

## SAMPLING PROCEDURE

The study area population and number of households

Division	No. of Loc.	No. S- Loc.	1999 HH	Sample size (10% of HH)	No. of RAs
Yatta	3	8	7,648	765	4
Central	8	30	20,683	2,068	9
Chuluni	5	15	12,977	1,298	6
260 DC			2,600	260	1
<b>Sub-total</b>	<b>16</b>	<b>53</b>	<b>48,017</b>	<b>4,802</b>	<b>20</b>
Mutomo	9	31	14,869	1,487	12
Ikutha	7	26	9,456	946	8
<b>Sub-total</b>	<b>16</b>	<b>57</b>	<b>24,325</b>	<b>2,433</b>	<b>20</b>

*Source: CBS, 1999 National Population Census*

Payment

Area	Sample Size	No. of RAs	Days	Payment (KShs)	Total Payment
Yatta, Central & Chuluni	4,802 (incl. 260 DC)	20	49 days/RA	49*400= 19,600/= per RA	392,000/=
Mutomo & Ikutha	2,433	20	25 days/RA	25*400= 10,000 /= per RA	200,000/=
<b>Total</b>	<b>7,235</b>	<b>40</b>	<b>74 days/RA</b>	<b>29,600/=</b>	<b>592,000/=</b>

Committee Members Sample

Catchment	No. of Dams	No. of Dam Committee members	Sample size (10%)
Kiindu	40	520	52
Kisiio	30	390	39
Mwiwe	55	715	72
Ithumula	34	442	44
Elsewhere	41	533	53
<b>Total</b>	<b>200</b>	<b>2,600</b>	<b>260</b>

**1 person 52 days**

**41.4 days - 207 respondents**

**DIVISION: YATTA**

(Number of Households = 7,648; Sample Size = 765; RA = 4)

Location	Sub-locations	No. HH	Sample	App. Days	
<b>Yatta</b>		<b>3,177</b>	<b>318</b>	<b>21</b>	<b>3 persons</b>
	Nyanyaa	432	43	3	<b>28 days</b>
	Makusya	708	71	5	<b>bal. 21 days</b>
	Ilika	1,002	100	7	
	Ndunguni	1,035	104	7	
<b>Kwa Vonza</b>		<b>1,376</b>	<b>138</b>	<b>9</b>	<b>1 person</b>
	Mikuyuni	946	95	6	<b>36 days</b>
	Kanyonyoni	430	43	3	<b>Bal. 13 days</b>
<b>Kyangi</b>		<b>3,095</b>	<b>310</b>	<b>20</b>	<b>All to converge here</b>
	Syomunyu	1,287	129	9	
	Mandongoi	1,808	181	11	

## Yatta Division: Enumerators

Name	Position
1. Onesmus Kimanzi Mwangangi	Senior Enumerator
2. Felistus Kalunde Kakuvi	Enumerator
3. Benjamin Mutuku Ngui	Enumerator
4. Munguti Joseph Mutinda	Enumerator

**DIVISION: CENTRAL**

(Number of Households = 20,683, Sample Size = 2,068; RA = 9)

Location	Sub-locations	No. HH	Sample	Appr. Days (9 Ras)	Operation
<b>Kyangwithya West</b>		<b>3,494</b>	<b>350</b>	<b>8</b>	<b>Kyang E + W</b>
	Mbusyani	326	33	1	<b>4 RAs 49 days</b>
	Tungutu	1,282	128	3	
	Utooni	783	78	2	
	Mulutu	732	73	1	
	Ndumoni	371	37	1	
<b>Kyangwithya East</b>		<b>5,802</b>	<b>580</b>	<b>13</b>	<b>*****</b>
	Ivaini	795	80	2	
	Museve	1,065	107	2	
	Kaveta	862	86	2	
	Misewani	1,193	119	3	
	Mutune	734	73	2	
	Mulundi	1,153	115	2	
<b>Maliku</b>		<b>1,927</b>	<b>193</b>	<b>4</b>	<b>Maliku+Mulango+ Katulani+ Itoleka</b>
	Kavisuni	709	71	1	
	Maliku	542	54	1	<b>4 RA 40 days</b>
	Kathungi	676	68	1	<b>C. Bal. 9 days</b>
<b>Mulango</b>		<b>2,870</b>	<b>287</b>	<b>6</b>	<b>(All 36 days)</b>
	Kyangunga	581	58	1	
	Wikililye	1,374	137	3	
	Wii	370	37	1	
	Kyambiti	545	55	1	
<b>Katulani</b>		<b>1,582</b>	<b>158</b>	<b>4</b>	
	Katulani	1,059	106	2	
	Kwa Muli	523	52	1	
<b>Itoleka</b>		<b>1,579</b>	<b>158</b>	<b>4</b>	
	Kavuta	491	49	1	
	Itoleka	1,088	109	2	
<b>Miambani</b>		<b>3,429</b>	<b>343</b>	<b>8</b>	<b>1 RA 69 days</b>
	Kenze	613	61	1	<b>Bal. - 20 days</b>
	Mutula	678	68	1	
	Kamandio/Malili	952	95	2	
	Munganga	601	60	1	
	Nzaaye	585	59	1	

