PD-ABD-065
72905

RETT II

FINAL REPORT

Contract Number 367-0146-C-00-5025-00

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RETT II FINAL REPORT

I. BACKGROUND

Since 1978, USAID/Nepal has supported the development of an educational radio capability within the Ministry of Education and Culture (MOEC) by means of two successive Radio Education Teacher Training (RETT) Projects. These projects focused on the development of a radio education unit (RETTP) within the MOEC that would deliver in-service training programs to primary school teachers who lacked a high school diploma--the School Leaving Certificate (SLC). Although USAID support was provided over a period of twelve years, RETTP staff turnover between the projects coupled with multiple changes in leadership, mission, and administrative location within the bureaucracy over the years lessened the impact of a decade of support. By 1990, however, many of these problems had been resolved, and RETTP reached a level of stability and legitimacy that seemed to assure it a growing role in the education sector. It had also won for itself a new mandate to develop and deliver training to untrained teachers who had the SLC, and it had taken its first step in developing programming for in-school broadcast to primary school students.

II. OVERVIEW OF RETT I AND RETT II PROJECTS

The overall goal of USAID assistance was to increase the access of Nepalese children to relevant, effective primary education. Upgrading the skills of the least-trained teachers was seen as an expedient way to improve the quality of primary education.

The RETT I Project, implemented by a team from Southern Illinois University at Carbondale under contract with USAID from 1978-83, developed 318 eighteen-minute radio lessons and four self-instructional books covering all eight subjects taught in grades one through three: education and teaching in social science, mathematics, and Nepali as major subjects; teaching in physical education, art, rural development, and health as minor ones. RETT I also provided Radio Nepal with a 100 kilowatt shortwave transmitter and the RETT Project with a building and fully equipped recording studio.

RETT I attempted to improve the teaching skills as well as the content knowledge of the participating teachers. Five hour-long broadcasts consisting of two eighteen-minute lessons and a twenty-minute magazine show were made each week for a period of ten months. Three thousand teachers were enrolled in the program by the end of the project (1983). The RETT I training program,

however, continued to be revised and implemented during the RETT II project period enrolling 6,429 teachers from 69 districts by 1988. Fifty-four percent of those enrolled (3,478) passed the RETT I final examination and were certified as "trained teachers" by the MOEC, thus entitling them to a monthly pay increase of Rs.45. The RETT I Final Evaluation Report noted that the project had been more successful at improving content knowledge than teaching methodology and recommended that a follow-on project be directed

at increasing the content knowledge of non-SLC teachers, particularly in math, science, and English.

In 1984 a Project Grant Agreement was signed by USAID and GON for the implementation of a RETT II Project. The main purposes of that project were twofold: (1) improving the capacity of the Radio Education Division to design, test, implement, and evaluate a wide variety of teacher training activities and (2) improving the research and analysis capacity of RETTP, CERID (Center for Educational Innovation and Development of Tribhuvan University), and the MOEC to ensure that the project and other educational entities could make plans on the basis of reliable data. The project was given the responsibility for developing radio programs in math, science, English and Nepali that would bring non-SLC teachers to a level at which they would be able to pass the SLC examination.

Instead of a single contractor, USAID called upon resources from multiple sources and conducted overall coordination of the project and its contractors itself. Two Kathmandu-based staff for the IEES Project (Improving the Efficiency of Educational Systems) run by Florida State University provided part-time assistance in research, evaluation, and planning. A separate contract arranged for the evaluation services of CERID. USAID also directly hired another long-term advisor to work on research and general project management.

The Academy for Educational Development was contracted to provide technical assistance in the area of radio program development and introduce the methodology of interactive radio instruction (IRI), which had been developed and used with great success in several countries over the last decade. The key elements of IRI are: (1) rigorous instructional design with continuous formative evaluation; (2) frequent student response that keep students very active and involved throughout a broadcast; and (3) immediate student reinforcement.

A long-term advisor (2 years) for radio script development and several short-term consultants were initially provided by AED from 1986 to 1988. Following the departure of the long-term advisor in December 1987, USAID asked the Academy to assume responsibility for hiring a Nepalese professional for instructional materials production (6/88--9/90) and for the American personal service contractor (6/88--6/89) originally hired and supervised by the Mission since 1984. When the contract for the IEES evaluation and planning specialist ended in June 1989, AED retained the valuable services of that expert for the 1989-90 extension period. During that extension period, AED was also asked to provide short-term consultants for an in-depth review of the BTT learning package and for follow-up training in program production for scriptwriters and studio staff.

