



---

## CHAPTER SIX : Teacher Resource Centres in Nepal

---

- 1.0 Introduction
  - 2.0 TRC Systems Described
  - 3.0 Teaching Observed
  - 4.0 Impacting On Schools
  - 5.0 Conclusion
- 

**Gary Knamiller, Sharada Maharjan and Rakesh Shrestha**

### **1.0 Introduction**

***"Improving the quality of education is not simply a question of developing schemes or building physical infrastructure, injecting more resource such as materials, teachers and teacher training into the system. The management of such schemes and resources at the school level is fundamental."***

**Tribhuvan University, 1997**

What we learned in Nepal is that teacher resource centres (TRCs) are only as good as

the schools they serve. Unless the environment in schools is right, the messages and resources being disseminated by TRCs have little chance of taking root in classrooms. We learned that there is an absolute minimum set of conditions in a school that must be in place to allow it to 'receive' and act on messages and resources coming from TRCs. The most basic is that teachers are present in schools and working with students in their classrooms. Teacher, and headteacher, absenteeism is a very big problem in state run schools in Nepal. Another basic condition is for the school to have a curriculum management structure and some experience in curriculum planning as an all-school joint venture. There must be some sort of system in schools for absorbing and operationalizing the messages and materials that staff bring back with them from activities at the TRC.

TRCs in Nepal are physically apart from schools. Teachers leave their schools to come to them, and TRC staff, for the most part, have neither time nor transport to follow-up teachers and programmes into schools to the extent needed for up-take. The school is virtually on its own in planning and implementing change.

The focus of this case study in Nepal is on the relationship between TRCs and schools. We will attempt to paint a picture of TRCs and how they work and to contrast this with a picture of schools as we follow teachers from TRC courses and activities back to their classrooms.

## **2.0 TRC Systems Described**

There are two systems of TRCs in Nepal. Primary TRCs, called Resource Centres (RCs), are within the Basic and Primary Education Project. Secondary TRCs are called Secondary Education Development Units (SEDUs) and are within the Secondary

Education Development Project. Although they are completely separate entities, having different administrations, physical facilities, personnel and management practices they do share the general purpose of being a venue for certificate up-grading courses, for dissemination courses for new curricula and textbooks, for the distribution of some resources to schools and for hosting various local education committees and events. This report considers both the primary and secondary TRCs.

## **2.1 Secondary Education Development Units (SEDUs) - the Secondary Education Development Project (SEDP)**

***"The activities of the SEDU during the fiscal year 2053/54 (1996-97) have been to enhance the quality of education in the area. Teachers have received training in teaching methods, practical work and updating in curriculum content, related to lower secondary and secondary education. The new teaching methods have been activity centred to encourage pupil-centred activity within the classroom. Teachers are encouraged to adopt these methods on returning to their schools and to share them with their colleagues at the schools."***

### **SEDU Bulletin, Chitwan 053/54**

*Secondary Education Development Units (SEDUs)* are TRCs which have their own set of 3 buildings located on a secondary school compound. The centre piece is the professional block housing a large teaching room with flat tables and individual chairs (as opposed to benches), a store room, a preparation room, and an office for the SEDU Master Teacher (SMT). Besides the SMT there is also a clerk, a peon and a chowkidar. A few SEDUs have VSOs assigned to them. The complex includes a residential hostel which can accommodate around 30 and a house for the SMT. There are 25 SEDUs

scattered around the country, each serving between 1 and 4 districts.

### **Secondary Education Development Project (SEDP)**

SEDUs were built and began life as Science Education Development Units in around 1985 as part of the previous UNDP/UNESCO Science Education Development Project. They were inherited in 1991 by the currently operating Nepal Secondary Education Development Project in 1991. The British Department for International Development provides technical assistance to this project costing around \$4 million. His Majesty's Government of Nepal is contributing \$3.2 million, and the Asian Development Bank provides a loan of \$8.6 million. The total cost of the project over the 5 year period is around \$ 15.8 million. This is a very big, comprehensive project. It includes curriculum and textbook development, examination reform, benefit monitoring and evaluation, research, providing books and equipment and 'enhancing teacher effectiveness and competency.'

SEDUs play a major part in the in-service teacher training programme for secondary school teachers. Some 15, 000 untrained secondary teachers are targeted for a four week, full-time, residential teacher education programme in SEDUs. Although training under the previous project focused almost exclusively on science and had approximately 3000 participants, SEDUs now include courses in Nepali, English, mathematics and social studies in addition to science. Quite recently short in-service courses in school management for headteachers are being held at SEDUs as well. The 25 SEDUs answer directly to the Secondary Education Development Centre in Kathmandu which works closely with the Curriculum Development Unit in planning in-service training and producing training materials.



"The SEDU complex in Pokhara, with the professional block shown here with the VSO English language trainer and one of our team; the residential hostel with its SMT in the middle and members of our team; the SMT's house"

SMTs are principally in-service training course managers. On average they co-ordinate 8 or 9 courses each year. While each SEDU has local development and implementation committees, the responsibility for selecting teachers to come on courses and the day to day running of courses falls principally to the SMT. The SMT is also a trainer on courses dealing with his own subject specialty, at his own SEDU and at other SEDUs as well. When he is not busy with on-site courses, the SMT is suppose to visit schools, following up past participants. This is a daunting task, however, as over 200 teachers pass through their SEDU each year. Even with the intended help of part-time, associate senior teacher trainers few course participants are ever 'observed' in their classrooms.

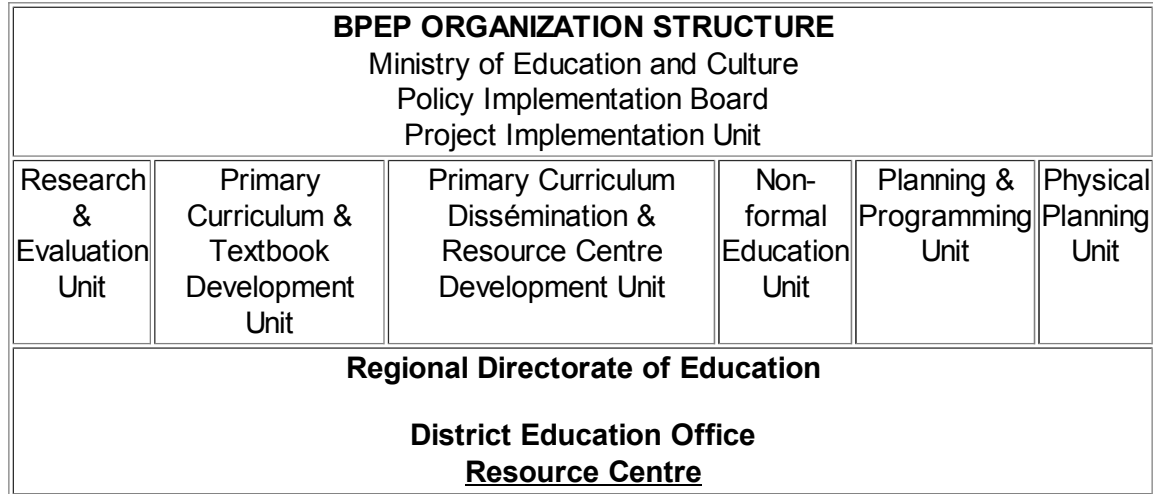
## **2.2 Resource Centres (RCs) - The Basic and Primary Education Project (BPEP)**

***"The Resource Centre is the 'heart' of the Basic Primary Education Project... to realise educational development at local level. The Resource Person... helping the RC Management Committee in planning and implementing the cluster school programme will bring educational activities to the doorstep of the schools."***

### **An Information Brochure, BPEP, 1992**

*Resource Centres (RCs)* are teacher resource centres at the primary level. They are intended to be the focus of educational development within a cluster of 10 - 25 primary schools. Whereas there are only 25 Secondary Education Development Units, serving

secondary schools in 1 to 4 districts, there are in the region of 700 primary Resource Centres serving over 9000 primary schools in 40 districts. Unlike SEDUs which are directly responsible to their central management (SEDP) office in Kathmandu, RCs are directly responsible to their District Education Office, which in turn responds to the BPEP central office in Kathmandu.



The Resource Centres we visited are purpose built structures and are located on the compounds of secondary schools which have primary sections (an important point that we will return to later). These RCs have a large classroom furnished with tables and chairs, perfect for moving about to accommodate group work and practical activities. The large blackboards are readable, and while charts and posters commonly appear on walls they most often contain information about the administrative structure and aims of

23/10/2011

CHAPTER SIX : Teacher Resource Centr...

BPEP. Few teacher made materials are in evidence. There is an office for the Resource Person (RP), but it is not so well equipped with reference books and typewriters, or indeed a clerk, as are their SEDU cousins.







**"Primary Resource Centres in the southern part of the country and in the hill area."**

RCs are intended to be multi-purpose. They act as a training centre for teachers, a materials development centre, a teachers' library, a parents' meeting centre, an examination centre and a community hall. Major training courses at RCs are: basic training courses of 150 and 180 hours which focus on teaching methods, educational materials, learning strategies and evaluation; and courses in school management for head teachers; grade specific curriculum/textbook dissemination workshops; grade teaching and multi-grade teaching courses. (It must be noted that the 150 and 180 up-grading courses are being moved to newly established 'training centres'.)

The RP has an unenviable task. On average throughout the country RPs have 2 RCs to

look after and a consequent increase in the number of primary schools to deal with. Besides co-ordinating in-service courses and various cluster committee meetings (e.g. the monthly meeting of headteachers and the examination committee for the development of end of year and the grade 5 primary leaving examinations which are set at district level), the main work of the RP is supposed to be in schools, advising and supporting headteachers and teachers. Merely getting to schools can be a major problem, particularly in rural clusters where distances to schools can be considerable. Once there, however, school-based support is frequently confused by a murky delineation between the work of the RP and that of district supervisors. This lack of clarity of purpose is in the minds of both school staff and the district office personnel. In addition, the usefulness of advice is often diminished by the absence of a focused plan of curriculum/pedagogical reform, such as, for example, improvement in number work in grades 3 and 4.

### **2.3 Critical comments about TRCs**

Before taking a critical look at the work of SEDUs and RCs the point must be made that although these two programme have been around for quite a long time, particularly SEDUs at over 10 years, the superstructure above them, and upon which they are dependent for purpose, direction and funding, continues to shift about, sometimes quite dramatically. There have been, for instance, a number of different aid organisations and various emerging priorities. Most importantly, however, is the constantly changing political scene in Nepal, a country experiencing only its sixth year of democracy. Politics plays a significant role in education, at the national level certainly, but at the most local of levels as well. The education system seems to be in a constant state of flux, and neither SEDUs nor RCs are left untouched.

Critical comments about TRCs in Nepal, then, must be viewed against this continually changing context. Programme are developing and improving. The capacity building that is going on throughout education, in terms of people and materials, and the competence and commitment of many of those working in these development programmes are encouraging indeed.

### **Field Study Methods**

The field study, conducted by myself and three Nepali colleagues associated with BPEP and SEDP programme, was done in 3 phases during the period January 1997 - February 1998. During the first phase of only one week we outlined the work and gathered materials relevant to the activities of RCs and SEDUs, particularly training manuals, teacher workbooks and resources used in training courses. In this regard we also visited one SEDU and an RC and a sprinkling of their satellite schools.

The remaining two phases, of 2 weeks each, were devoted principally to visiting regionally based SEDUs, RCs and schools with teachers who had recently attended courses at these teachers' centres. At each centre we gathered more 'traceable' practices and resources. We spent a week in each of four regions. In total we visited 4 SEDUs, 14 secondary schools and observed some 40 lessons; 7 RCs, 11 primary schools and observed some 30 lessons.

## **3.0 Teaching Observed**

### **3.1 Teaching In SEDUs and RCs**

Sitting in on training sessions at SEDUs and RCs you could be excused for believing you were in similar in-service training courses in the UK. You would likely be comfortable with the instructional styles demonstrated here. There is some lecturing, of course, but much of the time is given to small group work. Teachers are huddled together discussing an exercise in their training workbooks; they are playing with hands-on materials; they are designing charts and 'improvised' teaching aids. Presentations and discussions feature prominently in plenary feedback sessions. And, on longer courses, such as the 150 hours basic training for primary teachers and one month subject specific courses in science, maths and languages for lower secondary teachers, participants observe demonstrations and trial sample lesson plans in live classrooms, if not always given sufficient time.





**"Inside TRC courses where active, participative methods are very frequently used"**

In-service training courses are well planned and supported with resource materials. There are detailed training manuals prepared centrally in Kathmandu, and trainers are trained in how to use them. For the most part teachers and trainers appear to be having a good time, professionally and socially. In our interviews with teachers they all say how much they like being on these courses. One teacher's comments about her RC is very representative:

"It (RC) is a nice building. There is a chance to talk with other teachers. The new teaching methods are interesting."

**Approaches to English Language Teaching on a SEDU Course**

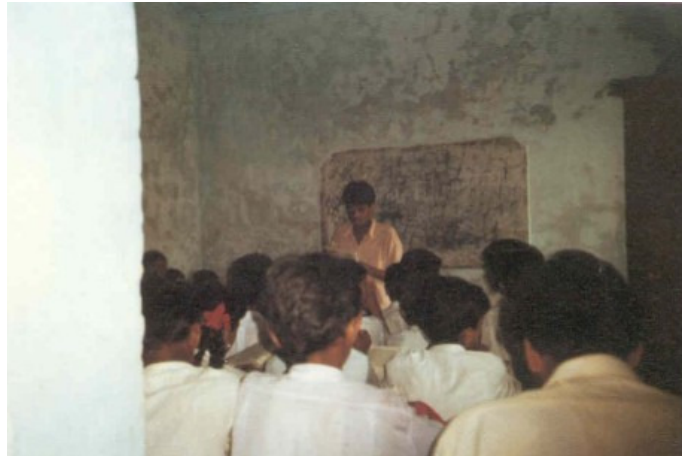
|  |  |
|--|--|
| <p><u>Presentation</u> create situation model key sentence students reproduce key sentence check students' understanding of new language item</p> <p><u>Practice</u> correct students' mistakes whole class drill group drill individual drill repetition drill conversation drill pair work</p> <p><u>Production</u> students perform for whole class students work freely pair work teacher does not interfere students use own language small group work discourse chain small group discussion role play</p> | <p><u>Teaching and Learning Aids</u> flash cards - and different ways to use them matchstick drawings flannel board plastic covered wall chart as a 'white board' ready made pictures model clocks songs and rhymes language games</p> |
|--|--|

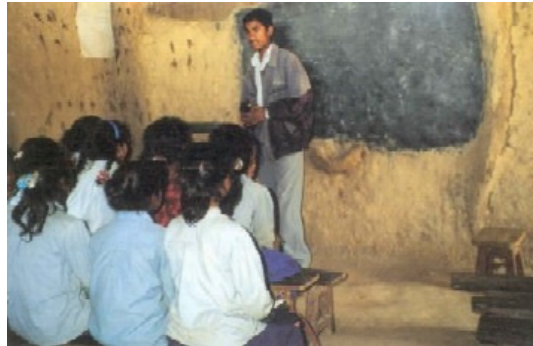
What brings us starkly back from our musings of how similar in-service training programmes are around the world are lingering images of our visits to schools. The contrast between teaching methods and conditions for learning at SEDUs and RCs and the teaching methods and the conditions for learning in schools is like night and day.

### 3.2 Teaching in Schools

We must consider first the context within which teaching takes place. Nepal is one of the poorest countries in the world. Although there are a few good looking school buildings, several newly constructed, the great majority are quite basic. Most of the classrooms

we visited are stuffed with long benches and matching long thin, communal desks which are frequently broken and not adequate for the numbers of students. Schools are poorly resourced, primary schools considerably more so than the average secondary school. There are very few teaching aids and learning materials. There is no provision for supplementary materials of any kind and libraries, either school or classroom, are practically unknown. It is extremely rare to find anything on classroom walls other than the blackboard, most commonly a dull shade of dusty grey, pitted, resistant to chalk. As an attractive teaching and learning environment most government schools in Nepal, whether secondary or primary, are very unattractive, at least to the western observer. Indeed, it is only the faces of children that brighten most classrooms.









**"Classrooms in primary secondary schools. Some schools have better facilities and some worse than these"**

### **3.2.1 In regards to teaching**

Rather than give a detailed report of each lesson we observed, it might be best to give a description of a typical lesson. While we did see some good teaching, for the most part there was depressingly little variation among the primary and secondary classes we observed.

The scene was virtually the same in every class - absolutely nothing on the bare walls, students crammed onto immovable desk/bench furniture (*commonly 50 and above students in secondary classes, although somewhat less at the primary level*); the relevant textbook, perched on students' stack of other texts and copy books, opened to the given page of the day, eyes front and centre. Not a copy book was opened for students to take notes, to write an answer to a question or problem.

*Impressively almost all pupils had their own texts and copy books all neatly bound in paper covers. This is a great achievement. And, new textbooks and teachers guides and short 'textbook dissemination' courses are appearing as part of the planned development within both BPEP and SEDP.*





**"The textbook is the chief resource for both teacher and learner."**

The teacher, too, had his copy of the student text, lecturing from it for long periods of time, occasionally moving to the blackboard to reiterate a section of text or to draw an exact diagram from the book. Occasionally s/he asked a question from which s/he expected and got a chorus answer, repeated several times. Once-in-awhile, individual students were asked to stand and recite, but rarely by name. (*We checked and found that few teachers knew the names of their students.*) Very occasionally, and invariably in the schools which had advance warning of our coming, the science teacher had sent children out to get some piece of equipment or plant to illustrate the lecture. The 'visual aid' was usually a three dimensional version of the example in the textbook.

Courageously one teacher tried to do the collapsing tin due to air pressure demonstration, but it did not work as the tins the children brought were very small and fell through the grid of the kerosene cooker. Obviously this demonstration with this apparatus had not been tried before. There were no questions to illicit the observations of students. Neither was the class encouraged to ask a question. In a few classes, mainly in maths and science, the teacher had a child do a problem on the board - other students simply watching, not having been instructed to try the problem themselves in their copy books.

The lesson closes with the teacher giving homework which either consisted of having the children copy sections of the text into their copy books or responding to questions which required copying sections of the texts into their copy books. (*'Copy books' are aptly named. Students transfer neatly what they copy in their copy books into their exercise books as homework.*) We looked at the children's exercise books and, in the main, found scarce evidence of them ever having been marked. But, then, why mark books that contain little more than copied texts? We acknowledge that it is too much to expect teachers to frequently mark so many books. But there was no evidence to suggest that exercises or problems were given as homework and that methods for going over them in class and arranging students to check each others answers were employed.

### **Good Practice - Notes from Teaching Observed**

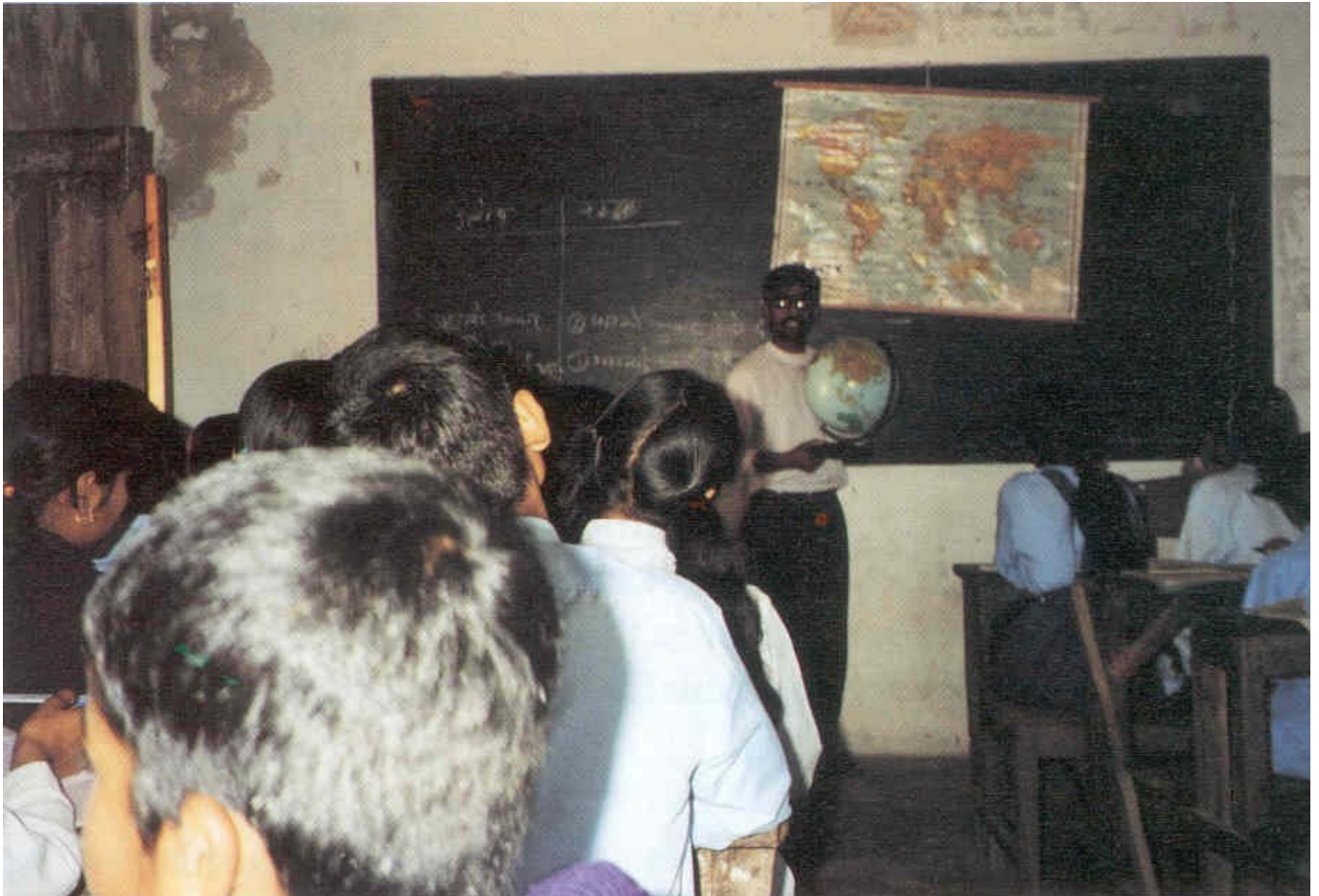
- Class 4 - English on the topic 'her and his'. The teacher has almost all of the 61 children working in a variety of ways. Her own blackboard work is great. She has a couple of pictures of a boy and a girl which she obviously drew herself on pieces of cardboard, and she uses them as puppets talking to one

another. She does whole class choral response, but group and individual response as well. She has several pupils come to the board to write a pattern, and amazingly has the rest of the pupils doing the exercise at the same time in their exercise books. After the board work she gives them more written work, and she moves about the class checking it. She even asks the children to "Make one question?" following the pattern she has set on the board. She had obviously planned the lesson and used something more than just the textbook. She knew the children's names. (The teacher said she got many of her ideas and techniques from the 150 hour course she did at the local RC. Before that she was an untrained teacher.)

