

Makhad

People Spirit Environment



FINAL PROJECT REPORT

The Makhad Trusts Project – Restoration and Development of Bedouin Orchards, South Sinai, Egypt.

Introduction

The purpose of this Report is to give examples of work that has been completed by the Makhad Trust on Projects in South Sinai, Egypt.

Project Reminder

This project which began in 2007, aims to restore the agricultural economy to over 500 of the traditional mountain orchards in the mountains of St Katherine's and drinking water to communities in the area surrounding St Katherine's and in a 50 km radius. The ancient orchards have always been managed in an environmentally friendly way by the Bedouin and grow a mixture of vines, fruit, nuts and vegetables. Each orchard has a well but now most have no water through flood damage and the drop in the water table. During the long years of drought many trees died and the gardens fell into disuse. This project is revitalising the gardens through well restoration. A huge number of wells supply drinking water to towns and communities throughout the area and they are the only source of clean water. Each well generally provides water for around 10 to 15 families or around 100 people plus their goats, camels and chickens.

Originally the Bedouin were able to dig their wells themselves to a shallow depth, but they cannot do this now because work at a greater depth in granite requires expensive and specialised labour. Costly cement is required and often metal bars and a metal lid are needed. The aim of the Makhad Trust's Wells Project is to restore these wells as funds permit.

After site inspections wells are selected according to need and a strict criteria which ensures that the water is carefully used. A contract is signed with the well owner and the allocated funds are paid to him or her in two halves with site inspections in between and at the close of the contract.

Climate and Economic Pressures affecting the Bedouin

1. Although the Sinai peninsular has always been subject to droughts and floods of biblical proportions, climate change seems to be making an increasing impact. Over the last 15 years there has been a drought for 10 years followed by occasional but devastating floods in the last 5 years, though overall rainfall is still very low. Previously the weather was more predictable with frequent lighter rains in winter. The water table has been dropping so that wells that previously gave good water are now dry. This may in part be due to the huge rate of extraction by the tourist industry around Sharm El Sheikh over the last 30 years. Drinking water is in short supply too.

2. For many years tourists came to St Katherine's, mostly to see the monastery but also to trek in the beautiful mountains and this supported the local economy. The uncertain political situation and some terrorist incidents have caused a collapse in the tourist industry with the result that there is no tourist money coming into the area and no other industry to provide work. Mortality rates are increasing, particularly in men, causing problems for fatherless families, and access to medicine and health care is beyond most peoples means. Many people are suffering chronic, and sometimes preventable illnesses making their lives even more difficult. There is little or no government support for the people with water or health. Food is more expensive because of transport costs and there is little variety on sale. The only sources of income open to the Bedouin are to graze goats on the mountainous scrubland, or to grow food and a small surplus for a cash crop such as almonds or olives. Both these forms of agriculture require access to water which many do not have.

3. Rampant inflation since the Egyptian government devalued the Egyptian Pound last year has caused massive increases in food prices and increased poverty. We are now encouraging the Bedouin to make gardens near to community wells once the well is restored, so that they can grow their own food and are providing vegetable seeds as part of a Horticulture initiative. Our ultimate aim is for the whole community to slowly move to being self sustaining and having food sovereignty.

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4. Without income Bedouin can no longer support their families nor can they repair their wells without cash, so they cannot grow vegetables for their families. Many give their well water freely to their neighbours for drinking at the expense of their garden. Even goats cannot be grazed without well water in strategic positions.

The Makhad Trust is working to break these cycles of poverty through sponsoring restoration of the wells.

A sample reports of wells restored in the last two years are listed below

NSCD457 Salam Huuda, Wadi Slav



Salam lives in a remote community about 45 minutes drive from the nearest tarmac road, in a wadi in the mountains. He has a large garden and a very deep well. The well gave good water and then the government built a dam up the wadi quite a long way about 2 years ago, the biggest dam in Sinai. When it filled, the water table here rose and the bottom unlined part of the well caved in. This was too dangerous to dig out so he started a new well almost adjacent. When we came he had dug 35 m and got a little water but needed help to stabilise the well. He dug down to 41 meters and had 2 meter of water and it refills very quickly. He then had to put in steel bars to strengthen the bottom of the well and line it with cement bricks so it would not cave in again. Now there is good water and his garden is thriving again. 28 people plus their camels and goats rely on this garden for food and income. Many people come to fill up jerry cans for drinking water too.

NS447 Rashid Salem Sulieman, Wadi Tinya



Rashid's garden is in a high mountain wadi accessible by two routes. The first and shorter routes is a 2 ½ hour walk and difficult 300m climb, though a donkey can manage it. The other is a 4 hour gentler walk that camels are able to walk. All the cement for this well had to come by camel up the long way. Despite the remoteness of the well, there are several Bedouin families who spend most of the year here, with their gardens providing both the food and the means to do so. Rashid's well had gone nearly dry and there was not enough water to grow anything. They have depended the well by 2 m and now has good water and refills quickly. They tidied the garden and dug holes in readiness for winter planting of almond and apple trees. Rashid has 3 brothers and 2 sisters plus their families who will also benefit from the produce grown in this garden, which is around 24 people.

