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South Sudan Interactive Radio Instruction (SSIRI)

Final Report

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FINAL REPORT

SOUTH SUDAN INTERACTIVE RADIO INSTRUCTION
(SSIRI)

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ACRONYMS AND ABBREVIATIONS

AES	Alternative Education Systems
ALP	Accelerated Learning Programme
CEC	County Education Center
COP	Chief of Party
DG	Director-General
EDC	Education Development Center
FY	Financial Year
HEAR	Health, Education and Reconciliation Project
ICT	Information and Communication Technology
IRI	Interactive Radio Instruction
IT	Information technology
M&E	Monitoring and Evaluation
MoGEI	Ministry of General Education and Instruction
OA	Outreach Advisor
OC	Outreach Coordinator
P1	Primary 1 (Grade 1)
P2	Primary Two (Grade 2)
P3	Primary Three (Grade 3)
P4	Primary Four (Grade 4)
PIRS	Performance Indicator Reference Sheets
PMP	Performance Monitoring Plan
PS101	Professional Studies 101
PST	Professional Studies for Teachers
<i>Rabea</i>	Radio-Based Education for All
SCOPE	Standards-based Classroom Observation Protocol for Educators
SSIRI	South Sudan Interactive Radio Instruction
SRS	Sudan Radio Service
SSTEP	South Sudan Teacher Education Program
STA	Senior Technical Advisor
TTI	Teacher Training Institute
USAID	United States Agency for International Development
USG	United States Government

1. Executive Summary

The USAID-funded southern Sudan Interactive Radio Instruction (sSIRI) Program was created to develop interactive radio instruction (IRI) programs in English, literacy and mathematics for Grades 1, 2, 3 & 4. The focus for the project is children of school age, both in and out of school, youth and adults, and teachers and untrained mentors drawn from communities. Initially, SSIRI directly supported the (USAID) Sudan Basic Education Program (SBEP) and directly planned, developed and implemented IRI with the Secretariat of Education.

Interactive Radio Instruction (IRI) is an audio education methodology for a classroom environment. A “Radio Teacher” works with a “Classroom Teacher” to provide a student-centered lesson on a given topic. IRI differs from other audio education efforts in several ways:

- It is interactive – using dramas, songs, and activities to engage students as participants. It helps make learning fun.
- It offers regular, standardized, high-quality instruction – SSIRI schools received 30 minutes of high quality audio instruction each day through the school year for P1-P4.
- It is based on a process of continuous improvement, using an extensive network of outreach coordinators and engaging education officials, school administrators and teachers to ensure audio programs are used properly.
- It is written by South Sudanese for South Sudanese – based on existing curricula and developed with a team of South Sudanese writers and producers.

SSIRI developed IRI programs for both primary school and adult learners. The primary school program for P1-P4 was the heart of SSIRI’s efforts, and are collectively known as *The Learning Village*. A total of 480 30-minute IRI lessons were produced for the Learning Village, ultimately reaching over 420,000 children. The adult learner program, *Radio-Based Education for All (RABEA)*, offered a total of 240 episodes for beginner, intermediate, and advanced students. RABEA’s reach was also large, reaching over 68,000 learners and eventually expanding to 332 Accelerated Learning Program (ALP) Centers. Many other adults outside these groups listened to these programs in order to improve their English. A listenership survey conducted in 14 counties in 2010 found that 38% of adults interviewed listened consistently to the programs.

A third audio effort, known as *Professional Studies for Teachers (PST)*, was developed in 2005 to provide in-service teacher training. PST was rolled out at various stages during the project, but reached its largest audience in SSIRI’s final year, reaching a total of 599 teachers in 24 locations.

Though *The Learning Village*, *RABEA*, and *PST* show that SSIRI was a project with a substantial materials development effort, that is only half the story. The relationships built with Ministry, state and local officials, teachers, other implementing partners, and community members, and the tireless efforts of hundreds of their staff to strengthen and expand these relationships over a historic eight year period of national triumphs and tragedies, tells the full story of SSIRI. It is the thousands of days of work, and substantial amounts of movement among implementation sites, on motorbikes and bicycles and foot, that is the true story of SSIRI’s work. As much as SSIRI’s accomplishments are summarized here in numbers, they are also contained in countless vignettes known across South Sudan, stories of challenges and successes known by project staff and the education officials and teachers who accepted and used SSIRI programs to provide high quality, low-cost education to learners.

Perhaps the truest story of SSIRI is the one that can be told by the learners themselves, those pupils who heard *The Learning Village* each day, who stood to start every audio lesson, who sang SSIRI’s songs after school, who applied themselves and took advantage of the opportunity of SSIRI, and who are now growing into the future leaders of South Sudan.

2. Indicators and Intermediate Results

SSIRI originally reported on 5 indicators:

- Number of administrators and officials successfully trained with USG support
- Number of teachers/educators/teaching assistants who successfully completed in-service training or received intensive coaching or mentoring with USAID support
- Number of textbooks and other teaching and learning materials (TLM) provided with USG assistance
- Total number of person hours of administrators and officials successfully trained
- Number of unique adult learners (learners counted once) enrolled in non-school based (AES) classes with IRI by year

In November 2011 USAID issued new standard indicators for the measurement of and reporting on performance progress on all education-funded activities. From the guidelines issued, a number of previously reportable indicators were archived, the definition of others revised, and new standard indicators added. In March 2012, EDC updated the SSIRI Performance Indicator protocols to reflect the new guidance from USAID. This exercise did not affect the project's customized indicators, which mainly focus on impact measurement. SSIRI now reports on the following indicators, the details of which are reflected in the project's Performance Indicator Reference Sheets (PIRS):

1. Number of administrators and officials successfully trained with USG support
2. Number of learners enrolled in primary schools and/or equivalent non-school based settings with USG support
3. Number of teachers/educators/teaching assistants who successfully completed in-service training or received intensive coaching or mentoring with USAID support
4. Number of textbooks and other teaching and learning materials (TLM) provided with USG assistance
5. Number of schools using Information and Communication Technology with USG support (*new and adapted*)
6. Total number of person hours of teachers/educators/teaching assistants who successfully completed in-service training or received intensive coaching or mentoring with USG support (*new and adapted*)
7. Total number of person hours of administrators and officials successfully trained (*new and adapted*)

The following table summarizes these indicators over the life of the project. The final two rows show disaggregated figures for learners enrolled in primary school and non-school based (AES) classes, respectively.

INDICATOR	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	EOP ACTUAL	EOP TARGET
Indicator: 3.2.1-3: Number of administrators and officials successfully trained with USG support	-	34	194	122	190	404	264	1,208	598
Indicator 3.2.1-14: Number of learners enrolled in primary schools and/or equivalent non-school based settings with USG support (adjusted for double counting and includes only unique learners)	-	-	93,869	40,691	59,200	107,275	119,201	420,235	384,656
Indicator 3.2.1-31: Number of teachers/educators/teaching assistants who successfully completed in-service training or received intensive coaching or mentoring with USAID support	504	928	1,109	975	1,450	2,616	1,822	9,404	7,596
Indicator 3.2.1-33: Number of textbooks and other teaching and learning materials (TLM) provided with USG assistance	-	928	2,350	1,712	2,939	4,281	5,919	18,129	14,710
Indicator 3.2.1-36: Number of schools using Information and Communication Technology due to USG support	-	-	516	333	644	1,092	1,205	1,205	
Indicator 3.2.1-41: Total number of person hours of teachers/educators/teaching assistants who successfully completed in-service training or received intensive coaching or mentoring with USG support	12,096	22,272	26,616	23,400	34,800	62,784	43,728	225,696	182,304
Indicator 3.2.1-43: Total number of person hours of administrators and officials successfully trained	-	816	4,656	2,928	4,560	9,696	6,336	28,992	14,352
Number of <u>unique</u> learners (learners counted only once) enrolled in primary school classes with IRI by year	-	-	79,118	33,565	50,401	92,254	96,130	351,468	
Number of <u>unique adult</u> learners (learners counted once) enrolled in non-school based (AES) classes with IRI by year	-	-	14,751	7,127	8,798	15,021	23,070	68,767	

3. Program Development

SSIRI began technical activities in August 2004 out of Nairobi, Kenya. The overall project plan was to begin production and project activities in Kenya and gradually transition all activities to southern Sudan as conditions allowed. A plan to construct offices and quarters in Maridi progressed up to the point of obtaining a construction bid in late 2005, but unfortunately deteriorating security conditions ultimately prevented this plan from moving forward in Maridi. Therefore, the project operated out of Nairobi with field offices in Southern Sudan until October 2009 when more outreach and administrative operations moved to southern Sudan, with the production studio and staff remaining in Nairobi.

Nairobi production continued at a brisk pace, with the Sudanese scriptwriting and production team working to write, record, test and finalize a large amount of high-quality, southern-Sudan specific audio education programs. The three main efforts of the production team were the *Learning Village*, *RABEA (previously called TERBIA)*, and *Professional Studies for Teachers (PST, also called PS101)*.

Learning Village

The heart of SSIRI is *The Learning Village*, a series of 480 half-hour programs targeting primary school grades P1 to P4 – 120 lessons per grade. The programs are based on the Ministry of General Education and Instruction syllabi and include instruction in English, local language literacy, mathematics, and life skills such as HIV/AIDS, mine risk awareness, and peace education. The original programs for P1 to P3 consisted of 100 30-minute programs for each year, while P4 had 120 programs. In 2010 it was decided to increase all the courses up to 120 programs, so 20 revision lessons were written and recorded for each of the first three years. These lessons are designed to be used after every five original lessons.

The radio programs are broadcast in English and require that the classroom teacher translate some of the instructions and exercises into the local language. Thus, the teacher is a key partner and both the teacher and the pupils are very active during each lesson. There is interaction between the pupils, the classroom teacher and the radio teacher. The pupils answer questions, move around, play games, and sing songs. The classroom teacher is active throughout the lesson and, through daily implementation of the IRI lessons, learns good methods of teaching. After each broadcast, there are after-broadcast activities, which are designed to have children practice the skills learnt in the lesson and give the teacher a chance to assess the pupils' progress.

The following is an overview of each Learning Village series:

- Learning Village P1 & P2: In every P1 and P2 episode, the Radio Teacher, Madame Rhoda, helps her radio friends, Nyadak, Wani, Deng and silly Lotole the hare, as well as her friends in the classroom, learn how to read and write in the local language, how to understand and speak English, and how to apply mathematics to their daily lives. South Sudan has many languages. The lessons are broadcast in English so local language literacy is taught by asking the classroom teacher to translate various parts of the lesson from English to the appropriate mother tongue.
- Learning Village P3: In every P3 SSIRI program, a new Radio Teacher, Teacher Anna, helps pupils develop mathematic skills to use in their daily life, understand and speak English, improve their literacy in local language and learn to read and write some basic English words.
- Learning Village P4: English language and mathematics are the focus of P4. This drama-driven series introduced learners to radio learners Mimi and Bobo, who live in a riverside community and learn from a wise fisherman named Khemis, a schoolteacher named Norah, and a mischievous talking fish named Jessica.

RABEA

RABEA stands for Radio-based Education for All. The RABEA English language programs provide an opportunity for South Sudanese to strengthen their English language and numeracy skills while, at the same time, engaging in important issues around the Comprehensive Peace Agreement (CPA) and civic education. Originally called TERBIA, standing for Teaching English through Radio-Based Instruction for All, the name was changed at the request of the Ministry in 2009 to avoid confusion with the Arabic word *terbia*, which means education.

RABEA targets audiences with a range of English language skills. A total of 240 half-hour lessons were created, for beginner, intermediate, and advanced level learners. The lessons use the same IRI methods as *Learning Village*, but without the songs.

RABEA Beginners 1 & Beginners 2

RABEA Beginners 1 and 2 are two series of 60 programs each, featuring Kaka, a radio facilitator, who supports the classroom facilitator to help the learners to understand, speak, read and write in English. Another radio facilitator, Adwok, assists the classroom facilitator to develop the learners' mathematic skills for use in their everyday life. Four radio learners, Keji, Ayen, Lam and Jada, help by answering questions and modeling the correct response.

During the after-broadcast activities, the classroom facilitator is encouraged to introduce civic education topics and use them to improve the language skills of the learners. In Beginners 1 the topics are related to the geography and history of

Sudan, especially the recent history, human rights and conflict resolution. In *Beginners 2*, the after-broadcast discussion topics deal with health issues, such as nutrition, water and sanitation, hygiene, HIV/AIDS and other contagious diseases.

RABEA Intermediate

RABEA Intermediate was developed in 2009 and 2010 to provide a bridge between the Beginner courses and the Advanced. It was launched in the fourth quarter 2010. It consists of 60 30-minute programs accompanied by a facilitator's guide and continues the development of English language skills from the Beginner courses. The 60 lessons are organized around five characters, Ajak, Kaku, Jemila, Tiya and Dr Lino, from different towns in South Sudan. They enjoy meeting people, walking around their towns, food and drink, keeping healthy, and traveling to various places in South Sudan. The learners listen to conversations, repeat what they hear, answer questions and participate in role plays.

RABEA Advanced

RABEA Advanced was designed for those who already had some proficiency in English but wanted to improve their English language skills. It was designed to be broadcast to the general public and not necessarily be used within the context of adult learning groups; however, a few voluntary learning groups were formed in secondary schools to listen to the programs with a teacher after regular classes. The series consists of 60 thirty-minute programs dealing with civic education.

Schedule of development

Learning Village P1 – completed 2005. First broadcast Quarter 2, 2006
Learning Village P2 – completed 2006. First broadcast Quarter 3, 2006
Learning Village P3 – completed 2007. First broadcast Quarter 4, 2007
Learning Village P4 – completed 2009. First broadcast Quarter 3, 2009
RABEA Advanced – completed 2007. First broadcast Quarter 2, 2007
RABEA Beginners 1 – completed 2008. First broadcast Quarter 2, 2008
RABEA Beginners 2 – completed 2008. First broadcast Quarter 3, 2008
RABEA Intermediate – completed 2010. First broadcast Quarter 2, 2010

Professional Studies for Teachers

Professional Studies for Teachers (PST) is a program to support the development of teachers as part of the MoGEI in-service teacher education program. The first course is *Classroom Management and Administration* and is known as PS101. The course has been developed into a twelve-week radio series.

The scripts for the original ten radio programs, called *Strides into the Future*, were developed by the Sudan Basic Education Program (SBEP). EDC then developed an introduction for week 1 and a final program for week 12 and created a structure for implementing the series with teachers. This series was produced and then piloted in

summer 2005. The programs were implemented on a small scale in 2009 in Maridi and Yambio. They were more widely implemented in 2011 and 2012. Originally envisioned as a weekly radio broadcast (indeed, initial rollout was radio based), *PS 101* was ultimately provided to teachers at a variety of locations via low cost MP3 digital devices.

4. Outreach IRI

Expansion

SSIRI overcame many challenges to expansion, eventually reaching a total number of 10 states and 34 counties (out of 79 total). All told, SSIRI reached 873 schools, 372 ALP centers (4-year accelerated program that covers the 8 years of formal education).

Initially, USAID and SSIRI leadership had decided to implement the program in 5 locations -- Maridi, Rumbek, Panyagor, Pochalla and Kurmuk. Then, USAID encouraged SSIRI to spread more quickly and more sites were added in Southern Sudan. Later, with the shift in the USAID strategy to focus on the Three Areas and the urban areas, SSIRI found ways to use existing project resources to expand implementation, traveling to remote locations, mobilizing communities, and working closely with local authorities, partner NGOs, and teachers in order to carry out the training and distribution of materials.

At the start of the project, SSIRI trained teachers and used schools in Maridi and Rumbek for formative evaluation of the *Learning Village P1* and *P2* programs. In 2005, four additional locations (Kurmuk, Pochalla, Panyagor and Kurmuk) were selected for the 2006 implementation of the program. Eventually in 2006, the program was implemented in 14 locations, Maridi, Yambio, Juba, Kajokeji, Rumbek, Panyagor, Pochalla, Boma, Kauda, Kadugli, Waat, Julud, Yabus and Kurmuk.

In 2007, one more county was added, Malakal and also Abyei. By the end of 2007, SSIRI programs were being used by 42,045 pupils in primary schools, and 9,964 youth and adults in adult groups.