● Class 8 - Social Studies on the topic of the differences between two-dimensional maps (of the world) and globes. It is just before lunch break and we arrive 10 minutes into the on-going lesson. Impressively he had a large wall map hung on the front wall and a globe. It is obviously a new lesson for the children, 56 of them cramped into a very confined space. The teacher has drawn a chart for comparing the two kinds of maps on the blackboard and the students are copying it into their exercise books as he lectures from the 2-D map and the globe. He fills in some boxes, but leaves several blank, and calls individuals to come up to fill them in. While individual students are at the board, the others confer with their neighbours and fill in their own boxes. The teacher tries to squeeze about the class checking students' work and frequently directs them to look again at the map and globe. The students are very enthusiastic. (This teacher has recently returned from the month long social studies course at the SEDU. He said that he got the idea for this lesson from the course.)

Comment: By any standard these 2 lessons, these 2 teachers were impressive. It points out how much of the content of RC and SEDU courses is relevant to classroom practice. We keep asking ourselves, why, oh why is so little of it transferring back to classroom teaching and learning?





## **"Using ideas picked up from TRC courses."**

### **3.2.2 In regard to resources**

One of the most 'traceable' resources is science equipment. SEDUs in particular are distribution centres for getting science equipment to schools. Much of it is used by teachers in practical sessions on science in-service training courses at the SEDUs. Much of this equipment and apparatus can also be found in schools, in 'prep rooms', locked in cupboards. And, when you can find the key and open the rusted doors typically there are shelves packed with broken, some workable, completely unorganised apparatus. The dust and grime is thick. In a school that houses a SEDU and where the senior science teacher is a trainer on SEDU science courses there were 2 boxes full of scores of little plastic bottles containing a liquid. He did not know what they were. A set of teachers' guides sat in their plastic wrapping unopened. A globe was still in its plastic wrapping. In another school the science equipment distributed by the SEDU and observed in their boxes by one of our researchers in a previous visit some 4 months ago was still unpacked. This was by far the most common situation we encountered in all the schools we visited.

Besides science equipment there are maths materials and teacher made charts and posters that feature in TRC in-service training courses, and should be traceable to classrooms. We saw very few being used or any evidence from looking back through students' exercise books that they had been used. There were some charts, mostly commercially produced, in staff rooms, scattered about and full of dust. In only a very few lessons did we see any use of material resources. Primary teachers returning from courses are given a white, cloth pocket chart intended to be used for holding 'flash cards' of words and numbers. Several teachers brought these with them to the lessons



we observed. They dutifully hung the pocket chart on the front wall by the blackboard, but only one teacher out of the 8 who brought them to the classes we observed actually used it. All the pocket charts were very white, unsoiled by use.

To sum up all we can say is that there is extremely little observable evidence of the transfer of pedagogical messages or resources from SEDUs and RCs to the schools, classrooms, lessons and students' exercise books we visited, either in the way teachers teach, or in the way students are learning, or in the improvement of the general conditions for learning in schools. We saw very traditional teaching, indeed, and little active learning except students memorizing the text.

We must remind ourselves, at this point, that our judgment of the teaching and learning we saw in schools is not based on some external criteria of what is 'good practice' and 'active learning'. Indeed, we feel that chorusing answers, copying notes and memorizing are perfectly legitimate active learning practices - applied in moderation and together with other mind stretching activities as well.

Our assessment of teaching and learning is based on the messages that are being put forward in in-service training courses at SEDUs and RCs, such as students doing paired oral drills, drawing pictures in response to a poem, teachers and/or students using small pan-balances in maths classes, teachers and/or students doing a science investigation, all of which teachers had done at their teacher centres. Of these, we saw very, very few in practice or evidence of them having been happening by consulting pupils' exercise books.

#### **4.0 Impacting On Schools**

## 4.1 Searching for explanations

Why is it that the work of teacher centres in Nepal appear to be making so little impact on schools and classrooms? There are many possible reasons for this lack of transfer of pedagogical messages and resources from TRCs to the schools and classrooms we visited. They may be deep within the cultural milieu that surrounds education and social relationships in Nepal. Perhaps the views of child development and how learning takes place clashes too dramatically with western constructivist philosophies of learning and teaching. What do 'child-centred' and 'active learning' mean? Perhaps teachers are overwhelmingly concerned with feeding their families on a teacher's wage in the face of rising costs of living and expectations. Recognising that these are serious concerns which form the backdrop of any analysis of the situation, the job of this study, nevertheless, is to consider professional education and technical matters.

In regard to professional and technical matters we would suggest that both teacher centre programmes in Nepal (SEDUs and RCs) are based on the assumption that the individual teacher, not the school is the unit to be targeted for change and improvement in the quality of learning. The assumption is that training one teacher to teach their classes better will positively influence teaching and learning across the school. This, we feel, is a flawed assumption. In Nepal there are two fundamental and intimately related reasons why we believe this is so:

- **On the side of schools** - *there is neither a management structure nor a positive professional ambiance in schools for the improvement of curriculum and instruction via teacher colleagues returning from SEDU courses.*
- **On the side of teachers' centres** - *the topic of 're-entry' to one's school,*

*including managing teaching and learning target subjects across the school, is given too little practical consideration in in-service courses.*

In regard to schools, particularly in secondary schools but also in larger primary schools, there is no management structure for planning and implementing the curriculum across the school. Curriculum planning is confined to whatever individual teachers decide to do in their classes without reference to other teachers or class levels in the subjects they teach. The textbook is the sole curriculum guide.

Many of the schools we visited have classes 1-10. There is a head teacher and a deputy head. There is no one with particular responsibility to oversee the primary section, or the lower secondary section or the higher secondary section.

More to the point of this study only one of the 14 state secondary schools we visited had subject based departments, and it had only three departments - science, computer studies and examinations. Staffing arrangements do not include heads of departments or subject co-ordinators. On the whole there does not appear to be a management plan for the delivery of mathematics, or Nepali or science or English or social studies curricula across the school. Science is particularly obvious in this regard as it takes careful planning of the timetable and room bookings to do any sort of practical work when classes are large and where space and materials are limited. But other subjects, too, have their management requirements and needs for systematic planning over the school term if more active learning approaches are to be realised.

In regard to SEDU and RC programme there is little on courses to do with how teachers can involve their colleagues in considering the messages and resources brought back from TRC courses.

A particular incident in the staff room of a 1-10 'secondary school' illustrates the 're-entry problem'. A teacher who had recently returned from a one month SEDU mathematics course for lower secondary which focused entirely on classes 6 and 7 mathematics was not teaching these classes at all. He was teaching class 8 maths and above. The head teacher said that there is no particular reason for this, but that is just the way the timetable worked out. We suspect, however, although we did not pursue the matter, that the trained maths teacher was assigned to teach class 8 because there are district level exams at class 8, that the person having the most recent training, regardless of its focus, would be the teacher most likely to do the best job of preparing students for the exam. *(It is important to note that courses touch very little on examination preparation, a topic that is closest to the heart of all teachers.)*

During this discussion another mathematics teacher who teaches classes 6 and 7, and who had not been on a SEDU course, started to complain that the class 8 teacher had not shared anything of the SEDU course with him or any other maths teachers in the school. This caused quite a stir as the blow up took place at lunch time with all staff in attendance. The teacher who was on the course said, "I was on the course to learn to teach children, not teachers." To this teacher at least the in-service training course he attended was for him, and him alone. During a lull in the argument, we asked the head teacher if the topic of how the school can benefit from those returning from courses was considered at the 3 day Head Teachers' Management course which he recently attended at the SEDU. He said that it was mentioned but only in terms of the need to consider it. Developing a management plan to do so was not considered.

Another major problem is that teachers have to do a lot of 'restructuring' of the content they engage at in-service training courses in order to use the methods and materials in their classes. One teacher who had been on a SEDU science course, for example, said

that he could not do the activities they did on the course in his own classes, "... because the sessions on the course were 90 minutes and the teaching periods in school were 45 minutes." While on the surface this may seem a rather lame excuse for not doing practical work, it reflects the difficulty teachers have in restructuring what they have done on a course for their own teaching situation. He went on to say that practical work on the course was done with only 26 or so fellow trainees, but he has classes of 50 and above. He said that he thoroughly enjoyed the course but mentioned the advantages of space, tables and teaching assistants at SEDUs which he could not replicate at his school. While courses never suggest that teachers can replicate in their classrooms the exact methods used in training, it does suggest that teachers need instruction, and indeed practice, beyond the one practice session they now do as part of current courses. Also, there needs to be more about planning and managing the teaching of a subject over a period of a unit, a term, a year.

The selection of teachers for training on both SEDU and RC courses is very possibly another cause of the lack of transfer of new teaching methods and materials from courses to schools and classrooms. Priority for training is given to untrained teachers for the purpose of up-grading. Senior teachers, those having been trained many years ago, are not selected for courses. Many teachers, headteachers, trainers and SMTs and RPs, as well, expressed the view that was succinctly put by a senior English teacher who had his BEd and an MA in English. He said that he has not gone to the SEDU English course, "... because it is for untrained teachers who are young and inexperienced."

The point, here, is that these courses, which have only recently come on stream within the last 3 years or so, are innovative. They emphasize a more active approach to teaching and learning in classrooms. Senior teachers back at schools are hardly likely to

be open to new messages brought back by 'trainee' teachers.

We put this point to a meeting we had with an SMT and a head teacher, himself a science trainer. They agreed that little transfer takes place. So, we offered them the idea of having all same subject teachers in the school, from both junior and secondary levels, do at least some aspects of this new training together. They both immediately said, "But, that would not be possible, the content is so different!", meaning the content (of the same subject) for junior secondary teachers would be fundamentally different from the content for secondary teachers. We replied that we thought the focus of courses was on subject pedagogy, curriculum implementation and the improvement of teaching and learning the subject across the school. They politely nodded, holding the more important knowledge to themselves that in the end it is subject knowledge, presented as discrete facts, as confirmed by the factual, recall style of examinations, that is important. The conceptual themes and skills running through a discipline and more active, thoughtful approaches to handling information, which is the focus of much of the work at TRC courses are not really that important.

Curriculum is in textbooks. Following it together with preparing examinations based strictly on the text is curriculum management. There appears to be little consideration of subject content or methods of teaching and learning between one year and the next. We did, however, encounter an example of where curriculum planning is beginning to take form.

During a discussion about curriculum planning with the headteacher of a very large urban secondary school, he produced an outline of a curriculum plan developed by the 'Municipality Level Examination Committee'. This was the closest thing we had seen to any such planning at all. It was an outline of a year's scheme of work. Chapters from

relevant textbooks were divided into 3 'terminal exam' columns with statements of knowledge content objectives under each set of chapters. This was impressive indeed. But, the local SEDU had no part in the development of the plan. Indeed, this was the first time the SMT and the VSO, working in the SEDU for the last 8 months, had seen it. It must be point out that this headteacher is the chairman of this SEDU's management committee and he sits on its co-ordination committee as well. It is difficult not to conclude that this SEDU, at least, is not seen as having a role in local education affairs. Rather, it is viewed solely as a venue for in-service training courses, a role which does not extend beyond the training of individual teachers.

Selecting untrained teachers and pulling them out of their schools to attend courses at teacher centres does not, we think, contribute to the improvement of teaching and learning in schools. Indeed, it may even acerbate the problem. It certainly adds significantly to the teacher absentee problem.

## **4.2 Follow-up from Teachers' Centres to Schools**

The most obvious strategy for aiding the transfer of ideas from teachers centres to classrooms is for trainers to follow trainees back to their schools and support them in implementing new content and methods. And, to the credit of both teacher centre programme plans for 'follow-up' had been incorporated into their designs right from the start. In the Secondary Education Development Project, SMTs and their temporary associate trainers, themselves full time teachers in schools, are suppose to visit trainees in their classrooms. They are supposed to be paid to do this supervisory work on a per visit basis. Guidelines and schedules are drawn up. The problem is that it just does not happen to any significant degree. In a separate study it was found that of 33 trainees receiving the 10 month course at a particular SEDU, a course which included 6 months

of 'practice teaching' to include a series of visitations by senior teachers, none of trainee teachers had been visited.

There are several reasons for this. The sheer numbers of schools and trainees to visit and the related problems of transport and accommodation, in themselves, make follow-up an almost impossible task. But we found two other factors that mitigate against successful follow-up in schools. The first has to do with the assumption, mentioned above, about training individual teachers leading to quality improvement in schools. The intended plan for follow-up in both programme calls for SMTs and RCs, and their associate trainers and supervisors from district education offices, to be 'observers'. Trainers are supposed to sit-in on classes of individual teachers who have been on in-service training courses, to check their lesson plans, observe teaching, give feed-back on the lesson and file reports on their performance. Planning forward and developing schemes of work rarely feature in supervisor's style of working with teachers.

Such supervisory practice does not bring in other teachers who teach the same subject. It takes the focus away from a consideration of the subject across the school. The idea obviously has been extended over from the practice teaching component of pre-service teacher training programmes where quality improvement of a school as a whole is not the objective.

A second concern in regard to follow-up in schools has to do with the perceptions of headteachers and senior teachers about their role as curriculum leaders in their schools. The following episode helps to illustrate the point. The headteacher of a class 1-10 secondary school, himself an English teacher and SEDU English trainer, taught a demonstration lesson for us. He had never taught this group of class 8's before.



There are around 40 students in the class. The headteacher does oral English, and he is absolutely brilliant. He uses all the techniques - group response, paired response, correcting and repeating, getting almost all students across the class participating. This is doubly impressive because it is obvious that the students have not done such work before, and the headteacher has to instruct them in how to do every drill. He even linked the oral work with having students do a written exercise based on the language patterns he taught. The exercise was not from the textbook.

After this lesson we congratulated him on this marvelous exhibition of teaching. He said that these are the methods that are taught on SEDU English courses. We asked him if his teachers teach English in this way. He said, "No, because there is no follow-up to the courses. No one comes to observe or supervise the teachers." My research colleagues and I, as we later conferred, were absolutely stunned by this response. We were too embarrassed to ask him the obvious question, 'Why don't you do it?' It just did not occur to him that he, as a SEDU English trainer, and, of course, the headteacher of the school, should be involved in supervising his teachers teaching.

Another small episode illustrates a similar feeling in primary schools. We had just sat in on a lesson of a primary teacher who had recently completed the 150 hours course at the **RC**. In discussions that followed with the teacher and the head we asked him if he or any of the senior teachers at the school observe 'new teachers'. He said that they did not, that they would rather wait for the new teacher to ask them for help if they feel they have a problem.

These are not isolated cases. The teaching and conditions for learning at the primary and secondary schools, located on the same compound as the teacher centre, whose headteachers sit as chairpersons of teacher centre management committees and

whose staff frequently include senior teachers acting as temporary in-service training trainers, are indistinguishable from any other more distant schools.

## 5.0 Conclusion

It is difficult not to conclude that there is a separation, operationally and conceptually between the work of training centres and work in schools. The assumption in Nepal seems to be that the transfer of pedagogical messages and resources from TRCs to classrooms is unproblematic.

The aim of improving the quality of teaching and learning in schools is clearly stated as being the ultimate concern of SEDUs and RCs. But, we are drawn back to that statement of hope expressed in the BPEP information brochure of 1992 for primary RCs to bring educational activities to the 'doorstep' of schools. In light of our observations we feel that this statement was prophetic: ideas and resources for quality improvement have been delivered by TRCs to the doorsteps of schools, but there they sit. It appears to us that teacher centres in Nepal have not been able 'to open the school door'.

Obviously we are using the 'doorstep' statement in a way not intended by BPEP, and for this we must apologise. Our excuse for doing so is that it summarizes so clearly the dilemma facing educators in Nepal. What do we do with all these untrained and under-trained teachers? What do we do with all those schools following very traditional approaches to teaching and curriculum management?

Our thinking, although neither new nor revolutionary, is to focus on schools and the teachers within them rather than the other way around. Rather than targeting individual teachers and observing them teach discrete lessons in their classrooms, school-based

training might more productively focus on curriculum planning in specific subjects across grade levels with the group of teachers teaching the particular subject targeted for improvement.

If there is a role for the teacher centre it would be in training and supporting subject coordinators for primary schools and subject department heads for secondary schools. But, in order to succeed such a shift in focus for TRCs would have to be preceded by the development of curriculum management systems in schools. And, it is hard to imagine the development of curriculum management systems in schools without the establishment of staffing structures which accommodate heads of departments and subject co-ordinators, and for these positions to be formally recognised with a salary structure to match the increased responsibility.

We agree with the conclusion of the Tribhuvan University (1997) study with which we began this report, that "...injecting more resources such as materials, teachers and teacher training into the system (is not enough)... the management of such schemes and resources at the school level is fundamental." In this sense, the introduction of TRCs in Nepal may have been pre-mature. Schools just are not ready for them. The expectation was that TRCs could drive improvement in the quality of teaching and learning in schools and classrooms by up-grading training for individual teachers in courses taken away from their schools and classrooms. We do not believe, now, that this is possible. Schools must first be helped to provide a more fertile environment for change and development. Whether or not TRCs can contribute to such an endeavor remains an open question.

### **Positive Outcomes of RC and SEDU Programmes**

- RCs and SEDUs together with their local management committees present visible symbols of an attempt to decentralise educational provision and put more responsibility into the hands of local people.
- Educators are being made aware of the existence of new, more active approaches to teaching and learning. All teachers we talked with thought that the content of courses was very interesting and stimulating.
- In-service training courses are very well designed, specific to subject related pedagogy and supported with good trainee workbooks and trainer manuals particular to each subject.
- Courses for the dissemination of new textbooks has been very well received. The teachers guides are very usable, with the text from the pupils' book printed conveniently on appropriate pages of the guide.
- The evolution of Headteacher Training Courses in response to the need for better management practices in schools
- The rise of cluster level examination committees to prepare examinations for all schools in the cluster, organized through RCs, brings a common focus to schools.
- In summary. Although changes at the classroom level have been modest, in the larger picture, significant changes have come about in the formal education system in terms of institutional development, staff training and development, development of more relevant teacher training curricula. There

is a budding awareness of the idea that learners should work with information beyond memorising it.



Home"" """"> [ar](#).[cn](#).[de](#).[en](#).[es](#).[fr](#).[id](#).[it](#).[ph](#).[po](#).[ru](#).[sw](#)



---

## CHAPTER SEVEN : Teacher Resource Centres in Zambia

---

- 1.0 Methods Used In This Study
- 2.0 The School System
- 3.0 How AIEMS Works
- 4.0 What Is The AIEMS Approach To INSET
- 5.0 What happens in the School Based Workshops and Teachers Groups
- 6.0 How Are Teacher Resource Centres Used?
- 7.0 How Much Does All This Cost?
- 8.0 So, What Conclusions Have We Come To About Resource Centres?
- 9.0 How Sustainable Are Resource Centres and How Is The AIEMS Approach?
- 10.0 Future uses for the Resource Centres

## **William Gibbs and Jason Kazilimani**

### **1.0 Methods Used In This Study**

In order to collect information about Teacher Resource Centres in Zambia and their role within the wider inservice programme (AIEMS) funded by the British Government we used two basic approaches, the collection of views and data through visits to primary schools, resource centres and district education offices. Attention was focused on the primary sector for two reasons: it is the largest and most wide reaching sector and the one in which the centres were reported to be more effective. These visits were made over two periods often days each, one in September 1997, and one in April 1998, covering three provinces, over 20 schools and 10 resource centres, and involving individual interviews with a cross section of teachers, group discussions and lesson observations. We also collected information from Resource Centres about the nature of teachers visits during a sample month. We had hoped to follow up in some detail the workshops based around a particular skills module in the nation-wide INSET programme (AIEMS) but this proved impossible in the limited time. To our assessment of what we observed in a limited time both members of the study team also brought experience of the Zambian Primary classroom built up over 25 years.

### **2.0 The School System**

*Primary Schools* go from Grade 1 to Grade 7 and aim to provide a universal primary education for all children. They vary from single stream rural schools with 6 or 7 teachers, 4 of whom maybe untrained, to urban schools with 3 shifts coming in at different times of the day with over 1000 pupils and 30 members of staff, all trained.

| <b>Facts about Zambia</b> |              |
|---------------------------|--------------|
| Population                | 9.54 million |
| Population under 18       | 5.21 million |
| Population Density        | 11 per Km sq |
| Life Expectancy           | 43 years     |
| Literacy Rate             | 54%          |
| Enrolment in Primary      | 83%          |

To extend access to junior secondary education *Basic Schools* have been created in the last decade extending the education for more children to 9 years. This has been achieved by creating Basic Schools which go from Grade 1 to Grade 9. These are upgraded primary schools developed to spread the access to junior secondary (Grades 8 and 9).

Many competent primary teachers are keen to upgrade their qualifications so that they can teach in higher grades. A major incentive to do this is the growth of Academic Production Units, which are in essence private schools held after normal school hours in the existing school structure. They are run by teachers, are fee paying and provide an important opportunity for suitably qualified teachers to supplement their inflation hit salaries.

Most *Secondary Schools* go from Grade 8 to Grade 12 but there are some Junior Secondary Schools which only teach Grades 8 and 9. Because of the size of Zambia and the relative low density of population many rural secondary schools are boarding. Access to secondary education is by selection based on examination results.

## 2.1 Observations of primary schools

We saw a wide variety of classes and many subjects being taught. What follows is a collection of some of our impressions of the positive aspects of teaching and learning that we saw together with some analysis of problems that exist in Zambian Primary Schools.

The medium of instruction at all levels is officially English and the standard of teachers spoken English is good. Nearly all teaching is from the front of the class, the blackboard is the major means of communication and presentation of written and visual information. Materials for schools were originally developed by the Curriculum Development Centre in Lusaka. Increasingly private publishers are, with Government approval, taking on the task of developing, publishing and selling texts to schools. One result of the present policy of decentralisation is an increasing autonomy for schools to make choices about which texts they use.







