measured by the availability of reading materials in the home such as bible, newspaper, picture books, story books, and any child related literacy materials. HLE also focused on whether the child has opportunities to engage in literacy related activities, whether he/she reads at home, whether there is an adult who reads to the child at home, whether the child has an opportunity to listen to stories from an adult. The total score of the Home Literacy Environment index was 10 indicating greater numbers of literacy materials and interactions in the home.

Home possession is an indication of household assets ranging from car, television, water, electricity, bicycle, type of floor, type of roofing, availability of toilet and many others. This index had a total score of 10 and was used as a measure of Socio-Economic Status (SES) with the higher score indicating greater number of home possessions in the home.

**Figure 6. Performance in Learning Outcomes**

<table>
<thead>
<tr>
<th>Performance in learning outcomes</th>
<th>Mean scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Alphabet</td>
<td>1.88</td>
</tr>
<tr>
<td>Expressive</td>
<td>3.6</td>
</tr>
<tr>
<td>Receptive</td>
<td>20.26</td>
</tr>
<tr>
<td>Fine Motor</td>
<td>7.18</td>
</tr>
<tr>
<td>Attention</td>
<td>6.21</td>
</tr>
<tr>
<td>Problem Sol</td>
<td>4.12</td>
</tr>
</tbody>
</table>

Children participating in IRI performed appreciably better than those not enrolled in any form of ECE in the following outcome measures; letter naming (M= 1.55, SD= .55, t-value= 2.81, df, 152, P<.01), fine motor skills (M= 2.49, SD= .55, t-value = 4.54, df, 150, P<.01) and problem solving (M= 1.38, SD= .24, t-value= 5.60, df, 152, P<.001). Correspondingly, expressive language and attention skills to some extent bore a marginal significant difference between the two groups with children under the IRI methodology performing better than children not enrolled in any form of ECE. Children in
conventional ECE however performed better in receptive language \((M= 3.32, \ SD= .1.05, \ t-value= -2.86, \ df, 157, P<.01)\) than those under IRI methodology. The groups also differed significantly in Home Literacy Environment \((M= 1.43, \ SD= .25, \ t-value= -3.91, \ df, 159, P<.001)\) and Home Possession \((M= 1.44, \ SD= .28, \ t-value= -5.08, \ df, 158, P<.001)\) in favour of children in conventional ECE.

Overall, the findings underscore the importance of Early Childhood Education in supporting learning outcomes. From these results it can be deduced that IRI positively influences school readiness albeit the influence is even higher under conventional reflecting differences in demographic characteristics of ECE centres.

Figure 7: Mean scores in background measures

![Mean scores in Background measures](image)

The groups differed significantly in background measures with children in IRI scoring lower than those under conventional ECE in both Home Literacy Environment \((M= 1.43, \ SD= .25, \ t-value= -3.91, \ df, 159, P<.001)\) and Home Possession \((M= 1.44, \ SD= .28, \ t-value= -5.08, \ df, 158, P<.001)\). As a group, children in the conventional ECE had more access to literacy related activities in their homes and they were reported to possess most of the household assets. The differences in demographic characteristics could somehow explain the pattern of results between children under IRI and those under conventional.

### 3.4 Efficiency

Efficiency was evaluated by examining the extent to which the IRI project outputs have been achieved from the efficient use of financial, human and material resources in order to establish whether IRI provide a cost effective approach of ECE service delivery.
The evaluation team was availed with financial reports mainly the budget and broad expenditure activities. In the first year of the project, 2011, a total was of K445,655.00 was disbursed by UNICEF to EBS to facilitate the baseline study in the Four (4) pilot districts, community sensitization on the importance of ECE, payment of Airtime for transmission, development of teaching and learning materials. In the second year, 2012, K401, 117.00 was allocated to carry out planned activities including training of teachers/caregivers, securing airtime for transmission, development of ECE operational guidelines tool, monitoring, procurement of teaching and learning materials. In 2013 which was the third year of the project, a total of K498, 600.00 was disbursed to undertake the following project activities; procurement of teaching and learning materials, payment for airtime, coordination, training of teachers/caregivers, and holding a review meeting. For the whole IRI pilot period of Three (3) years, a total of K1, 345.372.00 was disbursed. Overall, the budget breakdown from UNICEF and EBS suggest that the budget line covered programmatic, management and operational support.

From the documents provided, financial management was done in line with UNICEF guidelines that require liquidation of funds within a minimum of Three (3) months and maximum of Six (6) months. For every disbursement, it was a requirement for EBS to submit a narrative report alongside the liquidation form detailing progress made in the implementation of project activities. To a larger extent there was compliance with regards to financial management and the project activities were implemented within the approved budget. Feedback meeting EBS indicates that there was only one incident where expenditure was reported to be outside the approved budget the guidelines with no approval for variation to just the expenditure as per project guidelines.

In evaluating the extent to which IRI was a cost effective mode of delivery of ECE services, a comparison with the other modes of delivery in this case the conventional ECE approach would have provided a more informed analysis. This was not feasible as a detailed breakdown of financial expenditure for conventional ECE at district level was not available for in-depth analysis for the purpose of financial comparison of the two of ECE delivery. However from the total expenditure K1,345,372 on the IRI, it can be deduced that about K496.26 was spent per child over the three year pilot period which is roughly US$66 over a period of three years.

Nevertheless the evaluation identified implementation strategies that enhanced efficiency of the IRI project as presented below;

Utilisation of the local communities in the implementation of project activities was one of the distinctive features of efficiency that was applied in this project. For instance, one of the IRI project out -put was increasing access to ECE for vulnerable children and this could only be achieved by
expanding physical infrastructure as this had been the major impediment to the realisation of this objective. To this effect, the project used the most effective approach by encouraging synergies with the local communities in the construction of low cost ECE centres. This was confirmed during site visits in the focus group discussions with parents and caregivers on the role of the community in the implementation of the IRI project that the community was actively involved in the construction of ECE centres and toilet facilities either permanent or temporal structures. By encouraging community ownership of the project, the project did not incur expenditure towards the purchase of land as land was provided by the local authorities (the village headman) while moulding of bricks and construction of ECE facilities was done by the local communities. Even where construction of a permanent structure was not achieved, communities put up temporal structures to facilitate learning. Where infrastructure already existed, community participation was encouraged in maintenance of surroundings at the ECE centres and providing water for hygiene purposes thereby reducing on the running costs.

