

***Wii Sub-Location, Mulango Location, Central Division  
(25 Participants & 10 Non-participants)***

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**Household Demography**

Head of the Household sex (%)

<b>Sex</b>	<b>Participants</b>	<b>Non-participants</b>
Female	52.0	70.0
Male	48.0	30.0
Total	100.0	100.0

Head of the Household age category

<b>Age bracket</b>	<b>Participants</b>	<b>Non-participants</b>
20 ò years	0	0
20 < years ó 35	32.0	50.0
35 < years ó 55	40.0	30.0
55 < years ó 70	20.0	20.0
70 < years	8.0	0
Total	100.00	100.00

Head of Household level of education

<b>Level</b>	<b>Participants</b>	<b>Non-participants</b>
informal	16.0	50.0
primary	44.0	40.0
secondary	36.0	10.0
tertiary	4.0	0
Total	100.0	100.0

Head of household main occupation (%)

<b>Occupation</b>	<b>Participants</b>		<b>Non-participants</b>	
	<b>Main occupation</b>	<b>Secondary occupation</b>	<b>Main occupation</b>	<b>Secondary occupation</b>
subsistence farmer	76.0	20.0	80.0	10.0
businessman	8.0	0	10.0	0
regular employment	4.0	0	0	0
wage earner	12.0	0	10.0	10.0
other	0	4.0	0	0
not reported	0	76.0	0	80.0
Total	100.0	100.00	100.0	100.0

## Household annual income-% (KShs.)

<b>Income</b>	<b>Participants</b>	<b>Non-participants</b>
10,000 ò income	32.0	40.0
10,000 < income ó 30,000	32.0	60.0
30,000 < income ó 50,000	20.0	0
50,000 < income ó 100,000	12.0	0
100,000 < income	4.0	0
not reported	0	0
Total	100.0	100.0

## Household size(%)

<b>Size</b>	<b>Participants</b>	<b>Non-participants</b>
3 ò members	12.0	0
3 < members ó 8	52.0	100.0
8 < members ó 12	32.0	0
12 < members	4.0	0
Total	100.0	100.0

## Household composition (%)

<b>Composition</b>	<b>Participants</b>	<b>Non-participants</b>
females =males	8.0	30.0
females > males	44.0	40.0
females < males	48.0	30.0
Total	100.0	100.0

## Household income sources (%)

	<b>Participants</b>		<b>Non-participants</b>	
	<b>Main</b>	<b>Secondary</b>	<b>Main</b>	<b>Secondary</b>
crop farming	48.0	40.0	80.0	20.0
livestock	8.0	20.0	0	10.0
business	0	8.0	0	10.0
regular employment	16.0	0	0	0
wage earning	24.0	12.0	20.0	10.0
other	4.0	0	0	0
no response	0	0	0	0
not reported	0	20.0	0	50.0
Total	100.0	100.00	100.0	100.0

## Income sources contribution (%)

<b>(KShs.)</b>	<b>Participants</b>		<b>Non-participants</b>	
	<b>Main (%)</b>	<b>Second (%)</b>	<b>Main (%)</b>	<b>Second (%)</b>
10,000 ò	24.0	44.0	40.0	30.0
10,000 < income ó 30,000	32.0	16.0	50.0	20.0
30,000 < income ó 50,000	12.0	12.0	10.0	0
50,000 < income ó 100,000	16.0	4.0	0	0
10,000 < income	16.0	4.0	0	0
no response	0	0	0	0
not reported	0	20.0	0	50.0

Total	100.0	100.0	100.0	100.0
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### ***Household Inventory (Assets)***

#### Number of houses (%)

Number of houses	Participants	Non-participants
one	8.0	0
two or three	80.0	80.0
four or five	12.0	20.0
Total	100.0	100.0

#### Main house thatch

Thatch type	Participants	Non-participants
iron sheets	96.0	0
grass	4.0	100.0
Total	100.0	100.0

#### Main house floor type

	Participants	Non-participants
cemented	52.0	10.0
un-cemented	48.0	90.0
Total	100.0	100.0

#### Main house number of rooms

<i>Number of houses</i>	<i>Participants</i>	<i>Non-participants</i>
one room	20.0	20.0
two or three	64.0	70.0
four or five	4.0	0
six and more	12.0	10.0
Total	100.0	100.0

#### Wall material- main house

Wall material	Participants	Non-participants
brick/mud	44.0	70.0
brick/cement	52.0	30.0
block/cement	4.0	0
Total	100.0	100.0

#### Household with toilets

	Participants	Non-participants
households with toilets	80.0	90.0
households without toilets	20.0	10.0
Total	100.0	100.0

### ***Other household possessions***

Number of chicken and ducks, cows and goats(%)

	Participants			Non-participants		
	Chicken/ducks	Cows	Goats	Chicken/ducks	Cows	Goats
nil	8.0	40.0	36.0	30.0	70.0	30.0
one	24.0	0	0	20.0	20.0	40.0
1 < number ó 5	36.0	52.0	44.0	20.0	0	10.0
5 < number ó 10	24.0	4.0	16.0	10.0	0	0
10 < number	8.0	4.0	4.0	20.0	10.0	20.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Number of donkeys

	Participants	Non-participants
nil	60.0	80.0
0 < donkeys ó 3	40.0	20.0
Total	100.0	100.0

Number of jembes, spades, mattocks, etc.

	Participants	Non-participants
nil	8.0	0
0 < jembes ó 5	48.0	90.0
5 < jembes ó 10	40.0	10.0
10 < jembes	4.0	0
Total	100.0	100.0

**Number of Ox-ploughs, Bicycles, carts/wheel barrows, plant machines, Transistor radios, television sets( %)**

Participants

	Ox-ploughs	bicycles	carts/wheel barrows	plant machines	radios	TV	motor vehicles
nil	56.0	72.0	68.0	96.0	52.0	84.0	92.0
0 < numberó 3	44.0	28.0	32.0	4.0	48.0	16.0	8.0
3< number	0	0	0	0	0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Non-Participants

	Ox-ploughs	bicycles	carts/wheel barrows	plant machines	radios	TV	motor vehicles
nil	60.0	80.0	70.0	100.0	50.0	0	100.0
0 < numberó 3	40.0	20.0	30.0	0	50.0	0	0
3< number	0	0	0	0	0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**Land**

Land ownership total land rented (acreage)

	Participants		Non-participants	
	owned	rented	owned	rented
not reported	4.0	92.0	0	100.0

5 ò acres	72.0	8.0	80.0	0
5 < acres ó 10	16.0	0	10.0	0
10 < acres	8.0	0	10.0	0
no response	0	0	0	0
Total	100.0	100.00	100.0	100.0

#### Main land use (%)

Use	Participants		Non-participants	
	main use	second main use	main use	second main use
homestead	4.0	48.0	0	0
agriculture	84.0	12.0	90.0	70.0
livestock grazing	8.0	32.0	10.0	30.0
rented out	0	4.0	0	0
not reported	4.0	4.0	0	0
Total	100.0	100.0	100.0	100.0

#### **Source of energy**

##### Source of energy

	Participants		Non-participants	
	main	second main	main	second main
firewood	92.0	4.0	90.0	0
kerosene	4.0	64.0	10.0	80.0
charcoal	4.0	16.0	0	20.0
not reported	0	16.0	0	0
Total	100.0	100.0	100.0	100.0