*A classroom in a city Primary school. The fabric of the classroom has been improved through the use of a World Bank Micro Project Grant. All the children have desks, there are good blackboards. There is little else on the wall as the classroom will be used by two other classes later in the day and charts and posters disappear. The children are experimenting with containers of different sizes to find out which holds more. The teacher had collected a large range of bottles, jugs and cartons and the children came to the front of the class in groups to watch while one child poured water from container to container. This is not a typical class but it exemplifies the talent that exists among teachers.*

## 2.2 Glimpses of good and bad practice in schools we visited



In an upper primary class in Mpika a teacher has developed his own extraordinary experiment in classroom democracy. Children take considerable responsibility not only for their own learning but for that of others in their group. They also grade the teacher regularly on his punctuality, fairness, and clarity. Not one child looked up from their group activity when we entered the room. All were intent on the task. The class has 50 children and some have to sit on the floor due to lack of desks. The walls are virtually bare but the blackboard is well laid out with the days tasks. By contrast, in other classes we visited children were sitting in 'token' groups, often with their backs to the front of the class but teaching was still from the front.



A reputedly weak teacher is taking a class on bodily functions. One child raises their hand and the teacher allows the question, "Please Sir why is my breath warm when I breathe out?" The teacher stops and thinks for a moment and then asks all the children to try breathing out across the back of their hands and to report what they feel. There is intense experimenting for a few minutes.

A young untrained teacher is struggling to teach long division of decimals. He gives several examples on the board and the children grow impatient to try one themselves. Eventually with a few minutes of the class left he sets them one to do. It involves division leading to a recurring decimal, something he has not shown in his examples. The children are puzzled.

A teacher is inadequately and slowly drawing a map of Africa on the board. In the Head

teachers office next door are a whole pile of class atlases.

The topic is pests. The teacher of grade 5 has taught a lively lesson full of questions but then produces a small and rather badly drawn picture of a mosquito which does not fit into the theme of his lesson, presumably to demonstrate that he is "using drawings" as suggested in Module 4 of the INSET course.

By contrast a teacher teaching about the flag of Zambia has brought into class a small paper replica as used on Independence Day and uses it as the basis of questions and observation.

We visit a school near Kafue. In a small room that the school has converted into their own little resource centre and library children are returning books they have borrowed and an office orderly checks them off. A parent is sitting with one of the teachers. He is asking her advice on what books he should buy for his children. The school has just bought its own supply of books with the help of the PTA which it can sell on to parents, teachers and children.

We visit a rural primary school. All the teachers are absent at a funeral; all except one who is teaching her own class while the rest of the children mill around outside.

Another school and the same pattern. This time the teachers are all attending a meeting with parents. The children play somewhat aimlessly in the school grounds. The Resource Centre based at this school is also closed. The coordinator is away on a course and the assistant co-ordinator is in a school 15 miles away. This Resource Centre was converted from a classroom though the school is short of classroom space. Two Grade 1 classes now have to double up so that there are eighty in one room.



Conditions for learning vary from class to class and school to school. Books issued from the Curriculum Development Centre in Lusaka often take a long time to reach rural schools. A source at the centre described how up to 80% of one text failed to reach the classroom. Physically there are signs that schools are improving due to the Micro Credit scheme that supports parental and self help improvement schemes. Several of the schools have refurbished classrooms, with walls around the school to prevent vandalism and theft. But some classes still have appalling blackboards where it is virtually impossible to read what is written on it.

### **3.0 How AIEMS Works**

### **3.1 The origins of Action for the Improvement of English, Maths and Science (AIEMS)**

In 1989 eight English Teachers Resource Centres were founded in eight selected secondary schools. Limited book resources were provided, a typewriter and duplicating machine. This equipment was later upgraded to an electric typewriter. It was out of this project, and out of SHAPE, that Action to Improve English Mathematics and Science (AIEMS) grew. The Self Help Action Plan for Education (SHAPE) started in 1986 with the support of SIDA and aimed to enhance the capacity of schools and colleges for self help especially in the 'practical' subjects, agriculture, industrial arts and home economics. It set up a structure of provincial, district, zonal and school based committees.

The perceived success of the English Teachers Resource Centres and the work done within the SHAPE project is cited in the ODA appraisal documents which developed the basis for the AIEMS programme as a justification for the expansion of the resource centre model. The organisational structure of SHAPE reappears in AIEMS and many of the SHAPE centres have been developed to become district Resource Centres within the AIEMS programme.

It is, however, worth commenting at this stage that the SHAPE centres had encountered difficulties in implementing change in the classroom, and that three of the characteristics of the earlier project in English were that the centres were:

- a) secondary based
- b) centred around small school-based resource centres
- c) subject specific.

**The National Resource Centre for SHAPE.**

SHAPE as one of the predecessors of the AIEMS programme aimed at encouraging teachers to be self reliant in the creation of teaching and learning aids. Many of the District Shape Resource Centres were incorporated into the AIEMS TRCs. In Lusaka the National Centre now houses a considerable number of unique teaching aids developed by one imaginative teacher who has used low cost materials such as seeds, paper and papier mache to create a wide range of display items; a periscope made from papier mache. A mat made from seeds, portable blackboards made from hardboard. But the take up of these materials and ideas and use in the classroom has been negligible. For ideas to be viable on a larger scale they need to combine **low cost** with **low preparation time** and **multiple use in the classroom**.

The role of resource centres as designated in the project planning document for AIEMS in 1993 is outlined in two sentences:

*'INSET delivery capacity will be expanded by building and equipping 14 provincial resource centres and equipping 57 district resource centres. '*

*'The INSET will enable teachers to make better use of the learning materials coming into schools. '*

**3.2 Development of the ideas behind AIEMS**

How AIEMS was to be implemented is further developed in materials produced by AIEMS itself in the Management Module, (AIEMS 1994)

*'To improve the quality in the teaching and learning of English, Mathematics and Science*

- 1. Establishing a sustainable and well managed decentralised system for in-service teacher education*
- 2. Providing the necessary resources to schools and training headteachers and teachers in methods of resourcing and better management of schools*
- 3. Ensuring that disadvantaged groups, girls, women, rural pupils from poor socio-metric backgrounds have equitable access to project facilities and education in general.'*

### **The needs as iterated by AIEMS**

*A nation wide provision of school based in-service for all primary and secondary teachers in the three core subjects English, mathematics and science. It is planned that this will be achieved through a decentralised system of resource centres in the Provinces and Districts and a cadre of trained trainers across the 9 Provinces, 61 districts and approximately 500 zones throughout Zambia using appropriate learning and training materials which will be developed by the Inspectorate and the Advisers. The specific objectives of the project are as follows:*

*'To strengthen and develop the existing provision in inservice education for teachers in the primary and secondary sector through the building of 14 Provincial Resource Centres and the rehabilitation of 61 District Resource*



## *Centres.'*

Additional preparation for the development of the AIEMS programme was collected from a Base Line Study published by the Inspectorate in the Ministry of Education in July 1994. This did not establish base line levels of achievement in maths, science or English. In fact it is remarkably quiet on the particular requirements for the improved teaching and learning of these subjects. It did however highlight the need for:

- Comprehensive supply of text books
- Short school based courses linked to upgrading
- Gender sensitivity
- Reflection by teachers on their own performance
- More resource teachers and trainers
- More resourceful teachers
- Increased skills in assessment, monitoring and evaluation
- Encouraging pupils to develop thinking skills and work independently

### **3.3 How AIEMS works at each level**

The central idea that underlies the AIEMS approach is a Cascade model of INSET which flows down through 5 levels in the Primary System and 3 in the Secondary. The 5 stages in the "cascade" reflect the 5 levels in the Zambian educational system: National, Provincial, District, Zone, School.

At the **National Level** the Implementation Team for AIEMS is located in the Inspectorate in Lusaka, the capital of Zambia. This is made up of a Principal Inspector

(INSET), Senior Inspector in Mathematics and Science, plus two UK advisers: in Science and in English. An adviser in Maths had left in 1996 and there is no Senior Inspector of English. This team is responsible for writing the Modules which have cascaded through the system.

Each of the sixteen **Provincial Resource Centres** is run by three co-ordinators, one for each of the major subjects on which the AIEMS programme focuses, Maths, English and Science. The coordinators were selected after the posts had been advertised and interviews held and all are experienced secondary teachers though not all are graduates. A high proportion are female.

Nearly all Provincial Resource Centres are purpose built to the same plan and supplied with the same equipment. The Centres are usually located in the grounds of a secondary school. In some large provinces - Copperbelt, Southern and Central Provinces - there are two Provincial Resource Centres.



*The Kitwe Provincial Resource Centre is typical of the design built centre. It is well designed and built of attractive brick. The Resource Centre fits well physically into the school environment. The small windows keep the building cool, allow in enough light and help to prevent break-ins. The outside is decorated with two posters with a somewhat enigmatic message. Spaces in the building include a seminar room, materials store, offices, reprographics room, machine rooms, a library area, a kitchen and toilets.. Each centre has an office assistant who will be present when the coordinators are out in schools.*

*Kitwe Provincial Resource Centre has 158 Primary Schools in its provincial orbit and 23 Secondary Schools. The majority of schools are over 20 Km away.*

*The Kitwe Provincial Centre Catchment*

| <u><i>Distance of Schools from TRC</i></u> | <u><i>Primary</i></u> | <u><i>Secondary</i></u> |
|--|-----------------------|-------------------------|
| <i>0-2 Km</i>                              | 35                    | 3                       |
| <i>2-5 Km</i>                              | 3                     | 5                       |
| <i>5-10 Km</i>                             | 4                     | 1                       |
| <i>10 - 15 Km</i>                          | 11                    | 4                       |
| <i>15 - 20 Km</i>                          | 9                     | 1                       |
| <i>More than 20 Km</i>                     | 86                    | 11                      |



The furniture inside is flexible and solid. The walls decorated. This centre has a blackboard in a prominent position, some only had the inappropriate white board. Books are well catalogued but unused. Apparatus stands untouched on the shelf. Like all the other Provincial Centres this centre is well equipped with a photocopier, electric typewriter, duplicator, spiral binder, computer and printer, tape recorders, TV, camcorder and video recorder. Seminar rooms are furnished with tables and chairs, chalk board, and white board and flip chart easel. Provincial Resource Centres have four wheel drive vehicles and drivers.

AIEMS has also established **District Resource Centres** in each District in Zambia. These have a coordinator who is an experienced primary school teacher, a part time

23/10/2011

CHAPTER SIX : Teacher Resource Centr...

associate coordinator who is usually based at a nearby school and an office orderly.



District Resource Centres have often been adapted from existing buildings. Here in Choma the centre had previously been a Shape Resource Centre. It was located not in a school but next to the District Education Office. This has the advantage that teachers visiting to collect their pay and on other educational business may drop into the centre. It had the disadvantage of not being very close to classrooms and of the vehicle being more easily "borrowed" by senior education officials. The coordinator in this centre was very lively and had on her own initiative visited Lusaka to buy readers which she was taking out in sets to lend to schools.

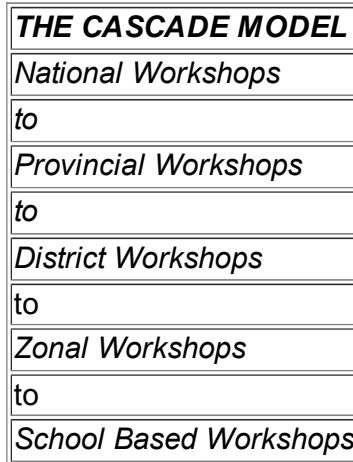
In each district there are District Subject Trainers in the three key subjects. Each district may have 20 to 30 primary schools, 5 to 10 basic schools and 3 or 4 secondary schools, and some schools can be up to 60 kilometres distant from the centre.

Each district is divided into **Zones** made up of a group of from 4 to 7 schools which may be 10 to 15 kilometres apart. In each Zone there are a Zone INSET co-ordinator and 3 Zone subject trainers. The Zone INSET Co-ordinator has a bicycle. At **School Level** the pattern is again repeated with a senior teacher as INSET Coordinator and three teachers appointed to take on the role of resource teachers in the three key subjects. Each teacher is assigned to a teacher group. Workshops within the cascade model take place at each level with representatives being inducted into the course modules; until they reach the school where school based workshops are held to be followed up by teachers group meetings

### 3.4 The Cascade Model: What is being cascaded?

The materials developed for input into the "cascade" have been produced in the form of

modules. These modules were generated by the Implementation Team with some input from Resource Centre Co-ordinators involved in the Pilot Phase, were piloted and then modified. Most modifications arising from the pilot phase were of a procedural nature intended to protect the modules from alteration during their trip down the cascade.



Earlier Modules (1, 2, and 3) were either related to secondary schools or to setting up and managing the Resource Centres. Module 4 is aimed at providing experience of different types of group activities for Teachers Groups. The Twelve Skills looks at common skills already in use in the classroom and seeks to develop them. Module 6, GEMS, is a more subject specific module. It has tasks and study activities for Teachers Groups to raise gender awareness. In addition it provides guidelines on activities in the three core subjects, English Maths and Science as taught in the primary school.

***The Twelve Skills***

*Making and using Teaching Aids*  
*Using Songs, Games and Rhymes*  
*Encouraging Communication*  
*Planning Lessons*  
*Planning Group Work*  
*Drawing*  
*Planning the Chalkboard*  
*Using the Local Environment*  
*Testing for Teaching and Learning*  
*Questioning for Teaching and Learning*  
*Exploiting the Text books*  
*Reflecting*

**4.0 What Is The AIEMS Approach To INSET**

The AIEMS programme in Zambia embodies three contrasting and conflicting approaches to INSET - Cascade, Teachers Resource Centres and School-based Workshops together with Teachers' Groups.

In essence these three models are based on different and conflicting ideas about how Inset should be delivered, about where expertise lies and about the role the school can play. Each strategy to some extent undermines the other. In particular both the cascade model and the school based workshops could be developed and implemented without



## Resource Centres.

***The Cascade Model***

*Centralised analysis of need and design of inputs*

*Uniformity throughout the system*

*Delivery down a ladder of workshops.*

***Teachers Resource Centres***

*Provide expertise at district level*

*Localise needs analysis and design of inset*

*Provide high level reprographic facilities, libraries and seminar space which teachers can use for meetings, for Inset and to design learning resources*

***School Based Workshops***

*School decisions on needs*

*Reliance on expertise within the school*

*Development of school based resources*

**4.1 What happens in the Cascade System?**

Let us now look at the cascade model as a means of disseminating ideas. The cascade model, if it is to be effective in changing teaching and learning in the classroom, relies on the careful **development of relevant inputs** which can be implemented in the classroom and on the **effective replication of these strategies** down the cascade. Let us consider each of these two elements.

### **4.1.1 Effective replication**

Within any cascade the effectiveness of replication depends on the extent to which the purpose and objectives of each step in the cascade are the same. Within AIEMS the top and middle levels of the cascade share the common purpose of preparing participants to conduct a similar workshop for the next level down. Here the evidence is that the carefully structured modules allow for a high level of replication. However in the final stages of the cascade the purpose changes. At the school level the purpose of the workshop is to instigate teachers groups which have a multiplicity of tasks depending on the modules. These teachers' groups, and the content or process which they are expected to implement have not been modeled in any of the previous steps in the cascade, and consequently there is much confusion at this stage. Again, the final stage of Teacher Group to classroom differs in almost every essential from the initial stage of the cascade process.

It is perhaps significant that in the diagrammatic representation of the cascade that appears in the AIEMS Module booklets the cascade stops at the school level. There is no representation of the School workshop > teacher group > classroom stages.

As we looked at the cascade system in action within AIEMS critical elements within the model became apparent, each restricting the scope and effectiveness of the replication of training. We have called these factors the Filter Factor, the Status Factor and the Time Factor.

### **4.1.2 The Filter Factor**

The need for replication inhibits the flexibility of cascades. A cascade is limited by the

minimum conditions present at any level. It is as though there is a filter at each level in the cascade and each filter has a different gauge. Only particles that will pass through the smallest gauge have a chance of reaching the bottom. Within AIEMS this has severely restricted the forms of modeling that can take place within the training. For example, neither video-clips of teachers in action nor demonstration classes with children have been incorporated in the cascade because video players are available only when the training takes place at Resource Centres, and children are only available when the training takes place in schools. The inflexibility of the cascade has militated against these methods being incorporated and encourages the one method which is possible at any level: discussion, and talk.



*A group of teachers at a Zonal workshop have been introduced very ably to the importance of drawing (one of the Twelve Skills in Module 5). All have contributed significantly to the discussion. They spend 30 minutes producing their own drawings. These are presented to the group. None of the drawings relates to any topic the teacher will be teaching next week. No attempt is made to improve their skills in drawing though clearly some are much more competent than others*

### **4.1.3 The Status Factor**

The relationship and status of leaders and participants also effects and limits the nature of the transactions at different levels of the cascade. At the highest level of the cascade, working with experienced and articulate participants, there is a natural reluctance to engage in practical and active tasks that might threaten the status of the participants e.g. reveal their weakness in questioning, or their inability to draw. This leads to an emphasis on the theoretical nature of the educational issue or skill being cascaded. This emphasis is then built into the processes and modules being cascaded. This was a marked feature of the Zonal workshops which were observed. The awareness-raising aspects were competently managed and effective, but the skill development tasks and critical reflection on personal skills were absent. The status factor has, within AIEMS, encouraged an abstract approach to ideas and skills being cascaded.



*This group of teachers is attending a Zonal Workshop which in 3 days will cover all the 12 skills which they will introduce to their schools over the next 4 terms.*

#### **4.1.4 The Time Factor**

One of the critical conditions that varies within steps of the cascade is the time available. Both the time available for the workshops and the time available for application vary considerably between the zonal and school levels.

#### **4.2 Creating relevant Inputs for the cascade**

Perhaps the most important factor in determining the effectiveness of the cascade model is the quality of input at the top of the cascade. Cascades are very demanding. Once a cascade has been started it requires continuous feeding and it is extremely difficult to design continuous quality input which:

- Matches actual needs with practical responses which can be practised.
- Will cascade successfully producing the expected outcome in the classroom.
- Is based on credible models of existing good practice.
- Relate to the immediate needs of a teacher and support next weeks lessons.

From our observations of the cascade in action we have drawn limited, but we hope useful, conclusions about what works when designing materials for the cascade.

Cascading is supported:

- When the input and output are the same: for example: participants are undergoing a "workshop" which they themselves are to replicate;
- When there is an opportunity to develop skills needed at the next level: for example in zonal workshops where resource teachers model in outline the sessions they themselves would run.
- When the outcome is simple and clear and resonates with existing practice: for example, the idea of teachers groups is a familiar one in all schools.
- When the idea is simple and clear and can be demonstrated easily at each level of the cascade; Example; dividing the blackboard in separate spaces to organise work
- When the aim is to raise awareness in teachers about educational issues through discussion: for example the gender ideas within the GEMS modules.

To meet all these conditions is extremely demanding and is severely limited in Zambia (and for that matter in any country) by the lack of personnel equipped to design adequate inputs; personnel who have the necessary imagination, experience in the classroom, and awareness of the severe limitations of the cascade system as outlined earlier. Cascades once established are voracious animals demanding to be fed and it is extremely difficult to feed them well. In the case of AIEMS it has led to either the rather thin soup of general teaching principles repeating in essence the basic ideas of initial training or the indigestible particles of subject material.

The illusion of immense activity, "millions of INSET hours", can easily conceal the lack of

really valid inputs leading to clear and effective changes in classroom practice.

## 5.0 What happens in the School Based Workshops and Teachers Groups

After an initial period of producing modules for the cascade AIEMS identified the need to establish school based workshops and teachers groups. These are to be the end point of the cascade ensuring that ideas are taken into schools. The establishment of School-Based

Workshops have been one of the clear successes of AIEMS. As a result of the AIEMS programme all schools visited have run one or more school-based workshops.

### ***Examples of Topics Discussed leading to a school policy change***

- *Equal access to all forms of sport for all children*
- *Equal duties and responsibilities regardless of sex*
- *No subject division based on sex.*

From our observations of schools and from discussions with those involved in the workshops we have deduced that school workshops based on specific issues were those most likely to have some effect on school policy. Evidence of policy changes were found when the workshop was based on themes such as gender. Here school policy decisions were being taken as a result of the workshop. Follow up of the schools involved will be needed to find if these policies have been implemented.



Secondly, classroom outcomes appear more likely after subject based and in particular text-based workshops.

*The Resource Centre Coordinator in Livingstone has run workshops based around the Zambian English Course Books which introduces a new methodology. The workshop has a specific context and is related directly to lessons to be taught because it is based around a text which is to be used in schools.*

Thirdly evidence was found in some schools of the production of resources, demonstration models, charts (as suggested in Modules 4 and 5) and of story books written by teachers and children as a result of the *Write a Book* workshops (not part of the modular AIEMS programme). However, questions need to be asked about the relevance of the materials produced and the effectiveness of their use in the classroom.

Overall in our visits we saw no clear evidence of improved classroom skills as a result of the workshops (but the opportunities for observation were limited. Resource teachers reported change in questioning in one school and of the use of methods suggested for dividing up the blackboard in another.

*In one school charts that had been made were too small for class use, and were rolled up and placed in the school resource centre for future use. They were not related to immediate classroom use, were not on display, and had not been made use of by other teachers (or even by the teachers who had made them). In another school models made had been sent to the Resource Centre to be put in the "shop*

*window" and not to be used. In another school some of the children's own stories, produced as part of the 'Write a Book' workshops had been sent to the Resource Centre. Here they had been revised and edited but were not being read by other children. They had been sent to Resource Centres. They were not in the box of class readers kept at the school.*

## **5.1 The establishment of Teachers Groups**

As the AIEMS programme has developed there has been a shift away from the simple cascade model resulting in workshops outside the school to a commitment to stimulating workshops in schools run by school resource teachers. Linked to the school based workshops has been the drive to establish Teachers Groups which will follow up the ideas introduced in the workshop. Module 4 has the specific aim of establishing groups and introducing teachers to a variety of means of working in groups.

We found clear evidence that AIEMS Teachers' Groups have been established in all schools. From the records kept by District Resource Co-ordinators there is evidence that the AIEMS groups have not only been formed but have met. Files had been kept on the meetings in Module 4 and Heads had timetables of meetings and lists of group members.

*The concept of teacher groups is well established already within the Primary School System. Previous programmes such as SHAPE and Child to Child set up groups in schools. In one school visited the head reported proudly that he had 18 groups or committees in the school including SHAPE, Child to Child, Chongololo (wildlife).*

*Preventive Maintenance, Discipline, Sanitation and Obituary (sic). The concept of having an AIEMS groups was thus easy for Heads and teachers to accept.*

## **5.2 How are Teacher Groups being implemented?**

Module 4 presents five "Types" of groups. In fact two of the five, EROTI and Action Research, are models of how the Teachers Groups can function. The other three describe topics to be investigated by groups (reading, cross curricular issues, learning resources). Both models for group action, EROTI and Action Research, are sophisticated and complicated. EROTI is one of those dangerous acronyms that hides its purpose which is for teachers to identify a skill to be developed in the classroom, to reflect on it, and then for a demonstration lesson to be held for members to observe and comment on. The evidence we collected suggests that some schools have implemented the Observation and Discussion part of the EROTI groups. In one school the co-ordinators had on their own initiative decided to hold a Whole School Workshop to explain and demonstrate EROTI as Teachers' groups had failed to understand the idea.