Another efficiency characteristic of the IRI project was the utilisation of school leavers within the local communities to provide services as caregivers/mentors. Review of project documentation, site visits and interviews with key stakeholder confirmed that the implementers EBS and Ministry of Education Science, Vocational Training and Early Education provincial and district officials collaborated well with the communities in the initial stages of implementation of the project. There was extensive consultation with the parents and community sensitisation of the local communities on the importance of ECE. This approach resulted in the creation of IRI ECE committees after IRI baseline study in 2011. The committees were tasked to identify school leavers within the local communities to serve as caregivers on a voluntary basis. After this was done, EBS with support from UNICEF facilitated training of these caregivers. It was reported that the first training which took place at Tikondane 2011 in Katete district had a total of 20 caregivers who were trained in IRI methodology. Additional 19 ECE teachers and 31 caregivers were trained in 2012 bringing the total to 70 teachers/caregivers who benefited from training under the IRI project. These teachers/caregivers were trained by experts from the Curriculum Development Centre (CDC) who are highly experienced in teaching methodologies.

At the same time, parents whose children were enrolled at the ECE centres had the responsibility of paying teachers/caregivers through contributions either in monetary form or in kind. (e.g. in the form of maize, farming input, groundnuts, chickens etc). On the other hand, most of the parents who were interviewed during the site visits reported that they contributed a minimum of Ten Kwacha (K10.00) for ECE services.

The community based approach in the IRI project increased efficiency in the sense that most of the activities which could have attracted capital expenditure such as construction and maintenance of ECE
centres were undertaken by the community. This lowered direct costs towards infrastructure expansion. Furthermore, the approach taken in training of teachers/caregivers in IRI methodology by utilising experts from CDC to orient teachers/caregiver in IRI methodology addressed the existing challenges of inadequate human resource resulting in timely implementation of the project compared to using the conventional or rather formal training of ECE teachers which takes a minimum of two years requiring more financial investment.

The model of using low cost technology to deliver ECE services also proved to be efficient. This model broadened ECE coverage rate exponentially within a period of three years with coverage rate increasing from 737 children in 2011 to 2,711 in 2014 especially that most of the IRI centres were located in remote parts of the districts where no ECE services previously existed and majority of the children had no access to ECE. For future programming however, financial resources allocated towards airtime to the two community radio stations (Radio Maria and Radio Explorer) that is; K14,400.00 for 2011, K30,3240.00 for 2012, and K60, 480.00 for 2013 respectively could be utilized in a much more efficient manner if broadcast was decentralized through the use of MP3 radios.

With the caution that there was not enough comparative data between the conventional and IRI mode of delivery, the findings of this evaluation strongly indicate that, the IRI could be described as an efficient mode of delivery of ECE services. The project broadened access to ECE for vulnerable children with some evidence of children having benefitted in terms of learning outcomes. Utilization of low cost physical facilities and mode of training of ECE teachers/caregivers, and community participation were strategies that enhanced efficiency of the IRI project. Children having an opportunity to interact with other children under the guidance of mentors and radio programmes appears to have a beneficial effect on the children.

3.3 Sustainability

At the time of implementation, a number of factors were put in place to ensure sustainability as follows: community involvement, involvement of key stakeholders within the Ministry of Education, Science, Vocational Training and Early Education, and promotion of public private partnership through the involvement of community radio stations.

The local communities were involved in the construction and maintenance of IRI ECE centres, making contributions towards remuneration of IRI mentors. These efforts aimed at ensuring community ownership of the project. The involvement of key departments in the Ministry of Education, Science, Vocational Training and Early Education at national, provincial and district levels in the design and implement of the project also laid the ground for sustainability. The use of local community radio stations made the IRI project acquire contextual relevance which ensured local ownership.
In spite of the above stated measures put in place by the project to ensure sustainability, the evaluation revealed that the project has not been entirely sustainable because of the following challenges: high staff turn-over; poor community involvement; erratic broadcasting of IRI lessons; and failure to repair and replace radios, lack of monitoring and supervision.

**High staff turn-over**

Among the challenges that the evaluation established was the high mentor attrition rate. It was observed that all the four districts which were selected for the study had a high number of both trained and untrained mentors who resigned as caregivers in IRI centres due to lack of motivation. This was common in all the four districts including Petauke and Chipata where the IRI programmes seemingly appeared to be doing well. This impacted negatively on the effectiveness of IRI programmes such that some centres closed down for example Kamchacha in Chadiza district because it lacked a mentor for children. Other centres like Chilingondi, Kawaza, and Mzime in Katete district and Manje in Chadiza district are no longer implementing the IRI programmes despite the centres having functional radios and IRI manual to help in the delivery of IRI lessons because of lacking mentors who are trained in IRI methodologies who might have left the centre.

The high attrition rate of IRI mentors, made the consultant wonder how the project would be sustained in the long run.

**Lack of incentives for the mentor**

Another constraint to the attainment of sustainability was the lack of community involvement in the provision of allowances for volunteer IRI mentors. It was expected at the implementation of the programme that the community would sustain mentors by providing incentives either in monetary form or material support. We asked teachers/caregivers whether they were given any incentives.
Figure 8: Whether teacher/caregiver received an allowance

Out of the 31 teachers/caregivers who participated in the study, only 20 indicated that they received an allowance whereas the remaining 11 did not receive any incentives at all. It was further revealed that some of the teachers were deployed by the Ministry of Education and were therefore, on government pay roll as was the case for the caregiver at Kavumo IRI centre in Chadiza. It was observed that in some centres, especially in Katete and Petauke, there was an initiative by the community to provide an incentive to the mentors either in monetary or material form. In some centres, parents were required to contribute a token of K10.00 per term.

Box 7: Payment of allowances to Teachers/Caregivers

For instance, a teacher/caregiver at Chandema in Petauke noted, “I get K585.00 per year because parents contribute money”

Another caregiver at Chamwala IRI centre in Petauke reported that she gets 8 bags of maize per year from the community.

