



Garden Project for Irigithathi School

School Information: Irigithathi is a Mixed Day Primary School in Naro Moru, Nyeri County, Kenya. It has 248 mainstream students and 49 Special Needs students in grades one through nine. It is one of the few schools in the country that educates mainstream and Special Needs students together, in what is called the “Integrated Model.”

TGUP recently completed a new classroom, boys’ dorm, girls’ dorm, kitchen, dining hall, and cement walkways at the school.



Project Needs Assessment: The school currently has a 360’ x 90’ ‘shamba’, or school garden, but due to lack of water it has not been cultivated for several years and is now just a field of weeds. The Special Needs students receive two meals a day, seven days a week, at the school. The mainstream students have lunch daily.

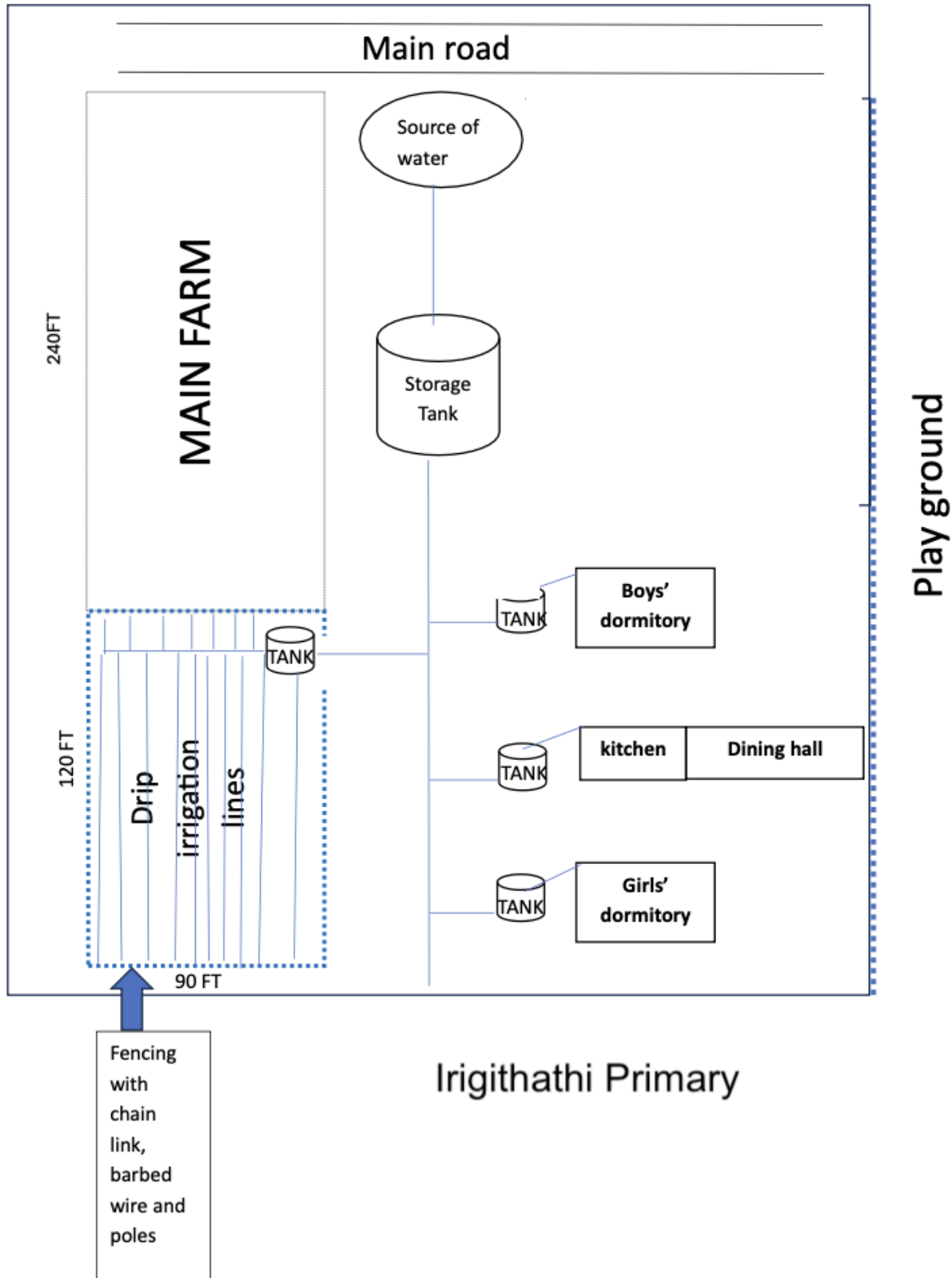
Adding a garden requires water, seedlings, a fence, a drip system, and someone to care for it. The school will hire a local man to manage and tend to the garden. The students are excited to learn how to plant and grow vegetables, which will give them a life-skill. And the principal is thrilled that the harvest will augment their food supply.