RETT II project start-up was slow due to a number of factors. GON funds were not available until May 1985, and full USAID funding was not available until December 1985. Only six of the twenty staff members given overseas training under RETT I continued working with RETT II. This high attrition rate was largely due to the fact that RETT positions had not been given permanent civil service status by the Government. A new director of RETTP was also named. Thus, in many ways, RETT II began more as a new project and not as a direct continuation of the previous five years of effort.

Because the non-SLC teachers had experienced their highest failure rate (82%) with the English section of the SLC, RETT I began development of a pilot English Tuition Program (ETP). Within nine months of the arrival of the script development advisor, the project had established a dependable and rigorous system for script development, production, and evaluation that resulted in the production of 117 twenty-minute English "interactive" radio lessons. This program was field tested with 171 teachers and then revised again and broadcast to 289 teachers. An evaluation of this second phase showed that teachers in all participating districts had significantly improved their English capability.

By 1988, however, the MOEC made an official decision to stop the hiring of any new teachers without an SLC and recommended that local education committees replace temporary, non-SLC teachers whenever possible. This MOEC decision led to a re-analysis of the future of both RETT I and RETT II programming and a decision to focus efforts of the RETT Project on the development of radio courses for the 34,000 untrained SLC teachers rather than the 14,000 who did not have an SLC. In 1988, therefore, RETT II began to develop new programming for that larger group of teachers. Although the painstakingly developed English tuition course was now put on the shelf, the experience gained during its creation greatly improved the skills of the staff and their knowledge of how to do teacher education by radio, and convinced MOEC officials that RETTP and radio could be relied upon to develop and deliver effective instructional programs. A study was undertaken by CERID to determine the feasibility of using the English Tuition Program for high school students. Their report favored using ETP for students in grades seven and eight; however, the project did not have the time and resources to start such a program given their mandate to develop a new program for all untrained teachers within a year.

The shift in mandate to the training of SLC teachers effectively put RETTP into the mainstream of MOEC in-service training. Combined with an earlier MOEC decision to finally create at least 21 permanent civil service positions for RETT, this action elevated radio education to an important position as a delivery system for the Ministry. The Ministry's growing confidence in RETTP was further proven by an increase in government funding following the end of USAID support. The Ministry is also studying the possibility of merging RETTP with its Audio-Visual Section

(which has the responsibility for in-school broadcasting) to create a Distance Education Center meeting all of the distance education needs of the entire Ministry.

III. RETT II PROJECT AND AED TECHNICAL ASSISTANCE CHRONOLOGY

PROJECT GRANT AGREEMENT	July 1984
GON AND USAID FUNDING BEGINS	May 1985-- December 1985
AED INSTRUCTIONAL SPECIALIST POSTED	August 1985-- December 1987
AED RADIO MATH CONSULTANCY	July 1986
ENGLISH TUITION PROGRAM: PILOT I (171 teachers in 5 districts) February 1987	May 1986--
AED INTERACTIVE RADIO CONSULTANCY	March 1987
MID-TERM EVALUATION	March 1987
ENGLISH TUITION PROGRAM: PILOT II (289 teachers in 10 districts) January, 1988	July 1987--
AED RADIO MATH CONSULTANCY	March 1988-- April 1988
BASIC TEACHER TRAINING PROGRAM (BTT) (two programs for 2,817 teachers) 1990	June 1988-- June
AED TECHNICAL ADVISOR	June 1988-- June 1989
AED INSTRUCTIONAL MATERIALS ADVISOR	June 1988-- September 1990
AED EVALUATION/PLANNING SPECIALIST	June 1989-- September 1990
ORIGINAL PROJECT COMPLETION DATE	September 1989
AED PROJECT PLANNING CONSULTANCY	September 1989-- October 1989
AED INSTRUCTIONAL SYSTEMS DESIGN CONSULTANCY	November 1989-- December 1989
AED RADIO PRODUCTION TEAM CONSULTANCY	February 1990-- March 1990