Non payment of Salaries and /incentives to mentors

Non payment of mentor was yet another challenge that impacted negatively on the sustainability of the project. In all the 28 IRI centres that were visited in Chadiza, Katete, Chipata and Petauke, mentors complained of not receiving any payment. Even those who indicated that they received an allowance reported that the allowance was not consistently provided as this largely depended on the good will of the community The Ministry official at the Chadiza office also complained about teachers running IRI programmes not being paid resulting in disruption of learning. The official further noted that sometimes teachers collect the radio when they leave the centre because they feel they own it.
Box 8: Non payment of allowances to Teachers/Caregivers

One of the respondents from Katete district, Gileya IRI centre indicated the following:

‘I have a lot of challenges here, I don’t get paid here so it is difficult for me to earn a living. I’m alone sometimes I could cancel the classes when I go to the clinic so sometimes the children miss out on the radio programme because no one remains to teach because no one can teach without being paid money then how can they be surviving?’

Additionally, at one of the IRI centres in Chadiza district, Kamchacha, the headteacher had the following to say:

‘the children in the IRI class all stopped coming last year because the mentors who were trained stopped coming because they were not being paid such that although parents are still willing to enrol their children I do send them back when they come to enrol because there are no trained and untrained mentors to teach the children, so the radio and the manual are not being used.’

Inconsistencies in the Airing of the Radio programme

Another challenge that makes threatens the sustainability of the project is the erratic airing of lessons by local radio stations due to power outages. Officers from Radio Maria, based in Chipata and Radio Explorer, based in Petauke, both expressed their displeasure about the constant power outages which negatively impacted on broadcasting of the lesson. This was further noted by the Teachers/Caregivers.

Box 9: Disruption in broadcasting due to power outages

A teacher/caregiver from the Chandema IRI centre underscored the disappointment of children when the programme was not aired, “children enjoy the radio programmes and they always look forward to the next broadcast, but they sometimes get disappointed because there are times when the programme is not aired”.

A teacher at Chandema centre further observed, ‘there are also times when we have gone to the radio station to ask them why they repeat the programmes or why they sometimes fail to broadcast the intended programme. They usually say that it is because of power outages. We just do not know when this problem of electricity at the Boma will come to an end’.

Another challenge impacting on consistent broadcasting was poor radio reception especially in remote areas. A teacher at Muchini Centre in Chipata also indicated that there were inconsistencies in the way
the programmes were aired. Most of the remote rural centres indicated challenges of poor radio reception. It was further noted that sometimes the sequencing of the lessons was not consistently followed by the Radio broadcaster. For instance, the previous lesson could be 21 and the next lesson 26 or 40. Teachers/caregivers complained that lack of consistency in broadcasting the lessons created challenges for them to prepare lessons in advance.

Box 10: Inconsistency in lesson sequencing

One of the respondents from Madalitso IRI centre indicated the following:

‘The way the IRI programmes are aired out is not good because they confuse us the mentors because Radio Maria may present lesson 10 while the mentor has made preparations on lesson 16, so when the mentor starts changing the teaching aids to get those for lesson 10, time is lost in the process, there is also too much repetition of programmes, you find that instead of running the IRI programme for the whole year, for example from January to December, the programmes are cut on the way whereby they ignore the IRI lessons for the other months of the year and start repeating the programme which were already aired in January without any notice to the mentors. we are also not told exactly when they start airing the programme at the beginning of the year such that we do not know the exactly date and time when these IRI lessons start being aired on the radio’

Another teacher from Rejoice Pre-school in Chipata also noted the discrepancies in the way the programmes were aired, “since the lesson is prepared from the radio station, presentation of lessons in sequence is not consistent”. A teacher from Kapachi IRI centre in Chadiza also observed, “there is sometimes repetition of lessons and sometimes the presenter is not consistent with what instructors in centres prepare”.

Inconsistencies in the airing of programmes were also pointed out by the Ministry of Education official in Chadiza who noted because the lessons were pre-programmed it was difficult for the centres to move at the same pace due to poor radio reception. This could probably explain the implementation challenge in Chadiza as most of the IRI centres were not implementing the IRI programme.

Related to this challenge was the timing of broadcasting of the programme. The programme was broadcast from 11:25 Hours to 12:00 Hours for a 30 minute duration. Most of the teachers/caregivers who participated in the evaluation noted that the timing of broadcasting was not conducive because most of the children were tired and hungry at the time of broadcast.
A caregiver at Tikondane noted; *11:25 Hours was not good timing. Children get tired because they have been in school since morning and at the time they are looking forward to knocking off that is when the IRI lessons are broadcast. So it is difficult to make them pay attention to the programme because they are hungry and tired*.

This was confirmed by the evaluation team during field visits. For instance, in some centres where the morning session started around 7:30, the programme was being aired at the time children were about to knock off thus making it difficult for the teacher to sustain the attention of children. Some of the teachers/caregivers recommended that broadcasting should be done in the morning when children still had the energy so that they could pay attention to the IRI lessons.

The official at Radio Maria also confirmed that they had received complaints on the timing for broadcasting the IRI lessons. Asked on whether it was possible to change the timing, the officer quickly pointed out that Radio Maria was only acting on guidance from EBS. He observed, “*it was possible to change the timing but at the moment we are following the schedule we were given by EBS*”. He also noted that as an institution responsible for transmitting the programme, they would like to be actively involved in planning IRI meetings so that they can feedback from the users. He pointed out, “*as a broadcaster, they were sometimes not invited to meetings where the IRI programme was being discussed. We were only invited once, that is when I got to hear about all these challenges of poor radio reception*.”

*Lack of monitoring and supervision*

The evaluation revealed that there was no consistent monitoring and supervision of IRI activities in the all the four districts, making it difficult to determine whether or not progress was being made in the attainment of the objectives. This was confirmed by Ministry of Education at all three levels and this was attributed to inadequate funding.

Presented below is a summary of the challenges that were documented at the IRI ECE centres in the four (4) districts during site visits.

