

**Possible opportunities to support local schools
in the area served by
the Zengamina Hydro Electric Project**

**A report produced for the
North West Zambia Development Trust**

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Thanks to Denson Kajinga, our guide and interpreter.

My thanks also go to all those inspiring leaders, teachers and students that I met on the trip which has left a lasting impression on me about why teachers do the job that we do.

Schools visited: Museaya
 Salajinga
 Mwinylamba
 Ikalene High School and Basic School
 Kalene High School

Background

The North West Zambia Development Trust (www.nwzdt.org) is a charity set up by a group of people connected with the area, both locally and in the UK. The Trust works directly with the local population and has a connection to the historic Kalene Mission Hospital (www.kalenehospital.com) which celebrated 100 years of service in 2006.

According to its documentation, NWZDT believes that while many individual crises can be eased by food and medicine, real progress comes from investment in infrastructure that most in the West take for granted - clean water, electricity, sanitation, and employment.

A source of sustainable electric power was judged the priority as a trigger to the others. The Zambezi Rapids Hydro-Electric Scheme was opened in July 2007.

By 2009 the needs of Kalene Mission Hospital were being met and electricity was starting to be supplied on a commercial basis to local homes and businesses. The capacity available meant that considerable expansion beyond self-sufficiency was possible.

In February 2009, I was asked by the past Trust chair, Dr Peter Gill, to visit the area with a view to advising the Trust on how best to support the local schools as part of its investment in the infrastructure of the area.

My background includes 30 years as a teacher including 11 years in senior leadership with particular interest in teaching and learning through ICT, self-evaluation and developing Leadership capacity. I am

currently Deputy Headteacher in a large 11-16 Comprehensive school in Sunderland in the north-east of England.

The Scope of this report

This report is based on the evidence gathered on a three day visit to the area in August 2009 to get first-hand impressions of local conditions. The remit was to visit a range of schools, see the location and fabric of the school buildings, talk to Chiefs, school leadership teams, teachers and students with a view to gathering evidence for recommendations about how the Trust can support the work of schools within its area.

This report is not meant to be a comprehensive evaluation of each school in the style of official Ofsted reports that schools in England are used to. It is also limited by the amount of time spent at each school in the area. The visit took place during the summer holiday so apart from the summer school classes taking place, there was limited opportunity to see schools working in a normal setting. This did mean, however, that there was opportunity to speak with leaders and teachers at each school.

I would not presume to know all about a school's context from such a small evidence base and do not intend to give an individual account on each school. This would require much further study. Rather I will set out the common themes which can be reported on with examples to illustrate the key points made.

School Buildings

All schools visited seemed to be of a similar age showing large investment a number of decades ago in single storey buildings of the same design. The outside of the buildings were typically painted white and pale blue (see Fig. 1) although there was little evidence of recent investment in the buildings or the paintwork. There was evidence of lack of basic facilities such as clean floors, student and teachers desks. Many of the windows were in disrepair and had not been replaced after damage or vandalism. Blackboards were typically painted onto plaster walls which were in poor condition.

Teachers' houses were typically built in a similar style to the schools in close proximity (see Fig 2).

The classrooms were largely uninspiring for learning with little evidence of posters, visual stimuli or pupils' work. There was one notable exception where the headteacher spoke well about his 'talking walls'. This is an obvious opportunity for sharing good practice.

Buildings had tin roofs (see Fig 3) and one school in particular reported that they did not have the funds to repair damage caused during a storm some months prior to the visit (see Fig 4). Even bearing this in mind, and without going into any costings, my impression was that it would not take too much investment and direction to make a significant improvement in the learning environment.



Figure 1: Single storey building with two classrooms and an office



Figure 2 School building with teachers house on the extreme right



Figure 3 Tin roof and improvised school bell.



Figure 4 Damage to a classroom roof

Resources in schools

It was obvious that schools lacked the resources that would be regarded as normal in Western countries. However, with only one exception, the basic equipment of pens, pencils and paper were available. Text books, reading books and teacher's resource material were very limited and what there was appeared to be old. Larger scale resources such as Science laboratories, sports facilities and musical equipment were basic to say the least. This will have a direct effect on the quality of the learning as practical concepts which are best taught through activities are being learned by writing and copying from blackboards.

