# Adele Keke site-specific topic: irrigation

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## When and how irrigation was introduced

MALE RO: Irrigation in the kebele was introduced in the modern way ten years ago. It was introduced by the then DAs as well as the kebele officials and some members of the community who got awareness about the use of irrigation for the local economy, especially chat.

FEMALE RO: Irrigation was first introduced in the area by agricultural officers from the wereda around 2002 GC (the respondent is not quite sure about the time). As in the area there is good access to water, especially in the nearby lake, they advised and informed farmers about the value of irrigation by explaining to them how farmers in other areas have benefited from irrigation. To make this practical they organized farmers to dig a water well on individual farmers’ grazing land for the farmers to use together in the future. Accordingly, the communal water well for irrigation was dug by the community members. In addition the agricultural office gave a water pump to five hard working farmers through credit so that they could practically start irrigating their land by following the information and advice they got. Accordingly, they started irrigating their farm land and their agricultural productivity has increased. When other farmers realized how the yield of the farmers who started irrigating their farmland had increased, which helped them improve their livelihood, they started to follow in their footsteps so as to increase their productivity. Besides, the agricultural officers visit the farmers and try to enhance the knowledge of farmers about irrigation. About 2008 there was a good lesson provided to farmers about the value of irrigation by the motto *‘water does not only clean dirt but also dissolves poverty’.* These all increased farmers’ interest to use irrigation for the chat crop they planted. That is why over time the number of farmers who buy water pumps has increased.

Furthermore, after a certain period of time, in 2006 GC Chinese started constructing the main road from Kulbi to Harar (that passes through Adele Keke). For the construction they were using ***underground water.*** From this the community members got a good lesson on how they could dig a big water well so as to get adequate/better underground water for farming by digging with a modern machine (excavator) like what the Chinese used to dig the well. Due to this they start to organize in a group and rent an excavator from Dire Dawa to dig a well rather than digging by hand. The Chinese dug the water well close to the lake. The local farmers were then aware of the reason to dig the wells near to lake area are to get ample water. As they know the area close to lake has a good source of water as compared with other areas, over time the number of water wells in this area has been increasing.

## Types of irrigation

MALE RO: The type of irrigation used in the area is the small-scale irrigation scheme. There are several water points constructed near Lake Adele and they are owned by individuals and groups. The community, especially those who have good wealth status and whose farms are near to the water points, use the irrigation through the motor pumps. So, the type of irrigation used is water point based motor pump irrigation. The irrigation is mainly used for chat.

FEMALE RO: The type of irrigation scheme farmers use in the area is to draw the water by using water pumps from water wells. There is no trickle or spate irrigation in the kebele.

After the farmers got lessons about the value of irrigation using motor pumps in increasing their productivity, to encourage farmers to start irrigation in the wereda around 2002 GC (as stated above the time may not be exact) the agricultural office gave water pumps to a few model farmers on credit. In addition, on group bases water wells were dug on individual/private land near the lake area as there is no communal land in the area. Meaning initially some water wells were dug on individual land as there is no communal land in the area except on mountainous area, which have no water. Thus, such water wells were dug as communal water wells. Accordingly, the farmers who were given the water pumps were benefiting from the water wells by irrigating their farmlands.

Over time, as others saw farmers who have benefited from irrigation, and wereda agricultural officers also advised and gave lessons to farmers and some heard on the radio how farmers in other areas were benefiting from irrigation, other farmers started to buy motor pumps and dig water wells. Due to this the number of water wells and the hand pumps found in the kebele has been increasing. Now there are about 35 water wells and about 146 water pumps (his number is not exact). Those who could not afford to buy also rent water pumps or ask their relatives, neighbours and close friends to irrigate their farmland (which they use for chat crop).

Farmers also have been shifting to produce chat rather than producing other crops as they understand the value of chat, which is incomparable as compared to other crops. In addition, the farmland near to the lake is not good for chat and other crops as the lake water is salty. Due to this they were not getting good crops. But later on they started to irrigate the land by using underground water and produce vegetables and were able to get good yields.

As the number of irrigation users has increased recently they have started to irrigate their farmland, which is far from such water, by connecting many hand pumps, about 7 (of different farmers) for temporary storage of water so as to take the water to their farmlands turn by turn for each of them. To use these water pumps they have to buy fuel. They cover cost of fuel from their own pocket. Those who do not have water pumps also rent and use the water by paying money. But for their close friends/neighbours or relatives they allow them to use the water without any payment. The same holds true in case of water pumps. Those who cannot afford to pay for water use the lake water but as it is salty this water is not good for crops.

Using this underground water through hand pumps has greatly increased their productivity as it a bit solves the water shortage during the winter season. Due to this water access most farms have covered a large area of farmland with a permanent crop (chat), which has a high cash value by reducing production of other cereals.

Formerly farmers were intercropping grains with chat (they mix chat with maize) but now they have greatly reduced mixing as they understand mixing reduces the productivity of chat.