REVISION OF BTT PROGRAMS	February 1990--July 1990
MALAYSIA/THAILAND STUDY TOUR (7 RETTP staff members) 1990	August 1990--September
FINAL PROJECT COMPLETION DATE	September 1990

IV. DESCRIPTION OF PROJECT ACTIVITIES

A. PHASE ONE: English Tuition Program (ETP)

GOAL:

The English Tuition Program was the first stage in the creation of four programs in English, Science, Nepali, and Math which were to raise the knowledge of participating non-SLC teachers to a level that would enable them to pass the SLC examination. The successful completion of the SLC would provide the teachers with the opportunity to achieve permanent status as teachers.

AUDIENCE:

The audience for the first pilot of ETP was all non-SLC teachers--a potential nationwide group of over 14,000. A baseline survey of this group showed that the average teacher was male, 32 years old, and a farmer living in a fairly remote village. Achievement testing showed that their English skills were at the 7.2 grade level. During the second pilot phase of the revised ETP, the program used an entrance examination to identify those teachers best capable of understanding the lessons and completing the course.

ACTIVITIES:

Under the leadership of the AED Instructional Design Specialist, the RETTP staff developed 117 twenty-minute English language lessons using the "interactive" radio lesson model. This model creates a degree of interaction between the listener and the radio teacher by requesting frequent verbal responses from its listeners as if in a regular, active classroom.

Another innovation introduced into the project was the concept of "feedforward." Many educational radio programs are launched before the entire series is fully completed. The scripting and

production of lessons continues even while the first lessons are being broadcast. Thus there is an opportunity to use feedback on the first lessons to help improve those being developed and to add material that might correct earlier errors. The "feedback" from the first broadcasts is directed forward into improving subsequent lessons. (Feedback is also kept so that it can be used to revise the original lesson.) To create this "feedforward" process, five teachers from local schools were invited to RETTP every week to listen to and critique newly taped lessons. Given the tight time schedule, it was rarely possible for those lessons to be redone before broadcast; however, the teachers' comments were used to guide the development of future lessons and later served as the basis for large-scale revisions of the entire series.

The English Tuition Program was pilot-tested with 171 teachers in five districts over a period of 39 weeks during the 6:40 to 7:00 p.m. time slot three days a week. The general instructional format of each lesson included: nine minutes for reading; two and a half minutes for writing; and five minutes for listening/speaking including two, two-minute exercises plus a patterned drill. The radio programs were planned using the national English textbooks as supplementary print materials rather than specially prepared print modules. This was done primarily because of the easy availability of the textbooks for all teachers in the remote areas and the need to reduce the overall workload for RETTP staff.

Post-tests conducted with the assistance of CERID and the IEES evaluation specialist generally revealed a limited increase in knowledge among teachers. The level of English knowledge among participating teachers was very uneven presenting problems for those with limited English skills. Audience studies showed that a majority of teachers wished for longer programs (30 minutes) broadcast more than three times a week.

The first draft of the English Tuition Program was shown to have many weaknesses; therefore the RETTP staff decided to revise the entire series. Given the varying levels of English skills represented by participants in the first program, RETTP staff decided that a single ETP could not meet the disparate needs of such a group. They therefore decided to develop an entrance examination for the course in order to identify those teachers most likely to benefit from the course. The revised program was then broadcast to 289 teachers in 10 districts in 1987 with excellent results as determined by pre and post-tests.

The second trial of ETP also included a face-to-face component. Several "Cluster Group" meetings were arranged for different geographic areas with the assistance of the local District Education Offices. Staff from the DEOs also tried to make at least one individual visit to each participant. The actual implementation of this component varied from place to place depending on local human resources and DEO interest.

RESULTS:

The major impact of the English Tuition Program was to introduce RETTP personnel to the interactive radio model and to establish a systematic and rigorous process for a scripting/production/evaluation (SPE) cycle which produced complete radio lessons on a tight deadline. To a great extent, the first version of ETP was an admirable first product for RETTP, particularly since it was developed under the pressure of unrealistic deadlines. The series, however, had a number of significant weaknesses. The quality of the scripts and recording talent was very uneven. The overall theme, setting, and characters were not entirely suitable for the target audience of isolated adult learners in remote villages. In addition, the post-test and follow-up studies showed that the tactic of trying to use selected English lessons from all grades of the English curriculum was too much for some learners and too little for others.

