

MEMO TO SASOL, EXCHANGE AND HEIJMANS LESSONS FROM THE MAITO PILOT

INTRODUCTION

On 18/04/08, Henk, Mutinda, Onesmus, Matthew, Kamama, Muendo Fred, Ann and Mutiso, visited Maito. Maito project is important as a stand-alone. It is also important as a pilot for our joint approach on community facilities. The purpose of the visit was, among others, to draw lessons about planning and executing similar projects in the future. The team walked about the project, got update on the work and then met for about three hours to discuss a planning approach to future community projects like Maito as well as identifying lacunae on construction materials, layouts, techniques and technologies and adaptation to local culture and environment.

In my view the Maito Pilot ought to lead all parties involved, SASOL, EXCHANGE and HEIJMANS, to evaluate a few things. I hasten to note that the following comments are not intended as criticism of how we did the project. They are targeted at improving our procedures and technologies so as to deliver better products. They go further than the visit to cover some issues, which have come up in the two trainings of the Maito community, which I took part in.

PRE-PLANNING

One of the issues, which have become clear out of the Pilot, is that SASOL needs to be involved at the earliest point when communities propose a facility. The reason is simply that communities will choose sites, which can be problematic.

Specifically on the Maito site, discussion with the community about: 1. Location of the building, 2. Relationship with potential water source (sand dam), 3. Size of land for planned activities (including augmenting planned water storage structures) 4. Large vehicle access, given planned activities 5. Potential ground water contamination by wastewater and washing water from the building, could have led to better outcomes.

The building could have been moved westwards or northwards to firmer ground. In spite of the planned water structures, SASOL's experience with the schools water tanks, should have suggested that harvesting to tanks never really produces "enough" water for communities draw on the water whatever the planned use. It should further have noted the nearby stream, which could have a sand dam as a back up option. Since the community was buying land from a farmer whose land is traversed by the stream, there could have been a tradeoff between the farmer and the Maito project community (of which he is a member) who could have bought extra and firmer land by assuring the farmer water from a sand dam on his land or land shared with Maito. Since SASOL has funding for dams in the area, such approach would not have meant more money from EXCHANGE or HEIJMANS. Access to Maito will be problematic for large vehicles. It is assumed that they will come to pick grain or to deliver stores. Again a solution could have been identified. This could have been a sand dam raising the level of the access road whilst providing water for the facility and /or the farmer selling land to the facility.

In summary then, in pre-planning future community facilities, SASOL should:

1. Discuss in detail with communities the sites to be acquired even before facility plans are made. In other words, use the same pre-planning technical approach we use in the sand dams.
2. The Maito committee does not reflect what SASOL expects out of the less complex sand dam committees ie gender balance and age balance. This is a committee of 13, 50% gender balance and members in the 20,30,40,50 and above, age categories. This should be mandatory in all community facility committees. It balances literacy and experience.
3. Over and above this, there should be professionals among the members. In the committee, there should be people who understand accounts/finance and marketing and other disciplines related to the projects core activity. These three broad issues should be settled as conditionality to the planning of a community facility.

PLANNING

In the detailed planning of facilities, a key consideration should be minimizing of cost for we work in communities where resources are scarce. Cost should subsume material and labour. Further siting, construction techniques and layout of facilities should innovate whilst taking into account cultural and environmental considerations. Maito design was innovative in layout – especially roofing to create an air well. It was also innovative in using soil/cement bricks.

1. Maito failed in siting for the environs have better sites as discussed above.
2. We were told that the equipment used in testing foundations did not work. What are there alternatives? Does the Kenya typical construction, which puts rubble stone and a membrane of cement after the foundation, make sense in reducing the built foundation cost?
3. Maito failed by designing for an expensive 6-inch concrete floor. Natural stone slabs could have been a cheaper alternative. The argument on standards does not wash for such slabs are found in all sorts of buildings even in Nairobi. Further, the Kitui granites are harder than cement. They are cheaper, depending on sites.
4. Maito failed in recommending the usual louver windows, which offer little security and call for steel reinforcement, not to speak of the perennial problems with broken glass. Further, if they break, the aluminum windows have to be cut from the masonry for repairs. A design, which addresses the security and repair concerns, whilst generating more light, was circulated. The densities of the windows depend on the uses of particular rooms.
5. Maito failed in the layout of the public hall. It is doubtful that it can comfortably accommodate 100 people in the hottest seasons.
6. Maito committee leadership failed in assuring availability of construction labour since the promised 120 participants turned out to be 43 and daily construction attendance has been 10 or so. The community said there were 120 project members. No records were demanded by SASOL and shown on this. No recruitment of the said 120 people was undertaken BEFORE construction started. I am aware that there are efforts to increase membership so that those who are not physically there can finance extra labour for construction.

In the future SASOL should become more active in checking the numbers of participants available for construction and whether absentee community members can pay for extra labour, through their financial contributions in lieu of labour. Absentee members have contributed this way in dam construction.

In short SASOL should assure that there is adequate leadership of the community groups desiring a public facility. Such assurance would be shown by evidence of formal meetings to make decisions by the committee, minutes of such meetings and minutes of project committee's briefing of members on decisions made. SASOL field staff should attend key meetings to assure quality of these outcomes.

We need investigations on the costs and technical suitability of the following:

1. Use of locally available stones for walls and floors in contradistinction with stabilized soil and cement bricks and paving stones for floors.
2. Use of membrane walls (thin wire mesh with cement plaster) or Vero cement for walling with the roof carried by columns (burned brick, stabilized soil cement bricks, stone rubble or steel pipes etc).
3. Construction of either round or square separate rooms with space between them for meetings. A rough drawing was generated but we need some expert design discussion. Such construction allows for very large, flexible and cheap spaces for general meetings since sidewalls are not needed. The separate units can be roofed or sealed with wire mesh membrane. Such layouts form part and parcel of tropical design to maximize airflow. The overall structure can be roofed conventionally by using galvanized iron sheets, transparent plastic sheets, plastic sprayed grass or canvas or by the new roofing materials which cut ultra violet rays whilst allowing light through (typically used for roofing parking lots).

IMPLEMENTATION

Maito implementation has been a problematic for a variety of reasons. The main constraint has been the poor leadership by the project committee. The expected second group of Dutch students did not come for security reasons. SASOL had to increase the number of masons. SASOL also had to increase the amount of time spent on supervision and organizing. There also has been seasonal variation in labour from the community. However SASOL field staff argue that there has been improvement in project implementation after the second training. This raises an important question. **SHOULD THE SASOL TRAINING TAKE PLACE BEFORE THE ONSET OF IMPLEMENTATION?**

The primary lesson out of the Maito Pilot implementation is that pre-planning and planning phases should ensure proper leadership of the project. The first secondary lesson is that construction, which relies on community labour, should be scheduled for JUNE TO SEPTEMBER. This is the classic slack season in the Kitui community seasonal calendar. The second secondary lesson is that design should be modular. Implementation can therefore be modular. If construction is longer than the slack calendar period, it can be moved to the next year.