

Case studies and project evaluation

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- An account of four garden groups: their use, management systems and successes and failures

Case studies

A study of the success and failure of the systems used and the way users interact with both the technology and with themselves can provide learning examples for others and help to pin point any shortcomings in development or establishment methodologies. A review of the strategies and activities of community groups will help to identify what to look out for and points to note that can be passed on to others.

Background and common principles

The purpose and origins, the organizational structure and management system of the three groups is quite similar. However the achievements of the three groups differ considerably. Each group was supported by the Dabane Trust in Zimbabwe to make a start, each has a similar number of participants, a similar size garden and the same water abstraction system. Each is a ring fenced garden of a half to three quarters of a hectare in size with water drawn from a sand river by a dual handpump, Rower and Joma pump system. Water is initially drawn into a sump on the river bank by a Rower pump and from there again pumped by hand to a water storage tank in a garden from where it gravitates to some 9 dipping wells from which it can be quickly and easy applied to the nearby beds.

Each group has the same infrastructure and has received the same capacity building, record keeping and practical training. Each garden belongs to the

group who worked together to make and erect the fence, to make bricks and then to work together with Dabane Trust staff to install the well-points and pumps, to build the pump headworks and the water storage tanks. The group members allocate land around each dipping well so that everyone has a similar distance to convey water. They work together in smaller teams to draw water and to keep the pumps operational. The beds however are individually managed and the income derived is the property of each member.

The three accounts have primarily been compiled from interviews with members of the group. Dialogue has been backed up with observation and analysis of reports that were made during the time the groups were being supported. The questions asked of each group were:

- What is the name of the group and where is it sited?
- When did the group form?
- Why did the group form?
- How did the group form?
- What is the number in the group?
- What is the management system used by the group?
- Which crops are grown and what is the production method?
- How is the crop and the income from the crop used?
- What were the problems faced and dealt with?
- What were the goals and expectations of the group?

The interviews were conducted with members of the three groups in July and August 2006 by food production and training programme unit leader Thelma Ntini of the Dabane Trust.

1. Toloki garden

The group has developed a high level of production in a well established fully independent garden where they grow 2 to 3 crops in a year. They particularly concentrate on brassica for which there is a very good local market from regular 'garden-gate' sales that can be supplemented with sales to a nearby hospital, a business centre and local schools. Group members also have dry-land arable fields but manage to keep the garden cropped throughout the year by growing in-season crops and a number of perennial crops.

The Toloki group has a garden near Tshelanyemba business centre, Ward 7 (Malaba), Matobo District, Matabeleland South. The group draws water

Photograph 10.1. Toloki garden

from the Shashane River a sand river more than 150 metres wide but only 1 to 2 metres deep due to underlying rock. There is however a permanent supply of water that the group uses throughout the year as required. The group is comprised of 10 women who came together in 1992 and have managed the garden ever since.

Crops grown are numerous. The group has been growing perennial kale for many years and much of the 1 hectare garden is cropped to this with some plants more than 2 metres high. The garden is also cropped with other brassica; thousand head kale, rape and choumollier but also onions, carrots and occasionally peas and beetroot. The group members have been selecting onion seed since the garden began and now grow onions almost as large as footballs! Tomatoes however do not do well as there has been a significant build up of red spider mite.

As the dry season progresses and the weather becomes too hot for vegetables the group generally has much of the garden planted to green mealies for which there is a ready local market. The crop is finished by Christmas by which time the group has planted sugar beans and pumpkins that only require a minimum of attention during the rains with some supplementary irrigation in poor rainfall years. The gardeners also grow chillies and have sugar cane and fruit trees such as paw paw, citrus and a small but heat tolerant apple.

When asked about their group and activities the members provided the following:

Our membership stands at 10. We are an all women's group. We started in 1992. Our garden draws water from the Shashane.

One of the founder members left the area in 1999 to live in Bulawayo. Her place was taken over by another lady from the same village.

Our aim is to grow vegetables for family consumption and to sell the surplus to our neighbours. We grow different kinds of vegetables such as rape, choumollier, cabbage, spinach, tomatoes and onions. The onions that we grow we use the seed that we produce ourselves and we have been using this seed since 1993. We also grow maize in summer and each member owns two fruit trees. These range from oranges, pawpaws, lemons, peaches, guavas to uxakuxaku and umnyi.

We have been trained in basic gardening skills and food preservation. We have never had the opportunity to dry the vegetables because all the vegetables are sold fresh.

We have a constitution that we try to follow but we have relaxed some of the bye-laws that we set. We no longer buy seed as a group, each individual sources their own seed but we do agree on which crops to grow where. With the income from the garden some of us have bought goats, sheep, chickens, wheelbarrows, hoes, pots, dishes and food during drought years. Some have been able to pay school fees for their children who are at school. We have not started any project from the proceeds from the vegetables as a group but one of the members managed to acquire a grinding mill, part of the money was income from the garden.

