Water Supply and Water Use Conditions in the Seleced 100 Villages (15)

Kilwa District, Mtwara Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Pande	Pande Mikoma	Pande Plot	3,485	3,600	Traditional dug well (500m)	The population is dispersed over a wide area and uses a traditional dug well as a water source. The dug well dries up in the dry season. The villagers use up the small amount of water that the well produces in this season (120liters/day); the well only produces 5 to 6 buckets of water a day. In 1972, a level 2 system (BH, tank, 4 communal faucets) was constructed. In 1978, the well dried up and the steel tank has been destroyed. The villagers want a level 2 system. The villagers purchase fuel from Kilwa Masoko. The pilot study constructed a small scale level 2 system, and this system will have to be improved to accommodate future changes in the village structure and population.
		Mtitimira	801	1,034	Traditional dug well (500m)	This village is separated and independent of Pande Plot and uses a traditional dug well as water source. In the dry season, the well dries up and the villagers take water from a neighboring village 8km away. A water tank has been constructed (370,000TSH) recently using the village's water funds. The tank is used to store rainwater collected from the roof of the assembly place and nearby houses. The tank water is managed carefully. Aside from this, there are no plans for the construction of other water supply facilities in the village. The villagers purchase fuel from Kilwa Masoko by boat and has decided to collect funds (10TSH/1kg of cashew nuts) and are therefore capable of operating a level 2 system. However, the provision of a handpump facility would be enough in view of the population scale and groundwater level.
	Lihimalyoao	Lihimalyoao	2,622	4,686	Cave(5km)	This is a large village that extracts water from the cave by a river 5km away. Ponds are also used to supply the required water amount in the rainy season. Sea water level fluctuation affects the water level in the cave; the water in the cave has a high salinity level. Although this is used for drinking, water from the dug well of a neighboring village is used for laundry. Laundry is carried all the way to the well once or twice a week. In 1978, the Ministry of Water constructed a level 2 system consisting of a pump, elevated concrete tank and 9 communal faucets, and using the cave water as a source. The system has not been operating since 1994, but the tank can still be used. The villagers want a level 2 system. 5TSH/1kg of cashew nuts are collected from this year for the operation and maintenance expenses, and fuel will be purchased from the neighboring village by boat. Although a hand pump faciliity would suffice as the groundwater level is low, the village population is large that a level 2 system would be more appropriate.

Water Supply and Water Use Conditions in the Seleced 100 Villages (16)

Kilwa District, Mtwara Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Pande	Lihimalyoao	Namakongoro	1,053	1,500	Traditional dug well	This is a cozy little village with a number of traditional dug wells. EC in the water from these wells was measured at 1,232 μ S/cm. When the wells dry up in the dry season, the villagers extract water from a cave by a seashore 3km away. In 1976, the Ministry of Water constructed a level 2 system that consists of a borehole, elevated tank and 7 communal faucets. However, the system stopped operating when the wells dried up in 1978. The villagers want a handpump facility, and this is considered appropriate in view of the groundwater level in this village.
	Mandawa	Mandawa	4,141	7,070	River (500m)	A large village on the slope of a small but high hill that extends toward a river. The hill is located along the Dar es Salaam-Lindi highway. The river is used as a water supply source but when it dries up in the dry season, water is extracted from the spring that gushes forth along the river. This spring was used by the Ministry of Water as the source of the borehole (with handpump) it constructed in 1995. The 1997 flood, however, destroyed the spring. The villagers want a level 2 system, and this is considered appropriate in view of the populaiton scale.
		Kiwawa	2,109	1,800	River (200m)	A village on the slope of a small but high hill that extends toward a river. The hill is located along the Dar es Salaam-Lindi highway. Water is extracted from a nearby river except in the dry season when a traditional dug well 600m away is used. In 1974, the Ministry of Water constructed a level 2 system using a ring well as source. However, the pump unit was stolen in 1996 and the operation was terminated. The ring well and the tank is located 6km from the village. The villagers want a level 2 system, and one senior resident has voiced out that he is experienced in the operation of the system. Based on the population scale of the village, a level 2 system would indeed be appropriate.