Further expansion was planned in 2008, but, following the mid-term evaluation of the project which recommended concentration on quality rather than expansion, only two counties were added in Western Equatoria (Nzara and Mundri), two in Eastern Equatoria (Torit and Magwi), two in Jonglei (Bor and Twic), Yei in Central Equatoria, and Wau and Jur River in Western Bahr el Ghazal. As a result of fighting between the north and the south in Abyei, the program was closed down in Abyei. Continuing insecurity in Abyei meant that the program never restarted in that area. The number of schools in Blue Nile State dropped, because the government reduced the number of English medium schools to three in Kurmuk and one in Yabus. The OC in Kurmuk resigned in 2009 and was not replaced.

By the end of FY2008, SSIRI programs were being used by 78,680 primary school learners and 16,622 youth and adults in 19 counties and six locations in the Three Areas.

In FY2009, EDC stopped broadcasting on shortwave. Because Pochalla and Panyagor were not served either by a local FM radio station or by Miraya FM, the UN radio station, the program was discontinued there. The local FM station in Bor proved unreliable, so Bor was also dropped from the program. No additional counties were added to the program.

The initial five-year project ended in June 2009. Extensive expansion of the program was planned in the three-year extension which was approved by USAID. Initially in 2010, the program was expanded to include seven more counties, Lainya and Morobo in Central Equatoria, Rumbek Central and Rumbek East in Lakes State, Kapoeta East in Eastern Equatoria, Fashoda in Upper Nile, and Rubkona in Unity. Discussions were held with State Ministry officials in Jonglei, Warrap and Northern Bahr el Ghazal, but implementation was delayed until 2011 because of difficulties in identifying suitable candidates for posts as Outreach Coordinator.

In 2011, the program reached its maximum extent. Outreach Coordinators were appointed in fourteen additional counties, as shown in the table below.

Outreach and support of the program

SSIRI was supported by an extensive network of Outreach Advisors (OAs) and Outreach Coordinators (OCs), who were tasked with conducting trainings and providing monitoring support at the state level and county level, respectively. In the early days of the project, coordinating the day-to-day efforts of OAs and OCs was extremely difficult due to poor communications infrastructure. Thuraya satellite phones and BGAN satellite data uplinks were used with varying success until private telecommunications infrastructure and an expanding network of internet access points made email reliable enough to make regular submission of monitoring reports possible. At the height of SSIRI's operations, 5 OAs oversaw the work of 28 OCs, who supported 34 counties across southern Sudan.

States	Counties with an outreach coordinator	Counties without an OC
Western Equatoria	Yambio, Maridi, Mundri West, Tambura	Ezo, Ibba, Nzara
Central Equatoria	Juba, Yei, Kajokeji, Lainya, Morobo, Terekeka	
Eastern Equatoria	Torit, Magwi, Kapoeta East	Ikwotos,
Western Bahr el Ghazal	Wau, Jur River, Raja	
Northern Bahr el Ghazal	Aweil Town, Aweil East	Aweil West
Upper Nile	Malakal, Fashoda	

States	Counties with an outreach coordinator	Counties without an OC
Lakes	Rumbek Central, Wulu	Rumbek East
Unity	Rubkona (Bentiu), Leer	
Jonglei	Bor, Pochalla	
Warrap	Kwajok/Gogrial, Tonj	

Radio broadcasts

SSIRI began radio broadcasts of the *Learning Village* Primary 1 (P1) radio program on Monday, March 6 2006 over shortwave radio. Reception quality was tested in various locations across the region, including initial sites in southern Sudan, Khartoum, and Nairobi. Initial reports of shortwave interference resulted in changing the SW transmission site to higher wattage transmitter by June 2006. Regular monitoring reports indicated the SW signal was loud, clear, and adequate after this adjustment.

In Q4 of 2006, an independent analysis of the shortwave access in Southern Sudan was funded by USAID for the Sudan Radio Service (SRS). Although SSIRI was not included in this research, (no SSIRI staff members were contacted, no classrooms were observed, no SSIRI broadcasts were mentioned in the report), the consultant stated that “the transmission of SRS is not adequately received on portable SW analogue or digital radios, which seriously impacts the effectiveness of sSIRI’s [sic] literacy programs.”¹ The consultant recommended that shortwave radio continue to be the medium for SRS and SSIRI programming in Southern Sudan, that transmission be sent from Dubai (among other locations) and that research continue on the use of FM stations. SSIRI had started researching FM and shortwave alternatives in early 2006; in addition, SSIRI began researching the possibility of using other communication technologies, such as CD and MP3 players, to avoid issues inherent to radio (and specifically shortwave) broadcasts. SSIRI’s internal checks on transmission did not match those of the consultant, but based on the recommendations the project accelerated its search for alternative delivery options.

One solution to the problems with shortwave broadcasts was immediately implemented. SSIRI contracted local FM stations to broadcast the programs. The UN also operated a radio station, Radio Miraya, which had relay stations in many of the major centers. Radio Miraya started broadcasting SSIRI programs in 2007 for two hours a day. In 2009, however, the management of the station decided to broadcast only programs they produced themselves and they stopped broadcasting the SSIRI pre-recorded lessons. To make up for the loss of the extensive coverage of Miraya,

¹ Quick, J. Christian, 2006. *Assessment of Sudan Radio Service and Shortwave Access in Sudan*. p. 3

the project entered into agreements with a total of 22 different local FM stations as shown in the table below.

	Name of Radio Station	FM	Location	Programs broadcast
1	SRS FM	98.6	Juba	LV/RABEA
2	Bakhita FM	99.0	Juba	LV for P4
3	Spirit FM	99.9	Yei	LV/RABEA
4	Grace FM	95.1	Kajo Keji	RABEA
5	Voice of Kajo-Keji	92.0	Kajo Keji	LV
5	Magwi FM (to 2011)	92.5	Magwi	LV/RABEA
6	Voice of Freedom (from 2012)	93.0	Magwi	LV/RABEA
7	Nehemiah Trumpet Call FM	97.0	Pageri	LV/RABEA
8	Voice of Eastern Equatoria	97.5	Torit	LV/RABEA
9	Radio Jonglei	95.9	Bor	LV/RABEA
10	Radio Bentiu	99.0	Bentiu	LV/RABEA
11	Sout al Mohaba (Voice of Love)	93.6	Malakal	LV/RABEA
12	Good News Radio	89.0	Rumbek	LV/RABEA
13	Naath FM – Leer (2011 only)	88.0	Leer	LV/RABEA
14	Radio Weer Bei	99.9	Malualkon	LV/RABEA
15	Don Bosco FM	91.0	Tonj	LV/RABEA
16	Wau FM (stopped 2011)	95.0	Wau	LV/RABEA
17	Voice of Hope Radio (from 2011)	98.65	Wau	LV/RABEA
18	Mayardit FM (2011 only)	90.7	Turalei	LV/RABEA
19	Kwajok FM	99.0	Kwajok	LV/RABEA
20	Yambio FM	90.0	Yambio	LV/RABEA
21	Maridi FM	100.0	Maridi	LV/RABEA
22	Ezo FM	91.0	Ezo	LV/RABEA

Audio Devices

In September 2005, SSIRI took possession of 180 wind up/solar powered Lifeline Radios donated by Freeplay. These radios were subsequently sent to Maridi, Sudan where they were first stored and then later distributed in advance of initial P1 broadcasts.

In Q2 2006, initial meetings with NDI were held to outline an NDI donation to SSIRI of radios, funded by USAID. NDI aimed to target four groups to receive the radios: civil society organizations, local authorities and community leaders, DDR groups, and education. All of the radios for the education sector were planned to be given to SSIRI for use by teachers in the Three Areas.

In Q3 2006, SSIRI procured an additional 200 Freeplay radios and shipped them to Lokichoggio, Kenya where SSIRI staff traveled to label and catalog them. A plan was devised to transport the radios to their final destinations in South Sudan and the Three Areas. In June 2006, 163 radios were distributed to SSIRI participants.

In Q1 2007, SSIRI received 160 Free Play radios from the National Democratic Institute (NDI) and stored them at the new shared AED/SSIRI office space in Juba. NDI gave SSIRI a large number of additional Free Play Radios. SSIRI first stored these radios in a container at SDV logistics before moving the container to the SRS radio station in 2010.

In Q4 2007, SSIRI began targeted research into low-cost educational technologies, especially MP3-enabled devices, that could allow schools to use SSIRI programs without complications associated with radio broadcasts (poor reception quality, limited coverage, and differing optimal broadcast times). SSIRI worked with a consultant to identify and test a wide variety of potentially appropriate devices².

In Q4 2008, NDI provided training to many of EDC's outreach staff on the use and care of the Lifeline radio. In addition NDI handed over 4,539 remaining Lifeline radios. EDC had previously received 2,470 radios from NDI.

In 2010, SSIRI encountered serious problems with the provision of MP3 players. Devices that appeared promising were not available or extremely difficult to obtain; as a result, EDC ordered 400 of new Lifeplayers produced by Lifeline Energy, who had previously manufactured the Lifeline radio, which had proved ideal for rough conditions. The Lifeplayers are combined radio and MP3 players, and the SSIRI programs were loaded at the factory onto an internal SD card. However, when they arrived and were tested in 2011, it was found to be impossible to recharge the batteries by the solar panel or the winding mechanism to last for more than 10 to 15 minutes. As a result it was not possible to replace any of the digital devices which had broken down.

The failure of the Lifeplayer would, unfortunately, hound SSIRI through the end of the project. Major engineering and quality control problems persisted in the devices, and SSIRI doggedly worked with Lifeline Energy to solve these issues.

² A table listing these devices can be found in Annex E under Q4 2007

In the first quarter of 2012, extensive testing of the 400 Lifeplayers, pre-loaded with all the SSIRI programs, showed that it was possible to charge them sufficiently to use in the classroom by using a larger external solar panel. Accordingly 400 3-watt solar panels were purchased and the Lifeplayers were distributed to schools and ALP centers which could not access the radio broadcasts, and the teachers and education officials were trained in their use.

The remaining 982 Lifeline radios, which were received from NDI in 2008, were fitted with new rechargeable batteries to replace the old batteries which could no longer hold a charge, and distributed to schools during the second quarter of the year.

A sample of a modified version of the Lifeplayer was received from Lifeline Energy in the third quarter. Tests showed that two hours of charging in the sun gave up to 90 minutes of playing time, and even better results could be obtained by leaving the solar panel in the sun while the Lifeplayer was playing. The purchase of 3500 Lifeplayers loaded with the SSIRI programs is in the approved budget, in order to allow schools and ALP centers to use the programs when the project has ended and MoGEI has no funds to pay the radio stations to broadcast the programs. In discussions with USAID South Sudan education team, it was agreed that EDC should submit a proposal for funds to be transferred from the SSIRI budget to EDC's SSTEP project for the purchase and distribution of the Lifeplayers, since they could not be procured before the end of the project. Accordingly, a proposal was submitted to USAID in August and approval granted in September.

Training

By 2009, SSIRI was conducting three types of standard training workshops. There was a four-day workshop for education officials who were new to SSIRI programs, which introduced them to the programs and trained them to train and supervise the teachers and facilitators. There was a four-day course for teachers and head teachers to train them to use *Learning Village* broadcasts in their classes. The third course was for facilitators of adult learning groups to train them to use *Rabea* programs in their groups. The training manuals for these three training courses were completed and finalized during 2010 and were distributed to all the states.

In addition to the three standard training workshops, SSIRI also conducted refresher workshops for teachers who were found during monitoring visits to be in need of further training. The content of the refresher courses varied and was based on the specific difficulties of teachers that outreach coordinators identified during these monitoring visits.

A brief description of the three standard training workshops is included below.

Workshops for Education Officials

The workshops were designed to train MoGEI officials to plan and conduct training courses for teachers. The workshops were guided by a Facilitator's Manual, which included the following sections:

- Section 1. Introduction to the Facilitator's Manual
- Section 2. Workshop Planning and Facilitation: guidance on planning, preparing for, and facilitating the workshop.
- Section 3. Workshop Facilitation Guide: step-by-step facilitation instructions for the four-day training workshop for MoGEI officials.
- Section 4. Workshop Handouts: all the handouts needed.
- Section 5: Workshop Flipcharts: all the flipcharts needed.
- Section 6: Facilitator Resources: useful information for workshop facilitators. These include suggestions for short daily evaluations, brief explanations of the different participatory methods used, and tips for handling difficult participants.

Learning Village Course

The *Learning Village* workshop is a four-day training for primary school teachers that focuses on introducing South Sudan Interactive Radio Instruction (SSIRI) and practicing the skills needed to use the *Learning Village* program. The four days cover teaching and learning methods for math, literacy and English, using songs, record keeping and assessment, and provides participants with a chance to practice using *Learning Village* in micro-teaching sessions. They are introduced to the teacher's guide and shown how to use the teaching aids in the guide.

RABEA Course

The RABEA workshop is a four-day training that focuses on introducing Interactive Radio Instruction (IRI), the South Sudan Interactive Radio Instruction (SSIRI) Project, and building and practicing skills teaching with the RABEA program. The sessions are similar to the *Learning Village* sessions described above, but use RABEA lessons for demonstration and micro-teaching.

Monitoring

A major function of the SSIRI outreach staff, Outreach Advisors and Coordinators, as well as M&E Officers, has been to monitor the implementation of the program in the schools and adult centers. Monitoring visits have been conducted regularly in conjunction with the Ministry officials from the state, county and payam offices. Initially two versions of a monitoring form were used, one for *Learning Village* and one for RABEA. In 2010 a new form was designed which could be used for both programs.

The monitoring form recorded the details of the schools and the teacher, and the quality of the broadcast or recording. The monitor was required to check a list of

different aspects of the IRI lesson before, during and after the broadcast. The monitoring form is attached as Annex C.

Sustainability

SSIRI's focus on sustainability can be seen in longitudinal work with ministry officials at the national, state and local levels. Where possible, understanding and ability to administer SSIRI programs was systematically transferred to county education officers.

The major focus of the project in 2012 was preparing the Ministry of General Education and Instruction officials to manage the program. In the first quarter, review and planning meetings were held in each state to plan for 2012 and the end of the project. In February 2012 the Director-Generals and Alternative Education Systems Directors from each state met in Juba to discuss the end of the project and how they would sustain SSIRI activities. They returned to their states and held meetings with county education officials to prepare them for managing the program. Training and briefing workshops were then held in each county for Ministry officials. Thereafter the project staff acted in an advisory role with the Ministry officials taking responsibility.

Future administration and device distribution responsibilities were transferred to the South Sudan Teacher Education Project (SSTEP) in 2012.

In retrospect, SSIRI might have done more to build capacity for ongoing production and program modification within the ministry, to ensure that IRI programs can be updated and adjusted to fit future needs, such as new curricula or national standards. The original project goal of building a full compound in Maridi may have facilitated this, but conditions that prevented this construction (as outlined in Annex E, Q2 2006) made this difficult to achieve within the original scope of the project.

Time will tell if the Government of South Sudan's very real challenges in funding will allow SSIRI to be maintained in the future.

5. Teacher Education

Support to Teacher Training Institutes (TTIs)

Project support to TTIs started in 2007 when USAID approved the establishment of computer centers at four TTIs and the use of ICT and video technology to support teacher education. The original plan was to provide VSATs and computers to Maridi, Arapi and Aramweer TTIs and one county education center (CEC). However Aramweer TTI ceased operating in 2007 so the VSAT and computers were sent to Malakal TTI instead. The VSAT intended for one of the CECs was installed at Juba

Day Secondary School, as the CECs had not been completed. Malakal TTI operated for a few months in 2010 but had no room suitable for a computer center so the VSAT and computers were installed in the State Ministry of Education annex adjacent to the AES office and made available for use by Ministry officials.

SSIRI appointed IT officers for Maridi and Arapi TTIs and used one of the Juba-based IT staff to provide instruction for teachers and students at Juba Day Secondary School. In 2011, the school opened the computer center to teachers from other schools, resulting in 14 teachers from other schools receiving instruction in IT. In 2012 the school received a donation of 20 additional computers from The British Council, an instructor was appointed by the Ministry, additional teachers were enrolled in the training program.