#### **Food intake:**

##### Type of Breakfast (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
tea/coffee	90.0	68.0	68.0
porridge	10.0	32.0	32.0
other	0	0	0
Total	100.0	100.0	100.0

##### Breakfast value before and after IWSS (KShs.)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
140 ò value	20.0	12.0	20.0
140 < value ó 350	50.0	68.0	56.0
350 < value ó 500	20.0	4.0	16.0
500 < value	0	16.0	8.0
no response	10.0	0	0
Total	100.0	100.0	100.0

##### Lunch before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
<i>ugali</i>	70.0	52.0	68.0
<i>githeri</i>	30.0	48.0	32.0
other	0	0	0
not reported	0	0	0
Total	100.0	100.0	100.0

Lunch value before and after IWSS (KShs.) (%)

	Non-Participants	Participants (Before IWSS)	Participants (After IWSS)
140 ò value	10.0	4.0	0
140 < value ó 350	20.0	20.0	20.0
350 < value ó 500	40.0	24.0	28.0
500 < value	20.0	52.0	52.0
not reported	10.0	0	0
Total	100.0	100.0	100.0

Dinner/supper before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
<i>ugali</i>	60.0	52.0	40.0
<i>githeri</i>	40.0	48.0	56.0
other	0	0	4.0
Total	100.0	100.0	100.0

Dinner value before and after IWSS (KShs.)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
140 ò value	30.0	12.0	8.0
140 < value ó 350	20.0	16.0	12.0
350 < value ó 500	20.0	36.0	28.0
500 < value	20.0	36.0	52.0
not reported	10.0	0	0
Total	100.0	100.0	100.0

Preparation, service and order of service

	Participants			Non-participants		
	Who prepares	Who serves	Who is served first	Who prepares	Who serves	Who is served first
wife	56.0	60.0	4.0	50.0	40.0	10.0
Husband	0	4.0	44.0	10.0	20.0	30.0
children	8.0	8.0	12.0	0	0	10.0
house-help	4.0	4.0	0	0	0	0
husband/wife	0	0	4.0	0	0	0
wife/children	28.0	20.0	0	40.0	40.0	0
wife/house-help	4.0	4.0	0	0	0	0
all members	0	0	36.0	0	0	50.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

## **Migration**

### Year of migration

	Participants	Non-participants
1990-1992	0	0
1993-1997	0	0
1998-2001	4.0	0
not migrated	96.0	100.0
Total	100.0	100.0

### Nature of migration

	Participants	Non-participants
permanent	4.0	0
temporary	0	0
not migrated	96.0	100.0
Total	100.0	100.0

### Place of settlement

	Participants	Non-participants
village	4.0	0
town	0	0
abroad	0	0
not applicable	92.0	100.0
Total	100.0	100.0

### Reasons for migration

	Participants	Non-participants
in search of employment	0	0
land inadequacy	0	0
marriage	4.0	0
not migrated	96.0	100.0
Total	100.0	100.0

## **Daily water use**

### Daily water use before and after IWSS- litres (Participants)

	<b>Cooking</b>		<b>Washing/cleaning</b>		<b>livestock watering</b>		<b>Other uses</b>	
	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS
20 ò litres	4.0	0	28.0	12.0	32.0	28.0	4.0	4.0
20 < litres ó 40	68.0	52.0	52.0	32.0	20.0	8.0	0	4.0
40 < litres ó 60	16.0	24.0	4.0	24.0	4.0	8.0	0	0
60 < litres ó 80	12.0	24.0	12.0	24.0	8.0	8.0	0	0
80 < litres ó 100	0	0	0	8.0	4.0	4.0	0	0
100 < litres	0	0	4.0	0	0	4.0	0	0
not reported	0	0	0	0	32.0	40.0	96.0	92.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

### Daily water use - litres (Non-participants)

	<b>Cooking</b>	<b>Washing/cleaning</b>	<b>livestock watering</b>	<b>Other uses</b>
20 ò litres	30.0	30.0	40.0	10.0
20 < litres ó 40	50.0	50.0	10.0	10.0
40 < litres ó 60	20.0	0	10.0	0
60 < litres ó 80	0	10.0	10.0	0
80 < litres ó 100	0	0	0	0
100 < litres	0	10.0	10.0	0
not reported	0	0	20.0	80.0
Total	100.0	100.0	100.0	100.0

***Choice of Water Source: Factor influencing choice of water source:***

Participants- dry season

<i>Factor/Percentage</i>	<i>Rank 1</i>	<i>Rank 2</i>	<i>Rank 3</i>	<i>Rank 4</i>	<i>Rank 5</i>	<i>Rank 6</i>
distance	48.0	24.0	4.0	4.0	0	0
quality	32.0	12.0	8.0	12.0	0	4.0
quantity	12.0	20.0	12.0	8.0	0	0
Multiple use	0	16.0	8.0	0	8.0	0
Reliability	0	4.0	16.0	0	12.0	4.0
No alternative	8.0	8.0	4.0	4.0	4.0	12.0
not reported	0	16.0	48.0	72.0	76.0	80.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

***Participants- wet season***

<i>Factor/Percentage</i>	<i>Rank 1</i>	<i>Rank 2</i>	<i>Rank 3</i>	<i>Rank 4</i>	<i>Rank 5</i>	<i>Rank 6</i>
distance	36.0	12.0	12.0	4.0	0	0
quality	48.0	16.0	8.0	12.0	0	0
quantity	8.0	12.0	20.0	4.0	0	0
Multiple use	4.0	28.0	8.0	0	4.0	0
Reliability	0	0	8.0	8.0	12.0	4.0
No alternative	4.0	20.0	0	0	8.0	16.0
not reported	0	12.0	44.0	72.0	76.0	80.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Non-participants- dry season

<i>Factor/Percentage</i>	<i>Rank 1</i>	<i>Rank 2</i>	<i>Rank 3</i>	<i>Rank 4</i>	<i>Rank 5</i>	<i>Rank 6</i>
distance	80.0	30.0	0	0	0	0
quality	0	30.0	10.0	10.0	0	0
quantity	0	10.0	20.0	0	0	0
Multiple use	0	0	0	0	10.0	0
Reliability	0	0	10.0	0	0	0
No alternative	20.0	0	10.0	10.0	0	10.0
not reported	0	30.0	50.0	80.0	90.0	90.0
Total	100.0	100.0	100.0	100.0	100.0	100.0



Non-participants- wet season

Factor/Percentage	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6
distance	0	20.0	30.0	10.0	0	0
quality	60.0	10.0	10.0	0	0	0
quantity	0	0	10.0	10.0	0	0
Multiple use	0	30.0	10.0	0	0	0
Reliability	10.0	0	0	0	10.0	0
No alternative	20.0	10.0	0	10.0	0	20.0
not reported	10.0	30.0	40.0	70.0	90.0	100.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Main Source of Water

Source	Non-Participants		Participants (Before IWSS)		Participants (After IWSS)	
	Dry Season	Wet season	Dry season	Wet season	Dry season	Wet season
river	0	40.0	4.0	44.0	0	16.0
piped	0	0	0	4.0	4.0	0
springs	0	0	0	16.0	0	0
scoop-hole	80.0	40.0	80.0	8.0	32.0	0
roof catchment	0	0	4.0	8.0	0	12.0
sand dam	0	0	0	0	60.0	56.0
wells	20.0	20.0	4.0	20.0	4.0	16.0
earth dam	0	0	4.0	0	0	0
not reported	0	0	4.0	0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0