RETTP staff decided that the attempt to "be all things to all learners" was not going to achieve the goal of helping teachers pass the English section of the SLC. The staff decided, therefore, to completely revise the English program drawing on elements from the grades 7-10 curriculum and limiting the target audience to teachers with less than two subjects to pass in the SLC. The staff also improved overall production quality by obtaining permission to raise payments for recording talent, thus making it possible to hire more professional talent.

The second version of the English Tuition Program had much better success. Pre and post-tests were administered to 215 participants. The results showed significant increases ($<.05$) in knowledge of English among teachers in seven of nine project districts. The program, however, was temporarily put on the shelf when the MOEC decided to end the hiring and training of under SLC teachers and directed RETTP to begin preparing a package program for in-service training for those teachers who had their SLCs but were untrained by the Ministry.

B. PHASE TWO: Basic Teacher Training Program (BTT)

GOALS:

Following the government decision to end the hiring of non-SLC teachers, the MOEC assigned RETT the task of developing a 150-hour, distance education, in-service training program for untrained SLC teachers. The curriculum was to follow the pattern of face-to-face programs run by the MOEC covering seven subjects.

AUDIENCE:

The BTTP was directed at untrained teachers who already had their SLC--a potential group of 34,000. A baseline survey of teachers in the first phase of the program showed that the typical teacher was male, under 30 (93%), and engaged in other income earning activities outside of teaching such as agriculture (74%). Sixty-one percent of them were teaching in their own panchayat and live one to two hours walk from the school. They averaged four and a half years of teaching experience with an average teaching load of 36 periods (27 hours) a week. Eighty-three percent of them were still on temporary appointments. At least 41% already owned a radio; however, only 9% had electricity. Most used a basic kerosene lamp (tuki) for light--a generally inadequate source of light for regular study. The major problem they anticipated encountering in the program was being able to listen to all the broadcasts due to household chores or other activities coming during broadcast time. A later study showed that 44% of the participants responding to a survey missed at least one broadcast.

ACTIVITIES:

The project developed a teacher training program combining radio, print, and face-to-face channels. RETT staff developed 480 twelve-minute radio programs covering all topics including:

SUBJECT	NO. LESSONS	HOURS
Nepali	100	25
Mathematics	100	25
English	80	20
Social Studies	50	12.5
Science	50	12.5
Health	50	12.5
Education	40	10
Other Subjects	10	2.5
Practical Session		30
TOTAL	480	150

Radio lessons were broadcast six days a week from 5:30--6:00 p.m. Each broadcast consisted of two twelve-minute lessons separated by a four to five-minute magazine show covering items of general interest.

Self-Instructional Modules (SIMs) were developed as complements to the radio lessons, providing additional information and exercises that could be worked at home. Unfortunately delays occurred in the production process, and the SIMs had to be distributed in three installments of 113 lessons in February, 83 in March, and 274 in April.

In addition to the 120 hours of instruction delivered by radio, another 30 hours was provided through face-to-face meetings arranged in each district over a period of six days following the end of the broadcasts. Groups of approximately 150 teachers were brought to a central location for a practicum run by three instructors drawn from the District Education Office and local high school staff. These practicum centers were usually located from one to five hours walk for the teachers. The 30-hour "Practical Sessions" covered five areas:

Model teaching demonstrations
Teaching practice through micro-teaching sessions
Construction of teaching materials
Test construction
Extracurricular activities

The Cluster Group concept begun in ETP was continued in the BTT program. Data gathered from the teachers showed that 75% lived less than four miles from a secondary school while only 24% lived within six miles of the District Education Office. It was therefore decided to recruit high quality secondary school teachers as Resource Teachers to manage monthly meetings. These monthly meeting generally maintained a resource teacher to participant ratio of 1:23. A total of 57 resource classes were held for the participants. Over 46% of the enrolled teachers attended these classes.