Water Supply and Water Use Conditions in the Seleced 100 Villages (17)

Lindi Rural District, Mtwara Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Mtama	Nyangao	Chiwerere	945	1,438	Namatikiti River (500m)	This is a village 13km northwest from Nyangao on the Masasi highway, and is accessible through a narrow road that winds halfway. Because of the road's shape, cashew trees should be cut to transport heavy machinery to the village. The villagers take water from the nearby Namatikti River. When this river dries up in the dry season, they dig holes at the bottom of the river to draw water out. Since there has never been a water supply system in this village, the villagers long for convenience and desire a level 2 system. However, in view of their ability to pay the operation and maintenance expenses of such a system, the construction of a handpump facility would be more suitable.
	Nyengedi	Nyengedi	3,563	3,812	Stream (500m)	This is a comparatively large village by the Masasi highway. The villagers extract water all year round from a nearby river that originates from Londo Spring. In 1974, the Chinese government constructed a level 2 system using borehole as a source. The system has been left unattended since 1982, when the fuel supply was terminated. The borehole for this system was dug along the river, and the water was conveyed to the concrete tank constructed on a slightly elevated hill for storage. Water is then conveyed to three service tanks (steel) for distribution to the residents through a faucet attached on the side of the tank's lower body. Although a handpump facility would suit the area because the groundwater level is shallow, a level 2 system would be appropriate in view of the village population scale.
		Mtumbya	1,159	1,250	River (12km)	This village extracts water from a river 12km away. In the dry season, the villagers go further downstream to extract water from puddles. In 1988, the Ministry of Water started constructing a level 2 system facility using the river as a source. The system was never completed as the flood that occurred in 1990 washed the structures away. The villagers want a handpump facility, and this is considered a sensible choice. The villagers also state willingness to cope with conditions that would require a pump. Nonetheless, even if a handpump facility would suffice -- as the groundwater level is shallow -- the population scale would make a level 2 system more appropriate.

Water Supply and Water Use Conditions in the Seleced 100 Villages (18)

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Mtama	Mtua	Kilimahewa (Muta)	3,775	4,400	Spring (1km)	This village is made up of the two communities of Mtua Kilimahewa A and B, and is located by the Masasi highway. There used to be a village (Mtua) on the gorge of a valley 6km away. Floods washed the village away and 3/4 of the residents moved to this area and formed this village. The present water source is a spring located 1km to the north. The village that was washed away by the flood had a level 2 water supply system that used the river as a source and had a filtering pond. The system was constructed with assistance from the Chinese government. Of course, the system was destroyed by the flood. The new village is properly demarcated (100mx400m for every house). Houses are scattered outwards from the village center. The villagers want a level 2 system, and this will be provided as it is deemed suitable in view of the size of the village population.
Sudi	Sudi	Madangwa	2,211	5,603	Spring (2km)	This village is located along the highway that connects the towns of Lindi and Mtwara. Madangwa used to be one village. Due to population explosion, it was divided into the three villages of Madangwa, Pangatena, and Mnjonjon. Mnjonjon does not have a residential section, but it will be included in the plan for the construction of facilities in this village. At present, the villagers use a spring which is also very productive even in the dry season. In 1976, the Ministry of Water constructed a level 2 water supply system using this spring as a source. The system, however, was destroyed by a flood in 1979. The villagers want a level 2 system, and this is considered appropriate in view of the village population.
		Hingawali	2,354	3,960	Traditional dug well	This is a village along the road that links the towns of Lindi and Mtwara. The current water supply source in the village is a traditional dug well. In the dry season, the villagers wait 16 hours for the water to accumulate. Since there are no other water sources in the village, the villagers are forced to pay for the use of the piped water supply system of other villages. Nobody sells water in the village either. In the past, FIN devised a plan to construct a joint water scheme for Hingawali and Njonjo. The plan never came to fruition as financing was terminated, leaving the tank construction unfinished and the uninstalled pipelines unattended in the storehouse. The villagers want a level 2 system, which is also deemed appropriate in view of the population of the village.
Nyangamara	Nyangamara	Madingo	1,812	1,611	Dam (3km)	This village is located on a plateau. The water supply source is a dam 3km from the village. The dam fills up in the rainy season but dries up in the dry seaon, which is when the villagers make use of a traditional dug well 8km away. In 1974, the Ministry of Water built a level 2 water supply system with ring well as a source. The system, however, has been inoperative since 1979. The villagers want a handpump facility. However, a motor pump is deemed appropriate because the groundwater level is deep. Accordingly, a level 2 system will be constructed.