The community also use the water from wells which were developed for irrigation for washing clothes. A few boys also swim in these wells.

## Scaling up – who was involved

MALE RO: To scale up the irrigation in the area, different attempts have been made by the community as well as the government. For example, the DAs in the kebele have been teaching the farmers to build or construct their own water points around theirs farm if they could and accordingly, some farmers tried to construct water points on their farms and a few succeeded but the others did not as it is very difficult to access underground water in the area. Also, with the assistance of the DAs through watershed management, the farmers have been constructing small water points and have managed to develop and access water for irrigation and other purposes like drinking for their livestock.

FEMALE RO: The benefits that irrigation users got, which are stated under *Types of irrigation* are all the result of the role of DAs, mostly DA Crops. By observing others over time the number of farmers who want to irrigate their farmlands has increased. The officers from the district agricultural office sometimes go to the area and give education to farmers on the importance of irrigation in increasing productivity.

As a result of this the number of water wells has been increasing. Now near the lake there are a lot of water wells, they estimate that there may be 35 water wells in that area. More farmers have also bought motor pumps. Currently, there are about 146 water pumps in the kebele.

In general, all farmers want to irrigate their land. This is because the price of chat is expensive during the winter season. In this season by irrigating their land they collect chat twice. Otherwise (if they do not irrigate) they collect chat only in the summer season. But the price of chat is cheaper in that season as the supply of chat is higher in summer season. Thus, what hinders more farmers to irrigate their farmland is shortage of water. The owners of the land, where the water wells were dug to use together on their land, have refused to let others use the water from the wells found on their farmland, rather they have started to charge others to use the water.

Other farmers whose farmland is far from *tabia* village, where more water wells were dug are not able to irrigate their farmland with the water obtained from the wells dug in nearby areas. This is because as their farmland is far it needs to connect many water pumps from the water well up to their farmland so as to take the water to their farmland. When using so many water pumps it is necessary to buy fuel for all the water pumps, which is very costly. Due to this they are not able to benefit from irrigation like others. However, as these farmers are very eager to irrigate their farmland, nowadays they have started to dig water wells on their farmland so as to fetch water for their chat crop. In addition, recently they are mobilizing farmers in that area to use water from *Gorge* so as to irrigate their farmland.

## Irrigation user interview – successful male-heading household

MALE Research Officer

### Who benefited?

As this successful male-headed household head described, the users of this irrigation are mainly those farmers who have good economic wealth as they could afford the costs like fuel, motor pump, pipe and payment to the owners of the water points near Lake Adele. Of course, as he said the poor as well as the middle farmers have been using this irrigation especially for their chat farms. But, those farmers rich, middle and poor who are using irrigation for their chat are those farmers living in villages near to the water points or the Adele Tabia. For the future, the large irrigation scheme should be in place in the kebele to help all the farmers use irrigation for their chat and then change their livelihood.

### Best practices of irrigation users

Since irrigation was introduced in Adele Keke, farmers, if not all but some, have been using it especially for their chat farms. From this, they have developed their experience in using irrigation for their farms and have got good production and then improved their livelihoods. The best experience the farmers got is that some farmers are trying to construct their own water points on their farms. Again, some have developed water points in the gorge area which lies below Mount Keke in Adele Keke. So, from this experience of using irrigation, the farmers have managed to produce and get good chat production and get good income by selling chat at a high price especially during the winter time. During this time, chat production goes down as there is no rain, and there is low irrigation usage by farmers in the area.

### Problems

The major problems in relation to the use of irrigation in the kebele are that there is very high shortage of water in the area. The source of irrigation is the water points constructed near Lake Adele, and in the gorge area near Mount Keke. However, the water points constructed near Lake Adele are owned by individual farmers or owners of the land and as a result, they sell the water or charge some money for the water. Formerly, those water points were constructed by the community in groups to be used in groups but, gradually, the individual farmers claimed the water points and finally won them through the court and they exchange the water for money. Those farmers who spent their energy and dug the water points now buy the water from those individual farmers. This situation has created disagreements among the farmers. Those farmers who do not have money but who constructed the water points now cannot buy water and irrigate their chat. The kebele officials as well as the wereda officials could not interfere and settle this dispute over water points as the case was decided by the wereda court. This means that the court approved the water points for those farmers claiming the right of ownership.

## Irrigation user – successful female-heading household

Female Research Officer

### Who benefited?

She stated that all of the farmers who have irrigated their farmland have been benefiting. In explaining the way they benefited she said that after they started to irrigate their land they have been getting more chat crop as they are collecting chat three times per year but before they started to irrigate their farmland farmers were getting chat only once per year. Thus, she described that irrigating their farmland has increased productivity. So, by irrigating and collecting chat in the winter season farmers get better income since during this time (winter season) the price of chat is higher. As the income of the farmers who irrigate their farmland has increased they have been improving their living condition. As an example, she stated that there are some farmers who have built and repaired their homes, bought better household items such as carpets and mattress, and bought electronic equipment such as TVs, DVD players, satellite receivers and mobiles. She stated that the number of female headed households who use irrigation is very small. This is due to the fact that as most of these women lack someone to properly help them in farming, they incline to involve more in domestic work and they hire daily labourers to carry out farm related activities. These factors make them not to irrigate their farmland. In addition, she mentioned that they do not have adequate money to buy water pumps. She said irrigation has no negative effect.