*Katete District*

In Katete district, the evaluation team visited a total of eight (8) out of the existing Fourteen (14) IRI centres; Gileya, Chiligondi, Mzime, Kagoro Primary ECE centre, Kagoro Jesus Cares centre, Kawaza,
Chilingondi and UNDI. The IRI programme was found to have met some disruptions in a number of centres in Katete district due to various reasons indicated below. At Gileya centre, the programme was being implemented until August, 2014 when the radio was stolen. Whereas at Chilingondi centre, the radio was available but the IRI methodology was not being followed the mentor was not trained in IRI and she claimed that she did not have the timetable for IRI broadcasting. Similarly, the radio was functional at Mzime IRI centre but IRI methodology was not being implemented because the mentor did not have any orientation on IRI methodology. At Kagoro Jesus cares centre, the radio was not functional and it was reported that efforts to have it repaired have proved unsuccessful. The same was reported for UNDI IRI centre. At Kawaza IRI centre, the radio was functional but programming of IRI was reported to be disrupted due poor radio reception in the area. At Kagoro Primary ECE centre the mentor reported that IRI was successful and broadcasting was done Three (3) times a week although the radio was found to be non-functional at the time of the study.

**Petauke District**

In Petauke district, a total of five (5) IRI centres were visited in this study; Chandema, Kazulamame, Chiwizi, Chamwala and Mulawa. The programme was found to be running in the Four (4) centres Chandema, Kazulamame, Chamwala and Mulawa and broadcasting was done for Three (3) hours per week. Only Chiwizi was found to have a non-functional radio in Petauke district.

**Chadiza District**

In Chadiza district, the evaluation team visited a total of eight (8) centres; Naviluri, Kamuchacha, Kapachi, Manje, Zemba, Khomani, Kabvumo, and Tefelansonzi. At Naviluri centre, the radio was functional although the IRI methodology was not being used because the mentor was not trained in IRI. This was further observed at Kamuchacha, Manje, Khomani, and Kavumo IRI centres where IRI methodology was not being used due to lack of training in IRI methodology. Thus, even if the radios were functional at these centres, the IRI was not being utilised because the mentors who were trained in IRI methodology have since left their respective centres. The radios were found to be non-functional at the following centres at the time of the study; Kapachi and Zemba. At Tefelansonzi, transmission was reported to be erratic due to network.

**Chipata District**

A total of seven (7) IRI centres were visited in Chipata district, Mchini, Chisomo, Mpezeni Park, Madalitso, Rejoice, Chiyembekezo, and Munga. The IRI methodology was found to be running in six (6) and it was reported that broadcasting was done three (3) times a week. It was only at Chisomo ECE
centre where the IRI methodology was no longer being used because the mentor who was trained had left the centre due to lack of support from the community.

It appears that out of the four districts, the IRI methodology is being successfully implemented in Petauke and Chipata districts in comparison with Katete and Chadiza districts. This could probably be attributed to the proximity of the community radio stations where broadcasting of the IRI programme was being done. It is also clear that the non-availability of mentors has affected continuity of the programme in a number of centres. However, there was low community participation in Chadiza with regards to the provision of incentives to the mentors. Most of the teachers/caregivers in Chadiza reported that they did not receive any incentive. This could probably explain the high attrition rate of IRI mentors in Chadiza district where we found that out of the 8 centres only 1 centre had a teacher/caregiver trained in IRI methodology. The absence of the mentors has in some cases resulted into the closure of some of the centres such as Kamchacha. Petauke appears to have high retention rate of trained IRI mentors as the centres still had atleast one trained mentor. The reason being that at Mulawwa, one of the trained mentors was the Headteacher on a government salary. Thus, it seems putting mentors on a government salary might help in reducing the attrition of mentors.

3.5 Lessons learnt and suggestions to improve the IRI Programme
Overall, the IRI programme as a mode of delivery of ECE services could be beneficial, although it should not be used as a standalone mode given the many challenges that have been outlined here. While the IRI programme was a good initiative in enhancing access to ECE for children in hard-to-reach areas, effective implementation required comprehensive planning and constant evaluation so as to know how the programme was benefiting the communities. With regard to this, a number of strategies aimed at sustaining the programme were suggested and the following were frequently cited by the participants in this study;

Decentralisation of distribution of IRI CDs through District Education offices
In line with monitoring and evaluation of the IRI programmes, it was observed that there was need to empower District Education Offices with adequate funding to ensure effective implantation of the IRI programme. According to the Radio Explorer officer, “the Petauke DEBS needs to be empowered to fund the programmes and be the ones to deliver the CDs to the radio station instead of waiting for people from Lusaka and Chipata (Radio Maria) to deliver the CDs, it would be easy to have the CDs on time”. Also a teacher from Rejoice Pre-school in Chipata suggested that if memory cards were provided, as had been suggested, the problems might be addressed. A teacher from Chandema centre in Petauke made a similar suggestion that “there was need to give individual centres card readers to allow them to plan their daily activities to avoid repetition of programmes and disruptions in
transmission when there is power cut”. Another teacher from Tikondane IRI centre in Katete made a similar suggestion by stating that, “it could be better to assist by providing radios with memory cards and flash drives with all the programmes loaded”. This was further suggested by the controller at EBS who noted the following, “there were plans to institutionalise broadcasting through decentralisation. Reported that funds had been factored into the 2014 budget for the Ministry of Education to procure MP3 radios which could be managed by mentors at their respective centres rather than depending on a highly centralised community radio stations.

**Recording programmes in Advance on CDs**

Recording programmes in advance on CDs was another suggestion that teachers/caregivers felt could improve the delivery of IRI lessons. This would also address the issue of inconsistency airing of the lessons resulting from both power outages and poor radio reception. The teacher in this regard will be responsible for ensuring the lessons are presented in their respective sequence. It was further noted that the teacher would have enough time to prepare for the lesson. A teacher at Tikondane also indicated, “they should provide us with other modes of radios which we can operate at the centres to help the teacher to teach what he has prepared other than relying on the community radio stations..Provision of additional radios and enough teaching and learning materials such as books could help in improving IRI lesson delivery in centres would also improve the quality of learning. Most of the centres visited did not have both in-doors and out-doors play materials for children.