SSIRI supported Maridi and Arapi TTIs with fuel and maintenance for their generators, as well as funds for the VSAT connection. The tutors received instruction in basic computer skills, and used the internet for research and to identify instructional materials. Schedules were made for instruction to be given to students at the institutes but lack of food caused them to be closed for several months, so the instruction never took place.

In 2011 the project procured five eGranaries, large servers pre-loaded with reference and instructional materials, from which materials useful for teacher education can be accessed even if the internet connection is slow or not working. Two were installed in Arapi and Maridi and will enable the tutors to access materials after the end of the project, even if they do not have funds to maintain the VSAT subscription.

In 2011, the project changed from a VSAT to a Wimax internet connection in the Juba office, so the spare dish and modem were transported to Rumbek where Aramweer TTI had been operating in the Institute of Education buildings. A computer center was installed with ten computers, an eGranary and the VSAT. The staff will be able to use this facility until the TTI opens again.

The two remaining eGranaries with four computers each were installed in Kajokeji TTI and Kotobi TTI, since they are fully functioning TTIs with students.

In addition to supporting TTIs with computer centers and internet access, SSIRI provided the tutors with video technology skills. Through a series of workshops in 2008, 2011 and 2012, and the provision of digital video cameras and pico projectors, tutors from Arapi, Maridi, Aramweer, Kotobi and Kajokeji TTIs were trained in the use of video technology for teacher training. They learnt video production and editing skills and the use of videos during micro-teaching.

It was not possible during the project to see the full impact of these interventions, because for much of 2011 and 2012, the TTIs remained closed. It is hoped that the new USAID teacher education project, SSTEP, will be able to continue to support the

TTIs. However, that is unlikely unless the Ministry finds funds to feed the students and pay the tutors.

Professional Studies for Teachers (PST)

The PST training courses were started in sixteen counties in the last quarter of FY2011, and completed in FY2012. The courses were completed in twelve counties in the first quarter while three others were completed during the second quarter. The course in Magwi had to be canceled as a result of inter-communal clashes which caused the local instructor to leave the area. The completion rate was 93% while the pass rate was 88%. Of the 273 teachers who completed the course during the quarter, 28 (12%) gained a distinction and 73 (32%) a credit.

Twenty-six counties applied to participate in the second intake of the course in 2012. Local instructors were identified and attended a training course in Juba in February 2012 together with the Outreach Coordinators. However, as a result of delays caused by the air service in getting materials to the sites, seven counties in Warrap and Northern Bahr el Ghazal were unable to start the course. A further two counties dropped out because of problems with the local instructor. A total of 374 teachers were enrolled for the course and the completion rate was 87%. Of the 326 teachers who completed the course, 85% passed.

Of the 17 locations represented in the second intake of the PST, eight had participated in the first intake, and of the eight, four maintained 100% pass rate of the students. The table below shows the performance of the different counties in the two intakes of the course.

PST Intakes One and Two compared

Location	# of students		Completed		Completion Rate (%)		Pass		Pass Rate (%)		Overall Completion and Pass Rate (%)	
	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	Completion	Pass
Nimule	-	18	-	18	-	100	-	18	-	100	100	100
Aweil Town	-	20	-	20	-	100	-	11	-	55	100	55
Aweil East	20	20	16	20	80	100	12	20	75	100	90	89
Rumbek Central	20	40	20	31	100	78	19	31	95	100	85	98
Rumbek East	20	40	20	40	100	100	20	40	10	100	100	100
Wulu	17	26	15	25	88	96	11	16	73	64	93	68
Raja	-	20	-	18	-	90	-	10	-	56	90	56
Jur River	-	20	-	12	-	60	-	12	-	100	60	100
Kajokeji	19	16	19	14	100	88	19	14	10	100	94	100
Lainya	-	16	-	06	-	38	-	06	-	100	38	100
Terekeka	-	20	-	16	-	80	-	-	-	-	80	-
Nzara	20	20	20	20	100	100	13	17	65	85	100	75
Ezo	-	18	-	18	-	100	-	17	-	94	100	94

Location	# of students		Completed		Completion Rate (%)		Pass		Pass Rate (%)		Overall Completion and Pass Rate (%)	
	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	Completion	Pass
Bentiu	-	20	-	19	-	95	-	19	-	100	100	100
Rubkona	20	20	20	20	100	100	20	20	20	100	100	100
Leer	20	20	16	18	80	90	16	18	100	100	85	100
Malakal	-	20	-	11	-	55	-	09	-	82	55	82
Torit	18	-	18	-	100	-	13	-	72	-	100	72
Okwoto	20	-	20	-	100	-	17	-	85	-	100	85
Morobo	20	-	19	-	95	-	19	-	100	-	95	100
Yei	20	-	17	-	85	-	13	-	76	-	85	76
Yambio	18	-	17	-	94	-	17	-	100	-	94	100
Maridi	20	-	20	-	100	-	20	-	100	-	100	100
Mundri West	20	-	16	-	80	-	11	-	69	-	80	69
Total	292	374	273	326	93	87	240	278	88	85	90	86

PST Lessons learned

The program was initially intended to be implemented through the County Education Centers (CECs) but because the CECs were not operational, it was implemented through the County Education Offices as a stand-alone program in which each County Education Office appointed an education official or a teacher to serve as Local Instructor. This arrangement made it difficult for some of the SSIRI field staff to ensure that the program ran as scheduled. The Local Instructors performed well if they were experienced and skilled educators and the majority were committed to the program. In Lainya, Wau and Terekeka, the SSIRI field staff had to plead with the Local Instructors to mark assignments and conduct classroom observations.

As reflected by the high completion rate for all the groups of PST students (93% for the first intake and 87% for second intake), the program has been perceived by the beneficiaries as important and helpful. The content of the program challenges teachers to change their classroom practices and the interactive nature of the audio encourages teachers to engage in reflective practice.

6. Monitoring and Evaluation

a. Evaluation studies

EDC conducted a number of internal evaluation studies during the life of the project. Three were posttest/pretest studies designed to assess whether learners using The Learning Village achieved greater learning gains than a control group of learners not participating in the program.

Primary 1 2007

The first study was conducted in 2007 on P1 learners. The report presented findings of the first evaluation of learning achievement at the P1 level. The evaluation answered questions on whether learners that are exposed to IRI programs achieved basic skills in literacy and numeracy as expected at the Primary 1 level, the extent to which teachers use the IRI methodology as stipulated in the programs, as well as the contextual factors that enhance the effectiveness of IRI.

To answer evaluation questions, data was collected from a sample of 49 schools with 738 learners selected to represent 376 IRI participating schools. For learning assessment, a curriculum-based achievement tests was administered two times, a pretest in April and a posttest in November. Findings summarized below responded to specific evaluation questions and provided insights into the characteristics of the teachers and learners in governments schools in Southern Sudan.

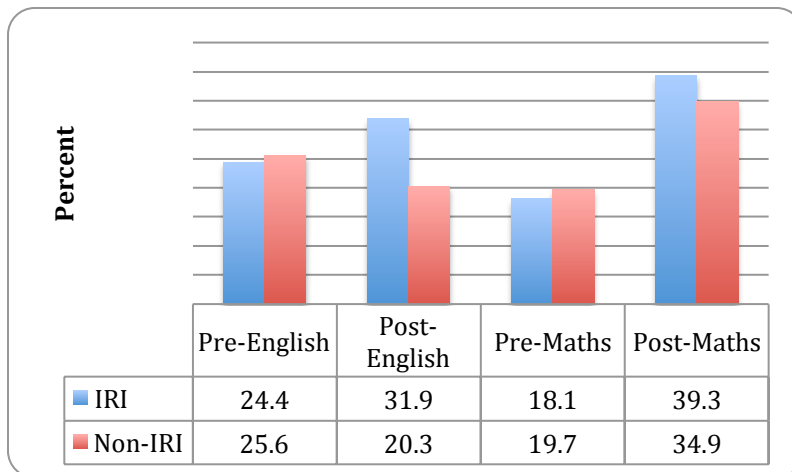
The first question of the evaluation was whether learners that are exposed to IRI programs achieve basic literacy and numeracy skills stipulated in the curriculum for the Primary 1 level. Significant gains were registered in all three subtests, even though learners performed poorly in Local Language Literacy. Learners registered a gain of 27.8 percent in English, from a mean pretest of 15.4 percent to a mean posttest of 43.2 percent. Learners gained 12.7 percent in local language literacy, from the mean pretest of 15.3 to 27.7 percent in the posttest, while the gain in mathematics was 21.8 percent (from 35.1 percent to 56.8 percent).

The results showed, also, that learners in IRI schools performed better in all three subtests than learners in non-IRI control schools. The mean difference between IRI and control learners was 14.1 percent for English, 4.3 percent Local Language Literacy and 4.3 percent for Mathematics. There were benefits in learning for learners who attended school and were present during IRI lessons. Learners whose teachers were trained in IRI performed better than those whose teachers did not receive IRI training.

Primary 2 2009

The results of the P2 evaluation were published during the second quarter of FY 2010. A total of 847 learners from 74 schools with pre- and post-test results were included in the final evaluation. 64% (542) of the learners who participated in the evaluation were from schools where the teachers use IRI, and the rest from schools where the teachers do not use IRI. The participating schools were selected from eight counties: Juba, Torit, Yambio, Nzara, Mundri, Maridi, Wau, and Jur River. Results from the evaluation indicate that primary two learners in classes where the teacher uses IRI showed higher learning gains in mathematics and English compared to classes where the teacher does not use IRI. The graph below summarizes the main finding of the evaluation.

Learners in classes with IRI attained an average learning gain of 7.5% while those in non-IRI classes registered a decline of 5%. In Mathematics, learners in classes with IRI posted better learning gains (21.2%) than those in non-IRI schools (15.2%). The difference in performance between IRI and non-IRI schools is statistically significant.



Primary 4 2010

In April and November 2010, EDC conducted a pretest posttest evaluation of P4 learners. Schools were selected in twelve counties, Juba, Mundri, Maridi, Yambio, Nzara, Malakal, Wau, Jur River, Yei, Kajo Keji, Torit and Magwi. During the final week of March 2011, the project produced the final draft of the Primary 4 Evaluation. The final analysis in the report shows that a total of 1,161 learners in 91 schools (50 IRI and 41 non-IRI respectively) completed both pre and posttests.

Results: The key results of the comparison of pre- and posttest performance of pupils in the evaluation were:

- Learners in Primary 4 classes where the teachers use IRI attained significantly better learning gains relative to those where the teachers do not use IRI³. Although there was significant overall improvement in Mathematics and English in both IRI and non-IRI schools, the learning gains were significantly better in IRI schools [Learning Gains: Math 14.6%, English language 14.4%] than in non-IRI schools [Learning Gains: Math 11.7%, English language 10.4%].
- Additionally, learners in IRI schools were 1.6 and 1.4 times more likely to obtain at least a 10% learning gain in Mathematics and English respectively compared to learners in schools without IRI.
- Although exposure to IRI leads to higher learning gains in general, the extent of the gain is modified by the learner's history of exposure to IRI. Learners who attended IRI classes in Primary 1 were twice as likely to obtain at least a 10% learning gain in English compared to their counterparts in non-IRI schools.

RABEA for Beginners

The evaluation of the RABEA for Beginners program was conducted in 2010. The purpose of this evaluation was to enable SSIRI to obtain evidence on what is working as far as the *RABEA* program is concerned, factors facilitating or hindering its implementation, and any promising practices, which could be used to improve the quality of the implementation of *RABEA*. A local consultant (Mr. Avelino Androga) was hired to manage this exercise. The key findings highlighted in the report include:

- 306 *RABEA* B learners were given mathematics and English language achievement tests. They were residents of three states, Central Equatoria-Juba (99), Eastern Equatoria-Torit (126) and Western Bahr el Ghazal - Wau (81). As indicated below, the test results showed that the performance in English language and mathematics improved significantly with increasing degree of exposure, indicating that the more lessons a learner attended, the better their performance in English language and mathematics.

³ A learning gain is operationally defined as the difference between post and pre-test scores of a learner in a particular subject. A learner obtains a positive learning gain if their posttest score is higher than their pretest score.

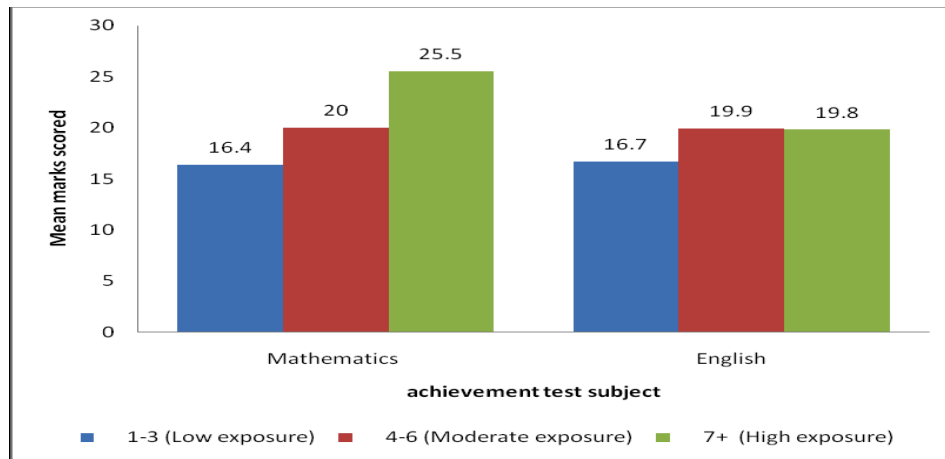


Figure 1: Mean performance (out of 30 marks) in Mathematics and English language by extent of exposure to Rabea programs

- Evidence from the data collected through personal profile interviews, key informant interviews and focus group discussions suggests that attending Rabea lessons is beneficial. During the interviews, most of the Rabea learners interviewed told the evaluation team that they had improved their English language skills (especially the use of the correct tenses and speaking) as a result of participating in Rabea classes. Most also told the team that they find classes with radio instruction enjoyable, and three of those interviewed said that the radio classes had made it easier for them to learn mathematics.
- All the *Rabea* facilitators interviewed also reported that they like the radio program, have benefited from the IRI trainings carried out by SSIRI, and have learnt interactive approaches to classroom instruction. These examples were reflected in all the three states (Central Equatoria, Western Bahr el Ghazal, Eastern Equatoria) visited by the evaluation team.

Impact of IRI on teacher performance

One of SSIRI's plans for the financial year 2010/2011 was to conduct an evaluation of the effect of using IRI lessons on teacher performance using the standards-based classroom observation protocol for educators, SCOPE. SSIRI staff and MoGEI officials were trained in the use of SCOPE and collected data on teachers in April before they had used *The Learning Village* programs and in November after they had used the programs.

Although the intention was to collect data on a sample of 100 teachers, as a result of drop-outs, the final analysis included 52 teachers for whom both pretest and posttest observation data was gathered. A third of these were IRI teachers, half of them were non-IRI status (or had not used IRI during the year), and the remaining 17.3% changed their status either from IRI to non-IRI, or from non-IRI to IRI

between the pretest and posttest observations.

The EDC team deemed the sample not to be adequate for a meaningful scientific assessment of the impact of IRI on teacher performance, and based on the characteristics of the final sample, proposed to redefine the purpose of the study. This decision was reinforced by the indication of contamination for teachers who were teaching the same class or subject as IRI teachers but were classified as non-IRI teachers. In addition, 50% of the IRI teachers used the IRI programs less than five times in a month, which indicated that they hardly used the programs at all and could hardly qualify as IRI teachers.

However, a descriptive analysis based on the sample described above, showed a dramatic increase in the total SCOPE scores for both IRI and non-IRI teachers between pretest observations and posttest observations. For the non-IRI teachers, the increase was 9.08 points (nearly 52%), and for the IRI group the increase was 12.59 points (65%). The distribution of scores was more compact for the IRI teachers both at the pretest and the posttest level, showing more consistency in displaying behaviors rated by the SCOPE. The table below shows the descriptive statistics.