Water Supply and Water Use Conditions in the Seleced 100 Villages (19)

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Nyangamara	Mandwanga	Chiuta	1,738	2,098	Traditional dug well	This village is on a plateau near Mtwara. The present water supply source is a traditional dug well. There has never been a water supply construction project for the village. The villagers want a level 2 water supply system, and this is considered appropriate in view of the village population and the groundwater level in the area.
		Malungo	1,497	1,566	Traditional dug well (3km)	This village is located on a plateau. Because the access road is narrow, there is a need to construct a road to transport heavy machineries to the village. At present, the villagers rely on a nearby traditional dug well for water supply. When this well dries up in the dry season, however, they collect water from a traditional dug well 3km north. The villagers want a level 2 supply system. They plan to collect money for the O&M costs and purchase fuel from the gas station in Nangawanga (Mtwara) 10km away. However, a handpump facility would be satisfactory in view of the village structure and the groundwater level.
Mingoyo	Kiwalala	Kiwalala	1,989	9,471	Spring (1km)	This is a large village along the Masasi highway that has been formed from the settlements of Kiwalala, Nrunyu, and Mangawanga. For water supply, the villagers currently use the spring at the ravine about 1km from the center of the village. In 1974, a level 2 system using a ring well as a source was constructed with the assistance of the Goverment of China. Due to occasional flooding, however, the system was damaged and became inoperative since 1980. The villagers strongly desire a level 2 water supply system. This study plans to construct one water supply system to be jointly used by the three settlements that make up the village. In view of the village population, a level 2 water supply system is considered appropriate.
	Mnolela	Mnolela	1,178	7,367	Traditional dug well (1.5km)	This village is made up of the two communities of Mnolela and Zingatia, and is located on a plateau along the road that connects the towns of Lindi and Mtwara, and at the terminal of the Mnazimmoja water supply scheme. The relay pump was damaged and repaired in October 2000. Although it is used at present, production does not meet the water requirement of the village particularly because the village is located at the end of the area covered by the water supply scheme. When the pump does not produce water, the villagers use the traditional dug well 1.5km away. During the pilot study, a 150m well was dug, but the well never produced water. The villagers desire a level 2 water supply system with a water source of its own.

Water Supply and Water Use Conditions in the Seleced 100 Villages (20)

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Rondo	Chiponda	Chiodya	1,677	3,425	Spring (5km)	This village is located on Londo Plateau. For water supply, the villagers currently use three springs below a steep cliff 5km away from the village. The village is located at the terminal of the area covered by the Rondo water supply scheme established by the Ministry of Water in 1975. Although this is a level 2 supply system with a tank and communal faucets, a defect in the conveyance pipeline laid out all the way to Chiponda prevented conveyance to this village. The pipeline from Chiponda was also never completely laid out. The villagers want a well with a pump. However, this project will establish a level 2 system using springwater as a source as the development of groundwater as a source would not be easy in the area.
Ngapa	Ngapa	Kinengene	2,803	9,020	Dug well (500m)	This is a long and narrow village along the road closest to the town of Lindi. In 1980, FIN constructed a ring well with a handpump. The handpump was destroyed and now the villagers use the well without the handpump and the well cover. The well dries up in the dry season, and the villagers use the borehole with a handpump located 7km away. In 1989, a level 2 system using this borehole as a source was constructed. Soon thereafter, however, the pump was destroyed and was not used since then. The tank for this system was a temporary ground tank with a $10m^3$ capacity. The villagers want a level 2 supply system. The groundwater level in the area is shallow and based on this, the construction of a handpump facility would be satisfactory. However, a level 2 system would be appropriate in view of the village population.
Mchinga	Mchinga	Kilangala	3,462	8,773	Traditional dug well (500m)	This is a large village extending about 3km along the Dar es Salaam and Lindi road. The present water supply sources are a traditional dug well and the stream water gushing out in the middle of the village. These sources dry up in the dry season, and as a consequence, the villagers dig at the bottom of the spring and collect water. Despite its size, a water supply project has never been carried out in this village. During the pilot study, a small scale leve 2 system was constructed. In view of the future village structure and population, a level 2 system is deemed appropriate.
	Kilolombwani	Kilolombwani	1,255	1,160	Rriver (6km)	The present water supply source is a river about 6km away. The villagers say that the river water is salty. There have been surveys for the development of water resources in the area. In 1982, the Ministry of Water constructed a ring well. Unfortunately, the well produced water high in salt and dried up 6 months after it was constructed. A borehole was dug thereafter, however, it produced little water that was also high in salt. The villagers want a handpump facility, and this is considered appropriate in view of the village population and the groundwater level.