**Allocating Specific days for IRI programmes on radio**

Most of the teachers/caregivers who participated in the study suggested that IRI lessons needed to allocated specific days so that children could exclusively benefit from IRI methodology. A teacher from the Chandema IRI centre in Petauke district suggested, “it would be good to have specific days when the programme is broadcast and deliberately repeated in order to help the children who could have been absent the first time to also learn something on the topic they might have missed”. A teacher at Munga IRI centre also indicated the inadequacy of the time allocated for the children to complete the work, “for example, when the teacher is giving instructions that is when other children are writing the previous question... lessons are too fast for the children to understand. I feel the 30 minutes allocated is not enough especially that we are dealing with young children who are slow when writing”.

Undoubtedly, airing of the programme for 30 minutes in three days; that is 1:30 minutes was far too inadequate to gauge the potential benefits of the IRI methodologies. Although the package for IRI methodologies constituted a combination of IRI and non IRI mode of delivery, increasing the duration
and frequency of IRI broadcasting was likely to yield more benefits. The time allocated should therefore be revisited if the IRI methodology was to yield its intended benefits.

*Construction of more Classrooms /centres for the Children*

A teacher at Muchini centre observed that there was need to conduct one IRI lesson per day. Further, the teacher observed that there was need to construct classrooms specifically for IRI programmes so that the teacher would just go there and teach. A similar view was given by a teacher from Mpezeni Park Primary who suggested that “there is need to construct an independent classroom specifically for IRI and provide more radios”.

*Need for provision of Continuous Professional Development for mentors*

Furthermore, teachers/caregivers in all the centres indicated that they needed adequate training in Early Childhood Education and in the skills to run IRI programmes. Continuous Professional Development would help address the high staff turnover currently being experienced by a number of IRI centres.

*Provision of Incentives to mentors*

All the mentors who were not on government pay roll in the visited centres indicated the needed to start paying them a salary. Most teachers indicated that they did not receive salaries or incentives except for transport refunds which they were given once in a while when they attend refresher workshops. Undoubtedly, motivation of mentors would help them concentrate on teaching as opposed to abandoning teaching for other avenues of raising funds to meet their daily family needs.

4.0 Conclusion and Recommendations

The study aimed at addressing the following objectives;

1. To determine to what extent the objectives and outcomes of the project have been achieved.

2. To assess to what extent the IRI methodologies constitute an effective and alternative approach to delivering early childhood education services.

3. To identify lessons learned and provide recommendations for future programming for early childhood education.

4.1 Conclusions

The study has revealed that the objectives of the IRI project were achieved mainly in the first two years of the project implementation as demonstrated by the increase in the number of ECE centres in
the sampled districts, increase in enrolment, and capacity building through training of mentors and the ECE committees at the community level. However, these positive attributes have been over shadowed by the number of challenges that have resulted into a drastic decrease in enrolments, high mentor attrition rates, inadequate community support, closure of some IRI centres, and the continued reduction of functional radios in the sampled IRI centres.

As regards the extent to which IRI methodologies constitute an effective and alternative approach to delivery ECE services, the study revealed that IRI could be effective as evidenced by superior performance in learning outcomes among children under IRI methodologies in comparison to those not accessing any ECE services. However, given the many challenges highlighted in this study, IRI should not be implemented as a stand-alone mode of delivery but should instead be seen as complimentary to the conventional mode of delivery of ECE services to ensure quality and efficiency in the provision of ECE. It would be a mistaken assumption to compromise quality for quantity if the learning outcomes of ECE services being provided are to be visible.

4.2 Recommendations

Arising from this study, a number of recommendations have been made. These recommendations have been divided into the following two categories: strategic and operational recommendations.

*Strategic Recommendations (S)*

Need to invest in infrastructure development. The study revealed that IRI programmes (where they still existed), were offered in structures that were meant for conventional ECE programmes. This created the problem of overcrowding in most centres visited.

There is need for Continuous Professional Development for mentors to ensure that mentors who have left are easily replaced without necessarily creating a gap in the delivery of IRI lessons. This would also enable the mentors to remain up to date with the current trends in ECE. Given the high attrition rate, it is recommended that Continuous Professional Development be undertaken at least every 6 months through the District Resource Centres.

Payment of mentors. Mentors should be put on government pay roll as was the case for untrained teachers. Among the major challenges found in the running of IRI programmes found in all the four districts was the low motivation of mentors due to non payment of salary for the work they do. This led to a number of mentors, some of whom were trained, leaving the programme midway.
Operational Recommendations (O)

More radios need to be distributed within communities. This evaluation revealed that implementation of the IRI methodology was in some cases hampered because radios were non-functional.

Given that the IRI methodology proved to be interesting and stimulating to children, it is recommended that the use of the radio be integrated into the conventional ECE settings.

Enhance quality through effective monitoring and evaluation. In almost all the centres sampled in this study, participants indicated that there was no sustained monitoring and evaluation of IRI programmes. This weakness meant that challenges could not be detected early enough to prevent discontinuation of programmes in due course.

Community participation to ensure sustainability. The study revealed that even if the introduction of the IRI programme had improved access to ECE, a number of centres ended up closing due to lack of partnerships with the community members. As the people who are more in touch with the children, community members need to be more actively involved in the running of the IRI programmes. To ensure that this happens, ECE community committees need to actively work in collaboration with teachers in IRI centres.

Decentralisation of IRI broadcasting. Among the major complaints that arose from the current study was that the lessons were inconsistently delivered due to power cuts and other disruptions. To avoid this limitation, there is need to provide centres with lessons on CDs so that they are in control of when to play which lesson. Such decentralization will allow local mentors to have more active interaction with the children and respond to individual needs of children.
References


Annex 1: Terms of Reference

Background

The key priorities for the Education Sector in the current UNICEF Country Programme for 2011 to 2015 are aligned with the objectives of the Sixth National Development Plan (SNPD) and the Ministry of Education, Science, Vocational Training and Early Education (MESVTEE) National Implementation Framework III (NIF). One of the issues proposed in the NIFIII is to increase the number of children accessing Early Childhood Education (ECE) to the national target of 30% by 2015. In order to achieve this target, a number of strategies have been implemented which include establishing private, community and school based ECE services. In 2011, the MESVTEE requested UNICEF Zambia Office to assist in the Ministry through the Education Broadcasting Services to implement ECE services in Eastern province through the use of the Interactive Radio Instruction (IRI) methodology.