*Depth of scoop holes (ft)*

Depth (ft)	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
2 ò depth	10.0	12.0	68.0
2 < depth ó 5	40.0	28.0	16.0
5 < depth ó 10	30.0	40.0	4.0
10 <depth ó15	0	4.0	0
not applicable	0	8.0	4.0
not reported	20.0	8.0	8.0
Total	100.0	100	100

*Quality of water from main source before and after IWSS*

Quality	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Dry Season	Wet season	Dry season	Wet season	Dry season	Wet season
Clean/clear/good	80.0	60.0	72.0	72.0	80.0	92.0
Dirty/coloured/bad smell	20.0	30.0	28.0	24.0	20.0	4.0

Salty	0	10.0	0	4.0	0	4.0
Other	0	0	0	0	0	0
not reported	0	0	0	0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Quantity of water from main source before and after IWSS (litres)

Litres	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Dry season	Wet season	Dry season	Wet season	Dry season	Wet season
40 ò quantity	10.0	10.0	8.0	8.0	4.0	4.0
40 < quantity ó 60	30.0	10.0	16.0	12.0	4.0	20.0
60 < quantity ó 80	10.0	20.0	40.0	40.0	28.0	16.0
80 < quantity ó 100	20.0	10.0	20.0	28.0	32.0	44.0
100 > quantity	30.0	50.0	16.0	12.0	32.0	16.0
not reported	0	0	0	0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Distance to the main water source before and after IWSS (Km)

Kilometres	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Dry season	Wet season	Dry season	Wet season	Dry season	Wet season
0.5 ò Km	40.0	40.0	16.0	52.0	36.0	60.0
0.5 < Km ó 2	30.0	30.0	52.0	28.0	48.0	28.0
2 < Km ó 5	10.0	10.0	28.0	8.0	16.0	4.0
5 < Km ó 10	10.0	10.0	0	0	0	0
10 < Km ó 15	10.0	0	4.0	4.0	0	0
not reported	0	10.0	0	8.0	0	8.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Time taken to and from the main water source (hours)

Hours	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Dry season	Wet season	Dry season	Wet season	Dry season	Wet season
0.5 ò hour	40.0	50.0	36.0	72.0	60.0	76.0
0.5 < hours ó 1	30.0	30.0	32.0	16.0	20.0	16.0
1 < hours ó 2	0	0	24.0	8.0	16.0	4.0
2 < hours ó 5	30.0	10.0	8.0	0	4.0	0
10 > hours	0	0	0	0	0	0
not reported	0	10.0	0	4.0	0	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Trips to the main water source in a day

Trips	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Dry season	Wet season	Dry season	Wet season	Dry season	Wet season

				<i>n</i>	<i>n</i>	
One	10.0	0	16.0	24.0	20.0	24.0
two	10.0	0	32.0	28.0	32.0	28.0
three	30.0	30.0	32.0	20.0	24.0	28.0
four and five	40.0	50.0	16.0	16.0	24.0	12.0
more than five	10.0	10.0	4.0	4.0	0	0
not reported	0	10.0	0	8.0	0	8.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

#### Main water use from the main water source

Main use	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Dry season	Wet season	Dry season	Wet season	Dry season <i>n</i>	Wet season
washing/cleaning	0	0	4.0	8.0	4.0	4.0
drinking	10.0	0	8.0	8.0	0	8.0
general	90.0	100.0	84.0	84.0	92.0	80.0
cooking	0	0	0	0	4.0	0
livestock watering	0	0	0	0	0	0
not reported	0	0	4.0	0	0	8.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

#### Who used to fetch water before and after IWSS?

Who	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
husband	0	0	0
wife	0	0	20.0
boys	10.0	0	0
girls	0	0	4.0
house-help	10.0	4.0	4.0
husband/wife	0	4.0	0
wife/boys	10.0	36.0	20.0
wife/girls	30.0	16.0	4.0
wife/house-help	0	8.0	4.0
boys/girls	20.0	12.0	24.0
boys/house-help	0	4.0	8.0
wife/Children	10.0	16.0	12.0
wife/D.I.L	10.0	0	0
Total	100.0	100.0	100.0

#### Means of fetching water (main) before and after IWSS

Means	Non- participants	Participants (Before IWSS)	Participants (After IWSS)
human labour	70.0	36.0	36.0
donkey	10.0	48.0	48.0
cart/wheel barrow	10.0	0	0
motor vehicle	0	0	0
human labour/donkey	0	16.0	8.0
human labour/cart/wheel barrow	0	0	4.0
donkey/cart/wheelbarrow	0	0	4.0

not reported	10.0	0	0
Total	100.0	100.0	100.0

### General Impact of IWSS (Participants)

	increased	decreased	no change	no response	not reported	Total
water	100.0	0	0	0	0	100.0
distance	4.0	96.0	0	0	0	100.0
disease	20.0	68.0	0	0	12.0	100.0
crop farming	56.0	0	8.0	0	36.0	100.0
kitchen gardening	28.0	0	8.0	0	64.0	100.0
vegetable growing	52.0	0	4.0	0	44.0	100.0
livestock watering	56.0	0	0	0	44.0	100.0
brick making	68.0	0	0	0	32.0	100.0
bee keeping	32.0	0	4.0	0	64.0	100.0
body washing	84.0	0	0	0	16.0	100.0
clothes washing	76.0	0	0	0	24.0	100.0
utensil washing	68.0	0	4.0	0	28.0	100.0
tree nurseries	36.0	0	0	0	64.0	100.0
house washing	44.0	0	0	0	56.0	100.0
terracing	28.0	0	8.0	0	64.0	100.0
other	8.0	0	4.0	0	88.0	100.0

### Water rationing (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
yes	40.0	12.0	0
no	60.0	88.0	96.0
not reported	0	0	4.0
Total	100.0	100.0	100.0

### Mode of water rationing before and after IWSS (%)

	Non-participants	Before IWSS	After IWSS
Restricted to a fixed amount of water per day	30.0	8.0	0
Queuing	0	0	0
other	10.0	4.0	0
not reported	60.0	88.0	100.0
Total	100.0	100.0	100.0

### Accessibility of your nearest dam

	Percent
accessible	72.0
not accessible	28.0
other characteristics	0
not reported	0
Total	100.0

### Satisfied with the sand dam project?

	Percent
Satisfied	88.0
Not satisfied	12.0
not reported	0
Total	100.0

Why satisfied?

	Percent
Plenty of water for domestic use	16.0
Farm productivity has increased	32.0
Increased water for watering animals	4.0
Water helped in construction of houses	0
Reduced distances to water source	28.0
Other reasons	4.0
Not reported	16.0
Total	100.0

If not satisfied, why?

	Percent
No opportunity for multiple use	4.0
The well dries up in the dry season	4.0
The water is not clean	0
The well is too shallow	0
Other reasons	4.0
Not reported	88.0
Total	100.0

Shift from the traditional water source?