Photograph 10.1 shows the perennial nature of Toloki garden with fruit trees, perennial kale and chillies. The picture also shows selected onions left for seed. In the background is the Shashane sand river.

2. Sizanani garden

The gardeners are a group, in their own words, committed to improving the food security status of their families. They operate the irrigated garden in conjunction with dry-land crop farming; using the garden as and when they wish. In seasons when dry-land crops have failed there is a very high level of production, but there is little or no use made of the garden when there has been better rainfall and the members have secured a reasonable dry-land harvest.

The Sizanani group operates a garden in Silonkwe village, administrative ward 12 (Sontala), Matobo District, Matabeleland South. It is a food security group that manages a small-scale irrigated garden during the dry-

Photograph 10.2. Sizanani garden

season winter months, integrated with rain fed dry-land arable farming in the summer. They use the garden as and when they wish, producing a large quantity of crops when dry-land crops fail and make little or no use of the garden when there is a reasonable dry-land harvest. The garden is a ring-fenced enclosure of half a hectare that is watered by handpumps that draw water from the Sansukwe sand river through a collector well.

The garden group formed in 1996 with the intention of providing additional and more nutritious food for their families and supplementing the staple food diet of the local community. A particular concern was to ensure an adequate supply of food all year round, particularly in the dry-season when fresh nutritious food was in short supply. A further reason was to generate a financial income.

The origin of the group was in a savings club that was formed to assist the members to purchase basic kitchen utensils. Through an interview on the radio the group learned of the Dabane Trust programmes and decided to approach the organization for assistance to start a group garden. Each savings club member already had a traditional garden but invariably the brushwood fencing did not prevent cattle and goats from breaking into garden and destroying the vegetables.

The group is comprised of 14 members, 13 women and 1 man. The number has been 14 throughout but was initially 12 women and 2 men. When one of the men grew old and could no longer manage the work he ceded

his vegetable beds to his daughter-in-law so that they would remain with his family.

The group has a dual system of management of the garden, they work together when there is a common need on such things as maintaining the fence and repairing the pump. Teams of 5 work together on pumping duty to fill the water storage tank and to water their vegetable beds. The beds are individually managed with production and sales accruing to the individual member. Typically family members assist the group by digging through, cultivating and watering beds.

Vegetables grown are chomollier and rape, carrots, onions and tomatoes as well as maize and beans. The crops grown depend on the season and customer demand. Much of each crop is consumed by the members' family and the rest is sold to neighbours. The gardeners are able to establish a very good trade in tomatoes and their kale production is legendary, green and succulent, it is so successful in fact that they are able to sell 'futures'. In order to secure a supply of kale, vendors often make payment on a crop as soon as it is established after transplanting.

Income is typically used to pay schools fees, to meet regular monthly expenditure and general family needs. Some members have purchased items such as wheelbarrows, blankets, three-legged cooking pots, blankets and household appliances.

Unfortunately the water source is not always reliable and is liable to dry up in drought years. The group reports that if this was not the case they would be able to grow crops year round, however the reality is that even in a good season the garden is not worked year round and at the onset of the rains the members always stop irrigated garden activities in favour of dryland crop farming.

The group states that they would like to "generate sufficient funds to purchase 2 heifers and start a 'pass-on-the-calf' scheme so that the 14 of us can own our very own cow". They also reported that they have hosted some groups who came for exchange visits. The chairlady said, "We hope visiting us has improved their cohesion and production. We are a united group and we plan the garden activities together. The meetings that we have had also improve our relationships as villagers". They also take pride in what they say was a wonderful commissioning of the garden which coincided with Dabane's 10 year celebration of involvement in rural development work in 2001.

Photograph 10.2 shows the high level of production that the gardeners of Sizanani garden are able to achieve.

3. Khulumsenza garden

The Khulumsenza garden group was a pioneer garden group in a traditional livestock area where sorghum and millet crops are more typical than maize and fresh vegetables were unknown. The garden draws its water from the Manzamnyama River which drains into the Makgadikagdi Pan in central Botswana where it is lost to evaporation. Although essentially a livestock area it is a depressed area with many men working in urban centres in Botswana or South Africa. Many of these migrants return home once a year at Christmas and only remit money home infrequently at other times. Consequently many women are left to manage the family and the home alone and unaided and find the provision of adequate nutritious food a particular problem.

The group has a garden in Ndutshwa village 1, ward 8 (Huwana). Bulilima District, Matabeleland South. The group was formed in 1995 so that the members could produce food for their families and meet a market opportunity as there was no regular supply of vegetables within some 80 kilometres of Ndutshwa and even that centre was dependent on a production and retail centre at a further 100 kilometres.