The MOEC set a target of enrolling 800 teachers for two separate enrollments of teachers. With the strong support of the DEOs, 987 teachers from three districts were enrolled for the first session and began work with broadcasts on education on June 26, 1988 just before the end of the fiscal year. The second session, however, only enrolled 598 teachers from three other districts. Enrollment was less than planned because the decision on which districts would participate was delayed. By the time it was made, the schools were closed for vacation, and the teachers were difficult to reach. Despite this delay leading into a new fiscal year, RETTP staff devised a creative way of linking this second group into the program. The education programs were broadcast a second time for this late group, and then all teachers in the six districts began following subsequent radio broadcasts on the rest of the subjects at the same time.

BTT also implemented a variety of monitoring and evaluation tools with the help of an evaluation and planning specialist initially supported by IEES and by AED during the last year of the project. All enrolled teachers were given a package of 15 self-addressed aerograms to mail in at monthly intervals. This instrument was designed to monitor listening patterns and causes of missed lessons, reduce the isolation felt by remote teachers, and serve as a means for teachers to send comments and suggestions. Over 47% of the 1,575 enrolled teachers in the first BTT program

sent in at least one aerogram although the number of respondents declined steadily over the life of the program. Feedback forms were also developed for local DEO and resource teaching staff.

RESULTS:

Of the 1,585 teachers enrolled in the first BTT program, 1,267 (80%) took the final examination with 1,079 teachers of them (85.2%) passing the test and being certified as trained teachers. Over 84% of the teachers who sent in aerograms noted that they had attempted to incorporate the knowledge learned by radio into their classroom teaching. A lack of instructional materials was cited by 87% of these teachers as the main hindrance to the application of their new knowledge in the classroom.

During the second implementation of the BTT program from 1989-90, 1789 teachers from nine districts enrolled in the course, and 1547 (86.5%) appeared for the final examination. A total of 829 teachers (53.6%) taking the test passed the exam.

Following completion of the first two broadcast seasons, the AED Instructional Materials Specialist led an intensive review of each of the lessons and SIMs. Based on feedback gathered from teachers, subject matter specialists, and writers, the RETTP staff made revisions in over 260 of the lessons. As part of this process, AED provided an instructional systems consultant to hold a workshop reviewing all aspects of the BTT learning package. When RETTP later decided to involve script writers more in the production process and to further develop the skills of the studio technicians, AED arranged for a team of production experts to hold a workshop and on-the-job training for RETTP staff.

C. PHASE THREE: In-School Broadcasting Experiment

GOALS:

Demonstrate how in-school broadcasting can be applied in Nepal and how the Radio Math materials successfully used in other countries could be adapted by RETTP staff for use in Nepal.

AUDIENCE:

Grade 2 math students

ACTIVITIES:

A series of 12 radio lessons on grade two math were developed and used with students at 5 schools in the Kathmandu valley in the town of Bhaktapur. Because of the small size of the experiment,

the lessons were played on audio cassette in the classroom rather than broadcast via the air waves.

RESULTS:

A team observed each class that participated in the lessons. The lessons were well-received by the students who were responsive to the interactive style of the programs. The children were easily able to follow the lessons. The RETTP staff had obviously shown that they were capable of adapting lessons to a new audience of school children. All who were involved in the experiment, including those who were skeptical of this experiment, came away with positive feelings about the potential of moving RETTP into in-school broadcasting.

V. LESSONS LEARNED/RECOMMENDATIONS

The experience of the RETT II Project highlighted new lessons learned in doing educational radio in Nepal and reaffirmed the validity of some of the old lessons learned in many other radio education projects run in other parts of the globe. The following list serves to sum up many of the lessons learned in RETT II along with some recommendations for those who will follow in its footsteps. The list is organized in alphabetical order according to general topics and not necessarily according to importance.

ART AND EDUCATION

1. The development of effective radio programs and materials is as much a creative process as a pedagogical one. Government bureaucracies are not generally recognized as being a haven for "artists." Although many of the RETTP staff were highly creative and artistic in their work, it was necessary at times for the project to look outside RETTP for temporary outside talent for recording work and script production. Script writing and production is as much art as planning, and this should be taken into consideration when hiring project personnel and setting up regulations for the hiring of outside assistance.