	Percent
Shifted	48.0
Not shifted	48.0
No response	0
Not reported	4.0
Total	100.0

If not shifted, reason

	Percent
Traditional water source nearer	20.0
No opportunity for multiple use	4.0
the well dries up in dry season	12.0
water not clean	0
other	8.0
no response	8.0
not reported	48.0
Total	100.0

Participants-Sanitation before/after IWSS

Per week	Clothe washing		Body washing		Utensil washing		House washing	
	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS
daily	8.0	32.0	72.0	92.0	80.0	80.0	4.0	20.0
once	52.0	16.0	0	0	8.0	8.0	32.0	16.0
twice	20.0	16.0	16.0	0	0	0	4.0	8.0
thrice	20.0	36.0	12.0	8.0	4.0	4.0	4.0	4.0
rarely	0	0	0	0	4.0	4.0	0	0
when dirty	0	0	0	0	0	0	0	0
never used to/doesn't	0	0	0	0	0	0	4.0	4.0

not applicable	0	0	0	0	0	0	28.0	24.0
not reported	0	0	0	0	4.0	4.0	24.0	24.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

#### Non-participants: Sanitation

Per week	Clothe washing	Body washing	Utensil washing	House washing
daily	40.0	80.0	100.0	0
once	10.0	20.0	0	0
twice	30.0	0	0	0
thrice	10.0	0	0	0
rarely	0	0	0	20.0
when dirty	0	0	0	0
doesn't	0	0	0	0
not applicable	0	0	0	80.0
not reported	10.0	0	0	0
Total	100.0	100.0	100.0	100.0

#### Protection of water points before and after IWSS

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
fencing	20.0	48.0	56.0
covering well with lid	10.0	4.0	16.0
watchman	10.0	0	0
no protection	50.0	36.0	16.0
not applicable	0	0	0
local arrangements	10.0	4.0	12.0
not reported	0	8.0	0
Total	100.0	100.0	100.0

#### Soil conservation

##### Terracing before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
nil	50.0	16.0	8.0
0 < number ó 3	30.0	28.0	24.0
3 < number ó 5	10.0	20.0	24.0
5 < number ó 10	10.0	20.0	24.0
10 < number	0	12.0	12.0
not reported	0	4.0	8.0
Total	100.0	100.0	100.0

Tree planting before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
nil	50.0	60.0	52.0
0 < number ó 5	0	4.0	4.0
5 < number ó 10	30.0	12.0	8.0
10 < number ó 50	10.0	8.0	16.0
50 < number	10.0	8.0	12.0
not reported	0	8.0	8.0
Total	100.0	100.0	100.0

Gabions before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
nil	90.0	88.0	88.0
0 < number ó 5	0	0	0
5 < number ó 10	0	0	0
10 < number	10.0	0	0
not reported	0	12.0	12.0
Total	100.0	100.0	100.0

Misonzo before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
nil	70.0	68.0	72.0
0 < number ó 5	0	20.0	8.0
5 < number ó 10	20.0	4.0	4.0
10 < number	10.0	0	8.0
not reported	0	8.0	8.0
Total	100.0	100.0	100.0

Grass planting before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
Yes	70.0	48.0	56.0
No	30.0	48.0	36.0
Not reported	0	4.0	8.0
Total	100.0	100.0	100.0

**Waterborne Disease incidences**

**Typhoid**

Typhoid incidence before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Affected	4	40.0	10	40.0	9	36.0
Not affected	6	60.0	15	60.0	16	64.0



Total	10	100.0	25	100.0	25	100.0
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Typhoid - cost of treatment (KShs)- before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
nil	0	0	0	0	2	8.0
500ò cost	1	10.0	0	0	2	8.0
500 < cost ó 1000	1	10.0	2	8.0	1	4.0
1000 < cost ó 2000	0	0	1	4.0	1	4.0
2000 < cost	2	20.0	7	28.0	3	12.0
Total	4	40.0	10	40.0	9	36.0

Typhoid- outcome Before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
recovered	4	40.0	10	40.0	7	28.0
other	0	0	0	0	0	0
no response	0	0	0	0	2	8.0
Total	4	40.0	10	40.0	9	36.0

Typhoid - time laid off (days)-Before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
2 < days ó 5	0	0	1	4.0	1	4.0
5 < days ó 10	0	0	1	4.0	2	8.0
10 < days ó 30	0	0	2	8.0	2	8.0
30 < days	2	20.0	4	16.0	3	12.0
no response	2	20.0	2	8.0	1	4.0
Total	4	40.0	10	40.0	9	36.0

**Malaria**

Malaria incidence before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Affected	7	70.0	8	32.0	8	32.0
Not affected	3	30.0	17	68.0	17	68.0
Total	10	100.0	25	100.0	25	100.0

Malaria - cost of treatment (KShs)- before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
nil			1	4.0	1	4.0
500 ò cost	2	20.0	3	12.0	3	12.0
500 < cost ó 1000	3	30.0	2	8.0	1	4.0

1000 < cost ó 2000	1	10.0	1	4.0	3	12.0
2000 < cost	1	10.0	1	4.0	0	0
Total	7	70.0	8	32.0	8	32.0

#### Malaria- outcome Before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
recovered	7	70.0	7	28.0	8	32.0
other	0	0	1	4.0	0	0
Total	7	70.0	8	32.0	32.0	32.0

#### Malaria - time laid off (days)-Before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
One day			1	4.0	0	0
2 < days ó 5	2	20.0	1	4.0	1	4.0
5 < days ó 10	2	20.0	4	16.0	5	20.0
10 < days ó 30	3	30.0	1	4.0	1	4.0
30 < days	0	0	1	4.0	1	4.0
no response	0	0	0	0	0	0
Total	7	70.0	8	32.0	8	32.0

### **Amoeba**

#### Amoeba incidence before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Affected	3	30.0	17	68.0	12	48.0
Not affected	7	70.0	8	32.0	13	52.0
Total	10	100.0	25	100.0	25	100.0

#### Amoeba - cost of treatment (KShs)- before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
nil	0	0	0	0	1	4.0
500 ò cost	1	10.0	3	12.0	1	4.0
500 < cost ó 1000	0	0	3	12.0	4	16.0
1000 < cost ó 2000	2	20.0	7	28.0	3	12.0
2000 < cost	0	0	4	16.0	3	12.0
Total	3	30.0	17	68.0	12	48.0

#### Amoeba- outcome Before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent

Recovered	3	30	17	68.0	11	44.0
Died	0	0	0	0	0	0
no response	0	0	0	0	1	4.0
Total	3	30.0	17	68.0	12	48.0

#### Amoeba - time laid off (days)-Before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
nil	0	0	2	8.0	0	0
2 < days ó 5	0	0	0	0	1	4.0
5 < days ó 10	0	0	3	12.0	1	4.0
10 < days ó 30	0	0	5	20.0	4	16.0
30 < days	2	20.0	6	24.0	3	12.0
no response	1	10.0	1	4.0	3	12.0
Total	3	30.0	17	68.0	12	48.0

### **Cholera**

#### Cholera incidence before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
Affected	1	4.0	0	0
Not affected	24	96.0	25	100.0
Total	25	100.0	25	100.0

#### Cholera - cost of treatment (KShs)- before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
500 < cost ó 1000	1	4.0	0	0
1000 < cost ó 2000	0	0	0	0
Total	1	4.0	0	0

#### Cholera- outcome Before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
Recovered	1	4.0	0	0
Total	1	4.0	0	0

#### Cholera - time laid off (days)-Before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
one day	0	0	0	0
no response	1	4.0	0	0
Total	1	4.0	0	0

### **Trypanosomiasis**

#### Trypanosomiasis incidence before and after IWSS

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Affected	0	0	2	8.0	0	0
Not affected	10	100.0	23	92.0	25	100.0
Total	10	0	25	100.0	25	100.0