Teacher IRI status		N	Minimum	Maximum	Mean	Std. Deviation
Non-IRI	Pretest SCOPE score	26	15	23	17.77	2.422
	Posttest SCOPE score	26	16	44	26.85	6.348
IRI	Pretest SCOPE score	17	16	23	19.35	1.766
	Posttest SCOPE score	17	26	36	31.94	2.633

Further analysis showed that the changes in total SCOPE scores among IRI teachers (mean increase of 12.6) was significantly higher than the increase in the total SCOPE scores among non-IRI teachers (mean increase of 9).

Despite the limitations of the sample and the underlying study design, EDC believes that the project's experiences, especially those related to training Ministry officials and project staff to use SCOPE and then using SCOPE in the field, make a useful internal report for EDC and especially for the new SSTEP project. EDC therefore wrote a more descriptive report including all the statistics based on data processed but does not put any claim on the impact of IRI on teacher performance. The EDC team believes that it contains sufficient provisions about the design and data to be distributed as a narrative report rather than an evaluation study.

Professional Studies for Teachers

During the first quarter of FY2012, an internal evaluation of the PST program was initiated. The overall objective of the evaluation was to assess whether the PST

program and training model have an impact on the classroom management skills of teachers who have not received any other professional development training. The PST evaluation followed a non-equivalent comparison group quasi-experimental design with a control group made up of teachers not selected for the next PST program. During the month of November 2011, a questionnaire was developed with scale items to measure the knowledge, attitudes and practices of teachers found in the PST training program.

In December EDC conducted the baseline (pretest) phase of the evaluation targeting 224 teachers in the experimental group, and 100 teachers in the control group from 20 counties in eight states. The baseline study was completed in January 2012. In July 2012, following the end of the twelfth training week of the PST training program, EDC and MoGEI staff conducted the final (posttest) phase of the evaluation. During the final phase, the teachers who featured in the pretest phase were once again interviewed. A total of 160 teachers participated in the posttest assessment, 53 from the non-PST teachers and 107 from the PST participants.

Generally the program implementation was successful. In total, 666 (73%) teachers were enrolled on the PST course. Of these, 90% (599) completed the course, and 86.4% (518) successfully completed and passed the course. Thirty-five (33 male, 2 female) education officials were trained as instructors and participated in the implementation of the program.

Overall, 426 teachers participated in the pre and posttest studies, but only 82 teachers completed both the pre- and posttests, with 48 teachers who participated in the 12-week PST program (*intervention group*) and 34 teachers who were non-PST program participants (*comparison group*).

The results showed that the program had significant improvement on several aspects of the teachers' knowledge, attitudes and practices related to the PST program as indicated by the teachers' self reports on:

- *Knowledge:*
 - The understanding that spending more time on task means ensuring that learners were engaged in learning as much of the class time as possible; and
 - The understanding that classrooms with lots of colourful posters on the walls encourage learning as well as the understanding that discrimination is when children in school are treated less fairly or unfairly because of tribe, sex, age, religion and academic ability.

- *Self esteem:*
 - The feeling that one has a number of good qualities as a teacher
- *Classroom management:*
 - Planning interactive activities and making sure that pupils are aware of what is acceptable and not acceptable
- *Managing classroom instruction:*
 - Developing a lesson plan for each lesson and making sure that no particular students dominate discussion during the lesson
- *Equality in the classroom:*
 - Giving girls positions of leadership in the class
- *Creating a positive learning environment*
 - Moving around most of the time to listen to pupils working in groups and giving them help
- *Attitudes:*
 - The opinion that children with disabilities should not be excluded from regular schools,
 - A teacher could not teach effectively without any teaching aids.

The major limitation to the analysis was the small samples of teachers included in the analysis, as most of the teachers who had been trained were not present in the school at the time of conducting a posttest exercise.

b. Listenership surveys

EDC conducted two listenership surveys, in 2008 and 2010, to assess the extent of those listening to the radio broadcasts who were not in a scheduled class or listener group.

In 2008, Consumer Options was contracted to conduct the listenership survey of SSIRI's programs, analyze the data and release the findings. Of the 1,184 people interviewed, 64% said that they had listened to the *Learning Village* programs, 30% to the English Advanced (*Terbia*) and 14% to the English for Beginners (*Terbia* for

Beginners) programs. 73% of the respondents said they listened to the *Learning Village* and English Advanced daily and 46% listened to the English for Beginners daily. 58-84% of the respondents said that they would like to listen to the programs in the future. 56%-78% rated the programs as “very appealing.” One striking finding was the high listenership to the primary school programs *Learning Village* among adults listening in their homes.

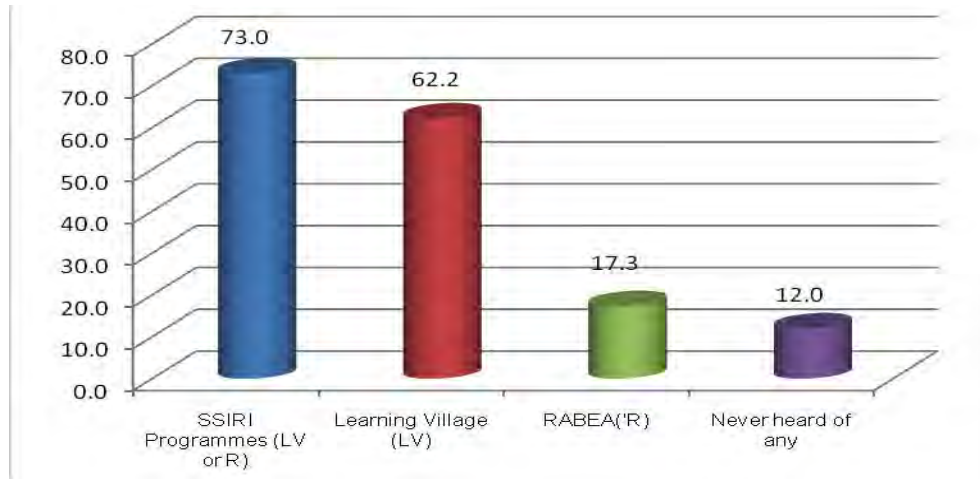
The radio listenership survey in 2010 was an independent exercise carried out by Socio-economic Data Center Ltd, a private research firm from Uganda.

Apart from estimating the proportion of individuals in the project areas who consistently listen to SSIRI’s radio-based programs outside the formal classroom setting, the survey also sought to: (a) provide a profile of individuals who listen to the SSIRI programs; (b) assess the level of awareness of the SSIRI programs in Southern Sudan; (c) assess people’s perceptions and views on the SSIRI programs; (d) assess the clarity of the signals of the FM radio stations broadcasting SSIRI programs; and (e) obtain feedback for improving the effectiveness of SSIRI programs.

Based on a sample of 2,191 individuals randomly selected from 14 Counties, the major findings of the survey were:

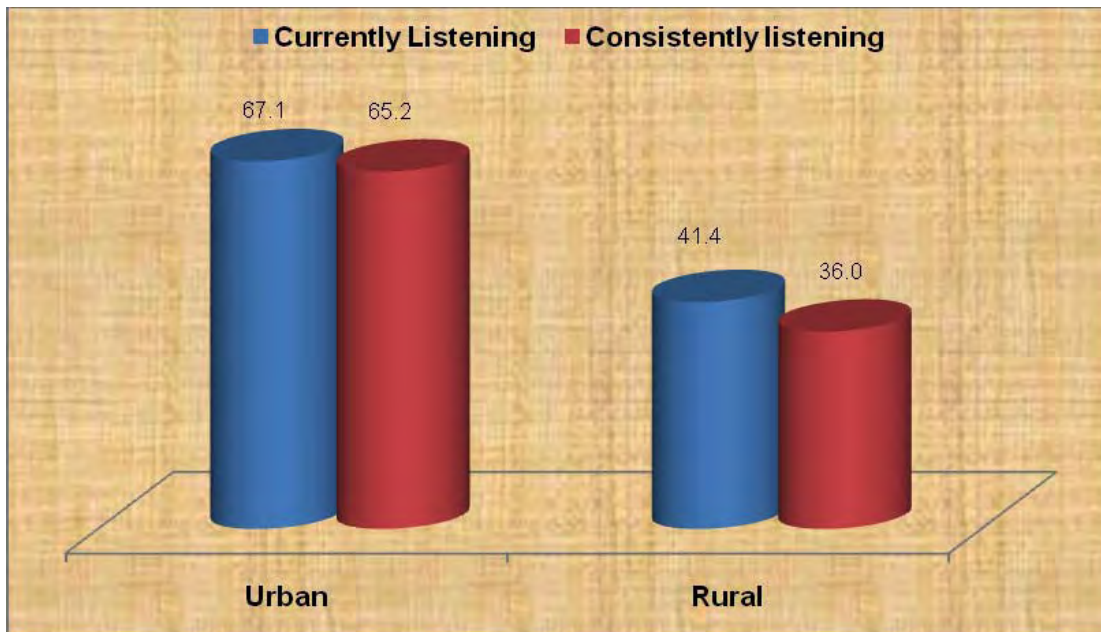
- Almost three-quarters (73%) of the respondents had heard about *Learning Village* and/or RABEA. Among them, nearly two-thirds (62.2%) had heard about the *Learning Village* program, while another 17.3% had heard about the RABEA program.
- 72% of the individuals interviewed had listened to at least one SSIRI program. 61% had listened to the *Learning Village* program, while 17% had listened to RABEA.

Figure 1: Percentage of respondents who had heard of SSIRI programs (N=2191)



- In terms of the profile of listeners⁴, consistent listeners to SSIRI programs were a varied group: they included both educated and those with no education at all, young and old, married and non-married, and employed and unemployed. People who consistently listen to SSIRI programs are evenly distributed by age and gender, although more males (40.6%) were found to listen to the programs than females (32.3%).

Figure 2: Percentage of urban/rural respondents who consistently listen to SSIRI programs



⁴ Profiles of consistent listeners to SSIRI programs were derived from comparisons of data by the various socio-demographic characteristics of respondents.

- Drawing from the sample and population characteristics, it was estimated that approximately 38.8% (*standard error* = 0.0104) of the people consistently listen to all SSIRI programs, or about 445,936 people consistently listen to SSIRI programs. Among them, approximately 31.6% (*standard error* = 0.009) or about 363,185 people consistently listen to Learning Village programs, while 8.8% (*standard error* = 0.006) or about 101,140 people consistently listen to RABEA programs. The table on page 19 provides information on these numbers by gender and county.

a. External Evaluation

USAID arranged the end of project evaluation for SSIRI from October 10th to November 16th 2011. Two external evaluators, Stuart Leigh and Andrew Epstein, were contracted through MSI to conduct the evaluation. They visited six states, Central, Eastern and Western Equatoria States, Jonglei, Western Bahr el Ghazal and Warrap. During their visits they were accompanied by two MoGEI officials and the AOTR. From the project, the Senior Technical Advisor for Outreach and the M&E Specialist accompanied the team to provide background information and respond to questions and comments. The draft report of the evaluation was presented to MoGEI, other education projects and EDC on November 16th 2011 and the final report, “South Sudan Interactive Radio Instruction Performance Evaluation Report,” was completed in March 2012.

7. Conclusion

Lessons Learned

SSIRI encountered many challenges, both inherent to Interactive Audio Instruction and specific to South Sudan during a historic period of change. Listed below are lessons learned by the project, with a brief discussion of each.

- Interactive Radio Instruction production often takes longer than projected; it is better to spend more time initially to ensure quality at the outset rather than rush production and have to revise it at a later date.
- Formative evaluation (FE) is an indispensable component of interactive radio instruction. In a situation such as that encountered by SSIRI where programs necessarily were produced far from the implementation sites, FE should occur with learning groups that are representative of the target population of learners, even if this adds significant time and cost. SSIRI began FE at Sud Academy in Nairobi, and learned that the Academy learners were an approximation of learners in South Sudan schools. While FE at Sud Academy continued, results were double-checked with a separate FE conducted in South Sudan.

- The Ministry should be involved in production from the beginning of the program, so they understand IRI methods and develop the capacity to change and update programs as necessary. SSIRI had an excellent working relationship with education stakeholders at the country, state and local levels. However, because of the circumstances of southern Sudan and the Secretariat of Education at the outset of the project, we were unable to sufficiently link the pre-Independence education institution staff to our IRI production process to the degree that Ministry staff developed the ability to edit or develop new audio for future *Learning Village* updates in order to meet changing education content and priorities.

Having said this, we must bear in mind that there were few qualified officials available in the years before Independence who had sufficient time to become fully engaged with IRI production and most already had their hands full. Nevertheless, in an ideal world and, now, in the present context of an independent South Sudan, this lesson should be incorporated into future education development activities.

- Daily, continuous, hands-on IRI Advisor support is necessary for high-capacity, dedicated scriptwriting and production cycles. Attempting to manage production from afar is extremely inefficient and, in the long run, takes longer to achieve satisfactory results because of necessary revisions.
- While MP3 delivery of IRI programs became technologically possible during SSIRI's time, classroom delivery of MP3-recorded broadcasts has not been a simple matter due to the wide variation in quality and availability of suitable devices. EDC's longtime partner in radio based instruction, Freeplay Energy, was for many years the only reliable producer of high-quality, rugged and appropriate windup/solar radios for classroom use. SSIRI had high hopes for the new Lifeplayer MP3-enabled radio from this organization, but persistent quality issues prevented the project from procuring and using these in large numbers as anticipated. The organization continues to make improvements to the device. Other devices that operate similarly were identified throughout the years by SSIRI in an attempt to fill the gap before a suitable Lifeplayer became available, but many of these devices proved to have audibility, charging, and quality issues. When SSIRI did identify a device that worked well, it would quickly become unavailable due to the shifting manufacturing practices of suppliers.
- The importance of communication between the main project office and branch offices in the field cannot be overstated. In the early days of SSIRI, telecommunications infrastructure made regular updates from certain locations impossible. When a 2008 evaluation identified instances when facts on the ground differed from monthly field reports, weekly monitoring

reports were instated. These reports, routine cell phone calls using the gradually improved telecommunications grid, and bringing staff to the main office on a regular, recurring basis, greatly assisted quality outreach and solved many underlying issues with the project that had not previously been readily apparent.

- Greater delegation of responsibility for field reports to reliable outreach advisors, and having a system for collating those field reports into a reliable digest for the Chief of Party, increases efficiency and frees the COP to concentrate on other areas of implementation and administration. SSIRI refined this process over the years and realized big gains in organizational efficiency due to normalized delegation of authority.
- There are new opportunities for using expanding telecommunications infrastructure to support many project areas, including M&E and project promotion. SSIRI used SMS messages to provide information about SSIRI, and the new environment is ripe for using new devices (especially mobile) and methods to streamline data collection.
- Ministry decisions that affect teacher motivation, such as low salaries and late salary payments, can seriously affect a project like SSIRI, which relied on strong teacher buy-in and regular school schedules. SSIRI's ability to implement and expand was affected by these issues at critical moments in the project.
- During the first half of the project, because of funding vicissitudes within the Mission, there was a period when it was difficult to know from one 6-month period to the next the level of funds that would be advanced. Funding uncertainties can make it difficult to plan in the near and longer term. This can impede systematic project progress.

SSIRI's Legacy

South Sudan gained independence on July 9, 2011. That was the seventh year of SSIRI support to the fledgling nation with high quality instruction for adults who would be contributing to the new nation and children who would become the future leaders of the Republic of South Sudan. During both the pre-Independence and post-Independence periods, peace and stability were, in part, being fostered by facts on the ground, including infrastructure and services from which the long-suffering population could expect to benefit. *The Learning Village*, *RABEA*, and other USAID-supported education services and infrastructure in large part helped the new government to be seen as providing for its people, an important contribution to peace and stability.

Hundreds of thousands of children and tens of thousands of adults are now better prepared to participate in the social, political, and economic life of their new country. Hundreds of Ministry official and thousands of teachers have received hundreds of thousands of hours of training that will better equip them to perform their jobs, whether it be teaching, training, supervising, or monitoring and evaluation.

SSIRI's legacy is successful basic education programs that will continue to be implemented for children and adults throughout South Sudan, thereby increasing their learning performance and creating a citizenry that is better equipped to build a new nation.