2. Even the best-planned and written radio lesson will fall flat if it is not recorded with high standards in terms of voice and special effects quality and acting talent. One of the main problems faced by the English Tuition Program was the poor quality of its "talent"--the actors and actresses who portrayed the radio characters. Professional artists were not willing to work on RETTP programs because of the low payments authorized by government regulations, which were not very competitive with the rates commonly paid for good radio talent. By increasing the amount allowed for payments, RETTP was able to attract professionals who did a better and more efficient job of recording the lessons and made the broadcasts more understandable and enjoyable for the learners.

AUDIENCE:

3. It is crucial that the target audience and their learning environment be carefully assessed and consulted before, during, and after the development and delivery of an educational program directed at them. Even a thorough baseline study will not be sufficient if other conditions (e.g., political, environmental, logistical) change during the course of the program.

   a. Although the absolute number of non-SLC teachers was steadily increasing during the period of the RETT projects, their ranking as a percentage of all teachers was declining. The GON decision to end the hiring of

non-SLC teachers signaled that the audience for RETT II programming was going to decline in importance and that RETT resources would be better spent on addressing the needs of the larger group of all untrained teachers.

b. Of the 14,000 non-SLC teachers forming the original audience of RETT II programming, about half already held permanent positions and presumably had little motivation to try to pass the SLC. Of the remaining 7,000, only 40% had failed less than three subjects on the SLC and thus had a chance of bringing their knowledge up to SLC levels through radio tuition.

c. Most of the teachers were also farmers or had some other occupation to follow and other responsibilities to meet. Teachers averaged 19 nights spent out of their village each year. Forty-four percent of BTT participants missed at least one broadcast.

d. Many teachers found that shortwave reception in their village was not always reliable and clear, thus impeding their understanding of the broadcasts. The medium wave system proved much better and is now being expanded to cover all of Nepal.

e. Many teachers preferred a later time for the broadcasts, which was not possible because of other Radio Nepal commitments for "prime time." Some teachers lost interest in the program because of the long time period for delivery. They would have preferred longer broadcasts of an hour duration thus cutting the overall delivery time in half.

4. Learner motivation should be a key concern of program planners. Intrinsic rewards generally need to be supplemented by more overt rewards. In RETT I, teachers enrolling in the program received the free use of a radio for a year. Upon successful completion of the course, they were certified as "trained" teachers and given an increase in salary of Rs.45/month. RETT II began only with the incentive of obtaining a radio at a discounted price at the time of enrollment. The only incentive for successfully completing the program was an increased chance that they would be able to pass the SLC--an unreasonable goal considering the multi-subject improvement needed by most participants, the limited instructional time available to RETTP, and the difficult nature of the SLC. An increase in salary would only occur if they passed the SLC. Most of the teachers had some degree of intrinsic motivation propelling them, but additional incentives are required to maintain motivation over a long period of time in difficult circumstances.

5. The curriculum and approach of the teacher training program was based on the format approved by the MOEC for mainstream face-to-

face training programs. It focuses on a "single subject" approach based on the assumption that all teachers follow the main model of teaching a single subject across grade levels. It appears, however, that large numbers of teachers in remote areas are in schools with only one or two teachers for large numbers of students of different grade levels. These teachers have to teach multiple subjects at multiple grade levels during the course of a day and face major problems of class management and organization as well as content issues. A distance education training program for teachers in these situations should probably be more balanced by adding lessons on class management to those on content.

COSTS:

6. The educational and cost-effectiveness of using radio for teacher training in Nepal will be the subject of a study conducted by CERID in late 1990. Other studies and the RETTP experience indicate that a well-developed program aimed at a large enough target audience can be as cost effective as an equivalent face-to-face program. A 1983 study of the RETT I program showed costs of Rs.7,832 per participant for the face-to-face program compared to Rs. 762 for the radio equivalent. A 1988 Education Sector Assessment done by the A.I.D. IIES Project found the following per enrollee costs for several teacher training programs:

PROGRAM	NO.ENROLLED	COST PER ENROLLEE/DAY
EGWN Project	211	Rs. 32.06
Sanothimi Program	115	Rs. 24.06
SETI Project	19	Rs. 46.65
Primary Ed. Project	25	Rs. 36.33
RETT	1,257	Rs. 8.31

This study also found RETT to be cost-competitive when the cost of each "passing trainee" rather than "enrollee" was calculated. The RETT program spent Rs.28.63 per day for each trainee who successfully completed the program, which is still less than all programs except that run by Sanothimi. Unfortunately the IEES team was unable to calculate comparable costs for "passing trainees" for the other programs.