*A resource teacher in one school we visited was very enthusiastic about the EROTI method of working. This was one of the methods detailed in Module 4 and intended as a model for Teachers Groups. She told us proudly how she was implementing the EROTI method in her classroom.*

*The relative success of the EROTI group meetings may be due to the fact that there as a step by step process to follow, that demonstration and observation are activities*

*not far distant from those of teaching practice at college. >From our observations it would seem that the younger teachers were the ones prepared to teach in front of their peers. Perhaps older teachers had more to loose or the process was more familiar to the younger ones from their training. The relative failure of the topic group meetings suggests that they were not related to teachers needs*

Evidence of the use of Action Research was more difficult to find but two examples described by teachers were:

1. an investigation of school lateness leading to a staff decision to move registration 10 minutes before assembly rather than after.
2. an investigation of the first language "problem" in school and a staff decision to insist that all informal interactions between staff and students be conducted in English.

No other examples of outcomes from group topics were found.

***Three factors why Teachers Groups have had difficulties in implementing the models advocated in Module 4***

- *The lack of clarity and confusion within the module itself about the nature and role of the groups and the decision to attempt a multiplicity of models,*
- *The lack of any clear modeling of the groups at any stage in the cascade,*
- *The ideas behind the groups did not arise out of " good practice" in*

*Zambian Primary schools but were the adaptation by the implementation team of ideas from other systems.*

### **5.3 Problems with running Teacher Groups**

As a result of Module 4 all schools we visited had run teachers groups. Some INSET coordinators we talked to were keeping very elaborate files with teachers each completing teacher 'Group Forms' and these being filed (this was partly related to the initial plans for the accreditation of AEMS activities by the University of Zambia, an idea that has not been realised).

Many involved in the programme are aware that teachers' groups are proving fragile and there is evidence from our interviews with teachers that:

- Teachers' Groups are not taking place as frequently as planned for in the modules
- Some schools have simplified the procedure by having school-based workshops and no teachers groups.
- Groups meet for a very short time.

***The following factors contribute to the decline in the regularity of Teachers Group Meetings:***

- *It is difficult to find a time to meet.*
- *They take up time of teachers already loaded with two or more teaching*

*sessions.*

- *Teachers do not see them as relevant to their immediate teaching needs.*
- *The original accreditation system has not been put in place.*
- *The membership of the groups are random.*
- *The groups as elaborated in Module 4 are complicated.*

#### **5.4 Possible ways to encourage teacher's support for Teachers Groups**

The potential problems with Teacher Groups are becoming more critical as teachers move into Modules 5 and 6 which place much emphasis on the role of the Teachers Group and expect a meeting almost once a week. This will not be practical unless new ways of making the groups viable are found.

##### ***Some suggestions for facilitating Teachers Group Meetings***

- *Finding a convenient time by basing teachers groups on sessions taught i.e. drawn from all the morning, session teachers.*
- *Time-tabling the Teachers' Groups in teaching time (and increasing children's time off task?)*
- *Making them strictly voluntary*
- *Providing an incentive in the form of credits towards a qualification that can be collected for preparing and running a group session, presenting a lesson on a particular topic for others to watch (preparing a test, exercise or activity that can be used by all the teachers of grade*

- *Basing the groups on interest groups e.g. Maths Science English.*
- *Basing them on Grade or level groups e.g. Teachers of grade 1,2 Teachers of grade.*
- *Basing the activities for the groups around normal tasks that can be made easier by meeting in groups; Lesson scheming, test writing, marking etc.*

#### **5.4 Time lost through inservice workshops**

Teacher absence from the classroom is disturbingly common in Zambian Schools. In over 20% of the primary schools visited little or no teaching was going on; teachers were attending funerals or meetings or 'on leave'.

*AIEMS proclaims on its files that "One million training hours will ensure four thousand school-based INSET years".*

*This means that for each inset training hour during school time 40 children are without a teacher for an hour. One million training hours will ensure 40 million pupil hours lost.*

All INSET programmes need to confront the issue of time lost in the classroom. The AIEMS programme is no exception. In fact it involves more teachers hours out of the class than most other INSET programmes, in both school-based workshops and teacher groups. As one primary teacher commented "Too many seminars and workshops disrupt class teaching". In the worst example of time lost to Teachers Groups we found that a teachers group scheduled from 9.30 to 10.30 meant in fact that the teachers did not return to classes even when the Teachers' Group had finished and classes were

untaught from 9.30 to 12.00.

## 6.0 How Are Teacher Resource Centres Used?

As part of the information collected for this case study co-ordinators in a sample of ten Resource Centres were asked to keep records of the teachers who visited the centre during the month of January 1998. Co-ordinators were also asked if January was a normal month representing a fair picture of their centres. Two replied that as January was the start of the year figures were lower than normal. To compensate for this in the calculations that follow we doubled the figures for January.

| <b><i>Consolidated Data from 10 Resource Centres over 1 month</i></b> |            |
|---|------------|
| <i>Number of Visits by Teachers</i>                                   | <b>295</b> |
| <i>For a meeting</i>  | <b>110</b> |
| <i>To use the library</i>   | <b>77</b>  |
| <i>To use the computer</i>  | <b>24</b>  |
| <i>To use the photocopier</i>   | <b>53</b>  |
| <i>To use the video</i>   | <b>6</b>   |
| <i>To use the duplicating machine</i>                                 | <b>5</b>   |
| <i>To consult centre staff</i>  | <b>50</b>  |

***On average in each centre***



- *teachers per day visit the centre*
- *teachers per week come for meeting*
- *teacher every two days comes to use the library*
- *teacher every 4 days comes to use reprographic facilities for professional use*
- *teacher every 3 days comes to consult centre staff*

Use of the Resource Centres for workshops and teachers' meetings amounts to about 10% of the time available. (The 1993 project document called for a 90% utilisation rate by 1998). In the Livingstone District, which has both a DRC and a PRC, the teacher visits to centres in the month represent about 6% of the total teaching force. From our interviews with teachers in a Phase 1 area, the percentage who have made any visit to use the Centres facilities was 15%.

### 6.1 The effect of distance on use

| <b><i>Distance traveled by visitors to the TRSs</i></b> |            |
|---|------------|
| <i>0 - 1 km</i>   | <i>27%</i> |
| <i>1 - 5 km</i>   | <i>33%</i> |
| <i>5 - 10 km</i>  | <i>8%</i>  |
| <i>10 - 15 km</i>                                       | <i>6%</i>  |
| <i>15 - 20 km</i>                                       | <i>2%</i>  |
| <i>20 + km</i>  | <i>24%</i> |

The data indicates that the distance teachers have to travel in order to reach the Resource Centre is an important factor influencing frequency of visits. There is a sharp decline in the number of teachers prepared to travel more than 5 km.

The table also indicates that visits by teachers in schools right next to Resource Centres are not high. The figure of 27% represents 70 teachers, a visit rate of about 2 teachers per centre per week from the "base" school. The data also indicates that some teachers are prepared to travel long distance to visit the centre, distances which may be as much as 80 km.

## **6.2 What do teachers make in the resource centres?**

There is no evidence to indicate that teachers are using the centres to make teaching aids and there is very little evidence that teachers are using the centres in any significant way for the creation of teaching and learning materials for children's use. The number of teachers creating classroom materials represents one teacher per centre per month. Much of the photocopying which is done for school use is to replicate administrative forms and documents. Very little use is made of the duplicating facilities available (some schools have their own duplicators). Almost half the teachers using the photocopier use it for private use. There is no evidence that these teachers who visit the Centres to use the photocopier for private use then take advantage of the centre for professional use.

We found only a few isolated examples of teachers who are using the RC to create learning materials:

- A group of Grade 7 teachers preparing a mock Grade 7 exam
- A senior secondary teacher preparing revision notes for Class 12

- A primary teacher preparing materials for private tuition classes

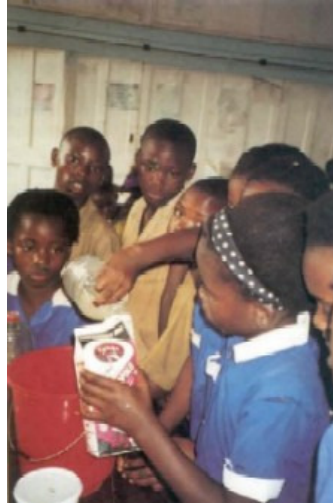


*This secondary teacher has traveled over 40 km to prepare revision notes for his class in Agricultural Science. He is not passing them on to other teachers as he hopes to publish them in the near future.*

For this small group the Resource Centres provide an important stimulus and it is difficult to estimate their value within the whole system. It is to teachers like these that Zambia needs to look in the future for new curriculum ideas and textbooks.

### **6.3 Pupil use of the resource centres**

There is considerable variation in the use of centres by pupils, but there is no evidence that teachers are using centres systematically with their pupils.



*At one Provincial Resource Centre we were told "This is a **teachers** Centre. It is not for children". At others we found children who regularly used the centre for private study, to study past exam papers and to do their homework. Most pupils using Centres came from examination classes.*

Use of Resource Centres by Pupils (10 centres in a 1 month period)

| <b>Total number of Students</b> | <b>Read</b> | <b>Homework</b> | <b>Other</b>                |
|---------------------------------|-------------|-----------------|-----------------------------|
| 282                             | 206<br>73%  | 68<br>24%       | 42<br>Photocopying, tuition |

The highest use by pupils was 67 visits in the month. Students working in one provincial centre came regularly for 2 hours a day to study (the school library was closed). This indicates the huge potential Resource Centres have for serving student needs.

## 7.0 How Much Does All This Cost?

The AIEMS project is funded initially by a £12 million grant from UK Aid, administered by the British Council. The plan is for the Government of Zambia to take over the funding of the Resource Centres and it has agreed to a monthly grant to Provincial Resource Centres of K800, 000. This is an important commitment and demonstrates considerable Government support for the programme. Included too as a Government contribution are the salaries for all teachers who are seconded to work full time in Resource Centres. However, programmes are at present being delayed as the payments are 6 months behind schedule.

| <b><i>The Monthly Balance Sheet for a Provincial Resource Centre</i></b> |                   |
|--|-------------------|
| <b><i>Expenses</i></b>   |                   |
| <i>Stationery</i>  | <i>K20,000</i>    |
| <i>Allowances</i>  | <i>K80,000</i>    |
| <i>Repairs</i>   | <i>K50,000</i>    |
| <i>Transport</i>   | <i>K15,000</i>    |
| <i>Fuel</i>  | <i>K200,000</i>   |
| <i>Telephone</i>   | <i>K332,000</i>   |
| <i>Workshop Costs</i>  | <i>K1,000,000</i> |

|                       |                 |
|-----------------------|-----------------|
| <b><i>Income</i></b>  |                 |
| <i>Photocopying</i>   | <i>K33000</i>   |
| <i>Hire of Centre</i> | <i>K200,000</i> |
| <i>Selling food</i>   | <i>K200,000</i> |
| <i>Telephone</i>      | <i>K40,000</i>  |
| <i>Subscriptions</i>  | <i>K25,000</i>  |

### **7.1 Income generation**

The training of Centre Coordinators stressed the importance of covering costs by raising funds. Centres charge for schools and individuals to become members of the centre. Photocopies are K1 50-300 each with a discount for members. For some centres this initially was a major source of income. However, the example has stimulated local business men to follow suit and set up their own copying business and income has dropped dramatically (though many clients favour the Resource Centres as they provide a better service). Food is prepared and sold mainly to school children using the RC kitchen. Some income also comes from use of the computer and videos.

*Some centres (Mpika, Monze) have used the income they have generated to buy deep freezers, and one (Choma DRC) to buy children's books.*

### **7.2 Cost of workshops**

The AIEMS workshops are costed at K23, 000 per person per day. Participants are

provided with transport, accommodation and food plus K3000 'out of pocket' allowance. This is for all workshops down to Zonal level. There is no funding of school-based workshops except for a starter grant of K30, 000 for stationery. As a guideline to educational costs in Zambia; a pen costs about K150, an exercise book about K200, a pupil's maths book about 4500.

## 8.0 So, What Conclusions Have We Come To About Resource Centres?

Nearly all teachers we talked to had a positive attitude towards the Resource Centres and the AIEMS programme. For a small number of teachers they were providing a much needed spur and stimulus to their teaching, and even those who had never visited them felt they must be a good thing, helping teachers "to make teaching aids". This "Sunshine Effect" cannot wholly be ignored. Focusing large amounts of money, resources and energy on activities that support teachers and show that they are valued does help to improve morale and provides for a general feeling of improved status.

### 8.1 The role of Resource Centres in the AIEMS INSET programme

TRCs play a very limited role as training venues for the Cascade Model because they are too small and do not offer accommodation. The Zonal Workshops which we observed were at other centres, schools or institutions. In nearly all cases, School-Based Workshops and Teacher Groups meet in their school buildings, and TRCs play no role in these. The 'use rate' optimistically predicted in the project document of 90% use by 1998 has no where near been realised. The present 'use rate' for training is less than 15%. We conclude that ***as training centres Teacher Resource Centres are not essential to the Cascade/School based strategy adopted by AIEMS.***

The resources and facilities available at TRCs are only marginally instrumental to the cascade and school-based workshops. Some materials are provided to school-based workshops in the inevitable form of chart paper and pens. Occasionally extra copies of the module manuals are made at the TRC. We conclude that ***the facilities and resources available at Teacher Resource Centres are not integrated into the AIEMS programme as developed in the modules and school based workshops.***

The initial role of the Resource Centre as the focus for the delivery of INSET has been modified as the AIEMS programme has developed. The focus has shifted away from the Resource Centre to the school; to the school-based workshop and the teacher groups.

The modules and workshops so far developed, based as they are on developing teachers groups and school-based workshops, are not aimed at stimulating the use of the facilities available at Resource Centres by teachers. The underlying philosophy of the school-based approach to INSET is in conflict with the idea of District Resource Centres stressing the importance of the school to act as a self sufficient institution and to look to itself and its own resources for its development. **District Resource Centres and school-based workshops reflect different and conflicting strategies for INSET.**

The cascade approach to INSET encourages a dependency on centralised initiatives and a top-down approach which both reinforces a telling/talking approach to INSET and marginalises initiatives at Resource Centre level. Funding policies which subsidise cascade training also establish levels of expectation among participants in terms of per diems/travel allowances which will be hard to sustain. ***The cascade model of INSET impedes the development of resource centre initiatives in providing localised***



**INSET.****8.2 Resource Centres as centres of resources**

The Resource Centres at present provide no significant contribution to improved resources in the classroom. The concept of centres as "showcases" of resources has meant that there is more emphasis on collecting teaching aids and models from schools than in disseminating them to schools. **Resource centres make no significant contribution to improved resources in the classroom.**

One teacher remarked that "we do not have a reading culture". The evidence on teacher use reveals that teachers are visiting the centres in small numbers to read, study and in some cases borrow books. Text-books and teachers guides remain the core book resources that teachers use. Selecting books for centres that will effectively supplement Zambian texts is extremely hard. Most UK primary texts are totally unsuitable. Pupils are also beginning to use the centres both as a study area and as a library. **Books remain the central educational resource.**

**8.3 Resource Centres as centres stimulating the creation of learning materials**

A culture does not exist among primary teachers in Zambia of creating classroom learning materials other than on the blackboard. This is realistic given class sizes and the cost in both time and money of creating worksheets, work-cards, etc. Only a tiny minority of teachers are using centres to develop their own learning materials. It is, of course, vital for the development of the primary system in Zambia that these creative and exceptional teachers are recognised and supported. Our experience suggests that these teachers are either teaching senior exam classes or private classes. **Resource**

***Centres provide support for a tiny minority of teachers to create classroom materials.***

Resource Centre location has an important influence on use. Two factors that appear to effect use are:

1. Proximity to District Headquarters, Ministry of Education and commercial centres. It was reported that most visits are made when teachers come to collect their salaries.
2. Type of school in which the centre is located; there is not enough data from our survey to compare the performance of centres situated in primary, basic and secondary schools but from our own observations the least used District Resource Centre was located in a secondary school.

Distance and transport problems and costs mean that for the vast majority of teachers Resource Centres are inaccessible. However, even when Resource Centres are right on their doorsteps teachers make little use of the facilities. ***The range of the Resource Centre as a 'drop in' centre is 5 Km***

#### **8.4 Resource Centre Co-ordinators**

The TRC personnel play a key role in the Cascade system as facilitators, trainers and monitors - but not as initiators, moderators or adapters of the process. The bulk of their time is spent as trainers of the received modules within the cascade and passive monitors of the process at school workshop level. ***The TRC coordinators are fully integrated into the Cascade model and are effective and efficient managers of the***

**system. However, they play little active role in the school workshops or in teachers groups.** (An exception to this is the revised role that co-ordinators have been given in the secondary cascade where they are now taking responsibility for initiating school based workshops)

## 8.5 Teachers attitudes to Resource Centres

Nearly all teachers interviewed were very positive about the presence of Resource Centres and thought they were valuable, but a majority had not used them. This has puzzled us and we can only suppose this can be put down to the following possible reasons:

- Any initiative that recognises teachers needs and is dedicated to teacher enrichment helps to raise the self esteem of the profession.
- Zambians are polite and gracious
- Donor driven programmes and centralised initiatives have been the norm for so long that "dependency" has lead to uncritical acceptance.
- Teacher training has always emphasised that teaching should be more "teaching- aid" based. When asked what they thought they might use the Teacher Resource Centres for many teachers suggested the making of teaching aids. Resource Centres fit into the idea of what "teaching should be like".

Resource Centres and AIEMS have been very positively received by primary teachers, but there is a lack of constructive criticism (reflection and suggestion) on the role of

Resource Centres.

## **9.0 How Sustainable Are Resource Centres and How Is The AIEMS Approach?**

### **9.1 Sustaining the programme i.e. the Cascade, Teacher Resource Centres, School Based Workshops and Teachers Groups**

The two major factors undermining sustainability of the cascade are the ability to provide quality cascade-proof inputs and the high cost of financing a pyramid of workshops. MoE Zambia does not have the ability to sustain either of these without donor support.

Possible support from other donor funded programmes will keep some parts alive. PAGE the programme to advance Girls Education has already supplied an input into the Modular Programme which is incorporated in the GEMS module. The British support programme to establish a first language literacy programme is exploiting the system set up at zonal level and may be able to use some Resource Centre facilities. The Danish supported Preservice Teacher Education Programme is going to incorporate Resource Centres in supporting the training which aims to reduce the residential course to 1 year with a year placement in schools.

So some elements will be sustained through the support provided by future donor aided programmes. These are likely to be the organisational structures of delivery with an increased emphasis on the role of the zonal group as an effective unit and the physical structure of the Resource Centres. To what extent the skills which AIEMS and Resource Centres have tried to develop will be built upon is much more open to question. For example, the effective use of the Resource Centre as a focus for trainee teachers in

school placements remains highly doubtful. This would require trainee teachers to be posted to schools clustering around Resource Centres; it means developing in Resource Centre Coordinators skills of mentoring, course preparation and course delivery, all of which are new; and it will mean co-ordinating the role of the centres with the Preservice colleges.

## **9.2 Sustaining the organisational structure established, i.e. jobs of national to zonal co-ordinators**

The costs of all posts except those of consultants is at present met by the Ministry of Education in Zambia. In this sense the structure is sustainable. Two caveats here. The role of Resource Centre Co-ordinators will be severely constrained if and when transport becomes unavailable (through loss of control to senior education officers, increasing mechanical failure, maintenance and fuel costs).

*One very able Resource Centre Co-ordinator we met had made no visits to schools in the last 2 months. Her vehicle had been appropriated by the local inspector.*

Secondly the programme as it exists is identified as a national programme and increasing moves to decentralise the financing and control of the school system will marginalise all central programmes.

*The Principal Education Officer in Southern Province has many ideas for developing Primary Education in her province. One scheme is to develop the role of specialist teachers in key subjects. This plan does not include using the existing Resource*

*Teachers established by the nation-wide AIEMS programme.*

### **9.3 Sustaining the facilities**

The major investment in physical structure has been the Resource Centres and in the resources they contain. The most heavily used resources will be the first to suffer. Photocopiers are heavily used and maintenance charges are high. If realistic rates are to be charged which cover maintenance AND replacement then most Centres will have to increase their charges.

In the section below on the 'Future Use of Resource Centres' detailed suggestion for their continuing use have been made and these have been based on two criteria; how are they being used at present and which uses are low cost and use existing resources. To ask the severest question; what role can Resource Centres have when there is no fuel for the vehicle, no ink for the duplicator and no electricity? Some Resource Centres already have experience of these conditions and still play an important but limited role as quiet places for pupils to study.

### **9.4 Sustaining the ideas**

One key idea that lies behind the way the AIEMS programme has developed and behind the initial vision for Teachers Centres and in particular the development of teachers groups is that of developing teachers' capacity to be reflective, to identify and solve their own problems. However much we may approve of this idea in theory, and it does underlie an enormous amount of the present writings on teacher development, we seriously need to consider its effectiveness in the reality of the Zambian school and classroom. We also need to consider the effectiveness of the strategies used to bring it

about. Do the strategies provide a context and structure in which each of these elements can be developed. In Zambia these have been threefold; provision of Resource Centres, the development of a cascade system, and the setting up of a school based system. Here is an attempt to make a simplified analysis:

|                  | <b>Opportunities for Reflection</b>                                     | <b>Opportunities for Identification of Problems</b>  | <b>Opportunities for Application</b>  |
|------------------|---|--|---|
| Cascade          | Opportunity for discussion, awareness raising within a tight timescale. | Problems already identified at the top and passed down   | No opportunity to apply in the classroom until the bottom of the cascade.   |
| Teachers Groups  | Opportunity for discussion. Strong time constraints                     | Some opportunity to identify problems specifically those in demonstration lessons and at policy level. Subject based modules deal with pre-ordained topics | Decisions on school policy (language use, equal opportunities) Some teachers through taking lessons which are observed. |
| Resource Centres | Minimal But some opportunities for teachers to read and meet.           | Minimal Reinforces the idea that resources are the main problem and that teaching aids are the solution  | For a few talented, highly motivated teachers who use Resource Centres to create learning materials.                    |

This analysis suggests that the ability to develop reflection, problem identification and application in the classroom is minimal in all strategies, with Resource Centres at the bottom. However, looking at skills developed more generally within the AIEMS structure we found evidence in our discussions and observation of leaders within the system that they had benefited individually from the opportunities provided. For example, we can identify Resource Centre Co-ordinators who had ideas about programmes they could run related to specific needs and in some cases had run their own workshops. We found Zonal Co-ordinators who showed improved skills in running participatory workshops with other teachers. There were some School Resource Teachers who had been given increased responsibility in organising workshops and had used their own initiative to structure them in the their own way.

