

Common Problems faced by Facilitators - Part 2

- Workshop exercise

Exercise 4

a) Case 1: RW used for irrigation only

Roof area (m ²)	2000
Run-off coefficient	0.5
Tank size (L)	20000
Landscape usage cut-off (mm)	3

Day		1	2	3	4	5	6	7	
Rainfall (mm)		8.8	12.2	21.6	0	33.1	21	0	
First Flush (mm)		1	1	1	1	1	1	1	
First Flush (L)		2000	2000	2000	2000	2000	2000	2000	
Collectible (L)		6800	10200	19600	0	31100	19000	0	
Balance (before rain event)		0	6800	17000	20000	15800	20000	20000	
Collected (L)		6800	10200	3000	0	4200	0	0	
Balance (after rain event)		6800	17000	20000	20000	20000	20000	20000	
Usage - Irrigation (L/day)	4200	0	0	0	4200	0	0	4200	8400
- Toilet (L/day)	0	0	0	0	0	0	0	0	0
								Total	8400

b) Case 2: RW used for irrigation and toilet flushing

Roof area (m ²)	2000
Run-off coefficient	0.5
Tank size (L)	20000
Landscape usage cut-off (mm)	3

Day		1	2	3	4	5	6	7	
Rainfall (mm)		8.8	12.2	21.6	0	33.1	21	0	
First Flush (mm)		1	1	1	1	1	1	1	
First Flush (L)		2000	2000	2000	2000	2000	2000	2000	
Collectible (L)		6800	10200	19600	0	31100	19000	0	
Balance (before rain event)		0	0	0	0	0	0	19000	
Collected (L)		6800	10200	19600	0	20000	19000	0	
Balance (after rain event)		6800	10200	19600	0	20000	19000	19000	
Usage - Irrigation (L/day)	4200	0	0	0	0	0	0	4200	4200
- Toilet (L/day)	22408	6800	10200	19600	0	20000	0	0	56600
								Total	60800

Compare with Case 1 (Landscape irrigation only) 8400

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c) Case 3: RW used for irrigation and toilet flushing (Reduced RWH Tank capacity)

Roof area (m2)	2000
Run-off coefficient	0.5
Tank size (L)	10000
Landscape usage cut-off (mm)	3

Day	1	2	3	4	5	6	7	
Rainfall (mm)	8.8	12.2	21.6	0	33.1	21	0	
First Flush (mm)	1	1	1	1	1	1	1	
First Flush (L)	2000	2000	2000	2000	2000	2000	2000	
Collectible (L)	6800	10200	19600	0	31100	19000	0	
Balance (before rain event)	0	0	0	0	0	0	10000	
Collected (L)	6800	10000	10000	0	10000	10000	0	
Balance (after rain event)	6800	10000	10000	0	10000	10000	10000	
Usage - Irrigation (L/day)	4200	0	0	0	0	0	4200	4200
- Toilet (L/day)	22408	6800	10000	10000	0	10000	0 *	0 *
							Total	41000

Compare with Case 2 with RWH Tank of 20m³ 60800

d) Case 4: RW used for irrigation and toilet flushing (Increased RWH Tank capacity)

Roof area (m2)	2000
Run-off coefficient	0.5
Tank size (L)	40000
Landscape usage cut-off (mm)	3

Day	1	2	3	4	5	6	7	
Rainfall (mm)	8.8	12.2	21.6	0	33.1	21	0	
First Flush (mm)	1	1	1	1	1	1	1	
First Flush (L)	2000	2000	2000	2000	2000	2000	2000	
Collectible (L)	6800	10200	19600	0	31100	19000	0	
Balance (before rain event)	0	0	0	0	0	8692	27692	
Collected (L)	6800	10200	19600	0	31100	19000	0	
Balance (after rain event)	6800	10200	19600	0	31100	27692	27692	
Usage - Irrigation (L/day)	4200	0	0	0	0	0	4200	4200
- Toilet (L/day)	22408	6800	10200	19600	0	22408	0 *	0 *
							Total	63208