8. Annexes

Annex A: List of Publications and Reports

Audio programs

- Learning Village Primary 1 – 120 programs
- Learning Village Primary 2 – 120 programs
- Learning Village Primary 3 – 120 programs
- Learning Village Primary 4 – 120 programs
- RABEA Advanced – 60 programs
- RABEA Beginners 1 – 60 programs
- RABEA Beginners 2 – 60 programs
- RABEA Intermediate – 60 programs
- Professional Studies for Teachers – 12 programs

Teacher's Guides

- Learning Village Primary 1 Teacher's Guide
- Learning Village Primary 2 Teacher's Guide
- Learning Village Primary 3 Teacher's Guide
- Learning Village Primary 4 Teacher's Guide
- RABEA Beginners 1 Facilitator's Guide
- RABEA Beginners 2 Facilitator's Guide
- RABEA Intermediate Facilitator's Guide

Training Manuals

- Facilitator's Manual Learning Village Teacher Training Workshop
- Facilitator's Manual RABEA Teacher Training Workshop
- Implementation Guide Professional Studies for Teachers: Classroom Management and Administration

Evaluation reports

- Learning Village Grade 1 Evaluation, May 2008
- Summative Evaluation Primary 2 at the Learning Village, Final Report, May 2010
- Effectiveness of Primary Four Interactive Radio Instruction in South Sudan: Summative Evaluation Report, March 2011
- Improving English Language and Numeracy Skills of People in Southern Sudan. An Evaluation of the Performance of Radio-Based Education for All (RABEA) Program in Southern Sudan: Final Report, February 2011
- Professional Studies for Teachers Performance Evaluation Report, September 2012
- Extent of Listenership to Southern Sudan Interactive Radio Instruction Programs. Radio Listenership Survey Report, March 2011
- South Sudan Media Survey: Final Report, prepared by Consumer Options Ltd, March 2009

Other publications

- Media Audience Research Report, prepared by International Research Network Ltd, October 2004

Annex B: Success Stories

SSIRI gathered a wide variety of success stories in each year of the project. These success stories made their way into Quarterly Reports, USAID publications, and the SSIRI newsletter “SSIRI Focus”.

A few representative success stories are included below.

Arabic Pattern School adopts Interactive Radio Instruction Programs

By SSIRI staff

Giada Girls[”] Basic school is an Arabic pattern school in Juba that has newly adopted the Learning Village programs.

Since the introduction of the programs in 2010, both teachers and pupils have testified to the positive effect the program has had on them. “I never knew the value of the Learning Village to my teachers and the learners. I almost re- sisted and opposed the involvement of the program in my school thinking it would disorganize our time table and waste our time.” Those are the words of Mrs. Grace Misika a head teacher at Giada Girls[”] Basic School.



Madam Catherina Pangaresio, a P.2 IRI teacher at Giada Girls Basic School during a Learning Village lesson

However, since the introduction of IRI programs in the school, the school has noticed a tremendous difference between the pupils who use the IRI programs and those who do not. “Surprisingly pupils in my class can now listen to and respond in English. They are better than the classes that do not have the program. My lessons have also become lively and interactive,” a proud Mrs. Misika pointed out.

Teachers using the IRI programs have testified that they are also learning as they teach the Learning Village programs and that the programs have improved their teaching skills.

“In fact, Monday this week on lesson 60 of P.2, I got new words like stock, grain and handicraft that I did not know before,” says Madam Catherina, a P.2 IRI teacher.

The teacher was also quick to point out that the programs supplement the South Sudan school syllabi and make her teaching easier. “What is supposed to be taught in the regular lessons of Math and English in later terms, are taught in

preceding Learning Village lessons. By the time we reach those topics in third term, they become a run-over and a revision to the pupils. I even use the Learning Village to select most of my tests and examination to assess the pupils. Sincerely, this is big a value that I can't leave," an elated Madam Pangeriso reiterated.

Giada Basic School now embraces the Learning Village programs despite previous reservations. They have included the programs in their timetable and are eager to have more teachers trained in interactive radio instruction so that they can introduce the programs to P.3 and P.4 classes.

I learn while teaching IRI Programs

By **Newton C. Wilson**

Akech Kongor Bol has been teaching the Learning Village programs for six months now. Before training in Interactive Radio Instruction (IRI), Akech had taught for two years while still pursuing his secondary school education. Akech, who studied in an Arabic pattern school, was determined to learn English. Unlike his age-mates who would be engaged in other activities after school, Akech spent his evenings attending English classes at the Comboni Adult Center.

Akech's determination to learn English finally paid off. He is now an IRI teacher at Maluil Primary School in Western Bahr el Ghazal. Akech together with his pupils are reaping the benefits of the interactive radio lessons. "The radio lessons give my pupils and I new vocabulary and the pupils are very much interested," explains Akech.

He is committed to teaching IRI and educating his pupils. He uses all the teaching materials that are given to him to ensure that his pupils benefit from the programs. "Sometimes when the radio reception is poor due to rains, I have to use the teachers' guide to conduct my lessons," says Akech.



Teacher Akech Kongor and his pupils sing Learning Village songs during an IRI broadcast

When asked if the IRI training has helped him become a better teacher, Akech was quick to point out that he uses the IRI skills he has gained in his other classes that do not participate in the IRI program. The pupils enjoy his new teaching methods and are now more active in class.

Akech has also pointed out that there has been a significant improvement in

Mathematics and English in his primary two class which uses the IRI program. “The last performance at the end of first term was ranging from 53-97% which was not the case in the previous years,” explained Akech

He is determined to improve his command of the English language in order to become a better teacher. He listens to RABEA for Beginners and the Learning Village-all of which are produced by Southern Sudan Interactive Radio Instruction in conjunction with the Ministry of Education.

Akech is a hero to his pupils and a good example to teachers all over South Sudan. His determination shows that we can overcome all obstacles as long as we have the will.

Interactive Radio Instruction in Prison

It’s known that a prisoner is a person deprived of liberty and kept in prison or some other form of custody as a punishment for a crime, while awaiting trial, or for some other reason. This is not the case in Rumbek, Lakes State, South Sudan. The inmates and Prison officers meet in the Interactive Radio Instruction (IRI) program. Stephen describes South Sudan Interactive Radio instruction program as, “A very big contributing factor towards; capacity building, rehabilitation, reformation and behavior change of the individuals in the Lakes State correctional services Institution.”



Rumbek prison Officers and in-mates in a group work during RABEA training in Rumbek Center County.

Stephen Peter Ufo is the Probation and after care Officer at the same time made the Education Coordinator in the Lakes State prison. Amidst his official duties, he has been teaching IRI lessons in Lakes State prison school and center since 2011.

“Lakes State prison has schools for children of prison officers, inmates and surrounding neighbors which opened in 2010 and an Adult Learning Center for the in-mates started in 2011. Both schools are active implementers of the IRI programs” said Stephen.

According to him, early 2011 EDC included prisons and trained both teachers and facilitators to implement the IRI lessons which have been so remarkable and a

landmark in the prison. He stresses that, *“even children in the surrounding who are not yet enrolled in the school, do attend the IRI lessons”* because of the songs, games/plays and interactions between the radio teacher, classroom teacher and the children, hence learning becomes interactive, fun and interesting to learners and the teacher.

Stephen explains that the teachers helping in the prison school are not qualified but the SSIRI program and the training they offered paved way and contributed to improvement in spellings, pronunciation and methods of teaching/learning as borrowed from IRI to ordinary teaching of subjects like Mathematics, English and Science.

Annex C: Monitoring Form

M and E Form_LV and RABEA Monitoring 3_Jan 2010.xls

Indicate the category of IRI facility visited		1	Learning Village School	Did lesson take place as scheduled?		Yes	1
		2	RABEA Center			No	0
SSIRI Monitor---->		Name:		Lesson number conducted or missed:			
		Title:		(see lesson log)			
A Name of facility (Primary Sch./Center)				C Date of current visit		DD MM YY	
B Number of visits to school/center this Quarter		1	2	3	D Name of teacher/facilitator		
		4	5				
E RABEA:	Type of Group observed-->	ALP (1)		Sec. School (2)	Adult Center (3)		Location of primary school/RABEA Center
	Level of RABEA observed-->	B1	B2	A	B1	B2	State
	Number of learners in attendance	Female					County
		Male					Payam
Total							
F Primary School (Learning Village)	Grade with IRI teacher observed			1	2	3	4
	Indicate IRI stream (A, B, C)						
	# of learners in attendance	Female					
		Male					
Total							
Indicate # of new learners							

M and E Form_LV and RABEA Monitoring 3_Jan 2010.xls

G Quality and performance of radio or digital device		Assessment		
1	Volume of radio or digital device	Low 0	Loud 1	Loud= every learner can hear well
2	Radio signal	Not clear 0	Clear 1	Clear= listeners can understand
3	How long does battery last?	<30 0	30 1	>30 2
4	Is digital device reading flash disk or SD Card?	No 0	Yes 1	NA 2
5	Obvious problems with solar panel?	No 1	Yes 2	
H Teacher performance and level of classroom interactionAssessment				
PRE-BROADCAST				
1	Prepares blackboard drawings or materials before	No 0	Yes 1	
2	Checks that the radio or DD is working properly	No 0	Yes 1	
3	Starts the lesson on time (if based on radio broadcast)	No 0	Yes 1	
DURING LESSON				
4	Listens to and follows the radio instruction	Never 0	Sometimes 1	Always 2
5	Helps learners when they have difficulty	Never 0	Sometimes 1	Always 2
6	Encourages learners to follow the radio instruction	Never 0	Sometimes 1	Always 2
7	Keeps within the pause time	Never 0	Sometimes 1	Always 2
POST-BROADCAST				
8	Checks participants are following during the lesson	Never 0	Sometimes 1	Always 2
9	Learners seek for clarification	Never 0	Sometimes 1	Always 2
10	Attempts to involve every learner	Never 0	Sometimes 1	Always 2
11	Selects a variety of learners	Never 0	Sometimes 1	Always 2
H Action taken by staff				
<u>Provide highlights of your discussion with teacher/facilitator</u>		<u>Action points agreed upon by SSIRI staff and teacher or facilitator</u>		
I	Date of next visit	_____		

RABEA Facilitator Signature

LV Teacher Signature

Monitor Signature

Date: _____

Annex D: Overview of Activities by Fiscal Year

Fiscal Year 2004

SSIRI began operations on June 21, 2004. Technical activities began with the development of a scope and sequence for Primary 1 and the hiring and training of scriptwriters and production staff in August and September.

Fiscal Year 2005

Q1 2005 (Oct-Dec)

Scriptwriting began in earnest, and voice actors were identified and trained. Existing Sudan Radio Service studios in Nairobi were fitted with a new recording space for SSIRI programs by Dan Braverman of Radio Systems International.

Q2 2005 (Jan-Mar)

Recording and editing began for P1 scripts. Formative Evaluation, used to evaluate programs for editing oversights, pause length, difficulty level, and contextual suitability began at Sud Academy in Nairobi.

Q3 2005 (Apr-Jun)

Startup activities were completed in Nairobi and plans were made for expansion to Southern Sudan. The SSIRI IRI Advisor, Nick Boke, was transferred to the USAID/EDC adult literacy activity (TERBIA, which would later be known as RABEA). A new IRI Advisor (Victor Vaquez) was identified. COP Barbara June Toye-Welsh submitted her resignation in this quarter effective August 5 2005. The adult literacy activity team leader (Leesa Kaplan) was chosen as acting COP.

In this quarter the budget was revisited to better reflect the project's projected expenditures in various line items, based on a year's experience working within the Kenyan and southern Sudan governments. Basic administration, including work permits and P&P, continued- and the project picked up speed. SSIRI opened its first outreach office in Maridi, co-located with the Secretariat.

Primary One initial recording was completed and FE continued at Sud Academy. The project launched the writing of Primary 2. To ensure FE was expanded from Nairobi

to Maridi and Rumbek. Outreach Coordinators (OCs) in these locations conducted TT for 11 teachers.

SSIRI conducted radio reception research in Maridi (to determine suitability of Freeplay Radio). The production studio in Nairobi, which had been operating for several months, was completed with all finishing touches.

Based on continuing uncertainties, SSIRI decided to expand into Southern Sudan more cautiously. Unpredictable electrical and internet connections, as well as political environment and need for writers to be near FE site in Nairobi, meant that initial plans to build a compound in Maridi were scaled back.

Q4 2005 (July-Sept)

In this quarter SSIRI continued operations despite the devastating loss of South Sudan President John Garang.

In Q4 the P1 Teacher's Guide was completed and ready for print. P2 scriptwriting was well underway, with 75 scripts finished. Formative Evaluation in Maridi and Rumbek charged ahead. FE in these sites was carried out as follows: Nairobi staff sent each Outreach Coordinator the CD's with the recorded programs, copies of the scripts and copies of the particular lessons from the Teacher's Guide. The Outreach Coordinators then went to the selected schools, carrying the materials with them on each visit. They observed the teacher conduct the class with the recorded programs.

Outreach staff traveled to other sites in southern Sudan, including Pochalla and Panyagor, to prepare for program implementation in the 2006 school year.

Professional Studies for Teachers was piloted in Maridi with 18 teachers.

The idea for an adult language program solidified in TERBIA, which means "education" in simple Arabic. TERBIA, which would later be expanded and renamed RABEA was designed to include a group of characters who go to the Terbia market every day. During each radio program, the characters listen to and discuss an excerpt of a previously broadcast Sudan Radio Service (SRS) segment. Two separate Terbia series were planned, one each for advanced level listeners (program A) and one for basic level listeners (program B). 10 scripts for Terbia A and 10 scripts for Terbia B were written, critiqued and revised. Production began on Program A scripts, and staff conducted formative evaluation for the first five Terbia A programs. After initial development, the Terbia Project Design Supervisor (Nick Boke) met with nonformal education NGO representatives to explore opportunities for collaboration with existing nonformal activities.

A complete sSIRI Budget Review and Revision was conducted this quarter by in-country and U.S. staff and was submitted to USAID on August 22 for review and approval. The reprogramming included:

- Southern Sudan Adult Literacy (Terbia) Project Design
- Civic Education Media Specialist
- Emergency Civics Education Broadcasts
- Primary Grade 4 Interactive Radio Instruction Design
- Summative Evaluation

Blueprints for the construction of office and living space at the planned EDC compound in Maridi were edited and finalized this quarter. Maridi compound construction bids were under review in this period, but the process was halted due to security concerns (flights were restricted and NGO staff evacuated).

Finally, in Q4, the SSIRI finance team worked closely with USAID to complete the DA-1 form to allow the donated radios to clear customs. On September 1, 2005, after negotiating with the customs agents, 180 radios donated by Freeplay cleared customs and were subsequently sent to Maridi, Sudan where they were stored for SSIRI implementation.

Fiscal Year 2006

Q1 2006 (Oct-Dec)

In Q1 2006, Primary 2 scripts were completed, Primary 3 programs were planned, and the SSIRI M&E plan was fully developed.

A tentative broadcast plan and schedule was developed. A complex, multi-tiered plan was necessary to accommodate differing regional school calendars. This would prove to be an ongoing challenge for SSIRI throughout the life of the project.



116 educational centers enrolled for participation in the sSIRI program in 2006.

TERBIA's design phase was completed, including production of 20 pilot radio programs, formative evaluation, teacher training, and materials development. Concurrently, the Terbia proposal was finalized, and the number of programs reduced to account for new information on actual time adult learners would have to participate in such a program. This would be adjusted in coming months and years as the project continued to adapt to demand for these programs at varying skill levels.

The 18 primary school teachers in the Professional Studies for Teachers teacher training pilot program graduated in Maridi.

SSIRI continued expanding, hiring new Outreach staff in southern Sudan and scaling up of outreach activities to Kurmuk, Pochalla, and Panyagor. Six sites were selected for implementation: Pochalla, Panyagor, Waat in Upper Nile; Maridi in Eastern, Equatoria; and Rumbek in Bahr El Ghazal; Kurmuk in Southern Blue Nile.

Dr. Leesa Kaplan Nunes was approved this quarter by USAID as the new sSIRI Chief of Party, replacing Ms. Barbara Toye Welch. Four of a total five writers left to pursue jobs in the stabilizing southern Sudan. Due to this large scriptwriter attrition, new scriptwriters were recruited in this period.