From this we conclude that those given a role to play within the system have benefited from it. **The ability to spread this involvement widely and to school level is one of the most successful outcomes of the AIEMS programme.** As the Cascade model leading to teachers workshops involves a large number of teachers in the process of running workshops it is the most effective strategy at developing skills related to this task. To a degree this task does involve teachers in thinking about their own teaching especially when they have to demonstrate lessons to others.

But is this sustainable; will these skills and talents be built upon? The fragility of the Teacher Groups has been discussed in detail. The demonstration lesson as a basis for continuing school based workshops is cheap and replicable but how often are teachers prepared to put themselves on show? What are the incentives to continue?

AIEMS has established a series of incentives based on status and limited financial reward. It has significantly failed, however, to establish sustainable incentives based on



improved qualifications. Also, the sustainability of financial and status incentives will always be at risk in any programme which is both donor funded and time limited.

One vital element that ensures a degree of continuity of the ideas in any inservice programme is "the book". The AIEMS programme from its inception had been concerned about increased text book supply (mainly at the secondary level) and planned to introduce a revolving fund system to increase and maintain the supply of texts. This was abandoned early on within the programme.

The subject elements within the primary programme aim to hit a few trouble spots spread over the whole primary curriculum. Sustainability would have been greatly increased if the teachers had materials which support their every day to day teaching in the way that they teach.

Our personal opinion for how to improve sustainability is **to provide teacher texts and pupils books**. A major weakness in the Zambian classroom, for example, is the lack of material to help teachers develop mental mathematics. A continuing impact can be made by focusing on this element, developing step by step teachers guides and pupils exercises for classroom use.

## 10.0 Future uses for the Resource Centres

The figures from our research suggest that Resource Centres are at present underused. They will need to find alternative roles which make them a vital part of the educational system, if they are to survive in the future. In our discussions with the Ministry of Education, teachers, co-ordinators and from our own observations the following suggestions have arisen. They are based on a different conception of the role

of Resource Centres; one based on our observations and belief that there is a need:

- To build on examples of existing good practice in Zambian Schools
- To change centres from Museums of unused teaching aids into bases in which coordinators can work with teachers to improve the supply of basic teaching resources in schools.
- To have a realistic view of the limitations that centres can play in training both due to costs and lack of expertise in training.

### **10.1 Resource Centres as support centres for the work of the school in which they are located (the base school).**

Although visits to the Resource Centres by teachers working in the 'base school' are higher than for other schools they are still very low. The Resource Centres are independent of their base schools, although several head teachers felt initially that they would be *theirs* and the quality of the relationships between school and centre management vary from the very positive to the distinctly hostile, clouded by professional jealousy. As a minimum, Resource Centres can become classrooms in schools that are short of teaching rooms, i.e. become teaching space for at least one session a day.

#### ***Suggestions for the role the Resource Centre can play in the school***

- *Establishing the centre as the school staff-room and encouraging staff to use it in both a formal and informal way, as a space for staff to mark books,*

*to read newspapers and magazines or even to have a cup of tea.*

- *INSET co-ordinators at the base school being assistant RC co-ordinators. This is already the case with some centres.*
- *Establishing the base school as a "model" or "touchstone school".*
- *Having regular classes from the base school time-tabled in the Centre.*
- *Developing the Centre as the School Library, as a place where pupils can borrow books, as a study centre for students where they can do their homework, or read newspapers and magazines.*
- *Developing the Resource Centre as the resource room for the school with texts stored and borrowed from centre. Examples already exist in certain schools which can serve as a model.*
- *Co-ordinators taking some teaching responsibilities in the base schools. Schools are short of capable and able teachers and, yet over one hundred able teachers have been taken out of the classroom to become co-ordinators. Co-ordinators by teaching in schools in a limited way would be both providing support for the base school, keeping themselves in touch with classroom realities and able to develop teaching ideas, methods and skills. Furthermore, co-ordinators could invite other teachers to observe their lessons and use their classes as the basis for demonstration and to generate discussion of teaching techniques and materials.*

## **10.2 Resource Centres as centres of textbook and school supplies.**

The principle resources used by teachers are textbooks, teacher's guides, and blackboards. The principle resources used by pupils are pupil texts, readers, pens, pencils and exercise books. The top priority for Resource Centres is increasing and extending the provision of resources with which teachers are familiar and developing with teachers more effective ways of using a limited number of books.

Resource Centres should have on display all the textbooks and readers now published and approved so teachers can make choices about which to buy. Choice over which books are used in the classroom is gradually being devolved. Decisions on which books to buy are now being taken by staff e.g. At Lusaka Boys School those teaching Grade 2 decided to change to the Macmillan Series. Teachers need to be able to see all the texts available so they can make informed choices.

## **10.3 Resource Centres act as bookshops selling textbooks approved by the Ministry but published by independent publishers.**

Over recent years there has been a growing change in the practice and policy for the production of curriculum material with an increasing role being played by the private sector. The Curriculum Development Centre (CDC) no longer has a monopoly in the creation of classroom materials. It is now recognised that CDC has failed in this respect and CDC is now only responsible for syllabus development and material evaluation. The role of production of materials is now largely in the hands of commercial publishers..

However, the Resource Centres could play a vital link role in spreading the opportunity

for book buying throughout the whole of Zambia. The sales manager of one leading publisher in Lusaka (Macmillan, Zambia) when interviewed spoke of his interest in using the Resource Centres as outlets and allowing them a 25% price share.

One way that the Resource Centres have begun to act as book suppliers is through the renting of dictionaries to schools. Boxes containing 35 dictionaries have been taken to schools by co-ordinators and schools are paying K5, 000 per term for the books whose use is managed by the school itself. Early indications are that this scheme is working well and provides a potential strategy for book supply on a much wider scale.

#### **10.4 Resource Centres act as centres for the supply of school stationary supplies**

If the Centres are to be commercial centres, as they certainly are with their photocopiers, then a high priority must be given to the supply of educationally useful materials. The Centres that have used their profits to buy deep freezes need to be encouraged to look at more educationally valuable enterprises.

*In one centre which was visited during this study the co-ordinator was running a very successful (private) business in the supply of exercise books, pens, pencils etc. to schools, parents and pupils. A stock had been established with an initial loan and supplies are sold both at the centre and delivered on bicycle. Other Centres might follow this model but integrate it into the professional services offered by the Centre.*

One Resource Centre co-ordinator has suggested that responsibility for the supply of resources in the district schools could be given directly to Resource Centre co-

ordinators. Co-ordinators working with zonal and school resource teachers would identify the areas of greatest need and seek to alleviate them through the following strategies:

- Copies of texts in short supply held in class sets at Resource Centres for rotation among schools, or
- Teachers in a particular school create copies of materials in short supply by using the Centre scanner and duplicator.
- Making texts go further by breaking them into chapter sections and copying in pamphlet form.
- Introducing into schools the lost art of tracing so that pupil's workbooks e.g. those in the ZEBEC course, are used. At present these are not being used as teachers are reluctant to allow children to draw on them. Instead children are asked to copy the whole page (a quite unsuitable activity).

*Even when books do reach schools they were often found in unopened boxes in the Heads office. The reluctance on the part of Heads to use the books stems in part from the recent emphasis on their role as good managers of materials and the stress that has been laid on the fact that each book should last for 3 years. This has meant that some Heads have decided that it is either better to keep them safe in their boxes or distribute only one third of the books.*

### **10.5 Resource Centres as creators/publishers of learning materials**

A few but significant examples exist of teachers creating learning materials using the facilities of the Resource Centres.

***Examples of materials produced with some support from Resource Centres***

- *Typed copy of children's story*
- *Mock examination papers*
- *Reports of twinning experiments in school and "The Democratic Classroom"*
- *Log tables and maths problems*

The potential of these for wider circulation is not being realised. As a top priority Centres can celebrate, duplicate and circulate teacher produced materials both among centres and within their own schools: for example, scanning and duplicating and selling copies of the stories written in the *Write a Book* scheme at present lying unused in the centres. The production of localised curriculum material is one of the justifications for Resource Centres emerging from the Tanzania Conference. No evidence was found of this in the Centres in Zambia.

*With the coming of the First Language Literacy programme "Breakthrough to Literacy" there is now a perfect opportunity for Centres to play a leading role in stimulating the writing of reading materials in the language of their area.*

### **10.6 The Resource Centre as a mobile resource bank of books and resources which are taken out to schools.**

The example, mentioned above, of the District Resource Centre Co-ordinator in Choma shows the pro-active role that co-ordinators can take in using their vehicle and their discretionary funds in a creative way. The success of that example stems from a partnership of co-ordinators with teachers in identifying classroom needs and taking to schools the resources requested. This could be extended so that the co-ordinator facilitates the supply, rotation and sharing of limited resources.

### **10.7 The Resource Centre as study centres for teachers**

In service of the form that AIEMS has provided is expensive. It has also attempted to provide courses for ALL teachers and to cope with universal needs. This has led to a lack of focus and, by implication, effectiveness. An alternative strategy is to identify groups with specific needs. Within Zambia this includes untrained teachers, trainee teachers on school placement year, teachers studying for further qualifications, and even more specifically class 2 teachers of mathematics who have no teachers guide or pupils book to follow. It also includes Class 6 teachers who have just received the new science text and want to learn how to use it.

*Mazabuka District has set up its own course for untrained teachers. The course is run by practising teachers*





Home"" """"> [ar.cn.de.en.es.fr.id.it.ph.po.ru.sw](#)

---



---

## CHAPTER EIGHT : Findings and Comment

---

- 1.0 Overview
  - 2.0 Teacher resource centres as centres for resource access and development
  - 3.0 Teacher resource centres as centres for in-service training
  - 4.0 Sustainability
  - 5.0 Teacher Absenteeism and TRCs
  - 6.0 Summary of Findings
- 

### 1.0 Overview

It is significant and highly laudable that education development projects have as their prime objective for Teacher Resource Centres that they should be used to improve the classroom performance of teachers and hence have a positive impact on teaching and learning. However, all our findings point to just how difficult it is for TRCs to achieve these goals.

The major problem with TRC strategy is that it is not designed to work inside schools. TRCs are detached from schools. This is particularly the case with purpose built structures, but it is true even when they compose a classroom in a school Teachers leave their classes to come to TRCs, most commonly to participate in in-service courses. The work they do at the TRC often becomes simply something that one does on the course: not something to translate into action with pupils. This happens particularly in up-grading, certificate courses where the content is often highly theoretical. It also happens on shorter, in-service courses associated with cascade programmes where new curricula, equipment and pedagogical skills are introduced. There seems to be little concern, by either trainers or teachers, to address how the ideas being presented and materials being made might be implemented in schools and classrooms. Curriculum planning, for instance, is rarely considered in a time frame longer than one lesson.

We often found, for example, that teaching aids made by teachers on courses were left at the centre, for display. If in schools (rarely seen) they were gathering dust in staff rooms; whereas in classrooms (very rarely seen) they were hung so high that children could not work with them. Such skills as higher order questioning and grouping children, making number lines and doing science investigations may be introduced and even practiced at centres, but time is rarely given to planning where and how to put them into next week's, and next month's lessons at school.

It is clear that the vast majority of teachers need help and support in planning and trying out new ideas in their own classrooms. This is the case with older, experienced teachers and with new, virtually untrained teachers. Indeed, we all need such intimate mentoring in our work place when we are called upon to significantly change our behaviour, as courses and activities at TRCs almost always prompt us to do.

It is clear to policy makers and educational planners as well. Plans for follow-up from TRCs to schools, usually by TRC staff are included in centre programme designs. Some projects even provide bicycles and motor cycles for tutors' use. But, in almost all cases, follow-up to schools and classrooms just does not happen. The task is too big. There are too many schools in the cluster served by the TRC, and many of them are just too far away. There are too many teachers with too many different subjects and grade levels to deal with. The human resource necessary to provide adequate support to schools through TRCs is never sufficient. Resources never match project expectations for adequate support in schools.

This is our chief concern about the effectiveness of TRC strategy; that the detachment of TRCs from work at schools makes it very difficult for them to have an impact directly on teaching and learning. The discussion that follows is intended to develop this basic concern. It considers our findings in detail and attempts to offer plausible explanations for why things are as they are. The points we make hold generally, although there are exceptions which have been described in detail in appropriate places in the study.

Before moving to these issues, however, we must comment on the utilization rate of the TRCs in our case studies. A most disturbing fact is that the TRCs in our study, across the board, are used very little. In Zambia, our figures show that the utilization of Resource Centres for workshops and teachers' meetings amount to about 10% of available time. The project planning document written in 1993 called for a 90% utilization rate by 1998. In Nepal, the 150 and 180 hour BPEP courses that used to be conducted at primary Resource Centres are now being moved to Teacher Training Centres. Resource Centres remain with only the 3 to 4 day textbook orientation courses and a few committee meetings. Even in the SIP project in Mombasa, the TACs hold only 3 or 4 workshop days per term. The project planning document for the Malawi School

Support Systems Project 1996-2001, written in December 1995, set an 80% utilization rate. Based on our findings, we can not imagine that this figure will be achieved.

## 2.0 Teacher resource centres as centres for resource access and development

Almost all TRCs deal with the dissemination of teaching and learning materials to schools. Some distribute materials from central stores; some encourage teachers to develop their own; and some do both. Findings from our case studies suggest that TRCs are not very good at handling resources for schools. One exception to this is where TRCs are involved in the distribution of pupils' textbooks and teacher's guides accompanied by relevant orientation courses for teachers. Another exception is the class reader loan scheme operated through secondary TRCs in Kenya.

Resources from central stores can be distributed by any local body, the district education office, for instance. The unique contribution that TRCs can make is offering training courses in the use of these materials. The most successful of these, which we saw at primary Resource Centres in Nepal, are those which involve the distribution of new textbooks and accompanying teachers' guides. Teachers specific to the class level of the new textbooks come to the TRC for a 3-4 day textbook 'orientation' course when they pick up their new books. These are very popular courses with teachers. They say, 'This is what we now *have to* teach. The course is good because it tells us how to use the books and the teacher's guide.'

Nepali secondary science teachers, by contrast, are given a 3 day 'familiarization' course on the new science equipment their school is supposed to receive. Unpacking and making an inventory of the bits and pieces and manipulating some of the apparatus to see how it works is all that is done at the course. Where and how to incorporate this

equipment and material into the syllabus, at what class level, for what specific purpose and how to use them in lessons is not considered, as many science teachers complained.

However, what is most important to note, here, is **not** the quality of the course that accompanies the distribution of resources to schools. Rather, it is the nature of the resource itself that should be considered. Textbooks and teacher guides carry with them individual lesson plans and a sequence of work. With science equipment, and any such teaching and learning aids, whether produced centrally or by local teachers, all the planning is left to the teacher along with all the curricular decisions to make. Consequently, in Nepal at least, new science equipment most frequently sits in locked cupboards gathering dust and rust. The same can be said for globes, charts and models. Instruction manuals on the use of teaching and learning aids may be supplied, but these are not nearly as likely to stimulate teachers to use them as injecting relevant information at relevant points in student textbooks and teacher guides. Courses to accompany new materials, the unique contribution that TRCs can offer the distribution of resources, can be helpful in targeting specifically difficult topics and for encouraging their use as intended.

TRCs are frequently heralded as places where teachers can come to make teaching and learning aids. Thus, centres are commonly equipped with type writers and duplicators, tools, card, chart paper and so on. Some even have computers, or plan to have them. What we found is that only a tiny minority of teachers use TRCs for the creation of teaching and learning aids. There are a few teaching aids being produced on courses -charts, models, diagrams. But, as mentioned above, such materials rarely get to the classrooms, and it is even more rare for them to be used by children. Many TRCs are decorated with teaching aids made by teachers, who have not produced duplicate

copies for their own schools. In the APPEP programme, for instance, the teaching aids produced in workshops, together with children's work, is commonly put on display in a space not frequented by children. In Zambia, many of the stories written by children and teachers in the 'Write a Book' scheme are presently lying unused in the resource centres.

Very, very few *learning aids* (as distinct from teaching aids) are produced - such things as work sheets, problem sets, story books, reading comprehension exercises, sentence makers, even games. Do-it-yourself science equipment is sometimes seen, but the quality is so poor as to be detrimental to learning.

As Gibbs and Kazilimani say in their Zambian case study, a culture of creating classroom materials, particularly learning aids, just does not exist. It is too much to expect of teachers, and indeed of TRCs. Only exceptional teachers, anywhere in the world, are creative enough and can spend enough time to produce resources for their own classrooms. It is nice, but totally impractical, to think that most teachers will develop their own aids. This is particularly the case in developing countries where teachers are poorly paid and family responsibilities very demanding, and materials for the construction of teaching aids are scarce.

One thing that is not done consistently is identifying and supporting creative, imaginative teachers who are very good at developing resources for their own use in response to their own perceived needs. All of our case studies document such excellent teachers, perhaps few and far between but nevertheless there. It is a considerable disappointment that we found few education officials who know of these exceptional teachers and few international technical assistants who spend much time in classrooms searching for them. The impact of supporting good teachers, of using them as role

models and promoting their exemplary practices is hard to estimate, but it carries considerable promise.

Another promising idea comes from the secondary TRCs in Kenya which work principally in English teaching. They have a loan system for distributing multiple copies of set books for the English examination. These are boxed and borrowed to schools for a given period of time. It is most important to note also that most of the workshops conducted at these TRCs focus on how to teach the set books for the exam.

One of the roles for TRCs frequently mentioned is as a 'drop-in' centre where teachers can come to make teaching aids, seek advice, use reprographic equipment and consult resource books. We made a specific effort in our case studies to check on numbers of users. In all cases, perhaps with the exception of the SIP TACs in Mombasa, there were extremely few 'drop-ins'. For example, on average in Zambia only 2 teachers per week visited the centres. In Nepal, participants on in-service course were asked how many of them come to the TRC and how often. Even those who lived within a 5 km radius, some even one km away, said they had never been to the centre before. We checked the borrowing records of reference books, and at one centre only 5 books had been borrowed in the last year, and those were checked out to trainers. (Secondary TRCs in Nepal have been in existence for some 11 years, most of them in high density population areas.)

There are several possible reasons for this poor 'drop-in' showing. Distance from the centre does influence frequency of visits, but even then the poor figures persist. Also, TRCs are frequently open only during school hours, teachers have to pay to get there, resource books are often terribly old, dense and irrelevant to precise teaching needs.

To summarize this discussion of TRCs as resource centres it can only be said that in our experience TRCs are not providing a resource base for teachers. On the whole, **the TRCs in our study make little significant contribution to improved teaching and learning resources in schools.**

### 3.0 Teacher resource centres as centres for in-service training

The TRCs in our case studies are the venues for a variety of different kinds of in-service courses: from long up-grading, certificate courses for untrained teachers; to short courses to introduce subject content and pedagogical skills associated with particular development projects; to workshops for orienting teachers to new textbooks. Our principal focus is on in-service training as part of development projects, e.g. APPEP in India; AIEMS in Zambia; and BPEP at the primary level and SEP at the secondary level in Nepal. In Kenya the timing of our study fell during the transition between the old SPRED I and the new SPRED II which is still feeling its way. The main contribution that Kenya makes to this analysis is with the work of the Aga Khan Foundation - as follow-up to its completed SIP project in Kisumu and in its on-going SIP project in Mombasa.

We visited many schools and sat in on many lessons taught by teachers who had been on TRC courses. We were looking for elements in their teaching, in what their pupils were doing in class and in their exercise books that could be traced back to the content of in-service courses held at TRCs. For instance, we were looking for classroom implementation of the 6 APPEP principles and the 12 skills in the AIEMS project. In Nepal we searched for the pedagogical messages that formed the backbone of BPEP and SEP courses.

As with the transfer of resources from TRCs to schools and classrooms, overall, we



found little evidence of these new instructional approaches being used in schools and classrooms. With few exceptions what we saw was traditional teaching, in poor teaching and learning environments, untouched by new catechisms.

This finding should not be surprising. The literature on the up-take of new ideas from in-service training makes fairly grim reading for those of us who work in the business. In this sense, then, we are commenting here on a world-wide problem. Remmers (1983: 25) puts it this way: In-service teacher training seems to me like throwing a stone into a deep fountain and not even hearing a splash.' Nevertheless, what follows are our speculations on why up-take from in-service courses has been so marginal in the projects we visited.

Before moving to this discussion of possible cause of low up-take, we must point out that we have chosen to focus almost exclusively on observable 'impact on practice' as our measure of effectiveness. As discussed above in the chapter describing how we did the study, there are other possible outcomes of in-service work. Outcomes such as new awareness, new knowledge and skills and enhanced motivation from having been on a course may be products of the in-service work we experienced in our case studies. These, of course, are much more difficult outcomes to access. We stress that they may be legitimate outcomes of the in-service work we witnessed, and that in a longer time frame may in fact impact on our teachers' instructional behavior and enhanced learning for their pupils.

### *Imported Pedagogy - is it relevant?*

One of our major concerns is that most courses at TRCs are tied to the pedagogical philosophies, principles and methods pre-determined by project aims. For the most part

these are Western oriented, carrying the baggage of such rhetoric and slogans as 'child-centred', 'low-cost, no-cost materials', 'reflective teaching'. We question the relevance of such pedagogical initiatives given the contexts we witnessed - the state of schools and classrooms, the conditions of service for teachers, the basic education of teachers, the professional work ethic, the sheer weight of traditional ways of teaching and learning. We question it also in light of significantly shifting views in the West toward statutory curricula, teacher lead instruction, and prescribed instructional schemes.

The pitch in many of the project based in-service courses is toward creating reflective, flexible professional teachers expected to make decisions about individual children's learning needs, with capacities to create learning materials improvised from local resources and to contextualise the curriculum within the local environment. The gap, between this ideal, if indeed this is what we would aspire to, and the present state of expertise of the vast mass of teachers, is simply too great. It is too big a leap to make. And, in any case, imported pedagogy denies what many teachers do best - lecture, tell stories, use the textbook, use the blackboard. But training does not commonly start here, with where teachers are. It starts with some sort of theoretical import of 'good practice'.