Water Supply and Water Use Conditions in the Seleced 100 Villages (21)

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Mipingo	Mipingo	Lihimilo	943	1,058	Rriver (3km)	This is a lonely and deserted village and the villagers use a river 3km away as water source. When the river dries up in the dry season, the villagers dig at the river bottom for water extraction. A water supply project has never been carried out in the village. The villagers want a handpump facility, and although this is desirable in terms of the village population, a level 2 system will be constructed because the groundwater level is deep.
Nangaru	Chikonji	Chikonji	3,068	2,391	Traditional dug well	This village is located near the town of Lindi, and the villagers currently use a number of traditional dug wells inside the village for water supply. In 1970, FIN constructed ring wells with handpumps in 8 places. The handpumps of these wells have been destroyed but the villagers still use the wells without the handpump by removing the well cover. These wells, however, dry up in the dry season. In 1979, a water supply system was constructed. This system uses a borehole in a valley 3km away and is only equipped with a tank with a faucet. The pump of the system was destroyed in 1980 and a handpump has been attached to the well at present. In July 2000, the Ministry of Water dug another borehole at the same valley. Water naturally spurts out of the borehole. Because of a lack of funds, a pump and other facilities were never installed. Both boreholes are constructed in an area susceptible to flooding, and the pump of the first borehole was destroyed by floods. The same consequence is foreseen to occur if a new well is to be dug. Accordingly, a borehole will be dug near this village and a level 2 system will be planned.

Water Supply and Water Use Conditions in the Seleced 100 Villages (22)

Ruangwe District, Lindi Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Ruangwa	Malolo	Nanganga	968	1,150	River (2km)	Water is presently extracted from the Lukuledi River located 2km away. The river never dries up in the dry season and although the water is salty (EC: 2,644 μ S/cm), the villagers still use it. Since crocodiles inhabit the river, the villagers scoop water from the river by dangling a bucket from the bridge. For good water quality, the villagers travel 10km to Liputu to purchase water derived from the Ndanda Spring. In 1981, Ministry of Water constructed a level 2 water supply system using this spring as a source. The system however has been inoperative since the intake facility was washed away by the 1987 flood. The villagers want a level 2 supply system. In October 2000, a water association was formed under the guidance of the social survey team. The association started collecting 2,500 TSH/household to put up funds to cover the facility operation costs. Because the groundwater level in the village is shallow, a handpump facility would prove satisfactory. However, a level 2 system is desirable in view of the
	Likunja	Chilangalile	498	966	Traditional dug well (3km)	This is a small village by the road connecting the towns of Ruangwa and Nachingwea. A traditional dug well constructed by a stream 4km away is the only water source of the village, and this is used despite the fact that the water is high in EC (3,000 μ S/cm). In 1974, Ministry of Water drilled a borehole 2km away to convey water to the temporary tank in the village; no distribution pipelines and communal faucets were installed however. In 1988, the pump of the well broke. According to the villagers, the water from the borehole tasted good. The villagers want a level 2 supply system. Although the villagers are intent in collecting money for every bucket of water in order to cover the O&M expenses, the construction of a handpump facility is considered appropriate in view of the village population and the groundwater level in the area.
	Narun'gombe	Machanganja	838	1,905	Traditional dug well (700km)	This village is about 30km northwest of the town of Ruangwa. The present source of water supply is a 2m deep traditional dug well situated 700km from the village. Because there are no other water sources in the area, the villagers use the water from this well even if the EC level is high at 3,300 μ S/cm. The villagers are currently planning to dig a dug well at another place. A water supply system has never been established in this village. The villagers want a level 2 supply system, and with the guidance of the social survey team, the villagers have come to understand the importance of collecting money for the O&M expenses. The villagers intend to collect 2,000TSH/household after the harvest of cashew nuts. Although the shallow groundwater level in the area would make the construction of a handpump facility satisfactory, a level 2 supply system is desirable in view of the village population.