Teachers Pay and conditions

The arrangements by which teachers are paid was raised at most schools as an issue to be addressed. What was raised was not so much the level of pay but the method of payment. Teachers are paid in cash and must attend in person to collect it at the bank in Mwinilunga, the nearest administrative centre. This is a three hour drive on dirt track roads even in good weather. As there was virtually no access to vehicles, teachers reported that they were away from school for typically three days each month to get there and back.

The pay was reported as reliable, however the bank does not always have cash available and so on these occasions, the teacher has to return without. Some teachers reported that they slept by the road on the return journey so as not to incur additional expense which raises personal safety issues particularly on the return journey when the teacher is carrying a month's salary. While the teacher was away missing three days with his/her class (approximately 10% of the month) standard practice was that in the Basic schools (roughly Primary level) another teacher doubled up to take 90 children instead of the usual 45 and at secondary level students were left with work to complete on their own. All teachers questioned found this a source of frustration and were concerned about the amount of teaching time lost.

During the visit it was reported that Ikalenge, the largest centre in the area, was thought to be in line for 'Boma' status which will mean that it would be an administrative centre. If this were to happen then as far as the schools are concerned a bank would be the first priority. This would have an immediate impact in increasing the teaching by over 10%.

It was noted in one school staffroom that there were posters advertising commercial, short-term loans to teachers. It was outside my remit to get data on how much this is used but there may be mileage in some form of Credit Union which would give some measure of financial stability to the area. This development is outside my area of expertise, however I can see that the present situation is having a direct effect on the teaching and learning in the classrooms.

Electricity in Schools

All but one of the schools visited was in the area covered by the planned expansion of the power lines. This brings opportunities for improvements in learning in a number of ways:

Electric lights: There are proven benefits to learning when the lighting level is right, in particular the use of daylight bulbs. ([http://www.lightingassociates.org/i/u/2127806/f/tech_sheets/Illuminating the Classroom Environment.pdf](http://www.lightingassociates.org/i/u/2127806/f/tech_sheets/Illuminating_the_Classroom_Environment.pdf)) This will also allow learning to take place in the evening when it is dark. It is not lost on anyone who has visited the area as to the depth of the darkness at night and the power of switching on a light.

Audio visual resources: TV, radio, DVD are all ways in which expertise is available which may not be available within school and provide stimulating ways to vary the teaching methods in classes, engage students and share good practice with colleagues.

Overhead projectors: either using acetates with pens or attached to a computer, they provide a cost effective alternative to a blackboard and allow the teacher to face the class rather than have his/her back to them. They also generate less dust.

ICT: Computers are usually thought of as the must-have item in classrooms (and indeed many homes) and in the rush to get computers into schools there are a number of very obvious traps which become apparent soon after any major investment. The prospect of computers, especially in a situation where there are none at present, can lead to excitement in an initial rush to grasp any equipment at any cost. The belief that ICT facilities will 'revolutionize classroom practice' and provide 'endless opportunities' can only happen with local advice, pilot studies, starting small, embedding sound practice and having a clear strategic implementation plan. This may involve declining initiatives which do not fit in with the strategy and avoiding deviations to 'grab' something in the short-term which deflects from the clear strategy.

The usual first step is to set up a computer room with as many computers as practical (5 to 10 new computers would be a start).

This will give an initial impetus to students and some teachers. Basic considerations include enough sockets and power to cope. Printers are a necessity although what appears to be a cheap printer will usually cost more in toner and will not be the cost-effective it was thought to be. As and when internet access is available there is the basis here for an internet café style initiative which will further engage students and increase the use in the community. This will enhance the role of the school at the heart of the community and give education a higher profile.

Funding of initial equipment and then consumables (including electricity) cannot be left as the responsibility of individual schools and therefore an area-wide or regional initiative is required. Providing connections and electricity at reduced cost may be regarded as a way to support schools and communities in this initiative as well as providing further impetus to the expansion of electrification.