Taking APPEP's '6 Principles', for example: we feel that grouping children goes too far; having them work at their benches with a neighbour to solve a problem on the blackboard when the teacher calls up one pupil to do it, is bridging the gap. Asking higher order questions goes too far because few teachers can frame such questions effectively; having pupils fill in the missing words in a story text gets closer to what teachers do in their chalk and talk lectures. Having teachers create teaching aids goes too far; giving teachers the aids and writing observation questions about them in the pupils' textbook and the teachers' guide fits easier with the lesson planning style of most

teachers. Small, incremental steps from where teachers are might just help them to bring back workable messages from TRC courses and to try them out in their classrooms and with their colleagues.

It must be said that projects have moved on since the introduction of the 6 principles in APPEP. More recent projects such as AIEMS in Zambia have in fact tried to evolve some of the content in its skill modules from current classroom practice. Thus we see in its 12 Skills such starting points as 'Planning the Chalkboard' and 'Exploiting the Text Book'. There still remains, however, a lot of content related to the idea of developing reflective, problem solving, creative teachers, e.g. 'Making and Using Teaching Aids', 'Planning Group Work', 'Reflecting'.

*Schools - are they ready to receive the message?*

The flip side to retailing new pedagogy and materials through in-service training at the local TRC showroom is the ability of the client to use the product. In other words, is the school an able and willing client? Are management systems in schools set up for receiving new ideas; for restructuring them into the context of the school; for curriculum planning? Restructuring and curriculum planning are very difficult, high order, professional tasks which we find most teachers, including headteachers unable to do with any significant degree of success.

Most schools we visited were very far from being able to cope with new approaches and materials and to incorporate them into their teaching and learning programmes. In Nepal, for instance, there are no subject departments in secondary schools or subject coordinators in primary schools. The only curriculum related staff meetings are about making arrangements for terminal examinations. The situation is better in Zambia and in

Kenya where there are the curriculum management structures in schools; if not yet expertise in curriculum planning beyond a single lesson.

Teachers centres have an inherent problem in regard to helping develop environments in schools to support change; that is teachers leave their schools and come to the TRC. This is often coupled with the assumption that continues to persist in some programmes; that it is effective for one teacher from a school to attend the in-service course or workshop at the TRC, with the responsibility to share the information and material with colleagues upon returning to their schools. To a certain extent APPEP gets around this problem by having all teachers in a cluster come to the meetings at the TRC. The problem even here, however, continues to be that there are no support staff following them back to their schools. Another attempted solution is to have headteachers come on TRC courses. The head, as curriculum leader, is supposed to cascade new approaches to his/her school. But, they too are expected to function on their own with little outside support when they return to their schools.

*The cascade model - where does it stop?*

A central problem with cascade systems is that they seldom extend into schools, or go that last step into classrooms. Most often the cascade stops at the TRC. In the Nepal case study we quoted the BPEP document about the purpose of the primary Resource Centre 'to bring new educational activities to the *doorsteps* of schools.' Although not intended by BPEP staff, the statement illustrates so vividly the thorny question of where TRCs fit into a cascade that goes into schools, which indeed should be its destination to be truly effective.

The AIEMS project in Zambia is shifting away from the simple cascade model that stops

at the TRC to a commitment to stimulating the development of teachers groups and workshops in schools. Gibbs and Kazilmani in their in-depth analysis of cascade systems, reported in their Zambian case study, suggest that the TRC is becoming circumvented in the move toward school-based in-service training. This begs the question, if the local in-service training base moves to each school in a cluster, what is the purpose of the TRC, other than perhaps as a resource depot with a clerk to run the store?

One partial answer to this problem comes from the Aga Khan funded SIP project in Mombasa, Kenya, as reported by Welford and Khatete in their Kenya case study. It does not follow a cascade model as there are no higher up professionals in distant places composing and handing down curriculum and pedagogy. The director of SIP and the programme officers (PO) sit down once a week to develop the workshop programme through a detailed needs analysis.

In terms of delivery, SIP employs what can perhaps be best described as a 'rolling model'. Its key feature is that the PO picks out a small number of schools, 3 - 4, in a larger cluster of around 12 schools and works intensely with them for one whole year. That is a lot of time and it is very labour intensive. The PO, then, after one year leaves these schools and 'rolls on' to another set of 3 or 4 in the cluster, again for a year. Such close contact between the PO and their schools is helped along by the sheer density of the municipal area of Mombasa and how easy it is to get to schools *every day*. It is only through such intimate contact between advisor and school that the potential for effective mentoring can take place, with all the 'phasing' and 'scaffolding' that we read about in the literature on developing effective teachers and schools.

The question here with SIP, as with the moves AIEMS is making toward school-based

work, is what now is the role of the TRC? In Mombasa, government primary TACs and TAC-tutors' exist and function alongside the Aga Khan's POs. Indeed, a TAC-tutor and a PO are assigned together in a TAC. The TAC-tutor and the PO work together 2 days a week in a school or facilitate workshops at the centre. The PO spends the other 3 days in his/her project schools and the TAC-tutor is with h/is other schools in the cluster.

Each TAC in the SIP programme organizes an average of three workshops each school year, and these are open to teachers from all schools in the cluster. This, of course, does not sound like the TAC facility is being used a great deal of the time. It is also used at times as a venue for various meetings, and teachers do drop in, but again not that much. Perhaps the idea of the TAC being there, in the community, as a base of operations for work principally done in schools, justifies its existence. In reality what appears to be its most important purpose and justification is that it holds resources for schools and the centre offices in secure accommodation.

The discussion above has been an attempt to search for possible reasons why there seems to be so little transfer of pedagogical ideas and skills from TRCs to schools. It has also included some speculations about what might help the process of transfer. At the base of these considerations is, of course, what we saw in schools and classrooms. And this leads us to conclude that **in-service courses run through the TRCs in our study make little contribution to improved teaching and learning in schools.**

#### 4.0 Sustainability

The issue of sustainability of TRCs has two dimensions - the ability of TRCs to survive financially; and the ability to sustain their general purpose of helping schools and teachers to improve the quality of children's learning. In both domains we are talking

about survival beyond the life of the particular project that set them up originally or subsequently adopted them as orphans of past projects: as in the case of SPRED I to SPRED II in Kenya; SHAPE to AIEMS in Zambia; Science Education Development Project to Secondary Education Development Project in Nepal; and APPEP to DPEP in Andhra Pradesh. Sadly, this adoption of old projects by new projects reveals the end of the story of sustainability to date.

Taking first the issue of financial sustainability. None of the TRCs in our case studies were surviving on their own local resources. We did find, however, several imaginative attempts to do so: levying a 'tax' on schools; setting up shops selling photocopying and soft drinks; getting local business sponsorship; even an attempt to get interest on loans to schools for setting up agricultural projects. But, alas, the income generated from such schemes is small in relation to the expenses needed to maintain facilities, personnel, resources and programmes,... indeed to pay the electricity bills, which has become a significant problem at some centres in Kenya, Zambia and Andhra Pradesh.

There appears to be no alternative to outside support either through ministries of education or international donor agencies. Governments, while not adverse to maintaining the salary costs of TRC staff, seem to be pulling back on extending full financial support. Conveniently they invoke the 'decentralization' policy. We say 'conveniently' because decentralization has increasingly been put forward as a way to improve quality education, i.e. localising management and contextualizing curriculum, even to the point in some countries for localities being responsible for their own primary level examinations. Financial decentralization is being tacked on to the professional decentralization argument.

A particularly sobering account of what has happened in one project when the outside

donor pulled out comes from Welford and Khatete's case study report on Kenya.

*'The AKES withdrew from its SIP Project in Kisumu in 1996 (moving it to Mombasa), leaving nine established TACs. Kisumu now appears to be struggling to sustain its TACs as functioning entities. Despite the fact that the parents of each of 54, 000 pupils enrolled in 128 primary schools pays 50 KSh towards TAC activities, most headteachers do not remit any part of this money to the SIP account. The systems established by the AKES to sustain the TACs and to ensure continued input to improve the conditions of learning in Kisumu's primary schools appear to have collapsed at the fundamental stage of transfer of funds from headteachers to the SIP account.'*

The fall-out from this in terms of the curtailment of TAC facilities and programmes in Kisumu makes grim reading.

By and large it is international donors in wave after wave of new projects who continue to sustain TRCs. It is also the international donors who are sustaining the flow of professional ideas. We have not seen or heard of any aid programme that has just given money *carte blanche* to support on-going TRCs programmes. Aid projects carry with them their own professional agenda. They also supply their own international technical experts and hire local consultants of like mind to help implement their agenda. In Zambia, for instance, the Danes aim to incorporate resource centres into their Preservice Teacher Education Programme; and the British are planning to use resource centre faculties in their first language literacy programme. In Andhra Pradesh it is the consortium of donors backing DPEP that is stepping into the breach left by the completion of the ODA (DfID) supported APPEP programme; and undoubtedly it will inject its own professional ideas. In Kenya, the Aga Khan Foundation continues to take



its own brand of working with TACs to different localities.

From our perspective, having examined the track record in some detail, it appears that **the sustainability of TRCs, both financially and in terms of the evolution of professional ideas, will continue to be dependent on outside resources, in particular international donors.**

## 5.0 Teacher Absenteeism and TRCs

It would be irresponsible to discuss the impact of TRCs on teaching and learning in schools without commenting on the role of TRCs in teacher absenteeism. Teacher absenteeism is a major problem which we all found in our respective countries. It is consistently commented upon in the literature as well. Like others, our sympathies go to teachers who are so poorly paid that they must focus energy and time on trying to make up the difference between their teacher's salary and what it takes to feed their families. Our concern, nevertheless, is with children and how the absence of their teacher so reduces their time for learning in school. It is particularly a problem in poor countries because classes are not covered when teachers are absent. In this sense, we have to consider *time* as one of the most precious resources available to children's learning, together with books, pencils and paper and, of course, a teacher.

Going to the TRC takes teachers away from their classes. In some cases, the absence is short and perhaps children's time can be compensated for by gains in their teacher's increased knowledge and skills, motivation and commitment. The APPEP programme, for instance, requires teachers out of post for only 6 days a year. In Nepal, however, in-service courses last a long time, commonly a whole month, and there is no cover for those teachers who attend as participants and those selected heads and senior

teachers who attend as trainers. Can their pupils ever be compensated for this loss of time? Even the school-based teacher group meetings in the AIEMS project in Zambia were found to take an inordinate amount of time: '... a teacher group meeting scheduled from 9.30 to 10.30 meant in fact that the teachers did not return to their classes even when the teachers group had finished, and classes were untaught from 9.30 to 12.00 when it was time for lunch.'

Gibbs and Kazilimani report that AIEMS proclaims in one of its brochures that 'One million training hours will ensure four thousand school-based INSET years. ' This is a very unfortunate slogan. It masks the point that one teacher hour out of the classroom means that 40 children are without their teacher; and few teachers ever set work for their pupils to do in their absence. It reminds us how forgetful we are in calculating the cost of in-service education in countries where there is no cover for absent teachers. Do we as trainers, education planners and economists, in our enthusiasm for in-service training, realistically count this cost?

We fully realize that it is very difficult to strike a balance between in-service provision and time away from directing children's learning. Yet, we have to conclude that **given the almost complete lack of schools' ability to cover classes when teachers are away from their classes on TRC courses and activities, TRCs contribute significantly to the problem of teacher absenteeism and consequently to a significant loss of time for children's learning.**

## 6.0 Summary of Findings

In general we found that the expectations placed on TRCs to help teachers develop their capacities to be reflective and flexible, to identify and solve their own problems, to

create their own resources and to effectively apply new ideas to teaching and learning have not been realized. Within the time frame of our visits we have seen little observable evidence of the transfer of TRC initiated materials and ideas into practice. TRCs have not, we feel, significantly impacted on the quality of teaching and learning in schools and classrooms. This is not to say that TRC programmes have not produced some positive outcomes. We feel sure that they have, and perhaps such outcomes may come to fruition in classroom practice at some future time.

To be more specific we list the following findings:

On the more positive side

- There is no doubt that the vast majority of teachers enjoy participating in TRC activities, and they like having the idea of a TRC in their community (even if they do not use it very much)
- Educators are being made aware of the existence of new, more active approaches to teaching and learning (even though they are not integrating them into their work)
- Many in-service training courses at TRCs are well designed, are beginning to target specific subjects and to show a stronger application to classroom practice (even if it is not always secured by an understanding of underlying principles which would allow teachers to extend particular skills to new applications)
- The need to follow teachers back to their schools to help them to plan, to

develop materials, to teach and revise lessons and evolve schemes of work to support their implementation of new initiatives is becoming recognized (even though the personnel required to do so is much too thinly spread)

- The utilisation rate of TRCs by teachers, students and community members in our case studies is very low, at between 10-20 percent of available time (with exception of SEDUs in Nepal where full-time, residential, certificate courses are being held).

#### On the more negative side:

- The TRCs in our study make little significant contribution to improved teaching and learning resources in schools; they have not been effective as material development centres where teachers and/or pupils develop teaching and learning aids (with a few notable exceptions)
- In-service courses run through the TRCs in our study make little significant contribution to improved teaching and learning in schools.
- The TRCs in our study have not been effective as 'drop-in' centres for teachers; neither as a 'library' of reference material nor as a depot for loaning books and teaching/learning material to teachers and schools (the Kenyan TRCs being a notable exception)
- Some programmes in our study contribute significantly to the problem of teacher absenteeism and a consequent lose of time for children's learning.
- The sustainability of TRC programmes in our study, both financially and in

terms of the evolution of professional ideas, is virtually dependent on outside resources, in particular international donors.

Although quality changes at the classroom level have been very modest, perhaps in the larger picture, some significant changes have come about in formal education systems because of having TRC programmes. There may be gains in terms of institutional development, staff training and development, the production of more relevant teacher training curricula and material. This study has not attempted to assess such possible outcomes in detail.

---



Home"" """"> [ar.cn.de.en.es.fr.id.it.ph.po.ru.sw](#)

---



---

## CHAPTER NINE : Implications and Options

---

Introduction

Option 1: The Aga Khan Education Service (AKES) Model in Kenya

Option 2: The TRC as a Model School

Option 3: TRCs as Resource Centres of Textbooks and School Supplies

Option 4: Textbooks, Learning Materials and Time on the Task of Learning

Concluding Remarks

## Introduction

In light of our findings, the task we set ourselves in this final chapter is to try to lay out options for how TRCs might become more effective in helping to improve the quality of teaching and learning in schools and classrooms. We have particularly in mind alternatives to the model which has the TRC as a separate physical structure, with one adviser and whose programme relies principally on teachers coming to the centre, to '...study, refer to reference material, develop their own materials and seek counsel from the centre adviser' (Malawi School Support Systems Project 1996-2001, December, 1995). In our experience such things just do not happen to any significant degree. As discussed in the preceding chapter and in our case study reports, we feel that this model produces little change in the quality of teaching and learning in schools and classrooms, and indeed has a significant impact on the problem of teacher absenteeism.

The options we explore do not carry the responsibility and burden of trying to sustain themselves. We have come to accept that TRCs for the foreseeable future have little chance of becoming self-sustaining.

### Option 1: The Aga Khan Education Service (AKES) Model in Kenya

Of the TRC programmes we observed that operated by the AKES in Kenya offers the best model. This is because it allows maximum advisory support time in schools and a minimum amount of time for teachers to be absent. The Programme Officer works in only 3 or 4 schools for a whole academic year. S/he frequently works alongside a Teacher Advisory Centre tutor assigned to the cluster. This level of support in school is

what is attractive; and not only because advice is more ready to hand. The presence of advisory staff in schools also encourages better teacher attendance at school and in classrooms. Khatete and Welford reported that they never saw a SIP classroom in Mombasa without a teacher.

The role of the TAC functions more as a resource centre than as a training and advisory centre where teachers come. It is used as a venue for courses, but these are relatively few in number across each year.

Another attractive feature of the Mombasa SIP is that there is a team of PO advisers (10 POs in the Mombasa project) all with their own schools. They are able to meet regularly to share ideas, to plan and to support one another. Also, the funders recognise the need for the POs to develop professionally and provide a higher degree programme for this purpose.

There are three basic conditions for the AKES model to work. The first is that the programme operates in a high density population area where advisers can easily get to schools and teachers to centres frequently. Where populations and schools are more scattered other options have to be considered.

The second condition is that the level of staffing of the support and advisory service provided needs to be high. In SIP there is one adviser working with no more than 4 schools over an extended period of time; in addition to the TAC-Tutor supporting all 10 - 15 schools in the Zone. Such a 'high support' programme obviously requires more staff and training for them, i.e. it costs more money than the other TRC projects we have seen.

The third condition is that the community should be heavily involved to the extent that it has a significant financial investment in the programme. This extends to ensuring that members of the community function as chairs and treasurers of management committees.

## Option 2: The TRC as a Model School

Most TRCs are located in a school. Few of these schools in any of our case studies seemed to be touched by its TRC: on the whole schools did not use the physical facilities; only marginally the resources; and no more than any other schools the pedagogical content of the in-service courses. Indeed, in Nepal it was staggering to see how unaffected a school was by the presence of its TRC. Other case studies report this problem as well.

However, having said this, we believe that a priority in TRC programmes would be to bring TRCs into host schools. Gibbs and Kazilimani offer several practical ideas to do this: from establishing the centre as the school staff-room, to having classes regularly timetabled in the centre; to having the centre coordinator taking some classes on a scheduled basis in the school, to developing the centre as a school library.

We would like to give particular emphasis to their idea that the TRC merge with the school to become a 'model school'. We have repeatedly emphasized in this study the need for TRCs to become more operational in schools and how difficult it is for them to do so. Without appearing to be caught up in our own rhetoric, one could envision a 'touchstone school' that is resourced with *no more* materials than other schools in a cluster. The difference would be that the teachers here are employing such materials together with the new skills that are being put forward by the project; serving as a



model for their use elsewhere.

Scaling up the practice to other schools in the cluster is, of course, the major problem. There would have to be a system for other schools to come to see what is possible and to provide support for developing similar ways of working back at their schools. Working on the principle that a model school could be one way of increasing the pool of teacher advisers available to a cluster, perhaps a model school teacher (or a team of two) could exchange schools and classes with other teachers in the cluster for a period of time. This would allow 'untrained' teachers to work side-by side with 'model' teachers. And, it would allow the teacher advisers from the model school to set up 'model' classrooms in a cluster school. In such a system classes would not be left untaught while their teacher was away attending courses. There are many possible permutations and many constraints which we will not pursue further here. The idea of a TRC as a whole school is worth serious consideration.

### **Option 3: TRCs as Resource Centres of Textbooks and School Supplies**

Another option is to drop the idea of the TRC as an advisory, in-service centre in favour of it being a resource centre. It could become a book and school supply depot in those countries where these are provided by governments. Alternatively it could become a commercial enterprise in countries where the production and supply of textbooks and learning materials is increasingly being taken over by commercial publishers. Gibbs and Kazilimani suggest that '... resource centres could play a vital link role in spreading the opportunity for book buying throughout the whole of Zambia.' They continue, 'The sales manager of one leading publisher in Lusaka (Macmillan, Zambia)... spoke of this interest in using the resource centres as outlets and allowing them a 25% price share.'

Another way that resource centres might act as book suppliers is as mobile book banks, loaning boxes of books and learning resources to schools on a rotational schedule. The TRCs in Kenya, as mentioned above, are doing this and achieving great popularity with schools within a certain distance of the centre for their efforts.

In a resource centre the coordinator could be trained to accumulate, prepare and package resources for schools. For instance s/he could:

- Make textbooks and readers more available to more users by breaking them into chapter sections and packaging them in pamphlet form
- Collect comic books and children's magazines (environment agencies in some countries publish these), similarly break them into sections and package them into pamphlet form
- Set up story and non-fiction writing competitions for teachers and children in the cluster. Offer prizes, copy the best and package them for schools
- Collect and package health, agriculture, environmental and many other such materials available free from government agencies and NGOs in most countries and package them for schools.

#### **Option 4: Textbooks, Learning Materials and Time on the Task of Learning**

In this option we suggest that textbooks and associated learning materials should have a greater priority than a focus on the training of teachers. Much of the literature about how to improve the quality of education, particularly basic primary education, consistently puts textbooks and learning materials for pupils and time on the task of

learning at the top of the list. The education and training of teachers is some way down that list. This begs the question of why aid programmes so frequently focus on teacher training. Or, where new text materials (and indeed examination reform) are included in development projects, why is training started before the materials are completed and ready for distribution to teachers, as we have found for example in Andhra Pradesh and Nepal?

Of course it is difficult to coordinate the phasing in of new textbooks in relation to educating teachers in their use. Nevertheless, the more general point about priorities of textbooks over in-service teacher training remains. Perhaps the answer lies in the fact that aid projects are relatively short lived, and given the time and money available projects laudably go for what they think will be most sustainable. As Welford and Khatete suggest in their case study of Kenya, 'expertise endures, books decay'.

In an attempt to help teachers become a more 'enduring' resource, projects since Jomtein have for the most part based their in-service training on the view that a teacher should become an autonomous, reflective, flexible *professional*, capable of identifying and solving problems, creating teaching and learning materials and contextualizing instruction and learning within the locality for the children and community they serve. This, we feel, is a wonderful but unrealistic goal. Given masses of children, poor facilities and resources, the numbers of undereducated and undertrained teachers and the sheer size of the education business to be run by personnel with little corporate experience and training, such a professional goal for training seems romantic, naive almost.

We would suggest a more modest and immediate goal for training be given serious consideration, namely that the teacher should become a competent *technician* capable

of following prescribed procedures in support of children's use of learning materials.

Obviously both textbooks and teachers are important to improving the quality of education. What we are suggesting is by no means a new idea - that is develop textbooks-cum-workbooks with which children can engage with a degree of independence. **The role of the teacher is not to teach the content, but to support the children in their use of texts** (and other learning materials). Our suggestion acknowledges that teachers most commonly teach from the textbook and use it as their curriculum guide. Why not, then, focus on producing textbooks that engage children actively? In-service training would then be straightforward and principally for orientating teachers to the new texts. Such training is immediately relevant and does not require a great deal of restructuring into lessons in the way that 6 pedagogical principles, 12 teaching skills and how to do hands on investigations in science and mathematics does. If teacher reflection is a goal, the text and its accompanying teachers notes provide a concrete focus. An additional attribute of such learning material is that children can get on with learning when their teacher is absent. This, we feel, is the current state of affairs and where initiatives aimed at improving teaching and learning could usefully begin.