The headmaster of the local primary school had worked with Dabane Trust in the Gwanda area. When he was transferred to Huwana primary school he told the community there of the sand-abstraction work the Trust was developing. An invitation was sent to Dabane and as a result four garden groups were assisted along the river.

Photograph 10.3. Khulumsenza garden



The Khulumsenza group was initially comprised of 30 members, all women. However only 13 still remain, 8 from the original group with 5 members who joined more recently. The members who have been with the group since its inception are now aging, consequently they are dependent on younger members of their family to undertake any heavy physical work, which basically amounts to all work other than watering. The group adopted the approach of working together to manage the garden but each member cropped their own vegetable beds. The garden was cropped sporadically, some years it was well managed and other years not so well.

At its peak many types of vegetables were grown, perennial kale was a favourite as were tomatoes, which were particularly lucrative. Crops such as carrots, onions and beans were popular and the group also grew green peas which had never been seen in the area before. Crops such as choumollier, rape and green maize were grown regularly depending on the season and a lot of vegetables were sold. Quantities of livestock manure were applied to the beds and adequate mulching was carried out.

Each family received sufficient vegetables for relish and was able to supplement diets during seasons of inadequate rainfall by growing crops such as sugar beans and green mealies. In addition sufficient money was generated for school fees and the purchase of school books and uniforms. Several members of the group banded together and by pooling their income were able to pay medical fees and to establish a burial fund.

On the whole the group did work together well for several years. They overcame any operational problems together, at times a guard was employed to keep marauding monkeys out of the garden and to protect the water-point from elephants. Sufficient use was made of the garden, a pit latrine was constructed and the gardeners maintained the pumps and the water tanks adequately.

Overall it was a productive group, generally considered successful – until some members stopped filling the water tank after they had watered and the team coming the next day found an empty tank. The group was unable to resolve the problem, the situation worsened and the garden fell into disuse for two years. No maintenance was carried out, white ants destroyed the fence posts and the fence collapsed. Following a particularly poor rainy season some members restarted the garden, the pumps were brought into use and the garden was cropped again. However the group had been demoralized and were not prepared to work together. The fence was not repaired, even though the netting was still on the ground around

the garden. Consequently when the garden was in maximum production, with the fence down some rogue cattle walked in one night and decimated the garden .

Photograph 10.3 shows the crops that were grown in the Khulumsenza garden before the group experienced difficulties in their working relationships.

Comments from the group:

- Whilst we met as a group we used to relate to each other as villagers this enhanced our relationship
- We started grocery clubs and burial clubs because a number of the group members (five) have died due to HIV/AIDS related illnesses
- Spare parts are a problem. The pumps are not working well, they are worn out
- We are thinking of cutting down the size of the garden
- The fence is not strong, livestock break in and destroy the crops. The water dries up during droughts. Last year we did not grow any crops because it was a very bad year. We have decided that we are going to decrease the size of the garden so that we can strengthen the fence. The garden was meant for 30 people, it is just too big
- The main water storage tank is now leaking. We have not repaired the facilities. It was our fault, we left the tanks without water for a long time.

4. Legion Mine garden

This garden was also one of the early gardens established with the assistance of Dabane Trust. Unfortunately in spite of considerable effort on the part of Dabane Trust training staff it has not been possible to interview the group.

The garden started in 1993 and was extremely productive with one member in particular working exceptionally hard and very well organized. He produced volumes of vegetables with his family, beyond the needs of the local community. As a result he made a contract with a nearby mission hospital and used his donkey cart to transport vegetables there and to the local stores and business centre as well clinics and schools and the local police station in the area. Almost everyday he had a load of vegetables for sale that he was transporting up to 20 kilometres.

Unfortunately this person was not liked within the community or by the rest of the group who accused him of taking an unfair advantage. Squabbles broke out that no one could resolve. Before long the group broke up and since 1995 the garden has not been used.

Project evaluation and appraisal

No system or project can be considered complete without adequate monitoring and evaluation. It is important to consider the following criteria and to establish whether or not the final project can be considered successful. There are technical considerations to review and several socio-cultural issues, several of which can be related to the case study examples above. There is no right or wrong answer and no standard solution.

It is important to seek ways to ensure the sustainability of community water supplies and an important first step is to keep an open mind and to regularly analyse situations and information. The following are specific points that should be considered and the results will vary with each project evaluated:

- Has sand-abstraction worked – has a correct and effective water supply system been put in place
- Are the users in control of the scheme and generally satisfied with it
- Is the system sustainable – what has been the maintenance/repair and downtime
- Is the community getting the water that was initially assessed and is the scheme providing all the water for which it was planned and designed. Have there been significant losses of water at any point
- What have been the greatest obstacles for the community or group to deal with and overcome
- What use has the community made of the water – was this as planned
- What has been the eventual quality of the water after it has been abstracted
- How can the project management be assessed. Has the community worked together and made the best use of the water supply or has the project been beset with acrimony and consequently has been under utilized.