Since 2000, the Ministry of Education, Science Vocational Training and Early Education (MESVTEE) through the Educational Broadcasting Services has been implementing the IRI programme (Learning at Taonga) to provide education to learners in community based learning centres using Interactive Radio Instruction (IRI) methodology. This was aimed at increasing access to primary education for children who were not able to access and participate in the education process in formal schools.

In 2011, the Ministry of Education with support from UNICEF extended the use of the IRI methodology to early childhood education as a strategy for increasing access and improving quality as the IRI teaching approach also compensates the un-qualified teachers for ECE since the radio programmes are developed by professional teachers and used as supplement to the face-to-face classroom interaction.

This project has been implemented in 50 pilot ECE centres in 4 districts of Eastern Province namely Chadiza, Petauke, Katete and Chipata benefiting over 3,000 vulnerable children. The IRI methodology uses radio technology in the delivery of educational services. The radio lessons are prepared and formatively evaluated by experienced teachers and producers. These lessons are then delivered to children through radio broadcasts by Community Radio Stations transmitting within a particular district or through MP3 Radio Players where all the lessons are pre-loaded. Locally recruited volunteer teachers facilitate the learning process in the classroom based on the transmitted programme. Each caregiver is provided with a Radio and a Caregiver’s Manual which provides guidance to the caregiver on how to handle the learning process with the children.
Justification
Since 2011 the IRI has been piloted in 3 districts and decisions have to be made as to whether this approach to delivering ECE can be rolled out beyond the 3 districts. This is an external evaluation aimed at getting independent views on the performance of ECE IRI project and to provide insight into whether the objectives of the project have been met and also to document lessons learnt from this project. The outcome of the evaluation which will inform policy decisions in the Ministry of Education regarding the delivery of ECE.

Objectives / Target

The overall objective of the evaluation study will be:

i. To determine to what extent the objectives and outcomes of the project have been achieved.

ii. To assess what extent the IRI methodologies constitute an effective and alternative approach to delivering ECE services.

iii. To identify lessons learned and provide recommendations for future programming for ECD.

The consultant should assess the following:

- **Relevance** - an overall assessment of the ECE IRI project in relation to national and local priorities as set in the SNDP, NIF III and district and provincial plans
- **Effectiveness** - the measure of the extent to which the purpose and objectives of the project have been achieved. Does the IRI provide an effective approach to delivering ECE services?
- **Efficiency** - the degree to which the ECE IRI Project outputs have been achieved from efficient use of financial, human and material resources. To what extent does the IRI provide a cost-effective approach to ECE service delivery?
- **Sustainability** - the measure of how the positive changes as a result of the project can be expected to last after the end of the support from UNICEF.

Specific Tasks

**Major Duties and Responsibilities**

List the tasks and responsibilities
- Develop inception report detailing the methodology and timetable for the evaluation.
- Undertake desk review, interviews and field visit at national, provincial, district, school and community level,
- Evaluate performance of the ECE IRI project against the objectives and outcomes contained in the project document
- Identify lessons learned and provide recommendations for future programming.
- Submit a final evaluation report.

Expected Deliverables

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Expected Output</th>
<th>Estimate No of Days</th>
<th>Tentative Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>Develop Inception report with detailed work plan, methodology and evaluation instruments,</td>
<td>Inception report with detailed work plan, methodology, evaluation instruments, etc</td>
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</tr>
<tr>
<td>b)</td>
<td>Data collection, analysis, and draft report writing.</td>
<td>Submission of the draft report to UNICEF and MESTVEE</td>
<td>20</td>
</tr>
<tr>
<td>c)</td>
<td>In collaboration with the MESTVEE organize a workshop to present the draft report and get feedback</td>
<td>Draft dissemination workshop conducted and feedback received in power point presentation capturing the clearly identified findings, conclusions and recommendations</td>
<td>01</td>
</tr>
<tr>
<td>d)</td>
<td>Finalization of the final Report.</td>
<td>Submission of the final evaluation report including: Executive Summary with key findings, conclusions and recommendations.</td>
<td>04</td>
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</table>

Performance indicators for evaluation as per above timeline
Budget: Payment Schedule

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<th>Proportion of Total</th>
<th>Expected Deliverable</th>
<th>Timing</th>
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<tbody>
<tr>
<td>30%</td>
<td>Upon satisfactory submission and approval of Inception report. This fee will also cater for field work.</td>
<td>27 December, 2013</td>
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<tr>
<td>30%</td>
<td>Upon satisfactory submission of the first draft report and presentation</td>
<td>24 January, 2014</td>
</tr>
<tr>
<td>40%</td>
<td>Upon satisfactory submission of the final report.</td>
<td>31 January, 2014</td>
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</table>

Qualification/Specialized knowledge and Experience

The study will be outsourced to an individual consultant. The Consultant is expected to have expertise and experience in quantitative and qualitative research, preferably in the area of ECCDE, educational research and policy analysis.

- Qualifications
  - A minimum of a Master’s Degree in early childhood development, education, psychology, or in a relevant field of social sciences/behavioural sciences/health sciences.
  - At least 5 years’ experience in Evaluation and social research, particularly qualitative evaluation.

Specialized knowledge

- Experience in the design, management and evaluation of education projects.
- Excellent writing and analytical skills and ability to synthesize large and diverse sources of information.
- Have a good working knowledge of computers and proficient in word processing and data processing packages
- Professional competence and technical skills in project impact assessment is an essential asset.

General Conditions:
The following general conditions shall apply. The consultant shall:
- Work station: Lusaka with travel to the Eastern province for field data collection
- Applicable DSA – N/A.
- The consultant will be paid according to the agreed payment schedules upon satisfactory submission of agreed deliverables
- UNICEF reserves the right to withhold all or a portion of payment if performance is unsatisfactory, if work/outputs are incomplete, not delivered or there is a failure to meet reasonable deadlines.

