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Concerns : Situation of the water pumps in ward Sunga, district Lushoto, Tanzania  
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annex : statistical information of the population of Sunga  
review of the pumps in Sunga  
situation of the pumps to be replaced  
inspection of 3 of the 9 recently replaced pumps

## introduction

The situation of the drinking water supply in ward Sunga is worrisome. Until recent from the about 27 pumps only one was working. Recently 9 pumps, among which the only working one, are replaced by the government but this is still far to less to fulfil the needs and many people have to walk far for their water every day.

## Inventory

Below an inventory is made of the current situation. From the pumps that are not working or not working properly the details are added to be able to estimate how easy or difficult it is to replace them.

In general the following problems are found:

1. A lot of pumps are not working any more for some years. There was no good governance to the remaining bore holes and those are filled with soil or sometimes even not seen any more.
2. Because of use of pesticides some pollution is seen in the surface water. It is likely that the pollution also will have reached the water wells below. Unfortunately the pollution is wide spread all over the fertile farmland which is situated right at the places in the valleys where the water wells can be found. So there are no cheap alternative solutions.
3. Most water wells are found in the valleys far from accessible roads.
4. However the policy of the local board of the ward Sunga is to have water committees for every pump in the region those committees mostly not have the power and the means to operate effectively.
5. The actual choice where the pumps have to be placed is accompanied by a lot of political interest and is not always clear or does not always lead to the most optimal solution.
6. The quality of the water is not controlled on a regular base. Some years back it should have been inspected on some places.
7. Pumps which just have been replaced are not fixed well and are likely to break in short term again. The people around have not the means, the awareness or the power to fix the needed repairs.

Recently the government has replaced 9 pumps which has given some relief. Unfortunately the new pumps are not spread equally over the region as a result of many people still have to walk far for their daily drinking water and it is likely that many people are drinking uncontrolled water from open sources.

The situation in the most populated village Mambo is likely coming to an end because of the appearance of the new Lodge MamboViewPoint which is going to provide initial 25 taps with running water from a source in the natural forest.

### **Suggestions for a sustainable replacement and extension of the pumps.**

However the replacement of the broken pumps and the extension is terribly needed, because of reasons of sustainability, it is advised not to replace a number of pumps in one short action by technician from abroad or from a city far away.

Instead it is better to store available new pumps and to instruct local technician how to make foundations, how to clean old boreholes and how to install the new pumps.

Locally first the water committees for every pump can be established and instructed, after which the local technicians can replace the pump.

In case of technical problems the same technician who placed the pumps can repair the pumps again or they know how to get help to repair them.

### **Conclusion**

From the 27 present pumps only 9 are working, which means about 7,000 people per pump which is far beyond an acceptable situation. Even if there were 27 pumps those were still too few. It is therefore desirable to replace as many pumps as possible.

Replacing the pumps need on some places cleaning of the boreholes and sometimes even finding them again. For a sustainable solution also the water committees have to be established and trained and it is advised not to replace a number of pumps in one action but to train local technician and to let them install the pumps one by one.





## Annex 1: statistics of Ward Sunga






source: As from January till march 2009 village progress report



<i>Village</i>	<i>Number of households</i>	<i>Population</i>		<i>Total population</i>
		<i>Man</i>	<i>Woman</i>	
Masereka	732	1.574	2.228	3.802
Mambo	781	2.300	2.574	4.847
Mamboleo	337	418	699	1.117
Nkukai	452	1.146	1.029	2.175
Sunga	520	1.223	1.548	2.771
Kwemtindi	505	990	1.410	2.400
Tema	659	1.428	1.550	2.978
Kalumele	443	710	965	1.675
<b>Total</b>	<b>4.429</b>	<b>9.789</b>	<b>11.976</b>	<b>21.765</b>

Annex 2: review of the pumps in ward Sunga

<i>Village</i>	<i>Total population</i>	<i>Number of working pumps</i>	<i>Population per working pump</i>	<i>Number of not working pumps</i>	<i>Total number of pumps</i>	<i>Population per pump</i>	<i>Number of wanted new pumps</i>
Masereka	3,802	2	1,901	2	4	951	2
Mambo	4,847	3	1,616	3	6	808	0
Mamboleo	1,117	0		1	1	1,117	4
Nkukai	2,175	2	1,088	1	3	725	2
Sunga	2,771	2	1,386	3	5	554	3
Kwemtindi	2,400	0		3	3	800	0
Tema	2,978	0		5	5	596	2
Kalumele	1,675	0		0	0		2
<b>Total</b>	<b>21,765</b>	<b>9</b>	<b>2,418</b>	<b>18</b>	<b>27</b>	<b>806</b>	<b>15</b>

<b>Annex 3: Inventory of broken pumps</b>				
<i>Nmb</i>	<i>Village</i>	<i>GPS and altitude</i>	<i>Situation</i>	<i>Pictures</i>
1	Sunga	-4.52093 38.23795 1886 m	The borehole looks ok, and old pump is placed but is not working any more.	
2	Masereka	-4.54179 38.23856 1826 m	There is a pump placed and is working a little but the spring is broken and it is not used. There are rumours the water is smelling. During inspection the smell is not detected.	
3	Kwemtindi	-4.51580 38.23600 1867 m	There is only a foundation and a borehole. The borehole is not covered and filed with soil.	
4	Maseraka	-4.54437 38.22854 1836 m	The top part of the pump is missing. The borehole looks ok. It should have been working until some weeks ago. No foundation and no drainage found.	

Annex 3: Inventory of broken pumps				
5	Tema	-4.53278 38.21238 1684 m	Only foundation is left. Drill hole is filled with soil. It should have been working until 4 years ago.	
6	Tema	-4.53072 38.21417 1695 m	It is said that there has been a working pump 6 month ago. Only some broken plastic pipe is left. The exact position of the borehole is covered by soil and has to be located.	
7	Tema	-4.53678 38.22042 1755 m	It is said that there has been a working pump 4 years ago. The exact position of the borehole is covered by soil and has to be located.	
8	Tema	-4.53533 38.20978 1677 m	It is said that there has been a working pump 4 years ago. The exact position of the borehole is covered by soil and has to be located.	
9	Tema	-4.52846 38.21211	It is said that there has been a working pump 4 years ago. The exact position of the borehole is covered by soil and has to be located.	

<b><i>Inspection of 3 of the 9 just replaced pumps</i></b>				
1	Masereka	-4.54437 38.24281	Pump is just replaced by the government, but the nuts for fixing the pump are missing, by which it is likely to break again in short term.	
2	Mambo	-4.51259 38.21147	Just replaced, is working well. Place is near Tema	
3	Mambo	-4.51118 38.22400	Pump is just replaced by the government, but the nuts for fixing the pump are not well fixed, by which it is likely to break again in short term.	