Water Supply and Water Use Conditions in the Seleced 100 Villages (23)

Ruangwe District, Lindi Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Ruangwa	Narun'gombe	Liuguru	1,612	3,736	Traditional dug well (1.8km)	This is a large village 7km northwest of Ruangwa. The present water supply source is a traditional dug well located 1.8km from the village. When the well dries up in the dry season, the villagers dig the Ruangwa riverbed (3km away) for water extraction. Relative to its population, the village has very poor water resources. In 1980, FIN constructed a level 2 supply system under the Ruangwa water supply scheme. The facilities, however, could not produce enough water for the population of the town of Ruangwa, which has increased considerably. As a countermeasure, water supply to the village was terminated. The villagers want a level 2 supply system, and in consideration of the village population, this system is appropriate.
	Namichiga	Mihewe	1,102	1,017	Dug well (1.2km)	This is a village made up of several small settlements and is situated 20km north of Ruangwa. In 1980, FIN constructed a ring well with a handpump 1.2km from the village. The handpump, however, was destroyed in 1988. At present, the villagers intake water from the ring well even without the handpump by removing the well cover. The villagers want any water supply facility as long as it would provide them with a steady supply of water. In consideration of the village structure and the groundwater level in the area, the construction of a handpump facility would be appropriate.
Mnacho	Luchelegwa	Chinongwe	2,984	3,395	Traditional dug well (1km)	This is a large village of 3,395 inhabitants and situated 40km south of Ruangwa. There is a traditional dug well in the village. However, the well produces little water and dries up in the dry season, leaving the villagers with no choice but to purchase water mainly from the Mwena water supply scheme 1.8km away. In spite of the fact that the village is quite big, no water supply construction project has ever been implemented. The villagers want a level 2 water supply system. And this desire is considered valid in view of the village structure and population, despite the fact that a borehole with a handpump was constructed during the pilot study.
		Litama	746	1,546	Lukuledi River (4km)	This village is located at the southern extremity of Ruangwa District, and the villagers, although finding the water salty (EC level downstream was measured at 2,644 μ S/cm), use the water from Lukuledi River. For good water quality, however, the villagers purchase water from the Mwena water supply scheme 8km away. FIN constructed a borehole with a handpump within the village. This borehole is not used as it produces water very high in EC (4,630 μ S/cm), and because the pump is broken, production is small. A level 2 supply system is desirable for the village in consideration of its structure and population. Nonetheless, attention should be given to salinity levels.

Water Supply and Water Use Conditions in the Seleced 100 Villages (24)