### Best practices of irrigation users

As described above Irrigation has benefited the community members in different aspects. For instance, she mentioned that about three farmers have bought a minibus car since they got good income from sale of chat because with irrigation they have been harvesting chat three times per year. They have also opened a mill house. They have been educating their children well. She stated that even in each village farmers have started to open mill houses. Some have started to buy modern milking cows so as to benefit from sale of milk in the future. Even now there are some who have benefited from sale of milk. More households have bought electronic goods such as TVs and mobiles. Thus, the value of irrigation has contributed to improvement of living conditions by accumulating assets for some of the community members.

### Problems

The problem is that the water pipe is not good quality since it gets cut off if it is not used for some period of time. This is because the material of the tube is not good, rather it is thin plastic. The other difficulty in relation to irrigation is that some village members, mainly those who reside in the remotest parts are not able to irrigate their farm land as in their area there is no water and the water from the water well in the nearby lake is far for them.

The other difficulty is that those who irrigate their farmland by borrowing or renting water pumps do not get water pumps on time, rather they have to wait until the owner of the pump has finished irrigating their land. The delay in irrigating their land also has some effect on productivity. But she said the renting cost is fair. More importantly, since recently the owners of the water wells have started to charge others when using the water from their water well. Those who cannot afford the payment are facing difficulty to irrigate their farmland.

## Water wells

MALE RO: The chair of the kebele explained that in Adele Keke kebele, there is great shortage of water especially water for irrigation. There are a number of water points or water wells constructed near Lake Adele, and some in the gorge area near Mount Keke. Formerly, ten years ago, these water wells were constructed by the community in groups to be used in groups but later, some individual farmers claimed the water wells by appealing to the wereda court and finally won them. This means that the wereda court has decided that the individual farmers have the right to own those water wells and the land on which those water wells belongs to those claiming farmers. As a result, they started to exchange the water for money. Those farmers who spent their energy and dug the water points now buy the water from those individual farmers. This situation has created disagreements among the farmers. Those farmers who do not have money but who constructed the water points now cannot buy water and irrigate their chat. The kebele officials as well as the wereda officials could not interfere and settle this dispute over water points or water wells as the case was once decided by the wereda court and it is completely impossible to interfere with the case.

FEMALE RO: As stated above, initially some water wells were dug on individual land as there is no communal land in the area except on mountainous areas which have no water. Thus, such water wells were dug to use as communal water wells so any person could use them. But after using these water wells together for a certain period of time, the owners of the land where the water wells were dug have refused to let others benefit from the water wells, unlike what they initially agreed, to use the water together. Due to this some owners of water wells have started to charge others for using the water. The kebele officials tried to convince such owners to let others use them according to their agreement but they refused. Accordingly, the efforts of the kebele officials to resolve such cases were not effective. Due to this all the water wells found in the nearby lake area are private water pumps.

Others are using such private water wells by payment for using the water. But for their close friends/neighbours or relatives, they allow them to use the water without any payment.

## Change over time relating to irrigation

MALE RO: Though there is a problem over the availability of water wells or water points, there is a great change in relation to irrigation. For example, during the winter time, there is great shortage of water especially for irrigation but the price of chat during the winter time is high. Those farmers who are able to buy water from the water points’ owners and irrigate their chat, produce good chat and as a result sell it for a high price. This will make the farmers rich and prosperous in a short period of time. But those poor farmers who could not afford to buy the water from the owners and irrigate cannot change their life style as their chat is not irrigated and not sold at a good price.

FEMALE RO: The respondent’s idea is similar to what is stated under *Irrigation initiator/Scaling up – who was involved.*

## Future aspirations of the community regarding irrigation

MALE RO: The chair stated concerning the future aspiration of the community regarding the irrigation that there are limited water points or water wells being used for irrigation by the community. However, there is high potential of underground water especially near Lake Adele. Therefore, the community wants and plans to extend the mechanisms for accessing water for irrigation. The community also wants the government to construct a large irrigation scheme using the underground water so that every farmer will use the water for irrigating their chat production.

FEMALE RO: The community aspire to buy more water pumps and want to irrigate all of their farm lands. Furthermore, those village members who are far from the lake and unable to irrigate their farmland as their farmland is located in far area want the government to arrange mechanisms for them to irrigate their farmland like the village members found near to the lake area. He stated that there are even some famers who have said that like supporting the community through PSNP it will also be better if the government facilitates conditions or supports the community members to irrigate their farmland in a proper manner by supplying different modern agricultural equipment such as quality water pumps, water pipes, etc.