

Water Services: Pressure Irrigation Demo in Magunguli, Tanzania 18th October 2012

Launch a rural company that plans, builds and operates pressure irrigation systems and sells water to producers.

Summary on Meeting at RAPP

At a meeting with RAPP on 18th October present were: Bernhard Berger (CEO RAPP), Simon Haag and Johannes Kienzle (both engineers of RAPP) and Ueli Scheuermeier (RAVI) where they agreed on the objectives of the venture. They also agreed that the next thing that RAPP will finance is a trip by their two engineers to Magunguli which shall achieve this:

1. Irrigation system (primary objective)

- make a general technical feasibility assessment for pressure irrigation in Magunguli plain
- install a small demonstration of all the elements of a pressure system, ie. intake, tank, pressure pipe, water clock, field distribution and sprinklers.

2. Drinking water system (secondary objective)

Make a first survey for the drinking water supply of Magunguli.

The result of this shall be that a detailed survey can then be made by local engineers and construction companies for planning and implementing the system.

1. Some long-term considerations

A. The result of the demonstration shall be

- to create the demand in the villages in the area for pressure irrigation and then
- to build a business plan for a rural company whose business it will be to plan, build and operate pressure systems and sell water to producers.

The demonstration itself is just a small first pilot, but the result of RAPPs input shall show the technical feasibility of a larger, commercially viable operation.

B. With a later company in mind, already now suitable personnel shall be involved, if possible. This means finding young hydraulic engineers who will be capable to specialize on pressure irrigation, and who may want to build their company. Also we should find rural youths in the villages who may want to learn to operate as village irrigation fundis who sell equipment to farmers and coach farmers how to use it profitably. Of each type we should find at least one person who will take part in the survey by the RAPP engineers, and who will then implement the demonstration when the RAPP engineers have left.

C. The District authorities have to be involved even more than with the trading center because here is an issue with using water. That is a public issue. However, the idea is to build a commercially viable system that can continue to walk on its own feet, not to pay District engineers to build and then leave it. But they can help.

2. Budget

It is the same budget as last year, ie. about 27'000 USD. After deduction of the full costs of the engineers and all expenses of their trip, we expect 5000-6000 USD to be available for installing the small demonstration.

3. Activities

- Bahat/RAVI will do the preparations (see below)
- The RAPP engineers will visit Magunguli for about 4-5 days and do their survey
- The RAPP engineers will also provide detailed plans for the demonstration
- Local staff will install the demo system.
- The RAPP engineers will also assess the equipment that can be purchased in Tanzania, the demo shall work with what is available in Tanzania

- The RAPP engineers will write a report and provide sketches for a larger irrigation project in Magunguli (for submitting to investors).

4. Schedules

It is estimated that the RAPP engineers will come to Magunguli around March 2013. They should be there during the dry season so that surveying becomes easier. The best time is still to be decided. Also, preparations must be made before the arrival of the RAPP engineers, see below

Their trip is now expected to be as follows

Day 1: Flight Switzerland to Daressalaam, pick up by Bahat there. Bahat will be with them throughout their stay until they depart again from Mafinga.

Day 2: Visit companies in Dar that trade in required equipment for the demo. Inspect the available equipment

Day 3: Trip from Dar to Magunguli, ie. flight to Iringa, then on to Mafinga, maybe meet at District and pick up local engineer, then on to Magunguli

Day 4-7: Surveys in Magunguli

Day 8: Back to Mafinga, follow-up with any District people there, if needed

Day 9: Mafinga to Dar

Day 10: Maybe follow-up in Dar concerning the materials, maybe together with local engineer, evening flight to Switz

(1-2 days should be added in here as reserve)

5. Preparations

Prepare maps

Bahat must search for the best available maps of the area and forward them to RAPP. Probably they are available at the District. What we need is a topographical map of Magunguli from the top of the escarpment all the way down to the Ruaha river. Also aerial photos are good, if they exist. If no detailed maps are available Bahat needs to find somebody who can make a rough survey of the terrain area that interests us.

Find local engineers

Bahat must find and recruit one or two young engineers from the Mufindi area who have finished their studies and who may want to build a company that specializes on pressure irrigation. They must be guys who stay in Mufindi or plan to settle there. These guys will then implement the demo. If it is successful we plan to build that pressure irrigation company with them.

We can only pay their expenses for the duration of the trip because they will be learning a lot from the RAPP engineers. But for building the demo, we plan to pay them a small fee.

These engineers (at least one) should be available for accompanying the RAPP engineers throughout the survey in Magunguli and later also go and get the equipment for the demo. Then they install the demo together with the irrigation fundis (youths).

Find rural youths

Bahat must find at least one rural youth in Magunguli who wants to learn to become a village irrigation fundi. Preferably this is a farmer himself or herself who has a direct interest in the irrigation and may also be benefitting from the demo system. S/he too will get a small fee to build the demo. If the demo is successful we plan to build the irrigation fundi business together with these guys. So: There is one company that builds the pressurized system and sells the water from the water-clocks, and there are many small village level irrigation fundis who sell and distribute and maintain the irrigation equipment that farmers need from the water-clock to their plants. Somehow these two companies may be connected or combined, but that is for later to figure out once the demo works.

Find shops with the required equipment

Bahat needs to find shops in Daressalaam or Iringa that sell required equipment, ie. large polythene tanks, polythene pipes, pipes for large pressure, water-clocks, tubes, sprinklers, etc.

On the first day the RAPP engineers will visit these stores and inspect the equipment in order to then assess the design of the demo.

Inform the District

Bahat must inform the District of what we are doing here. It is just a first small pilot to check if it works. If it works, then larger systems will come, but for that of course the District will be informed about when the plans come up. We are aiming for a private commercial venture, it is not a District-funded development project. But we want to keep the District fully informed of what we are doing and get any advice we can get from the District. The District engineer is of course invited to come along on the survey if he is interested, but we don't have funds to pay him out of our own pockets. Probably it is more important for the District engineer to be involved in the drinking water system?

Photos

We need to make technical photographs of the area so that it becomes clear what is where.

6. Next steps

1. Bahat will decide soon when is the best time for the visit by RAPP engineers and inform RAPP
2. Bahat and Ueli will work on the above-mentioned preparations and constantly provide information to RAPP as soon as we find it.
3. The next planning meeting in RAPP is scheduled for January 8th 2013