Q2 2006 (Jan-Mar)

Primary 1 radio program broadcast began on Monday, March 6 over shortwave radio. Reception quality was tested in various locations across the region, including initial sites in southern Sudan, Khartoum, and Nairobi. SRS staff in some areas without SSIRI staff assisted in this effort.



Four new scriptwriters and one new actor joined the SSIRI team. Planning, development and scriptwriting of the Primary 3 series continued. The Primary 3 series was designed based on the Southern Sudanese curriculum and covers Language and Math as well as "Learning for Life" weekly segments - one on Mine Risk Education and one on Life Skills, addressing such themes as health, HIV/AIDS, personal development, social skills, peace consolidation and community building. UNICEF printed materials were adapted for use in the SSIRI Mine Risk Education

segments, to be included in every 5th program in P3. UNICEF materials and IRI segments created by EDC in Zambia were adapted for use in the health topics.

A new Memorandum of Understanding, between SSIRI and SUD Academy in Nairobi was signed this quarter to renew the agreement to conduct formative evaluation at the school in 2006. This quarter, Formative Evaluation was completed for the remaining 32 Primary 2 programs so that all 100 P2 programs have now been reviewed.

By the end of March, SSIRI trained 112 classroom teachers, 108 regular Primary 1 teachers and four instructors from Adult Learning Centers in Panyagor, Maridi, Kajo Keji and Juba.

At the behest of USAID, SSIRI began exploring options for site in the Three Areas (Southern Blue Nile, Nuba Mountains, and Abeyi). In response to a request from the USAID/SFO, EDC/SSIRI prepared and submitted a proposal and budget to the Displaced Children and Orphans' Fund (DCOF) to increase the implementation of SSIRI in the Three Areas.

On the monitoring and evaluation front, SSIRI designed a set of forms to collect information about schools, teachers and students participating in the program. Other tools were designed to collect data on classroom observations and monitoring visits. SSIRI staff and other program implementers in the field began to collect this information about SSIRI classes and teachers. Information was also collected in non-SSIRI classrooms to serve as control groups.

Promotional activities began in earnest during this quarter. These included a radio advertisement on SRS and a press release.

Initial meetings with NDI were held to outline NDI donation of SSIRI radios, funded by USAID. NDI aimed targeted four groups to receive the radios: civil society organizations, local authorities and community leaders, DDR groups, and education. All of the radios for the education sector were planned to be given to SSIRI for use by teachers in the Three Areas.

This quarter, EDC resumed the procurement process to hire a construction firm for a Maridi compound, as originally envisioned. Late in the quarter, however, when it became clear that USAID would reduce resources to SBEP, it was decided that EDC would cancel the construction of its own compound and share the Maridi compound with SBEP, paying for logistics as used.

Q3 2006 (Apr-Jun)

In this quarter, SSIRI continued to modify broadcast schedules in an attempt to keep up with ever-changing school calendars. P2 final post-FE edits were completed, and the P2 Teacher's Guide was finalized and ready for print.

The second broadcast of Primary 1 began alongside the first Primary 2 radio program broadcasts. Primary 3 series development continued, with first drafts for language written through script 100 and math through script 60. FE of P3 began and was completed through lesson 33.

IRI teacher trainings were conducted in 14 locations throughout Southern Sudan and the Three Areas. By the end of June, training was conducted in 14 locations throughout Southern Sudan and the Three Areas and 395 teachers were trained directly by SSIRI staff

P1 Pretests were administered in Maridi County. The following table shows the sites of the first pretests, and the type of classroom.

Location in Maridi County	Name of School	Type of classroom
Itri	Matara Michael Towil Primary School	Standard
Monguo II	Nagba Unity Community Primary School	Shelter
Araka	Araka Displaced	Shelter
Nakua	Nakua Primary School	Under a tree
Maridi	Juba Displaced Primary School	Under a tree
Gabati	Gabati Primary School	Under a tree
Mabrindi	Wakoapoi Primary School	Under a tree
Nangbiaya	Nangbia Primary School	Under a tree

Promotional jingles were created and aired during the SSIRI program and on Sudan Radio Service (SRS). Messages were also drafted to announce the SSIRI teacher training and the broadcasts translated into the various local languages and aired on SRS. An advertisement was placed in the Sudan Mirror, promoting the restart of SSIRI broadcasts after the Easter holiday.

This quarter, SSIRI procured 200 Free Play radios and shipped them to Lokichoggio, Kenya where SSIRI staff traveled to label and catalog them. A plan was devised to transport the radios to their final destinations in South Sudan and the Three Areas. In June, 163 radios were distributed to SSIRI participants.



SSIRI had made great progress, but was dealing with some continuing challenges: shifting school calendars, difficult communications infrastructure, low level teacher English language skills, and remote locations and harsh conditions complicated implementation. Initial reports arrived of shortwave interference in some location; consequently the interational SW transmission site was changed to higher wattage transmitter.

Q4 2006 (July-Sept)

In Q4 new project activities were approved, including production of P4, Terbia, and PS101 plus the extension of SSIRI to the Three Areas and the addition of one project year.

At this point in the project, *The Learning Village* for Primary 1 and 2 was on the air for 335 classrooms in Southern Sudan and the Three Areas. Primary 3 program development continued , and teacher trainings were conducted in Panyagor and Pochalla.



An independent analysis of the shortwave access in Southern Sudan was funded by USAID for the Sudan Radio Service (SRS). Although SSIRI was not included in this research, (no SSIRI staff members were contacted, no classrooms were observed, no SSIRI broadcasts were mentioned in the report), the consultant states that “the transmission of SRS is not adequately received on portable SW analogue or digital radios, which seriously impacts the effectiveness of sSIRI’s [sic] literacy programs.”⁵ The consultant recommended that shortwave radio continue to be the medium for SRS and SSIRI programming in Southern Sudan, that transmission be sent from Dubai (among other locations) and that research continue on the use of FM stations, all activities which SSIRI is currently carrying out. In addition, SSIRI is also looking into possibilities of using other communication technologies, such as CD and MP3 players, in the future. SSIRI’s internal checks on transmission did not match the issues observed and presumed by this consultant,

⁵ Quick, J. Christian, 2006. *Assessment of Sudan Radio Service and Shortwave Access in Sudan*. p. 3

but based on the recommendations the project proceeded to look for alternative delivery options, including FM broadcasts and MP3 players.

In preparation for the purchase and installation of the VSATs in the Teacher Training Institutes (TTI), the Outreach Advisor traveled to Juba and negotiated with John Aguek, MoEST Director of Teacher Training to secure permission for SSIRI to place a staff member in each of the three operating TTIs – in Aramweer, Arapi and Maridi. SSIRI staff in Nairobi has completed the procurement process to purchase the VSATs

At the end of this quarter, SSIRI received confirmation that the project was awarded close to an additional \$10 million dollars to carry out Terbia and PS101, to increase the implementation of SSIRI in the Three Areas and to add the creation and production of Primary 4.

Fiscal Year 2007

Q1 2007 (Oct-Dec)

The new fiscal year saw the beginning of Primary 4, extension of Terbia, and the extension of SSIRI to the three urban areas of Juba, Malakal, and Wau, plus the Three Areas of Southern Kordofan, Blue Nile, and Abyei.

At this point primary 1 and 2 were on the air for 470 classrooms, Primary 3 was under continued development, and the scope and sequence for Terbia B was created. Primary 4 series development began.

SSIRI negotiated with the Sudan Women's Action Network (SWAN, formerly known as Sudanese Women's Association in Nairobi) to conduct formative evaluation of Terbia. SWAN will convene a group of 15-20 Southern Sudanese adults who will listen to the programs. All 60 programs of the Terbia A series will be evaluated during the first half of 2007.

SSIRI received 160 Free Play radios from the National Democratic Institute (NDI) and stored them at the new shared AED/SSIRI office space in Juba. NDI informed SSIRI that another 1,017 Free Play Radios were available to SSIRI immediately and were being kept with NDI until SSIRI could locate adequate storage space and/or can distribute them. SSIRI Outreach Staff has already begun to negotiate space and prepare the distribution schedule.

A Deputy Chief of Party (Caccich) joined SSIRI as Technical Advisor for the Three Areas. An Education Specialist (Melican) joined SSIRI and was based in Juba. She assumed responsibility for development and implementation of Terbia and PS101.

In this quarter SSIRI Nairobi Offices relocaed from Lavington to Umeme Plaza.

Q2 2007 (Jan-Mar)

In Q2 SSIRI completed an important milestone by commencing broadcast of the new *Terbia* English language and civics education radio series (later known as RABEA). *Terbia A* consists of 60 lessons for youth and adults who already have a moderate level of English comprehension. The programs are designed for open listening, but SSIRI Outreach Coordinators also organized 558 listening groups with 8,042 listeners including 1,373 in the Three Areas. They also trained facilitators and distributed 544 radios. Monitoring forms for *Terbia* were developed and information about the implementation of the program is being collected.

Another major achievement was the addition of FM radio stations for broadcasting SSIRI programs in addition to the shortwave frequencies. The use of FM stations is a great advantage because of the clarity of the broadcast signal. Radio Bakhita FM in Juba broadcasts *Terbia* in the evenings. Radio Miraya FM, a UN sponsored station that expects to reach 60-70% of the population of Southern Sudan by late 2007, broadcasts *Terbia* in the mornings. Radio Miraya will also broadcast the primary school programs for grades 1-3 beginning in June, 2007. Finally, the USAID-supported Internews Network also plans to broadcast the SSIRI programs once their first stations are established by the end of next quarter.

For The Learning Village, the P3 series was completed and the teacher's guides printed. Of particular interest was the development of a peace education curriculum for the new P4 series. Margaret Sinclair, formerly of UNHCR and a world leader on peace education, developed the curriculum, drafted the scripts for the 40 segments, and prepared the teacher's guides.

Additional schools have been identified for 2007, with the broadcasts scheduled to begin on June 4. The cumulative figures for 2006 and the anticipated numbers for 2007 are as follows: 310 schools (65 in the Three Areas), 1,182 teachers (218 in the Three Areas), and 38,965 pupils (3,815 in the Three Areas).

Evaluation of *The Learning Village* P1. A key objective of *The Learning Village* is to increase learning achievement of pupils in P1-P4 in English, mathematics, and local language literacy. In order to assess the impact of the IRI programs, EDC designed a testing program for P1 including the development of tests in the three subjects, purposeful selection of classrooms in six locations including Southern Sudan and the Three Areas for both radio (38 classrooms) and non-radio (7 classrooms) to be tested, and preparation for training the test administrators in April. The pre-test will be administered in April-May and the post-test near the end of the year.

Dr. Leesa Kaplan Nunes resigned as COP in order to become the Director of Peace Corps in El Salvador, where her family resides. Her replacement, Dr. Thomas Tilson, is a founder of IRI and brings extensive experience with Interactive Radio Instruction and as a COP.

SSIRI leased a house in Juba near the MoEST to use as an office. This office would serve as the SSIRI office for the remainder of the project.

Q3 2007 (Apr-Jun)

In Q3 Terbia A programs continued to be broadcast, and the project continued working to identify suitable FM radio stations to broadcast the SSIRI programs

Initial development of the Primary 4 programs and the design of the Terbia B series continued. Primary 3 Learning Village programs were completed, and the first step in the learning technologies component was completed- namely, the installation of a VSAT in the Maridi TTI.

The following table shows a snapshot of schools supported by SSIRI as of June 2007.



Schools supported by SSIRI (June 2007)

No.	Region	Schools	Classrooms	Pupils		
				Boys	Girls	Total
1	Western Equatoria	80	234	4,914	3276	8,190
2	Jonglei	47	246	14,686	8032	22,718
4	Western Bahr el Ghazal	75	100	462	308	770
5	Upper Nile	31	31	234	200	434
6	Central Equatoria	25	15	315	210	525
7	Lakes	16	49	1,222	640	1,862
8	Northern Bahr el Ghazal	44	44	1,113	375	1,488
Subtotal Southern Sudan		318	719	22946	13041	35,987
9	Abyei	36	84	1,764	1176	2,940

10	Southern Kordofan	18	18	378	252	630
11	Southern Blue Nile	11	11	231	154	385
Subtotal Three Areas		65	113	2,373	1582	3,955
Total		383	832	25,319	14623	39,942

Q4 2007 (July-Sept)

By Q4 P1-P3 lessons were being broadcast daily to 40,000 children including over 5,000 pupils in the Three Areas.

The new *Terbia B* beginners' English series was ready for broadcast starting October 1. 121 groups have been identified and facilitators trained including 96 in Southern Sudan and 25 in the Three Areas. The English *Terbia A* (Advanced) programs were being broadcast to 8,000 registered listeners in groups plus a substantial number of casual listeners.

SSIRI programs continued being broadcast on both shortwave and FM through the facilities of Miraya Radio (nationwide) and Radio Bakhita (Juba).

SSIRI took important steps for introducing alternative technologies, including:

- Reactivated the VSAT/Internet connection at the Maridi NTTI and procured VSAT equipment for two other TTIs and a County Education Center
- Designed low-cost technologies based on MP3 devices with a small external speaker – with either solar or hand cranking charging systems. Procurement is underway.
- The technologies consultant Matt York produced a website called “one media player per teacher” – www.ompt.org – based on the SSIRI activities.

The work on low-cost technologies was aided by the EDC consultant Matthew York who, among other things, is a producer of *Videomaker* magazine in the United States. During the quarter, he conducted extensive research into a range of low-cost devices for delivering the SSIRI programs. He also assessed alternative means of recharging the batteries required in the equipment. Basic low-cost MP3 systems were identified for testing.

The following chart illustrates the low-cost MP3 systems identified by September 2007:

Estimated prices for the low-cost technologies							
US Dollars, Delivered Nairobi							
	Desiree 1	Desiree 40	Desiree 40	Desiree 40	Desiree 40	Boomer DC	Boomer
	Simplest System for Teachers	System for IRI classes or Terbia Groups - Hand cranked only	System for IRI classes or Terbia Groups - Hand cranked and Solar charger	System for IRI classes or Terbia Groups - Hand cranked and Solar panel	System for IRI classes or Terbia Groups - Solar panel only	More expensive option - JWIN	More expensive option - JWIN
JWIN CD player						43	43
MP3 player - Nextar 1 GB	21	21	21	21	21		
Flash Drives (3)						45	45
Head set	-						
External speakers		13	13	13	13		
Holder for batteries		16		16	16	16	
Rechargeable Batteries AAA	3	3			3		
Rechargeable Batteries AA			14			14	
Battery upsizer tubes						11	
Hand crank device		17	17	17			
Solar power - small	10						
Solar power - integrated charger			27				
Solar power - 5 watt				67	67	67	
bag/case	3	7	7	7	7		
shipping to DC							
shipping to Nairobi							
TOTAL	\$ 34	\$ 70	\$ 92	\$ 135	\$ 120	\$ 196	\$ 87

Regarding the high-end of technology initiatives, EDC reactivated the VSAT installed in Maridi under the SBEP program. In addition, EDC established a wireless connection from the Ministry offices to the Maridi TTI where a computer center has been established. The Ministry also extended the connection to the Curriculum Development Center. EDC held the first planning meetings with the senior staff of

the TTI in order to develop a framework for introducing, managing, and maintaining a new computer center.

EDC also procured three additional VSAT systems that would be located at Arapi and Aramweer TTIs, plus a Country Education Center to be determined. SSIRI also procured six computers for both Maridi and Arapi TTIs. The VSAT system should be installed at Arapi and Aramweer during the next quarter.

Fiscal Year 2008

Q1 2008 (Oct- Dec)

By Q1 2008 P1-P3 lessons were broadcast daily to 42,000 children including over 5,000 pupils in the Three Areas. The posttest for the summative evaluation of the grade 1 *Learning Village* was administered and the results demonstrated the positive impact on learning achievement of the IRI lessons.

The new *Terbia for Beginners* English programs began with 121 groups including 96 in Southern Sudan and 25 in the Three Areas. The number of registered listeners was 1,778. The English *Terbia Advanced* programs continued to be broadcast to 8,000 registered listeners in groups plus a substantial number of individual listeners. The programs are being broadcast on both shortwave and FM through the facilities of Miraya Radio (nationwide), Radio Bakhita (Juba), and the Voice of Kauda (Southern Kordofan).