The idea of providing learning materials for children is predicated on being able to develop good text material, not an easy or short task. Basing such material on extensive field work and trialing, which few projects currently do, is essential. However, use of text materials as the principal instructional tool is obviously best for children who have some reading and writing skills. This is not to say that materials can not be written for younger children who are just learning to read and write; of course they can. This may suggest, however, that teachers working in infant classes should be targeted specifically for in-service training.

## Concluding Remarks

In summary this study has raised serious doubts about the effectiveness of TRC strategy to have an impact on the quality of teaching and learning in schools and classrooms. Like all other in-service training that takes place away from schools little gets taken back from the TRC. The adoption of a TRC based strategy has not been able to bridge this gap. The problem is the inability of TRC strategy to penetrate schools to the degree necessary to improve the learning environment and the classroom performance of teachers. To have a chance of doing so would require more advisers capable of working intimately with teachers and their children in classrooms over extended periods of time. The average ratio we observed of one adviser to 12 to 15 schools, and all their teachers, is simply unrealistic.

With this in mind we have put forward options other than the use of the TRC as a training and advisory centre. The emphasis, we feel, should shift to a focus on producing learning resources for children. Existing TRCs would act principally as resource centres. Trying to get more textbook-cum-workbooks and other learning materials into the hands of pupils in classrooms with teachers in support of the materials, appears to us to be a promising venture to pursue.



Home"" """"> [ar.cn.de.en.es.fr.id.it.ph.po.ru.sw](#)



## REFERENCES

Abubakar, R.I.A. (1985) A Comparative Study of the Provision of Resource Centres for Certain Secondary Schools in Bauchi State, Nigeria, and in Wales, unpublished MEd Thesis, University of Wales, Cardiff.

Adams, E. (ed) (1975) *In-Service Education and Teachers' Centres*, Oxford: Pergamon International Library/Pergamon Press.

Ahman, I. (n.d.) An approach to external evaluation of training, *Evaluation of Educational Systems: An IIEP Seminar*, UNESCO/International Institute for Educational Planning. 5, 55-65.

AIEMS (Action for Improving English Maths and Science) (1995) *Joint Project Review*, Ministry of Education, Government of Zambia.

AIEMS (Action for Improving English Maths and Science) (1995) *Management Manual*, Lusaka: Ministry of Education, Government of Zambia

AIEMS (Action for Improving English Maths and Science) (1995) *Report of the Joint Project Review Team*, Lusaka/Harare: Ministry of Education, Government of Zambia/ODA (BDDCA).

AIEMS (Action for Improving English Maths and Science) (1996) *Module 1 - The Management of INSET*, Lusaka: Ministry of Education, Government of Zambia.

AIEMS (Action for Improving English Maths and Science) (1996) *Module 4 - Teachers'*

*Groups*, Lusaka: Ministry of Education, Government of Zambia.

AIEMS (Action for Improving English Maths and Science) (1996) *Module 5 - The Twelve Skills*, Lusaka: Ministry of Education, Government of Zambia

AIEMS (Action for Improving English Maths and Science) (1996) *Report of Joint Monitoring Team*, Ministry of Education, Government of Zambia.

Akapelwa, M. (1997) *Mazabuka District Report on Orientation Workshop for Untrained Teachers*, Zambia: Ministry of Education.

Ali, H. (1992) *Professionalism in Teacher Education in Nigerian Universities: Issues and Expectations*, Lagos: Evdor Publishers.

Anderson M.B. (1988) Improving access to schooling in the third world: An overview, *BRIDGES (Basic Research and Implementation in Developing Education Systems) Research Report Series No. 1*, Caribbean: Harvard University.

Andrews, J., Housego, I.E. and Thomas, D.C. (1990) Effective in-service programs in developing countries: A study of expert opinion, in V.D. Rust and P. Dalin (eds) *Teachers and Teaching in the Developing World*, New York and London: Garland Publishing Inc.

Ankrah-Dove, L. (1986) *Teachers and Teacher Education in Developing Countries: Issues in planning, Management and Training*, Kent: Croom Helm

Ankrah-Dove, L. (ed) (1977) *Teachers Groups and Centres in Developing Countries:*

*Report of a Workshop held jointly by the British Council and the Department of Education in Developing Countries*, London: University of London, School of Education.

APEID (Asia and the Pacific Programme of Educational Innovation for Development) (1987) *In-Service Training and Tomorrow's Primary Education: Report of a Workshop on In-Service Training of Educational Personnel Focused on New Developments, Trends and Processes of Primary Education*, APEID, Seoul/Bangkok: UNESCO Regional Office for Education in Asia and the Pacific.

APPEP (Andhra Pradesh Primary Education Project) (1992) *Course Director's Guide, Course VII: Three Day Course for Teachers' Centre Secretaries and Assistant Secretaries: Material additional to Tutor's Guide*, Hyderabad: The Project Director, APPEP.

APPEP (Andhra Pradesh Primary Education Project) (1992) *Course VII: Three Day Course for Teachers' Centre Secretaries and Assistant Secretaries: Tutor's Guide*, Hyderabad: The Project Director, APPEP.

APPEP (Andhra Pradesh Primary Education Project) (1994) *Report of Main Survey 4*, Hyderabad: Directorate of School Education, Andhra Pradesh.

APPEP (Andhra Pradesh Primary Education Project) (1994), *Course V: Initial In-Service Training for Teachers, Participants' Coursebook*, Hyderabad: The Project Director, APPEP.

APPEP (Andhra Pradesh Primary Education Project) (1994), *Course V: Initial In-Service Training for Teachers, Course Guide for Tutors*, Hyderabad: The Project



Director, APPEP.

APPEP (Andhra Pradesh Primary Education Project) (1995) *A Brief Overview*, New Delhi: British Council Division.

APPEP (Andhra Pradesh Primary Education Project) (n.d.) *Teachers' Centres: Teachers' Centre Meeting*, Project Director, Andhra Pradesh Primary Education Project. Saifabad, Hyderabad 500 004.

APPEP (Andhra Pradesh Primary Education Project) (n.d.) *Textbook/Readers Project Evaluation Report*, Hyderabad.

Avalos, B. (1993) Teacher training in Developing Countries: Lessons from research, in L.P. Farrell and J.B. Oliveira (eds) *Teachers in Developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Ayot, H. (1983) Teacher advisory centres in Kenya, in J. Greenland (ed) *The In-Service Training of Primary School Teachers in English-Speaking Africa*, London: Macmillan Press.

Baker, C.A., Holohan, K.M., Payowela, G.P.M., Marenga, E.A.K. and Zooka, J.M. (1984) *British and Tanzanian Training Institutions Collaborative Programmes: An Evaluation*, Government of Tanzania/London: ODA Evaluation Department.

Bako, C.I. and Rumble, G. (1993) The National Teachers' Institute, Nigeria, in H. Perraton (ed) *Distance Education for Teacher Training*, London: Routledge.

Beeby, C.E. (1986) The stages of growth in educational systems, in S.P. Heyneman and D.S White (eds) *The Quality of Education and Economic Development*, Washington: World Bank.

Bennell, P. (1995) *A Training Policy for Education Professionals in Botswana: Report to the Ministry of Education, Government of Botswana*, University of Sussex: Institute of Development Studies (IDS).

Black, H., Govinda, F. K. and Devine, M. (1993) *School Improvement in the Developing World. An Evaluation of the Aga Khan Foundation Programme*, ODA/Aga Khan ]Foundation/Edinburgh: Scottish Council for Research in Education.

Blackwell, J. (1977) Teacher's groups, centres and curriculum development, in L. Ankrah-Dove (ed) *Teachers Groups and Centres in Developing Countries: Report of a Workshop held jointly by the British Council and the Department of Education in Developing Countries*, London: University of London, School of Education.

Blair, P. (1978) *Learning Resource Centre Economic Analysis: A Training Module*, AID/San Jose State University, San Jose, California. (IDS/British Library for Development Studies Microfiche: LAT 3 74.28 B63 5. University of Sussex.)

Blythe, K. and Pearson, H. (1993) *Report on School-based Pilot Project Support Consultancy*, INSET Project, Jordon. London: British Council/ODA Report, 5777.

Blythman, M. and Woodward, C. (1991) *A Report on the In-Service Teacher Education Project, Botswana*, Report 3960, London: The British Council, ODA Projects Department.

Blythman, M., Lloyd-Smith, M. and Woodward, C. (1992) *Botswana-In- Service Teacher Education Project: Report with Recommendations for British Council*, Report 4014, The British Council/Government of Botswana/London: ODA.

Bolam, R. (1983) INSET for professional development and school improvement *British Journal of In-Service Education*, 9, 14-17.

Bolam, R., Sirrett, R., Sunderland, R. and Vowles, D. (1978) Evaluating INSET: an exercise in teacher, LEA and university collaboration, *British Journal of In-Service Education*, 5 (1), 4-8.

Bradley, H., Flood, P. and Padfield, T. (1974) What do we want for teachers' centres?, *British Journal of In-Service Education*, 1 (3), 41-48.

British Council Division (1995) *Andhra Pradesh Primary Education Project: A Brief Overview*, New Delhi: British Council.

British Development Division in Central Africa (BDDCA) (1994) *Malawi Primary Community Schools Project, 1995-2002*, BDDCA Report, Lilongwe, Malawi.

British Development Division in Central Africa (BDDCA) (1996) *Mozambique Secondary English Project, 1996-2001*, Harare, Zimbabwe: BDDCA Report.

Broadfoot, P. and Osborn, M. *et al.* (1993) *Perceptions of Teaching, Primary School Teachers in England and France*, London: Cassell Education.

Brugelmann, H. (1975) *The Teachers' Centre*, Safari Case Studies, Centre for Applied

Research in Education, Occasional Publications (3), University of East Anglia, Norwich.

Bude, U. (1990) *Improving Primary School Teaching: An Evaluation of the Field Based Teacher Development Programme in the Northern Areas of Pakistan*, Bonn: German Foundation for International Development/Deutsche Stiftung für Internationale Entwicklung (DSE)/Aga Khan Foundation.

Bude, U. and Greenland, J. (eds) (1983) *Inservice Education and Training of Primary School Teachers in Anglophone Africa*, DSE: Baden-Baden.

Burrello, L.C. and Orbaugh, T. (1982) Inservice Education in Practice: Reducing the Discrepancy Between the Known and the Unknown in Inservice Education *Phi Delta Kappan*, 63 (6), 385-388.

Bythell, D. W. (1992) An Investigation into the Changing Role of the Field Education Officer in Botswana - A Critical Appraisal and Pointers for the Future, unpublished MEd Thesis, Faculty of Education and Design, Brunei University.

Callewaert, S. and Kallos, D. (1989) *Teaching and Teacher Training in Namibia: Today and Tomorrow*, Stockholm: SIDA Education Division Document, 45, SIDA.

Cambers (1977) In-service: Its rationale, organisation and finance, *British Journal of In-service Education*, 3 (2), 93-97.

Cambridge Education Consultants (CEC) in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu (1996) *Nepal Secondary Education Project, Document 40, Fifth Progress Report*, Cambridge: CEC.

Cambridge Education Consultants (CEC) in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu (1996) *Nepal Secondary Education Project, Document 35, Report of SEDEC/SEDU Management Advisor*, Cambridge: CEC.

Cambridge Education Consultants (CEC) in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu (1996) *Nepal Secondary Education Project, Document 25, Second Report of Science Curriculum and Training Advisor*, Cambridge: CEC.

Capper, J., Nderitu, S. and Ogula, P. (1997) *The School Improvement Programme of the Aga Khan Education Service, Kenya, at Kisumu, Western Kenya: Evaluation Report Prepared for the Aga Khan Foundation*, Aga Khan Education Service: Kenya.

Centre for Educational Research, Evaluation and Services, Nepal (1995) *A Study on Resource Centre Structure: A Report Submitted to Basic and Primary Education Project MOEC/SW, Keshar Mahal*, Nepal: Centre for Educational Research, Evaluation and Services.

Chelu and Mbulwe (1994) The self help action plan for primary education in Zambia, in A, Little, W. Hoppers and R. Gardner (eds) *Beyond Jomtiem: Implementing Primary Education for All*, London: Macmillan Press, pp. 99-123.

Chona, M.G. (1996) The Teacher Resource Centres: Ideas, from the Arusha Workshop, unpublished paper, TDU, Lilongwe, Malawi.

Colbert, V., Chiappe, C. and Arboleda, J. (1993) *The New School Program: More and*

better primary education for children in Colombia, in H.M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Palmer Press,?. 41-51.

Collingwood, I.R. (1991) *Professional Support for Primary Teachers at the School District Level: A Model and its Training Implications*, unpublished MA Thesis, Department of International and Comparative Education, Institute of Education, University of London.

Commonwealth Secretariat (1979) *In-Service Teacher Education in Commonwealth Asia: Report of a Commonwealth Regional Workshop, Sri Lanka 23 Oct-3 Nov 1978*, London: Commonwealth Secretariat.

Commonwealth Secretariat (1980) *In-Service Teacher Education in Commonwealth Africa: Report of a Commonwealth Regional Workshop, Swaziland 15-25 May 19 79*, London: Commonwealth Secretariat.

Commonwealth Secretariat (1982) *In-Service Education of Teachers in the Commonwealth*, London: Commonwealth Secretariat.

Dadds, M. (1997) Continuing professional development: nurturing the expert within, *British Journal of In-Service Education*, 23 (1), 31-38.

Dadey, A. and Harber, C. (1991) *Training and Professional Support for Headship in Africa*, Quality in Basic Education Teacher Management Background/Policy Paper, London: Commonwealth Secretariat.

Dahal, N.R. (1986) In-Service Training of the Science Teachers of the Koshi Hill Area of Nepal - An Analysis of the Work of the Education Resource Centre, unpublished Dissertation for the Diploma in Educational Studies, School of Education, University of Leeds.

Dalin, P. (1990) Educational renewal and staff development, in V.D. Rust and P. Dalin (eds) *Teachers and Teaching in the Developing World*, London: Garland Press.

Dalin, P. (1994) *How Schools Improve*, London: IMTEC.

Davis, L. (1994) The management and mismanagement of school effectiveness. *Compare*, 24 (3), 205-216.

Davison, T. (1996) *Evaluation of the Andhra Pradesh Primary Education Project (APPEP): A Brief non-Technical Overview*, Hyderabad: APPEP.

Dean, J. (1992) *Effectiveness in the Advisory Service*, Educational Management Information Exchange (EMIE)/Slough: NFER.

Department of Education, Government of Andhra Pradesh (n.d.) *District Primary Education Programme (DPEP) State Plan*, Hyderabad: Department of Education.

Department of Education, Ministry of Human Resource Development (1995) *District Primary Education Programme (DPEP) Guidelines*, New Delhi.

District Primary Education Programme (DPEP) Warangal (1997) *Training Programme on Training Strategies/or Primary School Teachers*, Warangal: Govt. Dist. Institute of

## Education and Training.

Eisemon, T.O., Schwille, L., Prouty, R., Ukobizoba, R., Kana, D. and Manirabona, G. (1993) Providing quality education when resources are scarce: Strategies for increasing primary school effectiveness in Burundi, in H.M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Palmer Press, pp. 130-157.

English, R. (1995) INSET: initiating change or merely supporting it?, *British Journal of In-Service Education*, 21 (3), 295-309.

Eshiwani, G.S. (1993) *Education in Kenya Since Independence*, Nairobi: East African Educational Publishers.

Farrell, L.P. (1993) International lessons for school effectiveness: The view from the developing world, in L.P. Farrell and L.B. Oliveira (eds) *Teachers in Developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Farrell, L.P. and Oliveira, L.B (eds) (1993) *Teachers in Developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Fullan, M. and Hargreaves, A. (1992) *Teacher Development and Educational Change*, London: Falmer Press.

Fuller, B. (1987) What school factors raise achievement in the 3<sup>rd</sup> world? *Review of*



*Educational Research*, 57 (3), 255-292.

Fuller, B. and Clark, P. (1994) Raising school effects while ignoring culture? Local conditions and the influence of classroom tools, rules and pedagogy *Review of Educational Research*, 64 (1), 119-157.

Fuller, B. and Snyder, C.W.Jr. (1991) Vocal Teachers, Silent Pupils? Life in Botswana Classrooms, *Comparative Education Review*, 35 (2), 274-294.

Gardner, R. (ed) (n.d.) *Teacher Education in Developing Countries - Prospects for the Eighties*, Department of Education in Developing Countries, University of London Institute of Education.

Gbari, K.Y.S. (1991) The In-service Training Needs of Teachers of English as a Foreign Language in Cote d'Ivoire, unpublished PhD Thesis, School of Education, University of Leeds.

Giggey, S. (1988) *Rural Community Resource Centres: A Guide for Developing Countries*, London: Macmillan.

Gough, B. (1975) Teachers' centres as providers of in-service education, *British Journal of In-Service Education*, 1 (3), 11-15.

Gough, B. (1989) 20 years or so of teachers' centres. What have we learned? What can we share?, *British Journal of In-Service Education*, 15, 51-54.

Gough, B. (1997) Teacher's centres as seen through the pages of the British Journal of

Inservice Education, *British Journal of In-Service Education*, 23 (1), 23-29.

Greenland, J. (1983a) The inSET Africa project: an interim report, in U. Bude and J. Greenland (eds) *Inservice Education and Training of Primary School Teachers in Anglophone Africa*, Baden-Baden: Deutsche Stiftung fur Internationale Entwicklung (DSE).

Greenland, J. (1984) InSET policy and provision in Africa in the early 1980s: Where do we go from here?, in U. Bude and J. Greenland (eds) *West African Approaches to INSET for Primary School Teachers*, German Foundation for International Development/Bonn: Deutsche Stiftung fur Internationale Entwicklung (DSE).

Greenland, J. (ed) (1983b) *The In-Service Training of Primary School Teachers in English - Speaking Africa*, London: Macmillan Press.

Greenland, J. and Bude, U. (eds) (1984) *West African Approaches to INSET for Primary School Teachers*, German Foundation for International Development/Bonn: Deutsche Stiftung fur Internationale Entwicklung (DSE).

GTZ (1996) A Report on the Establishment of Sub-Zonal Centres in Zomba District, unpublished report, Zomba, Malawi: GTZ Basic Education Project.

Guthrie, G. (1980) Stages of educational development? Beeby revisited, *International Review of Education*, 26 (4), 411-435.

Guthrie, G. (1982) Reviews of teacher training and teacher performance in developing countries: Beeby revisited (2), *international Review of Education*, 28, 291-306.

Guthrie, G. (1990) To the defence of traditional teaching in lesser developed countries, in V.D. Rust and P. Dalin (eds), *Teachers and Teaching in the Developing World*, London: Garland Press.

Haddad, W. (1985) Teacher training: A review of World Bank experience, *EDT Discussion Paper 21*, World Bank, Population and Human Resources Department, Washington DC.

Hargreaves, A. (1992) Cultures of teaching: a focus of change, in A. Hargreaves and M. Fullan (eds), *Understanding Teacher Development*, London: Cassell.

Harvey, S. (n.d.) *Developing Primary School Science Teachers: A book for trainers*, Braamfontein (National Office, Box 32198, Braamfontein 2017): Primary Science Programme.

Harvey, S.P. (1997) Primary Science InSET in South Africa: An Evaluation of Classroom Support, unpublished PhD Thesis.

Havelock, R. and Huberman, M. (1977) *Solving Educational Problems*, UNESCO, Paris.

Hawes, H. (1977) The role of teachers' groups and centres in developing countries, in Ankrah-Dove, L. (ed) *Teachers Groups and Centres in Developing Countries: Report of a Workshop held jointly by the British Council and the Department of Education in Developing Countries*, London: University of London, School of Education.

Hayes, D. (1995) In-service teacher development: some basic principles. *ELT Journal*,

49, 3, 252-261.

Henderson, E.S. (1977) An investigation of some outcomes of in-service training, *British Journal of In-Service Education*, 3, 4-17.

His Majesty's Government of Nepal/ODA (1996) *Nepal: Secondary Education project: Second Report of Science Curriculum and Training Adviser*, Draft Document 25, Cambridge Education Consultants Ltd, in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu.

His Majesty's Government of Nepal/ODA (1996) *Nepal: Secondary Education project: Report of EC/SEDU Management Adviser*, Document 35, Cambridge Education Consultants Ltd, in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu.

Hodgson, F. and Whalley, G. (1990) Evaluating the effectiveness of in-service education, *British Journal of In-Service Education*, 16 (3), 10-11.

Hoppers, W. (1996) *Teachers' Centres and Resource Work in Southern African Education: An Investigation into Decentralization and Educational Reform*, paper presented at NASEDEC Conference, October 1996, Harare, Zimbabwe.

Hoppers, W.H.M.L. (1989) The response from the grassroots: Self-reliance in Zambian education', *IDS Bulletin*, 20 (1), 17-23.

International Institute for Environment and Development (1995) *Resource Centres for Participatory Learning and Action*, abridged version of Consultancy Report, IIED:

London.

Ishumi, A.G.M. (1992) External aid: A lever for social progress in developing Countries? A case study of SIDA-supported educational projects in Tanzania, 1970-1990s, *International Journal of Educational Development*, 12 (4), 265-276.

Jain, P. S. (1997) Program Success and Management of Integrated Primary Education in Developing Countries, *World Development*, 25 (3), 349-358.

John, G.M. (1993) *Report on Teachers Centres to the Field Manager, Andhra Pradesh Primary Education Project*, APPEP/British High Commission, British Council Division, Madras 600 002.

Jones, A., Lambert, A., Ndungu, J.B. *et al.* (1986) *Joint Review of British Assistance to Education Projects in Kenya. 7-25 July*, ODA/London and Nairobi: British Development Division in Eastern Africa.

Jong-hee, R. (1984) *Tasks for the Development of In-Service Teacher Education*, Seoul: Korean Educational Development Institute.

Joyce, B. and Showers, B. (1980) Improving in-service training: the message of research, *Educational Leadership*, February, 379-384.

Joyce, B. and Showers, B. (1988) *Student Achievement Through Staff Development*, New York and London: Longman.

Judge, H. (1980) Teaching and professionalization: an essay on ambiguity, in E. Hoyle and J. Meggary, *World Year Book of Education 1980: Professional Development of*

*Teachers*, London: Kogan Page.

Kahn, H. (1982) Teachers' centres - A Commonwealth perspective, *British Journal of In-Service Education*, 9, 75-80.

Kahn, H. (1991) *Teachers' Resource Centres*, Commonwealth Education Handbooks, London: Commonwealth Secretariat.

Kaluba, L.H. (1986) Education in Zambia: the problem of access to schooling and the paradox of the private school solution, *Comparative Education*, 22 (2), 159-169.

