

## **2015-2021 ROTARY REPORT**

### **1.1 Introduction**

The Rotary Club facilitated the drilling of 2 solar boreholes in Matshabela and Mapani in Mabale, Hwange at a cost of USD35 678,50. The two boreholes alleviated water challenges in the area. This report shows the progression of the benefits accrued from the installation of the boreholes from 2015 to present (2021). It indicates the health and food security aspects that the community developed from the presence of viable and sustainable water sources

### **1.2 Background of Mapane and Matshabela Areas**

The Matshabela and Mapane areas are under Ward 17 of Hwange District of Matabeleland North Province of Zimbabwe. In particular, Dopota, which encompasses both Matshabela and Mapane is 60km from Hwange Town. Dopota is made up of 10 villages which have more than 200 households averaging 10 members per household. The area is under Headman Oliver Tshuma, who reports to Chief Nelukoba Dingani. Dopota has one primary school and one secondary school, Dopota primary and Nechilibi high school respectively. In 2015, under the Rotary Club, Sabona drilled two solar powered boreholes in Matshabela and Mapane to directly serve more than 1400 beneficiaries. At the time there were fewer households in the area because of unavailability of water but currently there are many households because of internal migrations and new households from the current villagers.

Prior to drilling the boreholes, the only borehole closest to the Matshabela community was the Dopota primary school borehole. The borehole catered for the more than 400 enrolled children, the more than 60 HIV/AIDS support group members who irrigated their garden premised in the school and the more than 400 livestock (Cattle, Goats and Donkeys) owned by the community. As such, the borehole was overwhelmed. Sometimes villagers would wake up as early as 3 am to start pumping the borehole in order to beat the long queues that would emerge at sunrise.

In 2015, Mapane did not have a borehole but relied on a deep well which occasionally dried up. The community was forced to walk to Dopota, more than 5kms away to ensure that they got

water. The school borehole in Dopota was the closest and this made the situation worse off for an already congested borehole.

The details of the drilled solar boreholes are as follows:

### **Mapane**

- Air-Drilled in 2015
- 60 metres deep (cased 60 m)
- Solar powered borehole (4 solar panels and 3x5000litre tanks on tank stands)
- Estimated yield: 3 secs per 20 litres (ca. 24,000 litres per hour)
- Caters for over 50 households and their domestic animals
- Nearest borehole: Dopota (6 kms away)

### **Matshabela (Dopota Main Road)**

- Air-drilled 28 October 2015
- 55 metres deep (cased 55 m)
- Solar powered borehole (3 solar panels and 3x5000 litre tanks on tank stands)
- Estimated yield: 2 secs per 20 litres (ca. 36,000 litres per hour)
- Caters for over 70 households and their domestic animals.
- Nearest borehole: Dopota Primary School & Dopota Community (both 3kms away from the furthest homestead)

The summary of the costs was as follows:

BOREHOLE PROJECT 2015/2016 FINAL REPORT  
 SABONA  
 Bekkestua Rotary

PHASE/ACTIVITY	BUDGET in USD	Actual payments in USD	Notes
PHASE 1- SURVEYING	\$738,00	\$738,00	
PHASE 2 -DRILLING	\$14 160,00	\$14 660,00	Increased due to yield report
PHASE 3- TANKS AND SOLAR SYSTEM INSTALATION	\$14 180,00	\$15 266,50	Increased due to extra tanks
PHASE 4- HOUSING & SECURITY	\$1 126,00	\$1 680,00	
TOTAL DIRECT PROJECT COST	\$30 204,00		
PROJECT MANAGEMENT	\$4 530,60	\$3 334,00	
<b>TOTAL PROJECT COST</b>	<b>\$34 734,60</b>	<b>\$35 678,50</b>	

### 1.3 Health benefits of the Boreholes

#### 1.3.1 Clean portable water

The drilling and solar installations of the two boreholes has greatly benefitted the community. Provision of clean portable water is always a key human need. The solar boreholes added to such provisions in Mabale by providing tapped clean water within a 2km radius of the community.

#### 1.3.2 Reduced Congestion

The two boreholes have greatly decreased the congestion on the existing boreholes. The direct effect of the two boreholes were that they reduced the effects of mixing domestic water for human consumption and livestock drinking. Two livestock drinking troughs were constructed at

the two sites, reducing the amount of work needed to pump water for cattle and for people. It was always a health concern for people and livestock to drink from the same source as diseases could have been transmitted easily.

### *1.3.3 Reduced physical strain*

While Sabona Trust did manage to construct a dam in the area to ease the livestock water problems, the two solar boreholes also took the load off the community, especially among those who were already living with HIV/AIDS as they did not need to physically strain their bodies further.

### *1.3.4 Management of COVID19*

In 2021, there are now 6 boreholes in the Mapane-Matshabela area (4 manual and 2 solar). The immense advantage of the solar borehole as noted under the COVID19 period is that physical contact between the community members is less when using solar boreholes than when using manual boreholes. It is easier to manage COVID 19 issues while using solar that it is in manual boreholes where people have to come into contact when pumping for water. Contact diseases are reduced.