Ruangwe District, Lindi Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Mnacho	Luchelegwa	Likwachu	—	1,824	9km to Mwena Scheme	This village was formed after the victims of the 1990 Lukudeli River flood moved to the area. The migrants were granted 1 acre per family and houses were constructed in a scattered fashion over a wide and flat expanse (2km east-west, 3.5km north-south). Since there is no water source within the village, the villagers travel for 9km to Ndanda to purchase water for 150TSH/20 liters. There has never been a public water supply system in this village. The villagers want a level 2 supply system, and in view of the population scale, such a system would be desirable. However, a handpump facility would be more suited to the village structure. Although a level 2 supply system will be constructed under this project, the distribution pipelines will be laid out along the main road and will not be extended to cover every nook of the village.
		Ipingo	—	981	Dug well (500m)	This is a small village that promoted to the village in 1999. Located along the road that extends from the Masasi highway to Nachingwea, the village has a ring well (7m deep) and 2 streams. However, in the dry season, the well produces very little water and the streams dry up. In 1986, FIN constructed a borehole with a handpump, but this facility is no longer used since the handpump was destroyed in 1988. The villagers said that the borehole produced salty water. The villagers want a handpump facility, and this is considered appropriate in view of the village structure and the population. Nonetheless, attention should be given to the water's salinity level.
Mandawa	Mandawa	Chibula	1,549	1,192	Traditional dug well (1.6km)	This is a comparatively compact village 30km northeast of Ruangwa. The villagers get their water from a 1.5m traditional dug well located 1.6km away. In 1978, the Ministry of Water constructed a level 2 supply system in the village as a part of the Lichwachwa water supply scheme. The system entailed the construction of a ring well at the edge of the river and pumping the water all the way to the ground tank ($90m^3$) at a village located on a plateau 24km away. These system is no longer used after the intake facilities were washed away by floods in 1981. However, the ground tank can still be used. The villagers want a level 2 supply system and are willing to put up a water fund by collecting 5TSH/1kg of cashew nuts and sesame during the harvest season.

Water Supply and Water Use Conditions in the Seleced 100 Villages (25)

Nachingwea District, Lindi Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Mnero	Mnero Miembeni	Mkonjela	1,559	3,665	5km to Ntila HP	This is a large village 20km northwest of Nachingwea. The 1988 census reports a village population of 1,559. By 2000, the population has more than doubled to 3,665, and the village chief attributes this to the collective migration of people from Masasi in search of arable lands. At present, the villagers extract water from 5 ring wells with handpumps in the neighboring village of Ntila which is 6.7 km away. These ring wells are jointly used by 5 neighboring villages. There is also a 45m deep borehole with a handpump within the village. The water from this borehole, however, is not used for drinking due to a high EC level (3,500 μ S/cm). Although the Ministry of Water connected distribution pipelines with communal faucets in 2 places to the elevated tank in Ntila, which is at the terminal end of the area covered by the Ruponda water supply scheme, these facilities have been destroyed. The system is therefore inoperative. The villagers want a handpump facility. However, a level 2 supply system would be more appr
Ruponda	Marambo	Litula	1,060	1,793	Traditional dug well (200m)	This village is made up of 3 settlements and is located 20km northwest of Nachingwea. The village used to consist of only 1 settlement, until the flood in 1979 forced the residents in the lowland to move to the highland, thereby resulting in the formation of 3 settlements within the village. The present water supply source is a 2m deep traditional dug well that does not dry up even in the dry season. This well is also used in the dry season by the residents of the Rweje village located 10km away. A water supply facility has never been constructed in this village. Any water supply system is favorable to the villagers as long as it provides them with a stable water supply. One level 2 water supply system would not be sufficient as the 3 settlements are scattered in a low-lying area. Although the village population is quite big, handpump facilities would be most appropriate in consideration of the village structure and the groundwater level in the area.
	Mkoka	Rweje	1,295	1,352	Traditional dug well (1km)	This is a village where houses are scattered over a wide area 30km northwest of Nachingwea. The villagers take water from the traditional dug wells around the village. When all these wells dry up in the dry season, the villagers travel 10km to Litula village to draw water from a traditional dug well. In 1974, Ministry of Water provided the village with a borehole with handpump. This borehole is still used to date. Although water from the borehole is only used for laundry due to a high EC level (5,100μS/cm), it is being sold for 10TSH/20 liters. Although the dam being constructed under the Japan Grant Aid scheme will be completed this August, it is still without water at present, however, conditions are expected to change when the rainy season starts.