Trypanosomiasis - cost of treatment (KShs)- before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
nil	1	4.0	0	0
500ò cost	1	4.0	0	0
Total	2	8.0	0	0

Trypanosomiasis - outcome Before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
Recovered	2	8.0	0	0
Died	0	0	0	0
Total	2	8.0	0	0

Trypanosomiasis - time laid off (days)-Before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
nil	1	4.0	0	0
10 < days ó 30	1	4.0	0	0
Total	2	8.0	0	0

## **Conjunctivitis**

Conjunctivitis incidence before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
Affected	1	4.0	0	0
Not affected	24	96.0	25	100.0
Total	25	100.0	25	100.0

Conjunctivitis - cost of treatment (KShs)- before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
nil	1	4.0	0	0
Total	1	4.0	0	0

Conjunctivitis - outcome Before and after IWSS

	Before IWSS		After IWSS	
	Frequency	Percent	Frequency	Percent
Recovered	1	4.0	0	0
Total	1	4.0	0	0

Conjunctivitis - time laid off (days)-Before and after IWSS

	Before IWSS	After IWSS

	Frequency	Percent	Frequency	Percent
5 < days ó 10	0	0	0	0
Total	1	4.0	0	0

### **Waterborne diseases mitigation measures**

#### Boiling (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
Boil drinking water	70.0	84.0	72.0
not reported	30.0	16.0	28.0
Total	100.0	100.0	100.0

#### Chemicals application before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
Treat drinking water with chemicals	10.0	4.0	4.0
not reported	90.0	96.0	96.0
Total	100.0	100.0	100.0

#### Clean/clear compound/bushes before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
clean/clear compound	10.0	0	0
not reported	90.0	100.0	100.0
Total	100.0	100.0	100.0

#### Dry stagnant waters before and after IWSS (%)

	Before IWSS	After IWSS
Dry stagnant water	4.0	0
not reported	96.0	100.0
Total	100.0	100.0

#### Inoculation before and after IWSS (%)

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
Inoculation	0	4.0	0
not reported	100.0	96.0	100.0
Total	100.0	100.0	100.0

#### Eating well cooked food before and after IWSS (%)

	Before IWSS	After IWSS
well cooked food	0	4.0
not reported	100.0	96.0
Total	100.0	100.0

#### Use of mosquito nets food before and after IWSS (%)

	Before IWSS	After IWSS
Using nets	4.0	4.0
not reported	96.0	96.0
Total	100.0	100.0

Observing cleanliness of utensils before and after IWSS (%)

	Before IWSS	After IWSS
Utensil cleanliness	0	0
not reported	100.0	100.0
Total	100.0	100.0

Other measure before and after IWSS (%)

	Before IWSS	After IWSS
other measure	16.0	8.0
not reported	84.0	92.0
Total	100.0	100.0

**Mode of choosing water source committee members/dam committee members**

**No water resource committee mentioned in Non-participants case**

Nomination?

	Participants (Dam committee) 68.0			
	Nomination	Election	Selection	Other mode
Yes	32.0	36.0	36.0	32.0
Other	68.8	64.0	64.0	68.0
Total	100.0	100.0	100.0	100.0

If nomination, by whom?

By whom	Participants (Dam committee)			
	Nomination	Election	Selection	Other mode
not reported	60.0	60.0	60.0	96.0
community	16.0	12.0	12.0	0
provincial administration	4.0	12.0	16.0	4.0
dam members	20.0	16.0	12.0	0
Other	0	0	0	0
Total	100.0	100.0	100.0	100.0

Duration in office- dam committee

	Percent
not reported	4.0
one month	8.0
half-year	4.0
one year	36.0
two years	8.0
not stated	28.0
indefinitely	8.0
no response	4.0
Total	100.0

Factored considered when choosing dam committee member

Factor	Considered	not mentioned	Total
honesty	16.0	84.0	100.00
transparency	12.0	88.0	100.00

trustworthy	0	100.0	100.00
respectable	8.0	92.0	100.00
religious	4.0	96.0	100.00
social	4.0	96.0	100.00
ability to lead	32.0	68.0	100.00
hard working	8.0	92.0	100.00
faithful	0	100.0	100.00
active	0	100.0	100.00
commitment	0	100.0	100.00
age/experience	8.0	92.0	100.00
good in communication	4.0	96.0	100.00
maturity	8.0	92.0	100.00
participation	0	100.0	100.00
availability	0	100.0	100.00
wealth	0	100.0	100.00
other aspect	28.0	72.0	100.00

Attitudes towards dam committee in regard to:

<i>Factor</i>	<i>Positive</i>	<i>Negative</i>
corruption	52.0	48.0
composition: age	80.0	20.0
composition: gender	84.0	16.0
composition: religion	64.0	36.0
composition: education	68.0	32.0
composition: political party affiliation	60.0	40.0
composition: wealthy	56.0	44.0
operation	96.0	4.0
accountability	96.0	4.0
transparency	94.0	4.0
commitment	88.0	12.0
nepotism	40.0	60.0
patience	88.0	12.0
greed	56.0	44.0
maturity	88.0	12.0
listening to others needs	88.0	12.0
bossy	60.0	40.0
ready to serve	84.0	16.0
respect/care for people and property	88.0	12.0

Impact of dam committee in regard to:

<i>Factor</i>	<i>Positive</i>	<i>Negative</i>	<i>no impact</i>
age	76.0	8.0	16.0
religion	80.0	0	20.0
political party affiliation	80.0	0	20.0
wealth	80.0	0	20.0
gender	84.0	8.0	4.0

Community give people who have not had opportunity to lead a chance to lead

	Non-participants	Participants
yes	0	72.0
no	10.0	24.0
no response	0	0
not reported	90.0	4.0
Total	100.0	100.0

Linkage between dam and other committees?

	Non-participants	Participants
yes	0	28.0
no	70.0	68.0
not reported	30.0	4.0
Total	100.0	100.0

If yes to linkage, how?

	Participants
considering community committee members in dam committee	16.0
dam committee members considered in other community committee	24.0
no response	0
not reported	60.0
Total	100.0

Participants: Other general benefits derived from IWSS

	Percent
yes	76.0
no	0
not reported	24.0
Total	100.0

Non-participants: Member of any community group?