Work Place and Official Travel
The consultant will be expected to travel to project sites to collect data. Travel costs will be met by the consultant as these will be part of the lump sum fee to be agreed.

UNICEF will not provide any work tools such as computers and office supplies

Ethical Considerations
All products and data developed or collected for this consultancy will be the intellectual property of the Government of Republic of Zambia, Ministry of Education, Vocational Training and Early Education and UNICEF. The consultant may not publish or disseminate the report or any other documents produced from this consultancy without the explicit permission and acknowledgement of Ministry of Education, Science and Vocational Training and Early Education and UNICEF.

Policy both parties should be aware of:
- Under the consultancy agreements, a month is defined as 22 working days, and fees are prorated accordingly. Consultants are not paid for weekends or public holidays.
Consultants are not entitled to payment of overtime. All remuneration must be within the contract agreement.

No contract may commence unless the contract is signed by both UNICEF and the consultant or Contractor.

For international consultants outside the duty station, signed contracts must be sent by fax or email. Signed contract copy or written agreement must be received by the office before Travel Authorization is issued.

No consultant may travel without a signed travel authorization prior to the commencement of the journey to the duty station.

Unless authorized, UNICEF will buy the tickets of the consultant. In some cases, the consultant may be authorized to buy their travel tickets and shall be reimbursed at the “most economical and direct route” but this must be agreed beforehand.

Consultants will not have supervisory responsibilities or authority on UNICEF budget.

Consultant will be required to sign the Health statement for consultants/Individual contractor prior to taking up the assignment, and to document that they have appropriate health insurance, including Medical Evacuation.

The Form 'Designation, change or revocation of beneficiary' must be completed by the consultant.

Annex 2: Summary of Results

<table>
<thead>
<tr>
<th>Project focus</th>
<th>Outcome</th>
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| **Relevance** | - IRI project in the four districts has enhanced equality of access to ECE  
- The strategy applied by the IRI project was relevant in that the project was implemented in the rural areas with the lowest coverage rate of participation in ECE for the target age group.  
- The objectives of the IRI project were in tandem with the provisions of the Convention on the Rights of the Child (CRC), MDGs and the EFA goals which recognizes the right of the child to education on the basis of equal opportunity. |
| **Effectiveness** | *ECE IRI methodology developed and piloted in four districts in Eastern Province.*  
- The project envisioned to establish 100 IRI centres in the sampled districts. A total of 42 centres were established in the project period. |
Community radio stations (Radio Maria in Chipata and Radio Explorer in Petauke) were contracted to broadcast the programme.

- The Caregiver manual was developed to guide the caregivers in the delivery of IRI lessons.
- Members of the community were sensitized on the importance of ECE
- IRI positively contributed to learning outcomes

*Output2: Capacity building through training or teachers/caregivers in IRI methodology.* In the three (3) years pilot period of the IRI project, a total of 75 teachers/caregivers were trained in IRI methodology.

| Efficiency | Efficiency was achieved through the following parameters.  
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<td>- utilisation of local materials in the development of the</td>
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<td></td>
<td>caregiver kit.</td>
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<tr>
<td></td>
<td>- Utilization of school levers as caregivers.</td>
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<td></td>
<td>- Community participation in infrastructure development</td>
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<tr>
<td></td>
<td>and maintenance.</td>
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<tr>
<td></td>
<td>- The use of community Radio stations</td>
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| Sustainability | Sustainability was negated by factors such as;  
|               | - high caregiver turn out                                   |
|               | - inadequate funding                                        |
|               | - Lack of monitoring and supervision                        |
|               | - disruptions in broadcasting                                |

| Efficiency | Efficiency was achieved through the following parameters.  
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<tr>
<td></td>
<td>and maintenance.</td>
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<tr>
<td></td>
<td>- The use of community Radio stations</td>
</tr>
</tbody>
</table>

| Sustainability | Sustainability was negated by factors such as;  
|               | - high caregiver turn out                                   |
|               | - inadequate funding                                        |
|               | - Lack of monitoring and supervision                        |
|               | - disruptions in broadcasting                                |
Annex 3: Consultants bio data

CURRICULUM VITAE

1. PERSONAL DETAILS

NAME: Beatrice Matafwali

PRESENT POSITION: Senior Lecturer

Contact address:
University of Zambia
School of Education
Department of Educational Psychology, Sociology and Special Education
P.O Box 32379
Lusaka

Email address: BMatafwali2000@yahoo.com
Mobile #: +260967454175

2. ACADEMIC AND PROFESSIONAL QUALIFICATIONS

(a) Academic

2010: Doctor of Philosophy Degree (Ph.D) in Special Education, University of Zambia, Lusaka.
2010: Bachelor of Laws Degree (LLB) – University of Zambia, Lusaka
2005: Master of Education (MEd- Special Education) -University of Zambia, Lusaka
2004: Post Graduate Diploma (Clinical Child Neuropsychology) Niilo Maki Institute, Finland.
2003: Post Graduate Diploma (Human Rights Law) University of Zambia, Lusaka
2002: Bachelor of Arts with Education - University of Zambia, Lusaka

b) Other Relevant Qualifications

2008 March-May: Certificate in Quantitative Research Methodology and Statistical Package for Social Sciences (SPSS), Leiden University, Netherlands.
2003 November: Certificate of Attendance (Teaching Children with Multiple Disabilities and Visual Impairments) awarded by Optima College, Pretoria, South Africa.

3. WORK EXPERIENCE

2005 –to- date: Senior Lecturer, Department of Educational Psychology, Sociology and Special Education. School of Education, University of Zambia.

2001 – to- date: Actively involved in Assessment of children with various Learning Disabilities at the University of Zambia Special Education Assessment Centre. Providing advice to parents/caregivers and teachers on various learning disabilities. Offering intervention programmes.

Dec 2001- May 2005: Staff Development Fellow. Department of Educational Psychology, Sociology and Special Education.