Water Supply and Water Use Conditions in the Seleced 100 Villages (26)

Nachingwea District, Lindi Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Nambambo	Naipanga	Naipanga	5,066	17,939	Traditional dug well (4km)	This is a large village along the road that links the towns of Nachingwea and Masasi. Due to population explosion, the village was divided in October 2000 into the three villages of Naipanga, Lahaleo, and Chiwindi. The population of either villages is still unknown because no population surveys have been carried out as yet (November 2000). The villagers use the traditional dug wells around the village as water sources, but draw water from the traditional dug well 4km away in the dry season when all the wells in the village dry up. Relative to its scale, the village has poor water resources. In 1978, FIN constructed a level 2 supply system with a borehole as a source. The facility was destroyed in 1983. According to the villagers, the borehole produced salty water. In view of the village population, a level 2 water supply system would be appropriate.
	Naipanga	Chiumbati Miembeni	1,147	1,369	Traditional dug well (6.5km)	This village is along the road that links the towns of Nachingwea and Masasi. Normally, the villagers use the stream 1.5km away (slightly salty water), but when this dries up in the dry season, they travel 6.5km to extract water from a well about 1m deep. In 1987, FIN provided the village with a borehole with a handpump. The pump was damaged in 1989 and the borehole has not been used since then. According to the villagers, the borehole produced salty water as well. Although a level 2 water supply system would be appropriate for a village of this population, attention should be paid to salinity levels in the water.
	Mkotokuyama	Mandai	1,108	1,628	Traditional dug well (5km)	This is a comparatively compact village by the road extending from the Masasi highway to the town of Nachingwea. The village has no water resources at all. The villagers have to travel 5km to Mkumbu village to draw water from the 4m deep traditional dug well. Although there is a borehole with a handpump 5km away, the villagers avoid using this source as it produces salty water. In 1985, MOW constructed a level 2 supply system with borehole as a source. The system's engine, however, brokedown within a day and the system has not been used since then. The system was repaired, but because the pump fell inside the well during the repair, the borehole became useless. According to the villagers, the borehole produced salty water. Although a level 2 water supply system would be appropriate for a village of this population, attention should be paid to salinity levels in water.

Water Supply and Water Use Conditions in the Seleced 100 Villages (27)

Nachingwea District, Lindi Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Nambambo	Ndomoni	Ndomoni	1,280	1,230	Traditional dug well (3km)	This village is along the road that links the towns of Nachingwea and Masasi. The villagers use the 3m traditional dug well located 3km away. When this well dries up in the dry season, the villagers draw water from the dam in Masasi, which is 3km away. Although a dam was constructed in 1973, the floods in 1975 washed the structure away. In 1980, FIN constructed a borehole in Ndomondo village for the Ndomondo water supply scheme. The plan was to distribute water by booster pump to the village, and although the required elevation tank and distribution pipelines were successfully installed, the rest of the facilities were never completed. According to the villagers, the borehole produced salty water. The villagers want a level 2 supply system and this is considered appropriate in view of the village population. Nonetheless, attention should be paid to the salinity levels in the water.
	Mtua	Kipara Mtua	1,334	2,573	Dugl well (500m)	This village is 20km from the road that extends directly to the west from Nachingwea. The village population has rapidly increased as progress in the reclamation of farmlands attracted migrants from other villages. In 1986, FIN planned the construction of ringwells (with handpumps) in 3 places. The ringwells were dug, but the handpumps were never attached. The villagers currently use the ringwells as water sources, but since they are only 3 to 4m deep, they dry up in the dry season. The villagers then travel 4km to a borehole with handpump that produces water high in EC (2,379 μ S/cm). This borehole was excavated in 1954, when the nation was under the British regime, and was then equipped with a motor pump that has long been destroyed. In 1988, MOW attached a handpump to the borehole, but this was also destroyed in 1990. In 1999, with funding from the district government, the well was rehabilitated and a new handpump was attached. The well, however, is only used in the dry season at present. In view of the vill
	Mpiruka	Mpiruka	2,411	2,621	Traditional dug well (500m)	This is a large village 10km north-north-west of Nachingwea. Water is extracted from several traditional dug wells in a place about 500m from the center of the village. Relative to its size, the village has poor water resources. In 1974, Ministry of Water constructed facilities that would convey water to the communal faucet within the village from the borehole in Mukumbashamba, which is 4km away. However, the facilities have not been used since the engine broke down in 1976. A level 2 supply system would be appropriate for a village of this population.