### *1.3.5 Emancipation of Women from heavy chores*

The community in Mabale, like all other Zimbabwean communities has more women than men. More than 51% of the community are women. Most men are either employed in Hwange, Bulawayo or are working in neighbouring countries like Botswana and South Africa. Women are responsible for looking after the children, household chores, cultivation, managing livestock and all other economic activities. In Mabale, an average woman with a household of 6 individuals would spend 2 hours fetching water and more than 10 hours attending to other family needs. Taking into account that each household requires an average of 6x20litre containers of water per day, this meant that she would have to take many trips to the borehole. In Hwange temperatures

are +35Degrees Celcius in summer yet the women braved the scorching heat to fetch water. This certainly takes its toll on the body and health status of any individual

With such a background, unavailability of water meant a burdened load to already affected labour force. The availability of solar borehole meant less time spent at the borehole with no manual pumping. This allowed women to have more time on less strenuous home chores.

## **1.4 Food Security**

### *1.4.1 Nutritional Gardens*

More than 90 percent of the Zimbabwean rural community relies on rain fed crops. Likewise, the Mabale community also relies heavily on rain for crop production. In the absence of sufficient rains as in the 2015-19 period, the community struggled to have adequate harvests. Water sources contributed to food security in that the community could grow nutritional gardens close to them instead of buying vegetables from other areas. Diversification of food stuffs from garden produce added to their diet and nutrition. Availability of water enabled the community to improve their lives.

### *1.4.2 Preservation of Livestock*

Besides nutritional gardens, the community is now able to preserve their livestock much better. Prior to the solar boreholes and the dam in Dopota, the community would seek water sources in other areas like Mabale (5kms) and sometimes Siyanyanga (6kms) for their cattle. Sometimes the villagers would drive their livestock herds to Gwayi River 10kms away. Since Dopota is adjacent to the Hwange National Park, the danger was that the livestock would run into predators like lions and hyenas and the community lost out. On average 20 goats and 10 cattle are lost each year to wildlife. With water sources being close by, such hazards were minimised and the community food options increased.

## 1.4 Income Generating Projects



Mapane Solar Borehole and Garden

In 2015, the Matshabela and Mapane villagers created community gardens adjacent to the solar boreholes. The community began growing vegetables like tomatoes, chaumollier, cabbage, onions and carrots. While the produce was initially for domestic consumption, the ease of water access prompted the community to increase the garden sizes. Sabona assisted the communities with fencing material and water hoses. From 2017 to present, the communities have been growing a variety of vegetables for selling to the locals, lodges and to schools for their feeding programs. During school terms each garden supplies an average of 15 bunches of vegetables per



week to the Dopota and Lupote primary school food stations. The proceeds from the garden projects have been used to take care of household needs and to diversify into other projects like goat rearing. Currently, Mapane has 6 goats while Matshabela has 4 goats from the gardening proceeds, owing to availability of water.



Matshabela women delivering vegetables at Dopota primary school

Prior to the availability of boreholes close by, the locals were forced to either mould bricks closer to the boreholes or transport water to the brick moulding sites. Either way, the tasks were hard taking into account that the boreholes were serving too many people than they could sustain. Since the solar boreholes were added to others that Sabona has drilled, the Matshabela and Mapane communities are now moulding bricks in their areas. The quality of their household structures have also significantly improved in the 7 years from 2015- 2021.

## 1.5 Employment creation



Pump minders repairing the Chigusu borehole

The drilling and installation of solar boreholes also brought about advantages to the community in that it created employment for the local metal fabricators in making the tank stands. The local pump minders also got trained on making basic repairs when the boreholes were installed. The gardening activities, livestock trough building and security for the water points also brought employment benefits to the community. Since 2015, three pump minder trainings have been conducted and more than 20 men and women have been trained. An increase in the number of boreholes also warrants more trainings which benefit the community, especially the youths in terms of maintenance and repairs.

## 1.6 Improved Livelihoods



The provision of solar boreholes has improved the quality of life for the communities in Mabale. Instead of walking long distances, they now fetch water closer to their homes. Where a lot of energy was needed to pump and draw water from the borehole, less energy is now required. Solar boreholes are also very sustainable and environmentally friendly. In essence, the community now has more time to do other economic activities than spend more than 2 hours manually drawing water.

### **1.7 Conclusion**

The presence of the water sources made possible by the Rotary Club funded solar boreholes has immensely contributed to the lives of the Mabale community. The 10 villages are now directly and indirectly benefitting from the solar boreholes through income generation projects, clean water sources for household and livestock consumption. The spiral effect of the water sources are being witnessed in the lifestyle of the community from seemingly obscure activities like brick making and improved infrastructure. The gardens have resulted in a diversified diet and improved nutrition at the same time adhering to a sustainable use of renewable and clean energy.