	Percent
no response	0
yes	40.0
no	60.0
Total	100.0

**Participants: If yes benefits yes**

Non-participants: If a member of community group- benefits

	participants	non-participants
advice from older people to young members of the society	4.0	0
community members interact freely while working together	32.0	0
women contribute to a fund to uplift their welfare	16.0	10.0
community formed groups for planting vegetables and seedlings for sale	24.0	0
formation of groups to help in harvesting/terracing and other	36.0	10.0



undertakings		
making new friends	12.0	10.0
other	36.0	10.0

Influence of development agenda by community

	Non-participants	Participants
yes	50.0	68.0
no	40.0	20.0
not reported	10.0	12.0
Total	100.0	100.0

If influence yes, how:

<i>How</i>	<i>Non-participants</i>	<i>Participants</i>
the community is free to express its interests during development meeting	10.0	44.0
before any law/bylaw/rule is passed people community is consulted	0	20.0
done through <i>barazas</i> whereby members air their views freely	0	24.0
through consultation with those concerned	0	12.0
involved when discussing development ideas	0	28.0
headman (administrators) consults with the people and forwards their views	10.0	8.0
chairpersons of groups, headmen and other leaders consulted through formation of groups	10.0	12.0
any other way	10.0	12.0

Participants: Impact of increased water after IWSS:

	improved	declined	the same
health	76.0	4.0	8.0
cleanliness	84.0	0	4.0
leisure	80.0	4.0	4.0
girl-child school absenteeism	20.0	16.0	20.0
boy-child school absenteeism	16.0	16.0	20.0
girl-child school punctuality	32.0	4.0	32.0
boy-child school punctuality	48.0	0	28.0
cooking at the right time	76.0	0	4.0

Non-participants: impact of water availability on the following:

	positive	negative	no effect
health	50.0	20.0	0
cleanliness	70.0	0	0
leisure	70.0	0	0
girl-child school absenteeism	20.0	0	0
boy-child school absenteeism	20.0	0	0
girl-child school punctuality	40.0	0	10.0
boy-child school punctuality	40.0	0	10.0
cooking at the right time	60.0	0	10.0

Non-participants: Impact of water scarcity on the following:

	positive	negative	no impact
health	0	30.0	10.0
cleanliness	0	40.0	0
leisure	10.0	30.0	0
girl-child school absenteeism	0	10.0	10.0
boy-child school absenteeism	0	10.0	0
girl-child school punctuality	0	10.0	20.0
boy-child school punctuality	0	10.0	10.0
cooking at the right time	0	10.0	0

Participants: Increase in water impact

	improved	declined	the same
security	72.0	20.0	4.0
pregnancy rates	24.0	60.0	12.0
community cohesiveness	68.0	16.0	12.0
marriage rates	16.0	8.0	68.0

Non-participants: water availability impact on the following

	positive	negative	no impact
security	50.0	10.0	10.0
pregnancy rates	10.0	20.0	30.0
community cohesiveness	40.0	10.0	20.0
marriage rates	20.0	10.0	40.0

Non-participants: water scarcity impact on the following

	positive	negative	no impact
security	10.0	30.0	10.0
pregnancy rates	20.0	0	20.0
community cohesiveness	20.0	10.0	10.0
marriage rates	0	20.0	10.0

Is trekking long distances by girls regarded as good?

	Non-participants	Participants
good	10.0	72.0
bad	80.0	12.0
no response	0	4.0
not reported	10.0	12.0
Total	100.0	100.0

bad

	Non-participants	Participants
tiring	30.0	28.0
compromise other household duties	30.0	16.0
develop irresponsible behaviour- early pregnancies/marriages	30.0	28.0
leads to school absenteeism/lateness	0	20.0
not generally safe	10.0	48.0
other reason	0	0

**good**

	Non-participants	Participants
body exercise and good health	0	4.0
test of adulthood- could take care of themselves	0	4.0
other reason	10.0	4.0

## Impact of the project in relation to trek (Participants)

	percent
time	0
absenteeism/lateness in school improved	4.0
school drop out rates lowered	8.0
improved security of girls	24.0
increased time for leisure	4.0
distance to water source reduced	4.0
other impact	0
no impact	0

**participation in social functions/month (before and after IWSS):**

## religion

	Non-participants	Participants (Before IWSS)	Participants (After IWSS)
rarely	0	8.0	4.0
never misses	30.0	20.0	24.0
never attends	10.0	8.0	8.0
once	30.0	8.0	8.0
twice	0	12.0	4.0
thrice	0	8.0	8.0
four time and more	30.0	28.0	40.0
no response	0	4.0	0
not reported	0	4.0	4.0
Total	100.0	100.0	100.0

## market days

	Non-participants	Before IWSS	After IWSS
rarely	10.0	28.0	16.0
never misses	0	12.0	16.0
never attends	10.0	24.0	20.0
once	30.0	16.0	16.0
twice	20.0	4.0	8.0
thrice	10.0	0	4.0
four time and more	20.0	0	4.0
no response	0	4.0	0
not reported	0	12.0	16.0
Total	100.0	100.0	100.0

## funerals

	Non-participants	Before IWSS	After IWSS
rarely	30.0	0	8.0

as they occur	60.0	88.0	88.0
never misses	0	0	0
never attends	10.0	4.0	0
once	0	0	0
twice	0	0	0
thrice	0	0	0
four time and more	0	0	0
no response	0	4.0	
not reported	0	4.0	4.0
Total	100.0	100.0	100.0

**mwethya**

	Non-participants	Before IWSS	After IWSS
rarely	0	24.0	20.0
as they occur	50.0	44.0	40.0
never misses	10.0	12.0	16.0
never attends	40.0	8.0	16.0
no response	0	4.0	0
not reported	0	8.0	8.0
Total	100.0	100.0	100.0

**parties**

	Non-participants	Before IWSS	After IWSS
rarely	30.0	12.0	8.0
as they occur	30.0	36.0	40.0
never misses	0	4.0	8.0
never attends	40.0	28.0	24.0
not reported	0	20.0	20.0
Total	100.0	100.0	100.0

**harambee**

	Non-participants	Before IWSS	After IWSS
rarely	20.0	24.0	28.0
as they occur	50.0	52.0	40.0
never misses	0	0	4.0
never attends	30.0	12.0	12.0
not reported	0	12.0	16.0
Total	100.0	100.0	100.0

**visiting friends**

	Non-participants	Before IWSS	After IWSS
frequently	20.0	20.0	20.0
when necessary	0	12.0	20.0
when need arises	20.0	16.0	12.0
occasionally	50.0	44.0	40.0
never visits	0	4.0	0
not reported	10.0	4.0	8.0
Total	100.0	100.0	100.0

**Hours of sleep**

	Non-participants		Participants (Before IWSS)		Participants (After IWSS)	
	dry season	wet season	dry season	wet season	dry season	wet season
2 ò hours	0	0	0	0	0	0
2 < hours ó 4	0	0	16.0	0	0	4.0
4 < hours ó 6	20.0	10.0	4.0	16.0	16.0	0
6 < hours ó 8	40.0	40.0	40.0	56.0	44.0	64.0
8 < hours	40.0	50.0	40.0	28.0	40.0	32.0
not reported		0	0	0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Whom do you consult before participating in community projects (sand dam project)

	Non-participants	Participants
husband (in the household)	30.0	24.0
husband (elsewhere)	0	4.0
wife (in the household)	10.0	0
wife (elsewhere)	0	0
friends	30.0	32.0
local administration (headman/Ass. Chief/Chief)	10.0	36.0
religious leaders	0	0
other	10.0	4.0
not reported	10.0	0
Total	100.0	100.0

Factor promoting community cooperation: (% age mentioned)

	Non-participants	Participants
Hard work	20.0	16.0
commitment	20.0	16.0
unity	40.0	9.0
listening to people views	10.0	3.0
peace	10.0	8.0
good leadership	10.0	8.0
other	0	16.0

Factor limiting community cooperation: (% age mentioned)

	Non-participants	Participants
political party affiliation	0	24.0
gossip	10.0	8.0
lack of respect	10.0	4.0
poverty	10.0	0
diseases	10.0	0
hatred	10.	28.0
poor leadership	30	32.0
illiteracy/ignorance	0	12.0
corruption	10.0	12.0
other	0	12.0

Economic activities (%):