Water Supply and Water Use Conditions in the Seleced 100 Villages (28)

Liwale District, Lindi Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Barikiwa	Mlembwe	Mlembwe	1,611	1,586	Pond (500m)	This village is in proximity to a game reserve and about 40km north west of Liwale. The houses do not form settlements as they are scattered over a wide area. The villagers extract water from a pond about 500m away; this pond, however, only contains water in the rainy season. In the dry season, the villagers would dig holes around the pond area to extract water. There are also cases when animals, e.g. elephants, invade the water source of the village. Although a spring exists 1.5km away, this dries up in the dry season. The villagers do not use the spring water as it is salty and high in EC (800uS/cm). A water supply system has never been constructed in this village. In view of the village structure and ease in the procurement of fuel, the construction of a handpump facility would be most desirable for this village. Even the village chief expresses the desire for a handpump facility.
Liwale	Liwale B	Mikunya	1,926	1,100	Dug well (1km)	This is a village that extends to 3.1km along the road linking the towns of Nachingwea and Liwale. The settlements are divided into 3 areas: an area with a school along a road, and two other residential sections. The villagers extract water from a ring well and by digging at the bottom of a dried up stream (the latter provides scanty water volume). In 1986, Ministry of Water installed a water conveyance pipeline, a distribution net, an elevated tank and communal faucets, while FIN planned the excavation of a well and the installation of a pump. All the water supply facilities were constructed but the pump was not installed. Therefore, the tank never contained any water. As in other villages, the well was dug at a low-lying area while the tank was constructed on higher ground. The conveyance pipe is 1.6km long from the well to the tank, and a 2.1km distribution pipeline is placed parallel to the conveyance pipe toward the well. In 1987, FIN constructed ring wells (5-12m deep and with handpumps) in 4 places, but all the pumps were destroyed by 1999. Although a level 2 supply system was constructed in the past, handpump facilities are desirable for this village because the three set
	Mihumo	Mihumo	1,853	1,771	Stream (1km)	This is a comparatively compact village 16km south of Liwale. The water source is a stream 900m from the center of the settlement. When the stream dries up in the dry season, the villagers extract the water that gushes out from the side of the stream. Although this section of the stream never stops from spewing water out, the volume produced is small. In 1983, FIN constructed a ring well (with handpump). The well is no longer used, however, since it dried up in 1986. A level 2 supply system is considered appropriate in view of the structure and the population of this village.

Water Supply and Water Use Conditions in the Seleced 100 Villages (29)

Liwale District, Lindi Region

Division	Ward	Village	Population		Water source for domestic use as of 2000	Condition of Existing Water Supply Facility and Facility Plan
			Census 1988	Actual 2000		
Liwale	Mbaya	Mbaya	1,268	1,442	Liwale River (1km)	This is a village that extends 2.1km along the Liwale River and 14km north-north-east of the town of Liwale. Liwale River, which is 500m from the village, is the village water source. When the river dries up in the dry season, the villagers dig at the riverbed to extract water. In 1975, MOW constructed a level 2 supply system with a ring well dug at the edge of Liwale River as a source. The system is no longer used, however, since the engine broke down and the pump house was destroyed in 1998. As the villagers were able to maintain these water supply facilities for 23 years, the construction of a level 2 supply system under this study seems appropriate. The villagers also had a fund collection plan for O&M expenses.
	Ngongowele	Ngongowele	1,535	1,291	Ruhuu River (4km)	This is a comparatively compact village 38km south of Liwale. Ruhuu River, which is 4km from the village, is the village water source. When the river dries up in the dry season, the villagers dig at the riverbed to extract water, and when this source is used up, they draw water from a pond 8km away. In 1971, MOW constructed a level 2 water supply system with a ring well for a source. The system has not been used ever since the pump was destroyed. In 1989, FIN planned the construction of a ring well and the installation of a handpump. The ring well was constructed but the handpump was never installed. At present, the ring well contains no water. In view of the ease in procuring fuel, the construction of a handpump facility would be desirable for this village. Even the village chief expresses the desire for a handpump facility.