

PONT-ATEB Sub Group

Appropriate Technology, Engineering & Business development



Summary Report on the visit to Mbale, November 2011

Sub Group members on the visit:

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Summary

The main aims of the visit were:

- Mechanical Engineering Workshop project:
 - ✓ Manufacture a prototype stretcher with a single wheel
 - ✓ Commission the Surface Grinder
 - ✓ Establish a monthly reporting process
 - ✓ Provide additional training in the use of the laptop
 - ✓ Discuss the business plan for 2012

These aims were achieved, with the single wheeled stretcher being particularly successful.

The full visit team principally included members of the medical sub-groups. This included an electrician who worked exclusively at the hospital, and reported directly to the hospital team.

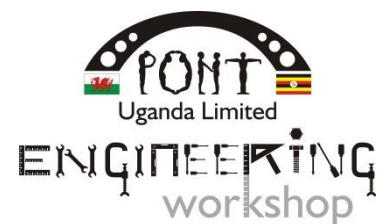
In addition to the planned work, some mechanical repairs/modifications were done at the hospital.

The visit was hampered by problems with internet connectivity at both the hotel accommodation and the workshop. Also the road to the workshop had deteriorated substantially, significantly increasing travelling times.

Detailed Report

I. Mechanical Engineering Workshop IGA Project

This project is to set up a mechanical engineering workshop IGA (Income Generating Activity). It will utilise redundant machines provided and shipped to Mbale by Cogent Power Ltd (part of Tata). The machines are owned by Mbale-PONT. A separate company (PONT Uganda Ltd.) has been set up to operate the facility utilising the machines. This will provide vocational training as well as operate as a business. Profits will augment the funds available to Mbale-PONT for poverty alleviation projects.



I.1. Health and Safety

'Red stripe' industry safety reports are collated in the UK between visits. The latest set of these were discussed with the workshop and points of relevance to the workshop identified. In particular the report relating to a dangerous failure of a similar type of lathe was highlighted. A routine of regular checks on the machine breathers will be implemented to minimise the risk.

I.2. Single Wheeled Stretcher

The medical IERS (Integrated Emergency Response Service) requires stretchers to bring patients from outlying villages to locations accessible by the bicycle and motorbike ambulances. Ateb formulated an idea to manufacture stretchers with a single wheel to not only meet this need, but also to improve on it. A project was set up with the University of Glamorgan for a final year Mechanical Engineering student to generate the design.



The student came on the visit, and supervised and advised the workshop staff in the production of the prototype. The prototype was successfully built, and the paramedics on the visiting team assessed it, and were satisfied with the design.

The prototype was also demonstrated to the health workers (who received their final week of training) after their graduation ceremony.

1.3. Business/Admin

- 1.3.1.** The recently set up ERF (Employee Retainer Fund) and materials loan schemes were discussed to ensure that the principles behind them, and methods of administering them were understood. The monthly report required for the ERF would provide the necessary regular updates on the business. Improvements to the content of this were discussed.
- 1.3.2.** A consultant had prepared a business plan for the workshop. This was discussed. It was felt that this would require adapting to suit reality. To implement it as presented would require significant funding and it was felt that it was very unlikely that such funding could be obtained via the PONT charity in the UK. If the workshop were sufficiently confident in the plan then potentially they could find a loan from within Uganda. The ERF and material loan scheme go some way towards meeting some of the needs, hence a scaled down version of the plan could be implemented.
- 1.3.3.** Meetings were held with various companies/institutions on the potential links/orders.
- 1.3.4.** Time was spent providing further IT training of the workshop administrator in the use of the laptop. In particular, the newly set up intranet site was demonstrated. Once this is fully configured it will provide a common place to hold business documents and live data to provide visibility between those in Mbale and the UK.
- 1.3.5.** A software package was installed on the workshop laptop to enable it to be 'remote controlled' from the UK, together with a two-way audio link. A video link is also possible, though this is presently only one-way as the workshop laptop does not have a webcam. This was demonstrated to the workshop, and training was given in its use. However this was via a direct connection between the laptops. The internet link at the workshop is of a low speed, hence it is not certain if it will be prove to be practical to use. If it does prove useable then it will be possible to continue the IT training remotely after the visit, and also hold interactive verbal discussions, and possibly even video conferencing.

1.4. Infrastructure

1.4.1. Machines

1.4.1.1. Jones & Shipam Surface Grinder

When the grinder was shipped at the start of the project it was not possible to send a magnetic chuck with it, thus severely limiting its potential use. Additionally, shortly after installation the main drive belt snapped.

Donors in the UK generously provided a suitable magnetic chuck, and a replacement belt. These were successfully fitted during the visit and the machine tested. The workshop will now obtain the required coolant (readily available in Kampala) to enable the machine to be used.

1.4.1.2. Band Saw

The band saw was checked over. It was noted that whilst the saw was still working OK, one of the 3 belts was worn and thus likely to fail. The part numbers of all the belts were noted in order to source possible replacements.

1.4.1.3. Radial Arm Drill

The radial arm drill will not operate in reverse. This is not significantly impairing its use. The fault will be further investigated and potentially repaired on a future visit.

1.4.2. General

1.4.2.1. Generator

The generator was checked out. This started first time and functioned well, enabling work on the prototype stretcher ambulance to continue during a power failure. It was reported that the battery had become discharged recently after a period of non-use. The mains trickle charging circuit was checked and found to have failed. Replacement parts would be brought on a future visit. In the meantime the generator is to be run for 5-10 minutes every fortnight to ensure the battery remains charged ready for use if the mains supply fails at a critical time.

1.4.2.2. Workshop Sign

Following the acquisition of Corus by Tata, the Corus logo was replaced with the Tata logo on the list of donors on both sides of the sign.

1.4.2.3. Internet

Internet connectivity was very unreliable during the visit, which hampered the IT training. Connectivity was even worse at the hotel (it only worked on 2 evenings), whereas on previous visits it had been reliable. It was suspected that the problem was a general fault with the provider, rather than anything specific to the workshop. The PONT office at First Baptist uses a different ISP. It may be beneficial to change to this.

1.4.2.4. Road

The road from Mbale to the workshop (the main Mbale Torro road) was in extremely poor condition, with only a few very short stretches being in sound condition. This more than doubled the travelling time between town and the workshop. This is the most major highway in the area, being part of the route from Mombassa in Kenya, across East Africa, to the Democratic Republic of Congo. It is understood that work has started on upgrading this to 4 lanes (2 each way) of dual carriageway. The timescale for this was unclear.

2. Mooni Water Project

A meeting was held with Mbale Rotary Club to discuss the on-going project. They will locate the post stage 1 water testing results and forward a copy to the UK. They were happy to proceed to stage 2 when funds allow.

3. Hospital

3.1. An electrician worked exclusively at the hospital as part of the hospital team, and reported directly to that team. Many electrical faults were repaired and unsafe installations made safe.

3.2. Some mechanical repairs were made to theatre operating tables. This mainly consisted of freeing up seized shafts and movements. The PONT Uganda workshop will be asked to quote to repair a broken linkage.

3.3. The PONT Uganda workshop adapted an existing equipment table to make it mobile within the obstetrics theatre by attaching castors to the legs.