Mentioned	Non-participants	Participant	Participant
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		(Before IWSS)	(After IWSS)
agriculture	0	92.0	80.0
goat/sheep	50.0	56.0	56.0
cattle	40.0	32.0	28.0
vegetable growing	0	16.0	40.0
kitchen gardening	0	8.0	20.0
brick making	40.0	32.0	24.0
tree nurseries	20.0	0	12.0
bee keeping	10.0	4.0	12.0

New crops/activities introduced after IWSS:

New crop/activity	Percent
spinach growing	8.0
vegetable growing	56.0
fish	4.0
<i>sukuma wiki</i>	8.0
onions	8.0
tomatoes	12.0
<i>ndania</i>	0
sugar cane	8.0
arrow roots	0
fruits	4.0
other crop	4.0

Contribution of the following activities after IWSS (KShs)

Activity	5000 value	500<value61000	1000<value65000	5000<value610000	10,000<value
agriculture	12.0	0	4.0	4.0	4.0
goats/sheep	0	0	4.0	0	0
cattle	0	0	0	0	0
vegetable growing	4.0	4.0	8.0	8.0	0
kitchen gardening	4.0	0	4.0	0	0
brick making	0	0	0	4.0	0
tree nurseries	0	0	0	8.0	0
bee keeping	0	0	0	0	0
sugar cane	0	0	0	0	0
business	4.0	0	0	0	0

Indirect benefits:

	mentioned (%)
increased land value	4.0
increased livestock reproduction rates	8.0
able to pay school fees- increased income	4.0
able to cloth the family- increased income	8.0
increased land productivity- increased water and terracing	12.0
soil fertility- tree planting and terracing	4.0

reduced cost of buying salt lick for animals	4.0
vegetables- plenty and cheap	12.0
increased sand for construction	4.0
other benefit	24.0

Whether IWSS has served as incentive to people to buy/lease land

	Percent
attracted- total	40.0
leased land to cultivate	20.0
paid sand dam fees before leasing the land	8.0

Whether there are some negative social and economic costs associated with your water resource (IWSS)

	Non-participants	Participants
yes	0	24.0
no	100.0	48.0
not reported	0	2.0
Total	100.0	100.0

**Use of time saved from walking long distances:**

	Percent
<i>Shamba</i> work	52.0
taking care of livestock	8.0
making bricks	12.0
kitchen gardening	12.0
tending tree nursery	0
business	4.0
leisure	16.0
other activities	16.0

**Contribution of the activity undertaken owing to increased time availability (KShs):**

	Shamba work	tending livestock	making bricks	kitchen gardening	tending tree nursery	business	other activities
500 ò value	16.0	4.0	8.0	0	4.0	0	0
500 < value ó 1,000	12.0	4.0	4.0	12.0	0	0	4.0
1000 < value ó 5,000	12.0	4.0	4.0	4.0	0	4.0	0
5,000 < value ó 10,000	4.0	4.0	4.0	0	0	0	4.0
10,000 < value	8.0	0	4.0	0	0	0	0

**Time budget in hours**

**Participants: before and after IWSS**

Dry season

	Cultivation		Water fetching		Grazing		Household duties		Other activities	
	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS
2 ò hours	16.0	4.0	12.0	0	8.0	16.0	12.0	8.0	16.0	20.0

2 < hours ó 4	36.0	12.0	12.0	16.0	28.0	20.0	4.0	8.0	8.0	16.0
4 < hours ó 6	24.0	48.0	4.0	8.0	0	8.0	4.0	8.0	8.0	4.0
6 < hours ó 8	4.0	16.0	0	0	0	0	4.0	4.0	0	0
8 < hours	4.0	4.0	0	0	0	0	0	0	0	0

#### Wet season

	Cultivation		Water fetching		Grazing		Household duties		Other activities	
	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS	Before IWSS	After IWSS
2 ò hours	4.0	0	4.0	4.0	16.0	4.0	8.0	12.0	20.0	20.0
2 < hours ó 4	40.0	16.0	12.0	12.0	24.0	20.0	8.0	16.0	12.0	20.0
4 < hours ó 6	32.0	44.0	8.0	8.0	4.0	8.0	4.0	4.0	20.0	12.0
6 < hours ó 8	4.0	24.0	0	0	0	0	0	0	0	0
8 < hours	0	0	0	0	0	0	0	0	0	0

#### Non-participants:

##### Dry season

	Cultivation	Water fetching	Grazing	Household duties	Other activities
2 ò hours	0	30.0	20.0	20.0	20.0
2 < hours ó 4	40.0	0	20.0	10.0	10.0
4 < hours ó 6	40.0	0	0	0	10.0
6 < hours ó 8	10.0	0	0	0	0
8 < hours	0	0	0	0	0

##### Wet season

	Cultivation	Water fetching	Grazing	Household duties	Other activities
2 ò hours	0	20.0	30.0	0	10.0
2 < hours ó 4	0	0	10.0	0	0
4 < hours ó 6	60.0	0	0	0	10.0
6 < hours ó 8	40.0	0	0	0	0
8 < hours	0	0	0	0	0

#### Cost of water per 20 litre jerrican (KShs)

	Dry season				Wet season		
	Non-participants	Participants		Non-participants	Participants		
		Before IWSS	After IWSS		Before IWSS	After IWSS	
5 ò shillings	40.0	28.0	40.0	40.0	52.0	64.0	
5 < shillings ó 10	30.0	44.0	32.0	30.0	20.0	8.0	
10 < shillings ó 15	0	0	0	0	0	4.0	
15 < shillings ó 20	20.0	4.0	12.0	10.0	0	4.0	
20 < shillings	0	8.0	0	0	4.0	0	

Is the use of your water resource (IWSS) controlled/planned to avoid negative consequences

	Non-participants	Participants
yes	30.0	76.0
no	70.0	24.0



Controlled measure

Measure	Non-participants	Participants
covering the well with a lid	0	32.0
washing of clothes not allowed in the IWSS	0	16.0
only participants are allowed	0	24.0
planting of grass to check erosion	0	12.0
children not allowed to play near the IWSS	0	8.0
other control/plan (eg. prayers)	20.0	16.0

If not controlled, why?

Why	Non-participants	Participants
it is a public/natural resource	40.0	8.0
participants are responsible people- respect their efforts	0	0
other reason	0	12.0

**Pollution penalties/action(%)**

Participants:

Type of pollution	pays fine	report to dam committee	report to provincial administration	report to Sasol	warning/ cautioned	excommunicated
washing inside the dam/well	56.0	12.0	24.0	4.0	4.0	0
washing clothes inside the dam/well	52.0	16.0	24.0	4.0	4.0	0
watering animals in the dam/well	52.0	16.0	24.0	4.0	4.0	0
spraying vegetables/crops chemicals around the dam/well	52.0	16.0	24.0	4.0	4.0	0
defecating/urinating near the dam/well	52.0	16.0	24.0	4.0	4.0	0
dropping objects in the source	48.0	12.0	24.0	4.0	12.0	0

Non-participants:

Type of pollution	pays fine	report to dam committee	report to provincial administration	warning/ cautioned	excommunicated
washing inside the dam/well	20.0	0	0	10.0	10.0
washing clothes inside the dam/well	20.0	0	0	20.0	10.0
watering animals in the dam/well	20.0	0	0	20.0	10.0
spraying vegetables/crops chemicals around the dam/well	30.0	0	0	0	10.0
defecating/urinating near the dam/well	30.0	0	0	10.0	10.0
dropping objects in the source	20.0	0	0	20.0	10.0