The new garden will be a 120’ x 90’ fenced off portion of the existing shamba, and will grow vegetables (onions, beans, kale, carrots, potatoes, cabbages). Any surplus produce will be sold to supplement the sparse kitchen budget.

Options: There are two options for this project:

- 1) \$6,851: The minimum needed, which includes fencing the 120’ x 90’ plot, preparing the ground, planting seedlings and installing drip irrigation. To supply the water for the irrigation we would also need to install a 10,000-liter main storage tank (to increase water pressure), a 5,000-liter water garden storage tank, and piping to connect to the main water source out on the road.
- 2) \$8,912: This expanded project would have all the items in Option 1, plus 3 additional water tanks (5,000-liter tanks to be placed by the girls’ dorm, boys’ dorm, and kitchen) and rooftop gutters. The water would be used for cooking, cleaning, bathing, drinking, and irrigation.

IRIGITHATHI WATER DISTRIBUTION



Option 1: water just for the garden

	Description	Qty	Rate	Amount	USD/127
	Storage Tank 10,000 Ltrs				
1	Storage Tank 10,000 Ltrs	1	80,000	80,000	\$630
2	Ballast , cement and sand	1	25,000	25,000	\$197
	Fencing				
1	Fencing poles	84	700	58,800	\$463
2	Barbed wire	1	5000	5,000	\$39
3	Chain link	15	4000	60,000	\$472
4	Ballast , cement and sand	1	20,000	20,000	\$157
	Water Source				
1	Hdp pipes 2 rolls	2	22,450	44,900	\$354
2	Saddle connector 6'	1	5,000	5,000	\$39
3	Nipples -1"	5	4,000	20,000	\$157
4	Coupler	2	400	800	\$6
5	Gate valve 1"	3	3000	9,000	\$71
6	Male adapter	5	300	1,500	\$12
7	elbow	3	400	1,200	\$9
8	GI socket 1"	4	200	800	\$6
9	Ball Valve	1	3000	3,000	\$24
10	Tangit 500ml	1	700	700	\$6
11	Thread seech	1	250	250	\$2
	Seedings	1	35000	35,000	\$276
	Drip Lines				
1	HDPE Pipe Roll 1"PM16	1	25,000	25,000	\$197
2	HDPE Tee 32mm	18	300	5,400	\$43
3	HDPE Elbow 32mm	21	320	6,720	\$53
4	HDPE Adaptor 32mm	14	300	4,200	\$33
5	HDPE Coupler 32mm	18	320	5,760	\$45
6	G.I Pipe ¾" 3 feet	12	450	5,400	\$43
7	G.I Tee ¾"	12	100	1,200	\$9
8	G.I Elbow ¾"	8	100	800	\$6
9	G.I Socket ¾"	11	100	1,100	\$9
10	G.I Nipple ¾"	8	100	800	\$6
11	Tap ¾" Pegler	5	1650	8,250	\$65
12	Thread Tape	2pkts	500	1,000	\$8
13	G.I Back nut 1"	4	120	480	\$4