EDC took important steps to introduce alternative technologies:

- The first workshop on low-cost technologies was conducted in Juba with assistance from consultant Matt York, producer of *Videomaker* maker magazine in the U.S. MP3 players are the primary devices for holding the programs and both solar panels and hand cranked devices are being used to charge the batteries
- The first video production workshop was conducted for the staff at the Arapi TTI, again with the assistance of Matt York.

EDC-SSIRI provided four computers to Arapi TTI together with wireless LAN equipment to enhance their VSAT installation and computer center. The wireless system installed could support up to 15 users in the computer laboratory. Basic maintenance training was conducted for the Librarian, who also serves as the person in charge of the computer lab.

EDC-SSIRI facilitated a training of 11 teaching staff of Arapi TTI and one MoEST staff in basic video production skills. The new skills would be used to produce videos that could be incorporated in the academic program of the TTI and for documenting

important TTI activities. EDC-SSIRI also donated video capture and production equipment to Arapi TTI. This equipment will support the production of videos.

EDC-SSIRI hired an IT Officer to be seconded to the TTI to provide support to the computer communication system and video production facilities.

Achievement testing for P1

In 2007, EDC conducted its first assessment to determine the impact on academic achievement of *The Learning Village* grade 1 in English, mathematics and local language literacy. IRI methodology aims to make learning interactive and interesting, and to motivate all children to attend and participate. Most importantly, the SSIRI programs are designed to improve academic achievement.

The design of the evaluation study was pretest posttest with control groups. The original sample of learners included seven locations - Maridi, Panyagor, Aweil, Abyei, Kauda, and Malakal. Pretests were administered at these locations at the beginning of the year. Subsequently, Kauda was dropped because their school year did not match Southern Sudan. Also, Malakal was dropped because the schools did not meet for much of the year as a result of the floods. Juba was added for the posttest.

A total of 57 schools participated in both pretest and posttest. Forty-six schools participated in the pretest. Sixteen the schools were dropped at the posttest and replaced by 11 schools. Hence, the posttest sample comprised of 41 schools, 31 IRI and 10 control.

Overall performance on the pretest and posttest

The mean pretest for IRI learners was 14.8 percent in English, while the posttest score was 43.6 percent. Learners registered a gain of 28.8 percent. In local language literacy, the learners gained 12.4 percent, from the mean pretest of 15.3 to a posttest score or 27.7. In mathematics, the pretest score was 36.5 percent, while the posttest scores was 56.7 resulting in a gain of 20.2 percent. These results are shown in Table 1.

Table 1: Pretest and posttest means for IRI learners, by subtest

Subtest	N	Maximum Score	Mean	Mean Percent	Mean Gain (%)
English Pretest	415	17.0	2.5	14.8	28.8
English Posttest	415	17.0	7.4	43.6	
Local Lang Pretest	418	19.0	2.9	15.3	12.4
Local Lang Posttest	418	19.0	5.3	27.7	
Mathematics Pretest	419	23.0	8.4	36.5	20.2
Mathematics Posttest	419	23.0	13.0	56.7	

A paired-samples comparison indicates that differences in the pretest and posttest are significant,⁶ an indication that after a year of schooling, the children benefited from learning activities in schools that were using IRI.

Comparison of IRI learners and a non-IRI control group

In order to assess the additional impact on learning as a result of the IRI lessons, it is necessary to compare learning scores with classes that were not using the radio lessons. Thus, EDC administered pretest and posttest to a group of control schools. The posttest sample comprised of 41 schools, 31 schools that participated in IRI, and 10 control schools. Table 2 below compares performance of IRI learners on the posttest with that of control learners.

Table 2: Posttest means, by type of learner and subtest

Learners	Subtest	N	Maximum Possible	Mean	Mean Percent	Mean Diff (%)
English Posttest	IRI Learners	585	17.0	7.4	43.2	14.1
	Control Learners	103	17.0	4.9	29.1	
Local Lang Posttest	IRI Learners	585	19.0	5.3	27.9	4.3
	Control Learners	104	19.0	4.5	23.6	
Mathematics Posttest	IRI Learners	586	23.0	13.1	56.8	4.3
	Control Learners	103	23.0	12.1	52.5	

In English, IRI learners had a posttest mean of 43.2, while the learners in the control group posted a mean of 29.1 percent. In local language literacy, the mean posttest for IRI learners was 27.9 percent compared to a posttest score of 23.6 percent for control learners. In mathematics, the IRI posttest score was 56.8 percent compared to a posttest score of 52.5 percent for control learners. The difference between IRI and control learners was wider in English, where IRI learners seem to have benefited the most. An independent samples t-test comparison of means between IRI and control learners yielded significant differences⁷, an indication of the ‘value-added’ by IRI.

In summary, the results of the summative evaluation suggested that the IRI programs have had a significant impact on learning, not only from the beginning to the end of the year, but also in comparison to children in classes who did not have the IRI lessons.

⁶ English Pretest/Posttest: $t=20.41$, $p=.00$; Local Language Literacy Pretest/Posttest: $t=11.60$, $p=.00$; Mathematics Pretest/Posttest: $t=14.85$, $p=.00$

⁷ English Posttest: $t=6.37$, $p=.00$; Local Language Literacy Posttest: $t=3.56$, $p=.00$; Mathematics Posttest: $t=2.49$, $p=.01$

Q2 2008 (Jan-March)

In Q2 EDC and the MoEST initiated a major effort to scale up the SSIRI activities and to integrate SSIRI into the state Ministry of Education offices, Department of Alternative Education Systems (AES).

A key workshop was held with 7 states and all three areas participating to develop an understanding of SSIRI and to begin the process of developing state-level SSIRI implementation plans. Key outcomes of this important workshop included:

- All states will have SSIRI activities in 2008
- State/MoEST – EDC/SSIRI orientation planning and TOT training, with an update on workshops that were conducted in CES, EES, WES and Upper Nile States. Jonglei and other states in the Greater Bahr el Ghazel were still to be conducted.
- Six states would have more attention including an Outreach Advisor (Western Equatoria State, Central Equatoria State, Eastern Equatoria State, Western Bahr el Ghazal, Northern Bahr el Ghazal, and Jonglei). An Advisor was already been assigned to four of these states.
- The number of Outreach Coordinators at the county level would increase from 9 to 19
- There would also be an M&E Assistant in each of the six states.

Q3 2008 (Apr-June)

With the opening of the new school year in April and May, the EDC staff, together with Ministry counterparts, trained teachers and distributed radios for both the *Learning Village* and *Terbia* programs.

Development of the P4 *Learning Village* lessons and the new *Terbia for Beginners*, Part 2, continued. In May, all of the *Learning Village* programs (P1-P4) as well as the three *Terbia* programs (*Terbia for Beginners*, Parts 1 and 2, and *Terbia for Advanced*) were broadcast.

The USAID Mid-Term Evaluation of SSIRI was conducted with the following key findings:

- a. SSIRI was well integrated and supported by the Ministry of Education, Science and Technology at all levels.
- b. There were problems with radio reception in many locations, on both Miraya FM and shortwave.
- c. There was need for more follow-up support for teachers so that they will stay engaged with the programs.
- d. There was need to implement the *Professional Studies for Teachers PS101*.

The USAID Education Audit was also conducted with the following findings:

- a. There was adequate documentation on data to support reports on most of the indicators.
- b. One area for improvement is the documentation for the number of learners using the IRI programs.

As a result of the findings of the Mid-Term Evaluation, EDC shifted its focus:

- a. There was new emphasis on ensuring quality implementation at the classroom level with much stronger teacher support.
- b. EDC gave special attention to regularly monitor and support a small number of teachers to ensure sound implementation, while also continuing to train a larger number of teachers for wider implementation.
- c. EDC postponed expansion of program implementation to some of the states in order to focus on quality implementation in current locations. Further expansion was to begin after a year's time.

EDC substantially increased field staff in order to increase training and support to teachers and to improve monitoring and evaluation.

Q4 2008 (July-Sept)

In Q4, the *Learning Village* programs (P1-P3) as well as the *Terbia* programs (*Terbia for Beginners*, Parts 1, 2, and *Terbia Advanced*) continued to be broadcast. The *Learning Village* programs and *Terbia Advanced* were broadcast on Miraya Radio. EDC continued its initiative to contract radio stations include Bakhita Radio in Juba, Grace FM in Kajo Keji, and Spirit FM in Yei. In addition, EDC tried to finalize agreements with the Voice of Easter Equatoria in Torit, Wau Radio and Malakal Radio. EDC planned to discontinue the use of shortwave broadcasts, except the *Terbia Advanced* series in the evenings, in December 2008 because the shortwave signals were not consistently good during the daylight hours.

EDC conducted two successful launching events for SSIRI in Yei and Kajo Keji, Central Equatoria State to encourage participation in IRI programs among communities, parents, and education officials. The launching events attracted over 500 and 800 participants respectively.

In preparation for the redesign and development of the P4 *Learning Village* series, EDC conducted a posttest for P3 and gathered data from observations of IRI classrooms and from interviews with teachers and pupils. Work commenced on the redesign of the P4 series. In September, EDC started to redesign the P4 series - refining the content and revising the scripts - to strengthen the programs and increase the level of interaction.

SSIRI broadcasts on Miraya FM experienced some challenges. In some locations SSIRI staff encountered a volume level that was too low for the teachers to use effectively. At times, one or more of their relay stations went off the air. And, all too frequently, the wrong programs were broadcast, which has discouraged some teachers. EDC worked closely with Miraya to eliminate the problems.

NDI also provided training to many of EDC's outreach staff on the use and care of the Lifeline radio. In addition NDI handed over the 4,539 remaining Lifeline radios. EDC had previously received 2,470 radios from NDI.

The focus this quarter has been on continuing the integration of SSIRI at the state and county levels through an increase in staffing and training programs. EDC further consolidated its activities to locations that have FM or AM reception.

A new DCOP for Operations (Andrew Kreft) was posted to Juba.

In this quarter, EDC procured bicycles to facilitate the work of education supervisors in payams that are implementing IRI activities.

Fiscal Year 2009

Q1 2009 (Oct- Dec)

This quarter marked significant improvement in the implementation of SSIRI in schools as noted by the USAID Review Team following their assessment of the project in November 2009. In every one of the six locations visited, the team found good IRI classes – good sound by radios or digital devices in the classrooms, trained teachers, and active pupil participation. Officials at all levels expressed strong support for SSIRI and a desire for further expansion.

EDC had the following major accomplishments during the quarter, including:

1. Continued broadcasting of the *Learning Village* programs (P1-P3) and *Terbia (English) for Beginners and Terbia Advanced*.
2. New contracts with several new radio stations to broadcast the lessons – in Torit, Yei, Kajokeji, Juba, Wau and Malakal – to supplement the broadcasts on Miraya Radio.

3. Implementation of digital devices on a substantial scale in Southern Kordofan.
4. Implementation of PS101 (*Professional Studies for Teachers*) in Western Equatoria State
5. Continued to redesign the P4 series.
6. Contracted a Nairobi-based marketing research firm Consumer Options to conduct a household audience survey to estimate of the number of listeners of the SSIRI programs outside of schools and listening groups.
7. Continued to develop model SSIRI classes by providing ongoing support to the teachers and facilitators.

EDC contracted with a radio engineer to visit several locations for testing the Miraya FM transmission and to make recommendations on how to improve the signal. Several suggestions were given to Miraya. In addition, EDC changed the way in which it compresses the audio files in order to help ensure a louder volume.

Following the training on computers and Internet during the previous quarter, this quarter the tutors at Maridi and Arapi TTIs made good use of the Internet to conduct their academic research and to identify instructional materials.

IT staff in both Maridi and Arapi TTI documented Internet use by the tutors. This was done by tracking sites visited earlier in a log form. The tutors made use of the Yahoo group blog that was created by IT Assistants. With this blog, TTI tutors can now post, discuss, and exchange information and useful educational materials.

IT Assistants posted to the VSAT/Computer Centers continued to provide ongoing support especially regarding training on computer applications, Internet use, e-mail communication, and video production. In Maridi a few new videos were created by the staff.

There was some use of the Juba Day Secondary School Computer Center during the quarter, but progress was hindered by limits on the electrical supply.

EDC/SSIRI encountered a major issue in funding during this quarter. It became clear that insufficient funds were available to complete the current contract in June 2009. Early in 2008, EDC had a large pipeline, but by April EDC had substantially increased the burn rate as a result of an increase in the number of staff as well as more implementation of activities. EDC presented projections to USAID indicating the need for almost all the contractual amount in order to carry out its planned activities. The expenditures through December 2008 are in line with EDC's projections and will be within the contract ceiling by June 2009. However, the obligations to EDC did not meet these projected needs and, as a result, EDC began the regrettable process of reducing staff and the level of activities. Notification was sent to USAID that SSIRI would be forced to close by April should additional funds be unavailable..

SSIRI encountered further challenges related to teacher salaries. The project had full support of the Ministry of Education, Science and Technology at the central, state and county levels. The impact of delayed and reduced payment of teachers' salaries, became a major problem. As a result of this issue, teachers were demotivated, many did not show up regularly at school, and many teachers requested payment for teaching the *Learning Village* lessons in their classes. The Ministry and senior government officials recognized the salary issue as a major problem and the 2009 GoSS budget included money for paying salaries in arrears.

In Q1, EDC submitted a proposal for a three year extension from 2009-2012.

Shortwave broadcasts ceased in December 2008 due to poor reception and the subsequent switch to digital devices and FM broadcasts.

Q2 2009 (Jan-March)

In this quarter SSIRI developed plans for 2009 with a modest expansion of the number of beneficiaries. SSIRI increased the level of participation and ownership of SSIRI by MoEST officials at all levels, continued broadcasting of some of the English (*Terbia*) programs, and secured a commitment from the United Nations to continue to donate two hours of broadcasting time on Miraya FM for SSIRI programs; it also completed new contracts with radio stations in Kajokeji, Yei, Torit, and Wau to broadcast SSIRI lessons to supplement the broadcasts on Miraya Radio. The stations in Kajokeji and Yei began broadcasting the SSIRI lessons. Furthermore, SSIRI extended the use of digital devices in Southern Kordofan.

The project recruited local instructors to continue the implementation of PS101 (*Professional Studies for Teachers*) in Maridi, Nzara and Yambio in Western Equatoria State and conducted *Learning Village* and *English* training workshops in Kajokeji, Yei, Maridi and Southern Kordofan.

SSIRI continued to develop the P4 series including formative evaluation of the lessons in Kajokeji.

The project received the final report from Consumer Options on the listenership survey conducted last quarter, which showed that SSIRI programs are widely listened to and appreciated.

EDC received sufficient funding from USAID to continue the project through the end of the agreement in June 2009, although EDC reduced staffing and activities because the funding was under the ceiling and was insufficient to carry out all activities. EDC submitted a proposal for a three-year extension and has received informal advice that the proposal was approved. It became clear that if the project extension was approved, there would be a serious financial situation from July to September if a new obligation did not become available by June. The project faced an emergency closeout after June

due to these funding uncertainties, and this had a negative impact on implementation as previous efforts to expand were put on hold.

The project was hindered by the inability of USAID to obtain a waiver on duty and taxes for items imported into Kenya, especially digital devices for the implementation of the SSIRI programs in Southern Sudan. As a result, some activities in Southern Sudan had to be postponed.

Although the support for SSIRI at all levels remains strong, the project continued to suffer from the government's inability to pay most teachers in full or on time. This situation created morale and absentee problems among teachers which negatively impacted SSIRI implementation.

In this quarter, the Ministry of Education, Science and Technology renamed SSIRI's English language series called *Terbia* (Teaching English through Radio-Based Education for All) to *Rabea* (Radio Based Education for All).

EDC continued to expand the use of larger digital devices for classrooms in Southern Kordofan. SSIRI also increased the use of digital devices in other areas where there is was FM coverage, such as Pochalla County, Jonglei State. The digital devices are especially important for the English programs in most locations, as these programs will not be broadcast by Miraya Radio.

Q3 2009 (Apr-June)

SSIRI continued broadcasting of the *Learning Village* programs (P1-P3) and *Rabia (English) for Beginners* and *Rabia Advanced*. The project contracted several radio stations to broadcast the lessons – in Torit, Yei, Kajokeji, Juba, Wau and Malakal – to supplement the broadcasts on Miraya Radio.