Who is responsible for operation and maintenance of your water resource (Sand dam/well)

	Non-participants	Participants

dam committee members	0	36.0
chairperson of the dam committee	0	20.0
provincial administration	10.0	0
community	30.0	32.0
watchman	10.0	0
no body/party	0	0
no maintenance required	30.0	0
owner	20.0	0
Sasol	0	8.0
not reported	0	4.0
Total	100.0	100.0

Source of funds for operation and maintenance of the IWSS if applicable

	Non-participants	Participants
dam committee members	0	52.0
chairperson of the dam committee	0	28.0
provincial administration	0	0
community	0	0
politicians	0	0
no funds needed	100.0	0
sasol	0	4.0
not reported	0	16.0
Total	100.0	100.0

Operation and maintenance contribution by households if applicable (KShs)

	Non-participants	Participants
25 ò KShs.	0	16.0
25 < KShs ó 50	0	8.0
50 < KShs ó 75	0	4.0
100 < KShs	0	8.0
in kind (labour)	0	0
no funds needed	100.0	0
not reported	0	64.0
Total	100.0	100.0

Frequency of dam committee meetings

	Non-participants	Participants
monthly	0	56.0
never meet	0	8.0
when there is need	0	28.0
other	0	4.0
no committee reported	100.0	0
not reported	0	4.0
Total	100.0	100.0

Services/goods considered necessary:

	Non-participants	Participants
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Food	90.0	92.0
water	80.0	60.0
shelter	0	16.0
clothing	20.0	12.0
clean environment	0	8.0
money	0	20.0
education	10.0	4.0
medical services	0	12.0
fuel	20.0	0
land	20.0	12.0
livestock	10.0	0
transport	10.0	0
other	10.0	8.0

Control over family resources:

	Income			Labour			Expenditure		
	NP	P		NP	P		NP	P	
		Before IWSS	After IWSS		Before IWSS	After IWSS		Before IWSS	After IWSS
husband	40.0	48.0	48.0	30.0	48.0	40.0	30.0	36.0	44.0
wife	50.0	16.0	32.0	50.0	24.0	36.0	50.0	40.0	40.0
husband/wife	0	24.0	20.0	0	24.0	20.0		20.0	12.0
children	0	0	0	0	4.0	4.0		0	0
father-in-law	0	0	0	0	0	0		4.0	4.0
other	10.0	0	0	10.0	0	0	10.0	0	0
not reported	0	12.0	0	10.0	0	0	10.0	0	0

Impact of increased family income to family unit

	Percent
positive	68.0
negative	16.0
the same	0
not reported	16.0
Total	100.0

Has increased incomes/opportunities led to conflict at:

	Percent
at family level not reported	8.0
at community level not reported	0

Laid down conditions for joining IWSS to non-participants: pays fees (KShs)

	Percent
100 ÷ KShs	4.0
100 < KShs ó 200	4.0
200 < KShs ó 500	12.0
500 < KShs ó 1,000	8.0
1,000 < KShs	36.0
not fixed	0
not reported	20.0
Total	100.0

Laid down conditions for joining IWSS to non-participants: fines in kind

	Percent
sheep	0
goat	0
other	4.0
not reported	96.0
Total	100.0

Value household attach to their water source

	Non-participants	Participants
500 ò KShs	0	4.0
500 < KShs ó 1,000	0	0
1,000 < KShs ó 5,000	30.0	16.0
5,000 < KShs ó 10,000	10.0	8.0
10,000 < KShs	50.0	60.0
not acceptable (invaluable)	10.0	4.0
not reported	0	8.0
Total	100.0	100.0

Willingness to pay for improved water resource

	Non-participants	Participants
500 ò KShs	30.0	32.0
500 < KShs ó 1,000	30.0	20.0
1,000 < KShs ó 5,000	40.0	8.0
5,000 < KShs ó 10,000	0	12.0
10,000 < KShs	0	20.0
not reported	0	8.0
Total	100.0	100.0

Suppose you perceive wrong committee management (dam committee), what measure would you take?

	Participants
report to chair/person	32.0
report to provincial administration	16.0
quit the source	0
report to SASOL	8.0
question the dam committee	12.0
alert other members and ask for a meeting	20.0
advice the management accordingly	4.0
request management to quit office	4.0
other	0
not reported	4.0
Total	100.0

Willingness to take up leadership position

	Non-participants	Participants
willing to up leadership position	0	80.0
not willing to lead	0	12.0
not reported	100.0	8.0
Total	100.0	100.0

Ownership of water resource (sand dam):

	Non-participants		Participants	
	True	False	True	False
community	100.0	0	76.0	12.0
individual	20.0	70.0	4.0	84.0
government	0	90.0	4.0	80.0
schools	0	90.0	4.0	80.0
KANU	0	90.0	0	84.0
SASOL	0	90.0	0	84.0
NGOs	0	90.0	4.0	80.0
SDP	0	90.0	4.0	80.0
Christians	0	90.0	4.0	64.0
<i>Kathambi</i>	0	90.0	0	80
other	0	60.0	12.0	56.0

Why own the water resource (sand dam): Reasons

	community participated		it is a natural resource		sponsored		other		no response	
	NP	P	NP	P	NP	P	NP	P	NP	P
community	10.0	68.0	80.0	12.0	0	0	10.0	8.0	0	12.0
individual	0	32.0	80.0	8.0	10.0	40.0	0	0	10.0	20.0
government	10.0	0	80.0	4.0	0	72.0	0	0	10.0	24.0
schools	10.0	4.0	80.0	4.0	0	68.0	0	4.0	10.0	20.0
KANU	10.0	0	80.0	4.0	0	72.0	0	0	10.0	24.0
SASOL	0	0	0	4.0	0	72.0	0	0	0	24.0
NGOs	10.0	0	80.0	0	0	0	0	0	10.0	0
SDP	10.0	0	80.0	4.0	0	0	0	0	10.0	24.0
Christians	10.0	0	80.0	4.0	0	72.0	0	0	10.0	24.0
<i>Kathambi</i>	10.0	0	80.0	72.0	0	4.0	0	0	10.0	24.0
other	10.0	0	30.0	4.0	0	60.0	0	0	60.0	36.0

Suppose somebody started demolishing your water resource (sand dam), what action would you take (%):

	Non-participants		Participants	
	As an individual	As a member of the community	As an individual	As a member of the community
ask him/her why	10.0	0	8.0	0
report to dam committee chairperson	0	0	40.0	12.0
report to other members	10.0	10.0	8.0	0
report to the head man	0	0	32.0	0
report to the provincial administration	50.0	40.0	0	32.0
report to SASOL	0	0	0	8.0
report to the police	10.0	0	4.0	4.0
beat up the person	0	0	0	4.0
banish him/her	0	10.0	0	0
use force to stop him/her	10.0	20.0	4.0	16.0
no action	10.0	10.0	0	0
other	0	0	4.0	20.0
no response	0	10.0	0	4.0
Total	100.0	100.0	100.0	100.0

Any other comment

	Non-participants	Participants
more dams needed	0	68.0
congratulations- SASOL	0	8.0
sand dams are beneficial- increased incomes	0	20.0
satisfied with the location	0	0
sand dam too far, water source near home required	0	0
need IWSS	10.0	0
water source near home required	30.0	0
no comment	0	0
not reported	60.0	4.0
Total	100.00	100.0