14	Ball Valve 1" Pegler	1	2,100	2,100	\$17
15	Gate Valve 1" Pegler	3	3,000	9,000	\$71
16	Gate Valve ¾" Pegler	9	1650	14,850	\$117
17	HDPE Elbow 25mm	8	400	3,200	\$25
18	HDPE tee 25mm	3	400	1200	\$9
19	HDPE Coupler 25mm	4	380	1,520	\$12
20	HDPE Roll Pipe 25mm PM20	1	33,500	33,500	\$264
21	HDPE Female Adaptor 32mm	5	380	1,900	\$15
22	HDPE Female Adaptor 25mm	7	450	3,150	\$25
23	Drip lines - 0.4	6	12000	72,000	\$567
24	filter	1	4500	4500	\$35
25	Non-return 1"	3	2,000	6,000	\$47
26	Tank -5000l	1	45000	45000	\$354
27	Slab- cement, sand, stone	1	20,000	20,000	\$157
	Labor			120,000	\$945
	Total			774,980	\$6,102
	Project management & reporting			144,996	\$1,142
	Community Contribution			-50,000	-\$394
			GRAND TOTAL	869,976	\$6,851

Option 2: water for school use as well as garden

	Description	Qty	Rate	Amount	USD/127
1	Storage Tank 10,000 Ltrs	1	80,000	80,000	\$630
2	HDPE Pipe Roll 1"PM16	1	25,000	25,000	\$197
3	HDPE Tee 32mm	18	300	5,400	\$43
4	HDPE Elbow 32mm	21	320	6,720	\$53
5	HDPE Adaptor 32mm	14	300	4,200	\$33
6	HDPE Coupler 32mm	18	320	5,760	\$45
7	G.I Pipe ¾" 3 feet	12	450	5,400	\$43
8	G.I Tee ¾"	12	100	1,200	\$9
9	G.I Elbow ¾"	8	100	800	\$6
10	G.I Socket ¾"	11	100	1,100	\$9
11	G.I Nipple ¾"	8	100	800	\$6
12	Tap ¾" Pegler	9	1650	14,850	\$117
13	Thread Tape	2pkts	500	1,000	\$8
14	G.I Back nut 1"	4	120	480	\$4
15	Ball Valve 1" Pegler	1	2,100	2,100	\$17
16	Gate Valve 1" Pegler	3	3,000	9,000	\$71
17	Gate Valve ¾" Pegler	9	1650	14,850	\$117
18	HDPE Elbow 25mm	8	400	3,200	\$25
19	HDPE tee 25mm	3	400	1,200	\$9
20	HDPE Coupler 25mm	4	380	1,520	\$12
21	HDPE Roll Pipe 25mm PM20	1	33,500	33,500	\$264
22	HDPE Female Adaptor 32mm	5	380	1,900	\$15
23	HDPE Female Adaptor 25mm	7	450	3,150	\$25
24	Main intake cost	1	30000	30,000	\$236
25	Non-return 1"	3	2,000	6,000	\$47
26	Assorted seedlings of onions, beans, cabbages, potatoes, carrots and kale		35,000	35000	\$276
27	Fencing (120x90Ft)		140,000	140,000	\$1,102
28	Gutters	30	3000	90,000	\$709
29	Gutters Connectors	15	1000	15,000	\$118
30	Gutters back	30	400	12,000	\$94
31	Gutters chips	80	277.5	22,200	\$175
32	Screws 11/2'	1	1800	1,800	\$14
33	Down pipes - 3"	18	1645	29,610	\$233

34	Waste bend	18	400	7,200	\$57
35	Tangit 500ml	2	1400	2,800	\$22
36	Gutter amlet	15	1000	15,000	\$118
37	Backnut ¾"	15	150	2,250	\$18
38	Thread seech	8	60	480	\$4
39	Ppr elbow 3/4"	12	80	960	\$8
40	Male adapter ¾"	12	200	2,400	\$19
41	Gate valve 3/4	3	3500	10,500	\$83
42	Female Adapter ¾"	12	200	2,400	\$19
43	Pegler biptap ¾"	8	1500	12,000	\$94
44	Ppr pipe ¾"	40	250	10,000	\$79
45	Cement, sand and ballast	1	80,000	80,000	\$630
46	5,000 litres tanks	4	45000	180,000	\$1,417
47	Labour		120,000	120,000	\$945
	Total			1,050,730	\$8,273
	Project management & reporting			181,146	\$1,426
	Community Contribution			-100,000	-\$787
			GRAND TOTAL	1,131,876	\$8,912