4. CONTRIBUTION TO RESEARCH

V. On-Going

2013 May to date: Facilitator
Validation of Zambia Child Assessment Test (ZamCAT) in Zambia, Tanzania and Malawi. This is a longitudinal study measuring the impact of Early Childhood Education on Child Development in various Non-Governmental Organisations
in **Zambia** (Mulumbo Early Childhood Development in Kabwe), **Malawi** (Namwera National Aids Coordinating Committee- NACC in Mangochi), **Tanzania** (Ekoli, Tahea, Sawa and Munduli Masai Pastoralist Community in Arusha, Mwanza, Morogoro and Monduli). Sponsored by Firelight Foundation, USA

2014 June to date: **Co-Investigator** with Dr. Chris Desmond and Dr. T. Makusha. Evaluation of the impact of Early Childhood Education for **Catholic Relief Services** Programmes in three Regions in **Malawi** (Dedza, Zomba and Lilongwe) entitled: Quality and Quantity of Early Childhood Development (ECD) services in Malawi: How much does it matter for School Readiness. Sponsored by Human Sciences Research Council of South Africa/ Conrad Hilton Foundation.

### VI. Consultancies Completed

2014 August- October: Evaluation of the Interactive Radio Instruction (IRI) in Early Childhood Education in Chipata, Chadiza, Katete and Petauke. **Lead Consultant**. Sponsored by UNICEF


2014 March-June: Validation of the Ages and Stages Questionnaire in Zambia and South Africa. **Co-Principal Investigator** with Professor Linda Richter, Dr.Celia Hsiao and Dr. Tawanda Makusha.


2010 to- 2012: Validation study on the effects of Early Childhood health and educational experiences on children’s development. This is a longitudinal study between Harvard University and University of Zambia, UNICEF, Ministry of Education and Examination Council of Zambia (Principal Investigator with G. Fink).

2012 October-November: Mapping of Early Childhood Education Services in the Ten Provinces of Zambia. **Lead Consultant**. Sponsored by UNICEF.

2014 March-April: Validation of the Ages and Stages Questionnaire in Zambia and South Africa. **Co-Consultant** with Prof. Linda Richter, Dr.T. Makusha and Dr. C. Hsiao. Sponsored by the Human Sciences Research Council of South Africa.

2011 March-December 2012: Development of Early Learning and Development
Standards (ELDS) for Zambia. **Lead Consultant.** Sponsored by UNICEF.

2011  
An Evaluation of Educational For All (EFA) Goal (1) on early Childhood Education. Sponsored by Zambia National Educational Coalition (ZANEC).  
(**Co- Researcher** with E. Munsaka as Lead Researcher).

2011  
Situation analysis of Inclusive education for the Visually impaired in Community Schools. A case of Copperbelt and Southern Provinces. Sponsored by Zambia Open Community Schools Secretariat (ZOCS) and Sight Savers International (**Co- researcher** with D. Banda and G. Tambulukani as Lead Researcher).

2010  
Development of the Zambia Child Assessment Tool (ZamCAT). Co- Sponsored by Harvard University and UNICEF. (Principal Investigator with G. Fink)

2010:  

Bachelor of Laws Obligatory Essay  

2009:  
A Situation Analysis of Early Childhood Education in Zambia. Sponsored by UNICEF. (Lead Researcher, with E. Munsaka as Co-Researcher).

2006:  

2006:  
Effectiveness of Computer Based Intervention for children with Reading Difficulties. Case of Selected Schools in Lusaka:Jyvaskyla University. Finland.

2005:  

2005:  
Nature and Prevalence of Reading difficulties in Third Grade: Case of Lusaka. University of Zambia (Unpublished M. Ed Dissertation)
Annex 4: List of Data collectors

<table>
<thead>
<tr>
<th>S/N</th>
<th>NAME</th>
<th>GENDER</th>
<th>QUALIFICATIONS</th>
<th>OCCUPATION</th>
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<tbody>
<tr>
<td>1</td>
<td>Lwiza Fulaulu</td>
<td>Female</td>
<td>BEd- Special Education, MEd- Special Education</td>
<td>Teacher</td>
</tr>
<tr>
<td>2</td>
<td>Stella Lungu</td>
<td>Female</td>
<td>BAED, MEd- Sociology of Education</td>
<td>Teacher</td>
</tr>
<tr>
<td>3</td>
<td>Marien Matafwali. Kanonka</td>
<td>Female</td>
<td>BAED, MEd- Educational Psychology (student)</td>
<td>Clinical Counsellor</td>
</tr>
<tr>
<td>4</td>
<td>Esau Mbewe</td>
<td>Male</td>
<td>BEd- Special Education, MEd- Educational Psychology (student)</td>
<td>Teacher</td>
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<tr>
<td>5</td>
<td>Samuel Kalusha</td>
<td>Male</td>
<td>BEd- Special Education</td>
<td>Teacher</td>
</tr>
<tr>
<td>6</td>
<td>Lington Mushisha</td>
<td>Male</td>
<td>BEd- Special Education</td>
<td>Teacher</td>
</tr>
</tbody>
</table>
Annex 5: ECE IRI CENTRES VISITED, STATUS OF INFRASTRUCTURE, AND DESIGNATION OF RESPONDENT DURING FIELD VISIT.

<table>
<thead>
<tr>
<th>OLD DISTRICT</th>
<th>NAME OF THE CENTRE</th>
<th>INFRASTRUCTURE STATUS</th>
<th>RESPONDENT</th>
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<tr>
<td>Chipata</td>
<td>Rejoice</td>
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<td>Caregiver</td>
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<tr>
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<td>Permanent</td>
<td>Caregiver</td>
</tr>
<tr>
<td></td>
<td>Mpezeni</td>
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<td>Caregiver</td>
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<td></td>
<td>Madalitso</td>
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<td>Caregiver</td>
</tr>
<tr>
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<td>Chisomo Streamside</td>
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</tr>
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<td>Permanent</td>
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<tr>
<td></td>
<td>Munga Primary School</td>
<td>Permanent</td>
<td>Caregiver/caregiver</td>
</tr>
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<td>Khomani</td>
<td>Temporal</td>
<td>Caregiver</td>
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<td></td>
<td>Kabvumo</td>
<td>Temporal</td>
<td>Caregiver</td>
</tr>
<tr>
<td></td>
<td>Kapachi</td>
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<td>Temporal</td>
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<tr>
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<tr>
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