Central Division: Enumerators

Name	Position
1. J. Munanie Mutunga	Senior Enumerator
2. Hilda Kalekye Manzi	Enumerator
3. Risper Kavula Timothy	Enumerator
4. Joseph Muinde Munyoki	Enumerator
5. Nduto Musyula	Enumerator
6. Esther Kalekye Nzungu	Enumerator
7. Joseph Kyalo Kasi	Enumerator
8. Nancy Mwendu Kyali	Enumerator
9. Michael Ndeto Willie	Enumerator
10. Mercy Mutave Mulevu	Enumerator

**DIVISION: CHULUNI**

(Number of Households = 12,977; Sample Size = 1,298; RA = 6)

Location	Sub-locations	No. HH	Sample	Days	
<b>Nzambani</b>		<b>4,229</b>	<b>423</b>	<b>14</b>	<b>2RAs 49 days</b>
	Kyanika	1,643	164	6	
	Maluma/Ithumula	1,969	197	6	
	Ngungi	617	62	2	
<b>Nzangathi</b>		<b>1,497</b>	<b>150</b>	<b>5</b>	<b>1RA 30 days</b>
	Nzangathi	1,497	150	5	<b>Bal. 19 days</b>
					<b>(proceed to Mbusyani)</b>
<b>Mbitini</b>		<b>3,231</b>	<b>323</b>	<b>11</b>	<b>2 RA 32 days</b>
	Kanzau	534	53	2	<b>C.Bal. 17 days</b>
	Mbitini	1,303	130	4	<b>(34 days)</b>
	Katwala	922	92	3	<b>(Proceed to Mbusyani)</b>
	Mosa	472	47	2	
<b>Kisasi</b>		<b>2,149</b>	<b>215</b>	<b>7</b>	<b>1RA 49 days</b>
	Ngangani	593	59	2	
	Kitungati	750	75	3	
	Masimbini	806	81	3	
<b>Mbusyani</b>		<b>1,871</b>	<b>187</b>	<b>6</b>	<b>Bal. 37 days</b>
	Ngiluni	490	49	2	
	Mbusyani	589	59	2	
	Nguuni	490	49	2	
	Mukameni	302	30	1	

## Chuluni Division: Enumerators

Name	Position
1. Winfred Nzuki	Senior Enumerator
2. Eric Musyoki	Enumerator
3. Naomi Kithome	Enumerator
4. Selesius Mwanzia	Enumerator
5. Mueni Mulei	Enumerator

**DIVISION: MUTOMO**

(Number of Households = 14,869; Sample Size = 1,487; RA = 12)

Location	Sub-locations	No. HH	Sample	Days
<b>Mutha</b>		<b>878</b>	<b>88</b>	<b>2</b>
	Katene	268	27	1
	Kalambani	111	11	1
	Ngaani	499	50	1
<b>Ndakani</b>		<b>1,062</b>	<b>106</b>	<b>2</b>
	Isaa	271	27	1
	Kalia Katune	319	32	1
	Ndakani	472	47	1
<b>Mathima</b>		<b>1,447</b>	<b>145</b>	<b>4</b>
	Mivuni	348	35	1
	Kiimani	284	28	1
	Kivyuni	261	26	1
	Kengo	280	28	1
	Kiati	274	27	1
<b>Mutomo</b>		<b>1,301</b>	<b>130</b>	<b>2</b>
	Kandae	165	17	1
	Kitoo	645	65	1
	Mwala	491	49	1
<b>Kibwea</b>		<b>1,934</b>	<b>193</b>	<b>3</b>
	Kibwea	755	76	1
	Kawelu	1,179	118	2
<b>Kyatune</b>		<b>2,134</b>	<b>213</b>	<b>4</b>
	Yongela	395	40	1
	Ngwani	575	58	1
	Kyatune	895	90	2
	Ndatani	269	27	1
<b>Ikanga</b>		<b>3,085</b>	<b>309</b>	<b>5</b>
	Kathungu	1,386	139	2
	Ilusya	1,068	107	2
	Ithumula	631	63	1
<b>Voo</b>		<b>1,874</b>	<b>187</b>	<b>3</b>
	Nthunguni	508	51	1
	Kyaango	476	48	1
	Kyangini	220	22	1
	Imale	199	20	1
	Kasasi	471	47	1
<b>Kyamatu</b>		<b>1,154</b>	<b>115</b>	<b>2</b>
	Kyamatu	455	46	1
	Nzanzu	194	19	1
	Muthungue	505	51	1