Kapinga, S.R. (1996) *Country Papers: Tanzania Resource Centres*, presented at Regional Workshop on TRCs, Arusha, Tanzania June 3-7, 1996.

Kinder, K. and Harland, J. (1991) *The Impact of INSET: the case of primary science*, Windsor: NFER.

Kirk, G. (1992) INSET in the new era, *British Journal of In-Service Education*, 18, 140-144.

Labor, A. (1982) *In-Service Training of Primary School Teachers in Sierra Leone: An INSET Africa Project Country Profile*, School of Education, University of Bristol/ODA.

Lee, M. (1997) The development of in-service education and training as seen through the pages of the British Journal of In-Service Education, *British Journal of In-Service Education*, 23 (1), 9-20.

Leonardos, A.C. (1993) CIEP: A democratic school model for educating economically

disadvantaged students in Brazil?, in H. M. Levin and M. E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Palmer Press, pp. 69-86.

Levesque, D. (1990) Improving the Efficiency of Secondary School Management in Botswana, unpublished MA Dissertation, Faculty of Education and Community Studies, University of Reading.

Levin, H.M. and Lockheed, M.E. (eds) (1993) *Effective Schools in Developing Countries*, Falmer Press: London and Washington DC.

Lewin, K.M. (1998) Counting the Cost of Teacher Education: Cost and Quality Issues, unpublished paper, University of Sussex: Centre for International Education.

Lilley, C.D. (1990) A Study of the Development of Teachers' Centres in Kenya and Tanzania, and the Resulting Implications for the Setting up of Further Teachers' Centres, unpublished MEd (TESOL) Thesis, School of Education, University of Leeds.

Linehan, S. (n.d.) The AIEMS School-Based Inservice Programme (focus on classroom skills and teachers' groups), unpublished paper by INSET Development Advisor, Lusaka, Ministry of Education.

Little, A. and Sivasithambaram, R. (1993) Improving educational effectiveness in a plantation school: the case of the Gonakelle School in Sri Lanka, in H. M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Falmer Press, pp. 87-107.

Little, A., Hoppers, W. and Gardner, R. (eds) (1994) *Beyond Jomtiem: Implementing*

*Primary Education for All*, London: Macmillan Press.

Lockheed, M.E. (1993) The condition of primary education in developing countries, in H.M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Falmer Press, pp. 20-40.

Lockheed, M.E. and Levin, H.M. (1993) Creating effective schools, in H.M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Falmer Press, pp. 1-19.

Lockheed, M.E., Verspoor, A.M. *et al.* (1991) *Improving Primary Education in Developing Countries*, World Bank/Oxford: Oxford University Press.

Macdonald, M.A. and Rogan, J.M. (1985) The in-service component of an innovation: a case study in an African setting, *Journal of Curriculum Studies*, 17 (1), 63-85.

Matsetse, M. (1995) Annual Report: Tsabong Education Centre, Botswana, unpublished Report, Botswana, Tsabong Education Centre.

Maxwell, T.W. (1992) Inservice: Four innovatory programs in a small rural education system, *British Journal of In-Service Education*, 18, 166-175.

McGinn, N.F. and Borden, A.M. (1995) *Framing Questions, Constructing Answers Linking Research with Education Policy for Developing Countries*, Cambridge, Massachusetts: Harvard Studies in International Development, Harvard University.

McNie, B., White, R. and Wight, J. (1991) *Headteacher Management Training and the*



*Development of Support Materials: A Planning Overview*, Quality in Basic Education - Teacher Management Resource Manual, London: Commonwealth Secretariat.

Metcon Consultants (1996) *Nepal Secondary Education Project: Micro Study on the Management of Secondary Schools, Draft Final Report, Main Volume*, Nepal (PO Box 4412 Tangal, Kathmandu-2): Metcon Consultants.

Midwinter, E. (1974) Teachers' centres: the facilitators, *British Journal of In-Service Education*, 1 (1), 10-14.

Milroy, C.P. (1974) The future of in-service education, *British Journal of In-Service Education*, 1 (2), pp. 34-35.

Ministry of Education, Government of Kenya (1992) *An Evaluation of the Secondary English Language Project*, conducted by Hirani Ratcliffe Development Consultants (HRDC) under assignment from the ODA.

Ministry of Education, Government of Kenya (1996) *Evaluation Report: Strengthening of Primary Education (SPRED) Project* (Extract), Hirani Ratcliffe Development Consultants, Human Resource Planners (under assignment from the ODA).

Ministry of Education, Government of Kenya (1996,) *Strengthening of Primary Education (SPRED) Project: End of Project Report*, Nakuru: SPRED Summative Report Writing Workshop.

Ministry of Education, Government of Uganda (1996) Arusha Regional Workshop - Teacher Resource Centres, Country Presentation by INSSTEP (In-Service Secondary

Teacher Education Project), Inspectorate, Ministry of Education. Kampala. Unpublished paper presented at Regional Workshop on TRCs, Arusha, Tanzania June 3-7, 1996.

Ministry of Education, United Republic of Tanzania (1988) *The Impact of Some Centralized In-Service Courses on the Teachers' Competence in Primary Schools*, Dar Es Salaam: Directorate of Teacher Education, Ministry of Education.

Ministry of Education, Zimbabwe (1996) Regional Workshop-Teachers Resource Centre, unpublished paper presented at Regional Workshop on TRCs, Arusha, Tanzania, June 3-7, 1996.

Ministry of General Education and Culture/Ministry of Higher Education, Republic of Zambia (1985) *Self-Help Action Plan for Education (SHAPE), 1986-88, incorporating In-Service Education for Teachers (INSET) Programme Education with Production Programme Practical Skills Programme*, Lusaka.

Misra, R.P. (1991) Local planning for educational development, *Journal of Rural Development*, NIRD, Hyderabad (India), 10 (5), 543-559.

Miti, M. and Herriot, A. (n.d.) *Action to Improve English, Mathematics and Science (AIEMS): A Case Study in Zambia - The Start-up Process*, Third Oxford International Conference Paper.

Modi, P. (1997) *Project History: Strengthening of Primary Education (SPRED) Project, Kenya*, London: ODA.

Moloma, R. (1983) *The Botswana In-Service Team: a mobile support for primary*

schools, in J. Greenland (ed) *The in-service training of primary school teachers in English speaking Africa*, London: Macmillan.

Montera-Sieburth (1989) *Classroom Management: Instructional Strategies and the Allocation of Learning Resources*, *BRIDGES (Basic Research and Implementation in Developing Education Systems) Research Report Series No. 4*, Caribbean: Harvard University.

Morant, R.W. (1978) Re-appraising the role of teachers' centres, *British Journal of In - Service Education*, 4, 198-205.

Morrison, K., Gott, R. and Ashman, T. (1989) A cascade model of curriculum innovation, *British Journal of In-Service Education*, 15, 159-170.

MS/DANIDA and Ministry of Education and Culture, Tanzania (1996) *Teachers Resource Centres: Regional Workshop on Teachers Resource Centres, Arusha, Tanzania June 3-7, 1996 - A Sharing of Experiences: The Workshop Report*.

Nair, A. (1996) *Resource Centres - The Zambia AIEMS Experience*, unpublished paper, Primary Community Schools Project, Lusaka.

Natham, M. (1990) The INSET revolution, *British Journal of In-Service Education*, 16 (3), 156-161.

Nielsen, H.D. and Tatto, M.T. (1993) *Teacher upgrading in Sri Lanka and Indonesia*, in H. Perraton (ed) *Distance Education for Teacher Training*, London: Routledge.

Ogbu, O. and Gallagher, M. (1991) On public expenditure and delivery of education in Sub-Saharan Africa, *Comparative Education Review*, 35 (2), 295-318.

Okemwa, R.N. (1990) A Proposal for the Setting up and Management of Secondary School Teachers' Resource Centres in Kenya, unpublished MEd (TESOL) Thesis, School of Education, University of Leeds.

Oliveira, J. and Farrell, L.P. (1993) Teacher costs and teacher effectiveness in Developing Countries, in L.P. Farrell and L.B. Oliveira (eds) *Teachers in Developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Parsons, C. (1990) Evaluating aspects of a local education authority's in-service programme, *British Journal of In-Service Education*, 16 (3), 4-7.

Pennycook, D. (1993) *School Effectiveness in Developing Countries: A Summary of the Research Evidence*, London: Series No. 1, ODA Occasional Papers in Education.

Poignant, R. (n.d.) Possible criteria for evaluating education policies, in UNESCO/International Institute for Educational Planning. *Evaluation of Educational Systems: An IIEP Seminar*, Document No 1.

Putsoa, B. (1983) Alternative priorities for inSET, in U. Bude and J. Greenland (eds) *Inservice Education and Training of Primary School Teachers in Anglophone Africa*, Baden-Baden: DSE.

Rao, K.N. (1994) *Evaluation of an APPEP Training Course: A Case Study of Course-*

*VB for Teachers*, Hyderabad: British Council Division AP Projects Office.

Raubenheimer, C. (1992) An emerging approach to teacher development: Who drives the bus?. *Perspectives in Education*, 14 (1), 67-80.

Raudenbush, S.W., Eamsukawat, S., Di-Ibor, I., Kamali, M. and Taoklam, W. (1992) *On-the-Job Improvements in Teacher Competence: Policy Options and their Effects on Teaching and Learning in Thailand*, Washington DC: World Bank Working Papers, Education and Employment.

Rauwe, B.A. (1992) A Critical Study of the In-Service Education of the Botswana Education Centres: Its Impact in Primary Education, unpublished MA Dissertation, School of Education, University of Leeds.

Redknap, C. (1977) *Focus on Teachers' Centres*, Windsor: NFER Publishing Company.

Richards, C. (1972) Teachers' Centre's - A primary school view', *Trends in Education*, 25, 31-33.

Roy, S.G., Mitra, S.K. and Ray, S.S. (1995) *Achievement level of Primary School Children at the end of Class IV*, West Bengal: Indian Statistical Institute, Calcutta and State Council of Educational Research and Training.

Rust, V. and Dalin, P. (1990) (eds) *Teachers and Teaching in the Developing World*, New York: Garland Press.

Schon, D. (1983) *The Reflective Practitioner*, New York: Basi Books.

Schwarz, P.A. (1995) Evaluation of the Pakistani primary project: a methodological case study in B. Searle (ed) *Evaluation in World Bank Education Projects: Lessons from Three Case Studies*.

Shaeffer, S. (1990) Participatory approaches to teacher training, in V.D. Rust and P. Dalin (eds) *Teachers and Teaching in the Developing World*, New York and London: Garland Publishing. pp. 95-114.

Shaeffer, S. (1993) Participatory approaches to teacher training, in L.P. Farrell and L.B. Oliveira (eds) *Teachers in developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Shahabuddin, F. (1993) In-service Teacher Training in Urban Pakistan, unpublished MEd (TESOL) Thesis, School of Education, University of Leeds.

Shaw, M. (1995) *Resource Centre Consultancy: Consultant's (Draft) Report to ODA and National Institute for Educational Development (NIED), Namibia, of First In-Country Visit, Nov-Dec 1995*, Oxford Centre for Education Management, Oxford: Oxford Brookes University.

Shiundu, J.S. and Omulando, S.J. (1992) *Curriculum Theory and Practice in Kenya*, Nairobi: Nairobi University Press.

Singh, J.S. and Mukherjee H. (1993) Education and National Integration in Malaysia: Stocktaking Thirty Years after Independence, *International Journal of Educational Development*, 13 (2), 89-102.

Slaven, G. (n.d.) The Action to Improve English, Maths and Science Project (AIEMS), unpublished paper, British Council, Lusaka.

Stanton, M. (1990) So you're an advisory teacher are you? *British Journal of Inservice Education*, 16 (3), 53-58.

Sunwani, V.K. (1994) In-Service Teacher Training in India: Creating a Framework for a Short Course for Secondary English Teachers in the Eastern Region, unpublished MEd (TESOL) Thesis, School of Education, University of Leeds.

Sweed, E. (1992) Teacher Development and Institutional Change, unpublished MEd Thesis, University of Exeter.

Taylor, D. (1996) *The Development of Human Resources for Secondary Education in Europe: Teaching and Non-teaching Staff - Today and Tomorrow: Report of the Seminar*, Estoril, Portugal 30 May-1 June 1996, Council of Europe (CDCC): Strasbourg.

Thiagarajan, S. and Pasiona, A.L. (1988) Literature Review on the Soft Technologies of Learning, *BRIDGES (Basic Research and Implementation in Developing Education Systems) Research Report Series No. 2*, Caribbean: Harvard University.

Thompson, A.R. (1990) Making the best use of teachers: Deployment issues, in V.D. Rust and P. Dalin (eds) *Teachers and Teaching in the Developing World*, New York and London: Garland Press, pp. 123-150.

Thompson, L. (19) INSET provision, teachers' perceptions in the 1990s, *British Journal of In-Service Education*, 19 (3), 50-53.

Thornbury, R. (1973) Teachers' Centres, *New Society* 28, 27<sup>th</sup> June, pp. 761-63.

Thornbury, R. (ed) (1973) *Teachers' Centres*, London: Darton, Longman and Todd.

Topping, K. and Brindle, P. (1978) Evaluation of in-service training courses, *British Journal of In-Service Education*, 5 (2), pp. 49-51.

Treffgarne C.B.W. (1990) Report of a Review of the English Teacher Support Project (Mali), 26 May-2 June 1990, unpublished ODA Report, London.

Treffgarne, C.B.W. (1990) Report on a Monitoring Visit to ODA's ELT Project in Pre-Service and In-Service Teacher Education in Madagascar, 28 January-5 February 1990, unpublished ODA Report, London.

Treffgarne, C.B.W. and Bazeley, A.J. (1990) Report on a Review of ODA's ELT Project in In-Service Teacher Education and Materials Development (Congo), 4-11 June 1990, unpublished ODA Report, London.

Trevaskis, G.A. (1969) *In-Service Teacher Training in English - Speaking Africa: A Report Prepared for the Afro-Anglo-American Programme in Teacher Education*, New York: Afro-Anglo-American Programme in Teacher Education.

Tribhuvan University (1997) *Teacher Supervision and Support Services for Primary Schools in Nepal (A Diagnostic Study Conducted in Collaboration with IIEP): A Study Report*, Tribhuvan University, Kathmandu: Research Centre for Education Innovation and Development.



UNICEF/UNESCO (n.d.) *The Learning of Those Who Teach: Towards a New Paradigm of Teacher Education*. (Thematic Portfolio as part of 'Education for All: Making it Work' case studies.)

UNICEF-Phnom Penh (1994) *Battambang Cluster Schools Project: International Rescue Committee (IRC) Project Evaluation, September 18-21, 1994*, Phnom Penh: UNICEF.

UNICEF-Phnom Penh (1994) *Evaluation of the Cluster School Project in Takeo and Banteay Meanchey Cambodia*, Phnom Penh: UNICEF.

United Nations Development Programme and UNESCO (n.d.) *Educational Innovation and Reform UNDP/UNESCO Joint Evaluation of Educational Innovation and Reform Projects*, Washington DC.

Veugelers, W. and Zijlstra, H. (1995) Learning together: in-service education in networks of schools, *British Journal of In-Service Education*, 21 (1), 37-48.

Voluntary Services Overseas (various dates) *Placement Summaries (Uganda, The Gambia, Thailand Kenya Pakistan)*.

Vulliamy, G. (1993) The impact of global education INSET, *British Journal of In-Service Education*, 19 (3), 29-36.

Warwick, D.P., Nauman, H. and Reimers, P.M. (1991) *Teacher Training and Schooling Effectiveness in Pakistan*, Development Discussion Paper No. 397 ES, Cambridge, Massachusetts: Harvard Institute for International Development, Harvard University.

Weindling, D., Reid, M.I. and Davis, P. (1983) *Teachers' centres: A focus for In-Service education?* Schools Council Working Paper 74, London: Methuen Educational.

Weir, C.J. and Burton, J.C. (1994) *The Role and Design of Baseline Studies in the Evaluation of English Language Teacher training in the Case of Guinea*, ODA Evaluation Report EV511, London: ODA.

Weir, C.W. (1995) *Report on an ODA funded Consultancy under the English Teacher Education Project - Evaluation of the Regional English Support Centres, Sri Lanka*, London: ODA/British Council Report.

Welford, G. (1996) Teachers' Resource Centre Regional Workshop: Arusha, Tanzania 3-7 June, unpublished internal report. School of Education, University of Leeds, Leeds.

Wilson, L. and Easen, P. (1995) 'Teacher Needs' and practice development: implications for in-classroom support, *British Journal of In-Service Education*, 21 (3), 273-285.

Wolff, L., Schiefelbein, E. and Valenzuela, J. (1994) *Improving the Quality of Primary Education in Latin America and the Carribean: Toward the 21st Century*, World Bank Discussion Papers No 257, World Bank.

Wolff, L., Schiefelbein, E. and Valenzuela, J. (1994) *Improving the Quality of Primary Education in Latin America and the Caribbean*, Washington DC: World Bank Discussion Paper 257.

Wood, F.H. and Thompson, S.R. (1980) Guidelines for better staff development

*Educational Leadership*, February, pp. 374-378.

World Bank (n.d.) *Education in sub-Saharan Africa: Policies for Adjustment, Revitalisation, and Expansion*, Washington DC: World Bank Publications.

World Bank/The International Bank for Reconstruction and Development (1995) *Priorities and Strategies for Education - A World Bank Review*, Washington DC: World Bank Publications.

Zeichner, K.M.(1983) Alternative paradigms of teacher education, *Journal of Teacher Education*, 34 (3), 2-9.

Zulu, C.E. (n.d, [a]) Provincial and District Teachers' Resource Centres - Issues in Financial Management. Paper: Overview, unpublished paper from Chief Inspector of Schools, Ministry of Education, Government of Zambia, to all Provincial and District Resource Centre Co-ordinators, Lusaka.

Zulu, C.E. (n.d, [b]) Provincial and District Teachers' Resource Centres - Issues in Financial Management. Paper 2: Accounting for the GRZ grant released to Resource Centres, unpublished paper from Chief Inspector of Schools, Ministry of Education, Government of Zambia, to all Provincial and District Resource Centre Co-ordinators, Lusaka.

Zulu, C.E. (n.d, [c]) Provincial and District Teachers' Resource Centres - Issues in Financial Management. Paper 3: Funding for INSET Workshops under AIEMS, unpublished paper from Chief Inspector of Schools, Ministry of Education, Government of Zambia, to all Provincial and District Resource Centre Co-ordinators, Lusaka.

Zulu, C.E., Mwale, G. *et al.* (1996) *Action for Improving English, Mathematics and Science (AIEMS): Report of Joint Monitoring Team 11-17 March 1996*, Ministry of Education, Zambia/ODA (BDDCA), Lusaka.

**DFID**

**Department for International Development**

94, Victoria Street

London SW1E 5JL

ISBN: 1861921411



Home"" """"> [ar.cn.de.en.es.fr.id.it.ph.po.ru.sw](#)

---

**The Effectiveness of Teacher Resource Centre Strategy - Education Research  
Paper No. 34, 1999, 257 p.**

---

**DEPARTMENT FOR INTERNATIONAL DEVELOPMENT EDUCATION PAPERS**

**Abstract**

**Acknowledgements**

**List of Acronyms**

## **EXECUTIVE SUMMARY**

- 1 Introduction.
2. A Brief Outline of the Case Studies
- 3 General Points About the Growth and Development of Teachers' Centres.
- 4 General Issues Relating to the Teachers' Centre
- 5 Observations made at the Teachers' Centres
- 6 Observations made in schools
- 7 Conclusions and Recommendations

## **CHAPTER ONE : Purpose and Methodology of the Study**

- 1.0 Purpose of the Study
- 2.0 Research Questions
- 3.0 Research Procedure

## **CHAPTER TWO : The British Teachers' Centre - Its Rise and Fall: A Review of the Literature**

- 1.1 The Beginnings Of The Movement.
- 1.2 A Centre For Curriculum Development.
- 1.3 A Centre For Dissemination And Training.
- 1.4 The Functioning And Use Of Centres.
- 1.5 The Problems Of Assessing Teachers' Wants And Needs
- 1.6 Widening And Diversifying Of Services.
- 1.7 The Influence On Teachers' Centres Of Major Policy Changes
- 1.8 Evaluation Of Effectiveness.

1.9 Exploration Of The Issues Relating To Evaluation.  
POST SCRIPT

The Approach  
Staffing  
Influences On How The Centre Works

DFEE Policy:  
OFSTED Inspections:  
Other Influences

Conclusion

**CHAPTER THREE : 'The Teachers' Centre as a Strategy for Teacher Development in the Developing World': A Review of the Literature**

- 1.0 A Concept To Sell Abroad
- 2.0 Teachers' Centres In The Developing World.
- 3.0 Major Issues Related To The Recent Development Of Teacher Resource Centres In Developing Countries
- 4.0 Teachers' Centres As A Strategy For Teacher Development

**CHAPTER FOUR : Teachers Centres in Andhra Pradesh, India**

- 1 Introduction
- 2 The study
- 3 Conclusions

## **CHAPTER FIVE : Teacher Resource Centres in Kenya**

- 1 Introduction
- 2 The Study
- 3 Long-term influence of TACs
- 4 Suggestions for the future

## **CHAPTER SIX : Teacher Resource Centres in Nepal**

- 1.0 Introduction
- 2.0 TRC Systems Described
- 3.0 Teaching Observed
- 4.0 Impacting On Schools
- 5.0 Conclusion

## **CHAPTER SEVEN : Teacher Resource Centres in Zambia**

- 1.0 Methods Used In This Study
- 2.0 The School System
- 3.0 How AIEMS Works
- 4.0 What Is The AIEMS Approach To INSET
- 5.0 What happens in the School Based Workshops and Teachers Groups
- 6.0 How Are Teacher Resource Centres Used?
- 7.0 How Much Does All This Cost?
- 8.0 So, What Conclusions Have We Come To About Resource Centres?
- 9.0 How Sustainable Are Resource Centres and How Is The AIEMS Approach?
- 10.0 Future uses for the Resource Centres

## **CHAPTER EIGHT : Findings and Comment**

1.0 Overview

2.0 Teacher resource centres as centres for resource access and development

3.0 Teacher resource centres as centres for in-service training

4.0 Sustainability

5.0 Teacher Absenteeism and TRCs

6.0 Summary of Findings

## **CHAPTER NINE : Implications and Options**

Introduction

Option 1: The Aga Khan Education Service (AKES) Model in Kenya

Option 2: The TRC as a Model School

Option 3: TRCs as Resource Centres of Textbooks and School Supplies

Option 4: Textbooks, Learning Materials and Time on the Task of Learning

Concluding Remarks

## **REFERENCES**