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NS450 Mahana Salim Farhan, El Exhorrea



Mahana's well is in the small village of El Exhorrea, just under the shoulder of Mt Sinai. The people here used to make their living from taking tourists up Mt Sinai on camels but there is very little work now. There are few gardens in the village and this one provides food for many families. The well has been drying up despite rains last year and they were finding it difficult to keep the trees alive. They tried to dig out the well themselves but it is in very strong granite and they needed specialist help of experienced well diggers and so asked for our help. The diggers made the well one and a half meters deeper and now it refills quickly. There is enough water for the garden to grow lots more trees and vegetables plus water for people to collect for drinking. This community is about half hour drive from the nearest tarmac road so they can't easily buy fresh food.

They are growing olives, almonds, pomegranates, grapes and tuta trees. Also herbs, potatoes, courgettes, aubergines, onions, and cucumbers so many types. Mahana has now planted some more veg and will plant trees in the winter. He has the pistachio and olive plants in his house waiting. He has extended the garden outside the wall in order to grow more, which will be in the wadi. He says the almonds and pistachio trees have strong roots and can stand the floods. Mahana is in green in the photo, with one of his sons and a few of his grandchildren.

Our new Herbal Horticulture Course for Fatherless Children is based at Mahana's house and in the garden where they are growing herbs.

CD164 Um Mohamed Sulieman, Rahaba



This well is owned by a lady, Um Mohamed, which means Mohamed's son. It is a long way out in the desert, about 2 ½ hours by Jeep over tracks. The well is mostly used for the summer half of the year when Bedouin come here with the camels and goats for grazing. There are few wells in this vast desert so this is an important one. The well had been damaged in floods and there was very little water plus the well was vulnerable to being damaged again. With our help they have employed skilled well diggers to deepen the well by 6 m so it is now 41 m deep with 6 m of water. (too deep to show in a photo). They have put a strong lid on it (under the tyre) to protect it. They also built the low pools so that animals can come to drink. There are many camels belonging to Bedouin in the area because there is good grazing. There is little work for the camels since tourism collapsed so it is good they don't have to feed their camels in the villages on expensive camel food they can't afford but can let them roam in the desert. The only alternative would be to sell their camels which they are very reluctant to do. 25 families plus all their animals rely on the water from this well.



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CD239 Salama Seferan, Sha'ab



Salama's well is by a large community on the main road from St Katherine's to El Tur and Cairo. The well is very deep and is needed to provide water for a mosque and a school as well as the local community. It used to have good water but about a year ago the water level dropped dramatically. Now the well has been deepened by 6 m to 59 m and is giving good water again. The tiny lighter dot in the well photo is the water level. There is enough water for the community and they have started to restore a nearby garden and have planted trees, figs, almonds, nabug, and 3 palm trees. They are also growing corn, courgette, okra, tomatoes, mullaheir (a strong tasting, green-leafed vegetable), and cucumbers. Over the winter they will plant trees and then next spring they will plant lots more vegetables. Salama is making this a model garden to encourage other people to start growing food. This well is also an important watering place for roaming camels. They belong to the Bedouin but they let them loose into the desert for the grazing. The camels come to drink once a week, and can take up 18 litres at a time which will last them the week. Goats also come to drink. This well is helping around 40 families with drinking water plus the mosque, plus the school, plus the animals on which people depend and the gardens.

CD234 Mohamed Ramadan, Gharba



Wadi Gharba is a long wadi just outside the mountain ring and there are several communities down its length. Mohamed's well provided water for around 20 families in this small community just for drinking. The well had been damaged by floods and was giving very little water. Now the well has been dug out 3 m through granite and it is 9 m deep, and gives good water. The water is 2 m deep and it refills every 2 days. They built a protective flood wall around the top which also stabilises the sides of the well which were in a dangerous state. Now there is enough water that some people come from further away to collect drinking water from this well.

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CD244 Ahmed Salah Ibrahim, Wadi Shab



When we first saw this well, there was just a hosepipe coming out of the sand as the well had been completely filled in by floods. All the wells for this community were in this wadi and all were wiped out by the flood. We have already restored 3 wells and this one is needed for the summer, when water levels drop. Wadi Shab is a small community about 6 miles out of St Katherine's and there is little work here. They have dug out the well including an extra meter through the granite, and built a protective flood wall around it. There are hoses to take the water the 500m to the water tank in the village. They would like to dig the well out further but have to wait a year for the granite to soften on exposure to the air. Another meter will give them very good water here. They will do this part themselves now that we have given them the push. 20 families use this water.



Effect

- Agriculture These contracts have helped to restore garden to produce food for many extended families of around 15 individuals per well, as well as yielding produce for sale and income.
- Drinking Water The wells have also given at least 125 families (6-10 people per family) sufficient drinking water with many others coming from outside the communities. This will have contributed to the health of the people, in particular children, as well as the animals the people rely on for food and income.
- Employment In addition these contracts have each employed 6 to 8 men – digging, stone breaking, sand collecting, cement mixing, building, and camel men for transport. This, at a time when there is virtually no work because of a lack of tourists, is providing a much needed boost to the economy and helping to feed more families.

Conclusion

This successful and highly valued water project is helping the Bedouin to lead independent lives. We have so far restored **222 garden wells** and **216 drinking wells** in the desert and mountains, but our waiting list for help stands at **434 wells**.

The well owners and the Makhad Trust would once again like to thank all our funders for their support which means so much to all these communities totally reliant on underground water.



Helen and Mahmoud, Sinai Manager inspecting wells

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The Makhad Trust is not for profit organisation, managed by a Board of Trustees and it has charitable status (Reg. No. 1100377)