Mutomo Division: Enumerators

Name	Position
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	Senior Enumerator
2.	Enumerator
3.	Enumerator
4.	Enumerator
5.	Enumerator
6.	Enumerator
7.	Enumerator
8.	Enumerator
9.	Enumerator
10.	Enumerator
11.	Enumerator
12.	Enumerator

**DIVISION: IKUTHA**

(Number of Households = 9,456; Sample Size = 946; RA = 8)

Location	Sub-locations	No. HH	Sample	Days
<b>Kanziko</b>		<b>1,126</b>	<b>113</b>	<b>3</b>
	Kivandeni	288	29	1
	Mwanianga	231	23	1
	Kanyaa	82	8	1
	Keutunda	373	37	1
	Kituvwi	152	15	1
<b>Simisi</b>		<b>739</b>	<b>74</b>	<b>2</b>
	Ilamba	107	11	1
	Simisi	270	27	1
	Ekani	362	36	1
<b>Kasaala</b>		<b>1,058</b>	<b>106</b>	<b>3</b>
	Uyini	358	36	1
	Kasaiani	342	34	1
	Nzamba	358	36	1
<b>Ikutha</b>		<b>2,145</b>	<b>215</b>	<b>5</b>
	Ngwate	491	49	1
	Ndili	493	49	1
	Maiani	115	12	1
	Ngawuni	198	20	1
	Kyoani	462	46	1
	Kiangu	386	39	1
<b>Maluma</b>		<b>1,249</b>	<b>125</b>	<b>3</b>
	Maluma	680	68	2
	Muambani	333	33	1
	Monguni	236	24	1
<b>Kalivu</b>		<b>1,190</b>	<b>119</b>	<b>3</b>
	Kalivu	533	53	1
	Makaie	397	40	1
	Katilini	260	26	1
<b>Athi</b>		<b>1,949</b>	<b>195</b>	<b>5</b>
	Kilawa	567	58	2
	Kituti	971	97	2
	Kisiio	411	41	1

## Ikutha Division: Enumerators

Name	Position
	Senior Enumerator
2.	Enumerator
3.	Enumerator
4.	Enumerator
5.	Enumerator
6.	Enumerator
7.	Enumerator
8.	Enumerator



**Notes:**

- Stratified random sampling, weights- population per sub-location
- This study is supposed to be carried out in the entire Yatta, Central and Chuluni divisions to capture the socio-economic impact of sand dams in the area. From two perspectives: Participants (increased production, distance to water sources reduced) and non-participants (spill-overs; reduced prices and increased availability of farm products e.g. Vegetables; land appreciating in value).

**Committee members' Survey:**

- 200 dams
- Every dam has 13 committee members
- 10% of 200\*13 (2,600)= 260 dam committee members
- Stratified/systematic sampling. Stratified (according to rivers, weight according to number of dams), systematic (alphabetically).

**Special cases:**

- Kwa Mukumbe (Clean wells; Jennifer factor)
- Kamumbuni (Recharge; Religion- powerful *Kathambi* case)
- Munandani (The young boy issue)
- Ndovoini (Dam-cum-bridge)
- Ndung'uni A (User intensity)
- Mbitini (Impact of IWSS to water cost in urban area)
- Kyang'ombe (Remote; family dams)

**Other Details:**

- Enumerators 20 (local graduates first)
- 5 Questionnaires per day
- For two months 4,000 respondents
  
- February: recruitment and training
- Balance RAs according to population
  
- March-April: Data collection
  
- Sam: Payment- Going rates

**Baseline Survey in Mutomo and Ikutha**

- Population 21,000 households
- 10% = 2,100 households sample
- May: Identification and training
- June: Data collection