RETTP staff are not so certain that these figures provide a true picture of actual costs. The RETTP programs are more costly than similar face-to-face programs in the area of materials development. The production of hundreds of radio lessons and print modules consume considerable financial and human resources. The monitoring and research carried out by RETT also exceed that undertaken by other programs. One of the cost advantages of RETTP programs is their ability to reach a large audience of individual learners in their villages throughout the country. Except for the BTT face-to-face component, few funds are spent on student travel and per diem. Significant savings are realized by local education

authorities because there is no need for them to hire substitute teachers while regular teachers go off for training. RETTP can lower the overall cost per trainee by increasing the numbers of teachers enrolled in each program, thus maximizing radio's advantage of economies of scale. With the ongoing improvements in Radio Nepal's capacity, almost all of the country should be soon within reach of a high quality radio signal. Cost-effectiveness might also be increased by getting all of the teaching elements (radio, SIMs, meetings) better coordinated as a teaching package so that more enrolled teachers follow the entire program and pass the final examination.

IN-SCHOOL BROADCASTING

7. While the educational and cost-effectiveness of in-school broadcasting has repeatedly been proven in other countries, Nepal faces a number of obstacles that currently hinder such programs. School hours, vacation periods, and broadcast reception quality are not uniform throughout the country (e.g., Hill schools vacation in the winter while Terai schools take their main break in the summer). In-school broadcasts, however, have great potential for directly improving the quality of instruction available to children throughout the country while simultaneously helping to improve the classroom abilities of teachers.

MATERIALS:

8. The provision of radios to teachers, first on a loan basis and then at a discounted price, continually proved to be a lengthy and complex process. The ordering and importation of the radios, their distribution and loan or purchase was very difficult to accomplish on schedule given the lengthy procedures for funding, purchase, and importation and the logistics of getting the radios out to the districts, collecting monthly payments from teachers, and recycling the money back to the project. Needless to say, the timely availability of radios is crucial. The production and distribution of print materials was not as fraught with difficulties. The major problem was getting production funds approved quickly enough to ensure that materials would be printed in time for distribution. Given the lengthy and complicated process involved in getting the printing done, it would have been much better if funds were arranged for the printing of two year's worth of materials at a time.

MEDIA:

9. A multichannel approach to distance education is more effective and satisfying to the participants.

a. Mass media such as radio can reach large numbers of people on a regular and cost-effective basis. It is more

effective at conveying information than teaching new classroom skills. Distribution is relatively easy if the broadcast signal is strong in all project areas and learners have ready access to receivers.

b. Print materials can supplement the broadcasts by providing more in-depth information, learning exercises, and a means for self-study in addition to the broadcasts and for those times when the participant has missed the broadcast. Distribution needs careful planning months in advance, particularly in a country with a limited transportation system like Nepal.

c. Face-to-face sessions provide the learner with an opportunity for interaction with master teachers and fellow participants that helps to clarify misunderstandings, test out interpretations, and practice new skills. These sessions also can serve a timekeeping and motivational function by encouraging the participant to keep up with his/her lessons. It is very easy for a distance education student to miss a few lessons, fall behind in work, and eventually drop out of the program. Periodic face-to-face sessions can help reduce these problems. Planning and implementing these sessions can be more difficult than using mass and print media. Meeting places convenient to widely separated students have to be arranged. Teaching staff for multiple locations have to be identified and trained. The mass media can be used to coordinate times and places with all the participants.

10. The timing of broadcasts should ideally be set according to the best listening times of its audience. Teachers in both the English Tuition and BTT courses favored a later listening time for the broadcasts. They found the 5:30 p.m. time too early for their personal schedules. At least 40% of the teachers reported that they missed at least one broadcast. Most teachers favored a broadcasting time between 6 p.m. and 8 p.m. This time, however, was not always available in large blocks since it constituted prime time for Radio Nepal which the station was not willing to relinquish for an educational program targeted at a limited audience. Educational programs will rarely get access to the best times because of the high costs charged for prime time hours or because of stiff competition for key broadcast times. The project, therefore, must know its audience's listening habits well enough to be able to select "second-best" times which are available to it.