The real question which will quickly come into focus in schools after the initial burst of activity will be, **'How does ICT impact on the day-to-day learning experience of students?'**

At this point the real work can start and the first stage will be to have a computer on every teachers desk (as far as practical) preferably with a projector on to a clear wall. The learning gains from such a seemingly small investment are well documented (<http://schools.becta.org.uk/>) and will stimulate greater rigour and creativity in lesson delivery.

In practical terms this means lessons are created in, for example, Powerpoint with objectives, examples, graphics, photographs, moving image clips, sound, lists of questions. The advantages of this include,

- the rapid display of material without the teacher having to write everything on a board,
- the lesson can be used again or modified without having to start from scratch,
- lesson planning by teams of teachers from within a school or across schools and shared electronically,
- school management systems for record keeping, registers, assessment, reporting and tracking student progress,
- production of high quality resources, posters and wall displays.

The use of the Internet is a very high profile educational tool but it too comes with limitations and dangers. From the start, the e-safety of adults and children alike is paramount. The use of anti-virus procedures, firewalls to limit access to undesirable sites and secure passwords are all well established where ICT has been available for a number of years.

It cannot be stressed enough that clear protocols need to be put in place through the hardware and software as well as through a programme of teaching about the use of the internet. Advice on this can be found from a variety of sources. One example is *schools.becta.org.uk*.

There are many other learning resources which are dependent on electricity. The above gives a flavour of those which have the potential to make the biggest impact.

Support through short-term visits

There is no doubt that the area around the Zengamina Project is remote. However it was noted by my travelling companions that the 1000km journey from Lusaka to Kalene had considerably more sealed road than on their previous journey the year before. The sealed road took us just past Mwinilunga leaving 80km on unsealed roads. The whole journey is regarded as taking 2 days however it is not beyond the possibility that as and when the last 80 km is sealed, the trip is just achievable in one long day.

With overnight flights from London this means that it may be possible to leave the UK and be in the area by the end of the following day. This opens up the possibility of short-term work of the type that I undertook whereby a trip of say 7 to 10 days to undertake a specific piece of work/training or initiative becomes viable.

This could take the form of support for specific projects following electrification, for example, training on specific pieces of software, training on how to use ICT in lesson planning, support in the use of ICT in recording, reporting and assessing student progress as well as how to use ICT to impact directly on learning.

Examples of this is would be in the teaching of English and Mathematics. The evidence was that the first year of school is taught in Lunda, the local language, with a 5 week course in English. After this all teaching is in English. There are numerous websites which support language learning, reading and spelling and well as numeracy

For an example of how an English school uses web-based resources for literacy, visit <http://www.woodlea.durham.sch.uk> and follow the link through 'Spelling'. Another is at www.tutpup.com.

In addition, once electrical equipment is available then short training visits on creative approaches to Art, pottery, music can be possible.

As well as short, specific visits, the setting up of vocational courses would be an attractive proposition for a longer-term assignment. An excellent model for this was seen at Nyangombi where engineering, ICT and enterprise projects were run by local people with background support and infrastructure. By teaching skills and entrepreneurship through initiatives such as Technology Days and Enterprise Days to students and linking with businesses created by the expansion of electrification, then within 5 years a critical mass can be developed in the area.

Conclusions

From a limited evidence base, I have tried to present a picture of what I experienced in a short visit to the area. I am left with an impression of an area about to change. Some of these changes can be managed and will be for the general good. Some of these changes will be inevitable and will have negative consequences. Strong leadership to create the safety nets and integrity while at the same time releasing the potential in the young people to mould a preferred future will be a key driver for successful change.

I saw evidence of such leadership in some of the schools visited. There was a clear vision articulated with support for this evident in teachers. There was in one school in particular a very strong message that what they were doing and achieving was having an impact on no less than national regeneration.

The students who are 11 now will experience a different type of educational experience if electricity is used to its potential. In 10 years time these students will have grown up with constant change. They will be in the workforce, running businesses, teaching, studying. The challenge for schools now is to equip them with the attitudes, skills and determination to face a future which they will build themselves. I have seen signs for an optimistic approach to supporting local schools and teachers and I would encourage those with influence to support the development of education. My hope is that this report contains some ideas and directions for that support.