SSIRI continued to support the implementation of PS101 (*Professional Studies for Teachers*) in Western Equatoria State, continued to develop the P4 series, and administered a pretest of P2 *Learning Village* as part of the summative evaluation

The most active center during this quarter was Juba Day Secondary School, which was established in April 2008. Most importantly, EDC began an IT training program for teachers and third-year students who were enrolled in a computing class. IT Assistant Beneth Surur began teaching the program to about 10 teachers and 50 students divided into two groups. EDC revamped the curriculum and began teaching almost immediately about how to use Windows MS Word, the Internet and to how to communicate through email and Skype

EDC continued to support the Arapi TTI including rewiring part of the campus that runs off of the generator provided by SSIRI. Although EDC continued to support the

computer center and VSAT at the Maridi TTI, and many of the staff continued to use the center, the TTI could not open because it did not have funds to pay for food.

EDC received a three-year extension of the SSIRI project until June 2012. EDC also received addition funds that allowed the continuation of SSIRI on a constrained basis through the first quarter of the extension period (the last quarter of FY 2009). However, the lack of full funding for Phase I (up to June 2009) has resulted in reduced staffing and activities for 2009.

A comprehensive plan to move operations from Nairobi to Juba was put in place.

Q4 2009 (July-Sept)

At the request of USAID, EDC moved the remaining staff and activities in Nairobi to Juba, only allowing the final production work to be completed in Nairobi until mid-2010. The Communication Specialist moved to Juba in September. The Senior Finance Administrator and the Chief of Party would be based in Juba beginning November. New administrative staff were hired for the Juba office.

Chief of Party Thomas Tilson was not able to move to Juba and, thus, would be replaced by experienced IRI project director Richard Trewby in November. Mr. Trewby will be posted to Juba.

Fiscal Year 2010

Q1-Q4 2010 (Oct- Sept)⁸

In FY 2010, the development and production of the radio programs was completed and the studio in Nairobi was closed. The complete version of *Learning Village P4* was broadcast this year and the Teacher's Guide edited and distributed. *Rabea Intermediate* and the additional practice lessons for P1 to P3 were developed and produced and will be broadcast in calendar year 2011.

SSIRI programs were extended to nine additional counties and the education officials, teachers and facilitators trained. New training manuals were developed for training teachers, facilitators and education officials. Training workshops were held in all counties using the new training manuals.

Ministry of Education officials were fully involved in the program. Review and planning workshops were held in the first quarter of the year to produce plans for each state. MoE officials facilitated the training workshops with SSIRI staff and visited schools to monitor classes. Motorcycles were provided for county education officials and bicycles for payam officials to use to monitor the program in schools.

⁸ Final project years are summarized annually, as Annual Reports began in 2010.

Agreements were signed with eight additional radio stations to broadcast SSIRI programs. EDC's FM station in Juba started broadcasting the programs in July. Coby and Saber MP3 players were purchased for schools that could not receive the signal from the radio stations. Distribution of the Saber players to schools was delayed by several months as the vendor, the sole supplier, failed to supply them on time.

EDC continued to provide support for IT training at Maridi and Arapi TTIs and at Juba Day Secondary School. Maridi TTI closed in April and did not reopen. Malakal TTI never opened so the VSAT and computers have been set up in the State MoE building for use by officials and TTI tutors.

In the first quarter of the year, EDC completed the formative evaluation and editing of the remaining lessons of the P4 *Learning Village* series. The draft of the Teacher's Guide which was circulated in 2009 was edited and printed, and has been distributed to all states.

Additional *Learning Village* practice lessons were developed and produced for the first three grade levels so that each grade has 120 lessons. One practice lesson was designed for every five lessons to reinforce the contents of the initial 100 lessons produced for every grade and to provide more practice in the songs. The new lessons will be broadcast in the 2011 school year and new Teacher's Guides will be distributed.

EDC also completed the development and production of the 60 English lessons for *Rabea Intermediate*. *Rabea Intermediate* completes the RABEA series, with 120 lessons in the Beginners series, 60 in the Intermediate and 60 in the Advanced. The Beginners and the Intermediate levels are designed to be used in adult learning groups.

By 2011, SSIRI was conducting three types of standard training workshops. There was a four-day workshop for education officials who new to SSIRI programs, which introduced them to the programs and trained them to train and supervise the teachers and facilitators. There was a four-day course for teachers and head teachers to train them to use *Learning Village* broadcasts in their classes. The third course was for facilitators of adult learning groups to train them to use *Rabea* programs in their groups. The training manuals for these three training courses were completed and finalized during the year and were distributed to all the states.

The teacher education audio programs, PS101, which were piloted in three counties in 2009, were not used this year.

In addition to conducting training workshops for Ministry of Education officials, SSIRI concentrated on developing the capacity of the officials to manage the SSIRI programs.

EDC reached agreements with eight more FM radio stations to broadcast *Learning Village* and *Rabea* programs in Juba (3), Magwi, Malakal, Rumbek, Bor and Bentiu, in addition to the eight stations already broadcasting the programs. The additional agreements enabled the project to replace the broadcasts previously provided in many states by Miraya FM, the UN radio station which would no longer broadcast pre-recorded programs.

Sudan Radio Service (later known as EYE Media), EDC's FM station in Juba, started broadcasting SSIRI programs in July. Broadcasting on 98.6 FM, SRS provides a strong signal to the whole of Juba county and even beyond.

An IT officer was posted to Maridi TTI in January 2010 and began providing instruction in Microsoft Office, the internet and email, and generally providing technical back-up to the computer center at the TTI and Curriculum Development Center. Support was provided for the maintenance and fueling of the generator to provide power for the computer lab. The TTI was closed in April and did not open again as there were no funds to purchase food for the students. The IT officer continued to provide support to the tutors who remained on campus and also to SSIRI staff in Western Equatoria.

Arapi TTI remained open throughout the year and the project provided support for the maintenance of the generator. An IT officer was identified started to implement the reviewed ICT syllabus with tutors and students. A technical expert was also sent to Arapi to inspect the solar power system and see what is required to renovate it.

The TTI in Malakal had not been renovated so it has been agreed with the State Ministry of Education to set up the computers with VSAT internet connection in a building next to the Ministry in Malakal, so that Ministry officials and TTI tutors could use the internet there until the TTI could be renovated.

SSIRI planned to expand or reintroduce SSIRI programs into thirteen additional counties in 2011: Tambura, Ezo, Terekeka, Aweil East, Nasir, Renk, Wulu, Leer, Gogrial/Kwajok, Pochalla, Omduram, Kurmuk and Abyei/Agok.

Fiscal Year 2011

Q1-Q4 2011 (Oct- Sept)

In FY 2011 the SSIRI program expanded to 14 additional counties, functioning in 35 counties in all ten states of South Sudan. The *Learning Village* radio programs were being used in 850 schools, and 242 adult learning groups were using the RABEA programs.

Ministry Officials at state, county and payam levels were fully involved in SSIRI activities. They planned program activities, trained teachers and monitored SSIRI activities, together with SSIRI staff.

New teacher's guides for Primary 1, 2 and 3 *Learning Village* were printed and distributed. The new guides included the practice lessons which were added to the series after every five lessons.

Agreements were signed with 22 local FM radio stations to broadcast the *Learning Village* and RABEA programs. New CDs containing the practice lessons were distributed to all radio stations.

Computer lessons at Arapi Teacher Training Institute (TTI) and Maridi TTI were started for second year student teachers.

Access to the computer lab at Juba Day Secondary School was provided to teachers from other schools in Juba and the SSIRI IT officer provided computer lessons to sixteen teachers from these schools.

The computers in Malakal were installed in the Ministry of Education in a room between the Alternative Education Systems office and the conference room and the VSAT connection initiated. The computers are now available for use by Ministry officials.

Training in video production was provided to nine tutors from the TTIs and they were provided with flip cameras and Pico projectors so that they could use videos to enhance the training of teachers.

Professional Studies for Teachers (PST), a twelve-week distance learning course in classroom management using audio materials, was implemented. 16 tutors were trained and 316 teachers from 16 counties were enrolled. The tutors conducted two one-day tutorial sessions, visited each teacher twice and marked weekly assignments. The teachers were set to complete the course in October.

The evaluation of P4 was completed with post-test data collected in November 2010 from 1,161 learners in 50 Interactive Radio Instruction (IRI) schools and 41 non-IRI schools. The learning gains were significantly better in IRI schools [Learning Gains: Math 14.6%, English language 14.4%] than in non-IRI schools [Learning Gains: Math 11.7%, English language 10.4%]. Additionally, learners in IRI schools were 1.6 and 1.4 times more likely to obtain at least a 10% learning gain in Mathematics and English respectively compared to learners in schools without IRI.

A listenership survey was conducted in November 2010 in 14 counties in five states. Of the 2,191 youth and adults interviewed, 72% had listened to the SSIRI programs, while 38.8% listened to the programs consistently. Using the population figures for

these counties, the survey calculated that 445,936 (38.8%) of the youth and adults in these counties listen to the SSIRI programs consistently.

21 SSIRI staff and MoE officials were trained in the Standards-based Classroom Observation Protocol for Educators (SCOPE) and collected baseline data on IRI and non-IRI teachers as part of an assessment of the impact of IRI broadcasts on teacher performance.

The provision of MP3 players proved to be a serious challenge in this project year. As a result of the difficulties in obtaining the Saber and Coby players in 2010, EDC ordered 400 of the new Lifeplayers produced by Lifeline Energy, who had previously manufactured the Lifeline radio, which had proved ideal for rough conditions. The Lifeplayers are combined radio and MP3 players, and the SSIRI



programs were loaded at the factory onto an internal SD card. However, when they arrived and were tested, it was found to be impossible to recharge the batteries by the solar panel or the winding mechanism to last for more than 10 to 15 minutes. As a result it was not possible to replace any of the digital devices which have broken down. Discussions continued with the manufacturers on possible solutions to the problem, and although they were confident a solution could be found this issue would ultimately not be remedied before the end of the project.

Flip video cameras and Pico projectors were provided to Arapi, Maridi, Aramweer and Kajokeji TTIs and two tutors from each institution were trained in their use by EDC Technology Associate, Alvaro Cisneros, in two workshops held at Maridi TTI in June and July. The training provided the tutors with the skills to produce and edit videos to support their training programs, and to use the Pico projectors in their classrooms. The tutors used video to enhance their teacher training tutorials.

Major recruitment of outreach staff occurred during the year, with eleven Outreach Coordinators, two M&E Officers and two Outreach Advisors appointed to manage the additional counties and states. One Outreach Coordinator was promoted to Outreach Advisor. A Senior Technical Advisor was appointed for teacher education. An IT assistant was recruited for Arapi TTI and an Education Technology Assistant to be based in Juba.

Fiscal Year 2012

Q1-Q4 2012 (Oct- Sept)

The major focus of the project this year was preparing the Ministry of General Education and Instruction officials to manage the program. In the first quarter review and planning meetings were held in each state to plan for 2012 and the end of the project. In February 2012 the Director-Generals and Alternative Education Systems Directors from each state met in Juba to discuss the end of the project and how they would sustain SSIRI activities. They returned to their states and held meetings with County education officials to prepare them for managing the program. Training and briefing workshops were then held in each county for Ministry officials. Thereafter the project staff acted in an advisory role with the Ministry officials taking responsibility.

No expansion took place this year. The project consolidated program implementation in 34 counties reaching 873 schools and 332 Accelerated Learning Program centers.

46 *Learning Village* training courses were conducted for teachers, 34 RABEA courses for facilitators, and 36 refresher courses for those who had already been trained.

New teacher's guides for *Learning Village* and RABEA with the new name of the country and logo were printed and distributed to county education offices.

21 radio stations broadcast the programs.

273 teachers completed the Professional Studies for Teachers course in 2011 with 88% pass rate. 326 teachers completed the course in 2012 with 87% pass rate. A questionnaire administered to teachers before and after the course showed significant improvement in the teachers' knowledge, attitude and practice of classroom management.

EDC continued to support Arapi and Maridi TTI and established small computer labs in the Kajokeji, Kotobi and Aramweer TTIs. Each TTI was provided with an eGranary so they could access materials even when the lab was offline.

EDC conducted a training course in using video technology in teacher education for tutors from the TTIs.

Project staff helped the British Council to install more computers in the computer lab at Juba Day Secondary School.

The end of project evaluation was conducted in October and November 2011.

Performance Indicator Reference Sheets for the project were revised in January 2012 in line with USAID's new standard indicators.

The evaluation of the impact of IRI on teacher's performance was completed, but lack of pretest and posttest data for an adequate number of teachers precluded scientific analysis of the results.

Approval for a no-cost extension for the project from June 21st to September 25th was received at the end of March.

Approval for the disposition of assets was received on August 22nd. Signed receipts for the assets have been obtained from all recipients.

Staff were laid off gradually, with the outreach coordinators in the counties leaving at the end of June, the outreach advisors and M&E officers in the states at the end of July, and the Juba-based program staff at the end of August, while the admin and finance staff remained until the end of the project.

The majority of project assets were disposed of to the county, state and national offices of the Ministry of General Education and Instruction with a few items being handed over to the SSTEP and HEAR projects.

A major focus of the program during the year was making the project sustainable after the end of the project and the end of USAID funding for SSIRI activities. Activities included briefing education officials about the end of the project, training them to take over the management of the program and to make effective use of the project assets, and gradually handing over responsibilities for activities with SSIRI staff remaining in an advisory role. Although many officials responded positively, those in counties where the program was first implemented in 2011 found it difficult to cope with the program activities.

The first activities of the year were the State review and planning meetings in October and November when state and county officials reviewed the activities of the past year and planned for 2012 and the end of the project. They were keen to continue expanding the program to additional counties but were informed that the project could not support further expansion since it was ending.

At the beginning of February 2012, the AES Directorate invited the DGs and AES Director from each state to Juba to discuss the end of the project and how they would sustain the program. During the meeting, it was agreed that the MoGEI officials would take over management of the program from February and officials at state and county levels were identified to be responsible. Subsequently each state held a meeting with the County Education Directors and AES inspectors to brief them on the agreements reached and make further plans for sustaining the program in the state. The planning process was then taken to the county education offices,

which each prepared a plan for the county, and identified the official who would take over the responsibilities of the outreach coordinator. A complete list of officials is given at Appendix 3.

The project staff were asked to work in an advisory role with the education officials and mentor them while they managed the program. Training workshops were managed and facilitated by the officials, they distributed the materials and monitored the schools. The project staff also taught the officials to use the computers, printers, cameras and projectors which were handed over to the state and county education offices at the end of the project.

To ensure that each state and county was making progress in handing over to the education officials, the progress made in each state and county was monitored carefully as reported in section 4.6 of this report.

Radios and audio devices

In the first quarter, extensive testing of the 400 Lifeplayers, pre-loaded with all the SSIRI programs, which were purchased in FY2011, showed that it was possible to charge them sufficiently to use in the classroom by using a larger external solar panel. Accordingly 400 3-watt solar panels were purchased and the Lifeplayers were distributed to schools and ALP centers which could not access the radio broadcasts, and the teachers and education officials were trained in their use.

The remaining 982 Lifeline radios, which were received from NDI in 2008, were fitted with new rechargeable batteries to replace the old batteries which could no longer hold a charge, and distributed to schools during the second quarter of the year.

A sample of a modified version of the Lifeplayer was received from Lifeline Energy in the third quarter. Tests showed that two hours of charging in the sun gave up to 90 minutes of playing time, and even better results could be obtained by leaving the solar panel in the sun while the Lifeplayer was playing. The purchase of 3500 Lifeplayers loaded with the SSIRI programs is in the approved budget, in order to allow schools and ALP centers to use the programs when the project has ended and MoGEI has no funds to pay the radio stations to broadcast the programs. In discussions with USAID South Sudan education team, it was agreed that EDC should submit a proposal for funds to be transferred from the SSIRI budget to EDC's SSTEP project for the purchase and distribution of the Lifeplayers, since they could not be procured before the end of the project. Accordingly, a proposal was submitted to USAID in August and approval granted in September.