MONITORING:

11. An ongoing "dialogue" with participants is very important in

a distance education system. Aerograms can be a convenient means of establishing a steady stream of feedback from the field. The radio can be used to answer questions of common interest, create a sense of group effort, and provide some response to participants if individual replies are beyond the capability of the project staff. The RETTP magazine show has played an important role in maintaining a personal link with the teachers.

PLANNING AND ORGANIZATION:

12. In a distance education system, exact planning and highly efficient management are essential. In front of a class, a good teacher may readily improvise if something goes wrong. In a distance education program combining mass, print, and interpersonal communication channels directed at widely scattered participants, detailed plans must be drawn up and fanatically monitored. Radios and print materials need to reach remote areas before broadcasts begin. Face-to-face sessions must be carefully planned so that remote learners and facilitators all come to the same spot at the same time prepared to work. Distance learners are generally more dependent upon the project for logistics than other learners. The production of great radio lessons and modules may go for naught if the complicated logistics arrangements are not given the same degree of care and importance. As one teacher said, "If you weren't ready, why did you start the program?"

13. A key factor in obtaining this efficiency is the presence of clear lines of authority and responsibility for each member of the organization. Each person must know his/her job responsibilities and how that job interrelates with every other. There must be both division of labor and authority along with a sense of common purpose and understanding that all tasks are ultimately interlinked. Scripts without production; production without distribution; distribution without implementation; and implementation without monitoring and evaluation can all lead to failure. Each component part must operate efficiently on its own and in conjunction with the other components in the distance education process. The project found it useful to link the scriptwriters more closely to the production process making them, in effect, writer-producers.

TECHNICAL ASSISTANCE:

14. While RETT II did well in utilizing technical assistance resources from a variety of sources, the project lacked an overall coordinator for AID inputs. USAID did an admirable job in putting together and coordinating a coalition of experienced and qualified groups (CERID, AED, FSU, plus local hire personnel) but the project

might have done better if a single contractor had been given full responsibility to manage all inputs into the project. Especially because it was in its formative stages, RETTP needed daily support on all aspects of the project. While all of the cooperating groups were extremely supportive and professional, overall management of USAID assistance and continuous support of RETTP personnel might have been more effective if one group had been given responsibility for leading the technical assistance effort.

VI. CONCLUSION

USAID/Nepal should be commended for its longstanding support of the development of a radio education capability for the Ministry of Education and Culture. Too often in development work, great ideas and good intentions fail because of short-term support and lack of continuity. Although difficulties occurred during the RETT I program, USAID persevered in its efforts to support the Ministry's fledgling efforts to utilize the great idea (radio) for good intentions (teacher training). The RETT II program suffered through even more difficulties than did RETT I, but USAID's consistent support and the outstanding efforts of RETT II staff--Nepali and American--ultimately proved the value of USAID's investment.

By the end of RETT II, the RETT Project was in a firm position to make a continuing and stronger contribution to the development of distance eduction in Nepal. A building and equipment was in place. Twenty-one permanent positions had been approved by the MOEC, and the staff holding those positions had been well-trained and possessed significant experience in the development, implementation, and evaluation of radio education programs. The Project had performed well enough under difficult conditions to earn a new and larger mandate from the MOEC to undertake the training of untrained SLC teachers. It had also earned continued budget support from the Ministry and the opportunity for significant expansion with the potential merger of the Audio-Visual Section.

Difficult challenges still await the Project, and additional strides have to be taken to increase the quality and effectiveness of its educational programs and staff. For a project with a troubled history, however, it has come a very long way and appears to be moving towards a new level of institutionalization and responsibility. The seed has been planted and nurtured and a young and flourishing oak tree now stands where a weak seedling once battled for basic survival. The Academy feels fortunate to have played a small role in the development of an institution which has the potential for expanding educational opportunities for the people of Nepal. We hope that USAID and the Ministry continue to support the strengthening and expansion of the RETT Project and give it additional opportunities to demonstrate how radio and

distance education can improve the quality of life for all the people of "Hamro Nepal."