

Supplementary Materials

Table S1. Water quality characteristics in several subcatchments in the Pussella-oya catchment during 2008 [9].

Sub-catchment	BOD ₅ (mg/L)	Nitrate-N (mg/L)	Ammonium (mg/L)	Fecal Coliform (cfu/100 mL)
1	15	7.50	0.036	3462
2	8	2.30	0.012	1430
3	8	8.00	0.140	232
4	6	1.74	0.870	168
5	85	5.52	2.320	2650
6	6	0.14	0.480	130
7	3	2.80	0.013	232
8	2	3.45	0.009	870
Class II: bathing*	4	10	-	500

* Proposed ambient water quality standards in Sri Lanka [24].

Table S2. Questionnaire for situation assessment close to the selected drainage stream in the selected tea estate, Pussellawa

House No. or Address:

Owner:

Type of House: ☐ Double barrack ☐ Single Barrack ☐ Self-help housing ☐ Others

Information of the family members:

No.	Age				Walking Difficulties?	Education Level	Occupation	Income per Month
	<5	6–16	17–50	>50				
1								
2								
3								
4								
5								
6								
7								
8								
Total								

Animal ownership: Yes/No

If Yes Type and No.....

Water Availability:

Type of water source	$\frac{1}{a \ b}$						Distance from Source	Storage Method
Main source of drinking cooking								
Alternative water source for drinking and cooking								
Water source for washing cooking utensils								
Water source for bathing and washing cooking utensils								
Water source for toilet utilities								

1a. pipe supply inside house. 1b. pipe supply water outside house. 2. Protected well. 3. unprotected well. 4. Springs. 5. Stream. 6. Rain water

How many hours a day do you get water?

hrs

Sufficient? Yes/No

Are you satisfied with the quality of water? Yes/No

Would you like to receive cleaner water? Yes/No

Boil water before drinking:

Willingness to pay:

Fuel:

Sanitation:

Availability of excreta disposal facility	Own latrine	Public latrine	Shared latrine	Nothing	Other
Type of latrine	Simple pit	VIP	Pour flush squatting pan	Water sealed with a commode	Any other
Disposal method	Direct to drain	Cesspit	Septic Tank (ST) to drain	ST to soakage pit	Any other
Distance from disposal system to nearest stream	<5 m	5–10 m	10–15 m	15–20 m	>20 m
How old the system (years)					
Frequency of filling (years)					
Disposal method after filling	Gully removal	Manual removal to another Pit	Pump to drain	Pump to another pit	Any other
If a latrine is not exists	Neighbors toilet	Nearby stream	Nearby forest	drain	Any other
Person with a walking difficulty	Yes	Yes	Yes	No	No
If so method of excreta disposal	Separate special latrine	Pot and then dispose to the toilet	Pot and burry	Pot and dispose to drain	Pot and dispose to stream
Where do you dispose the excreta of babies	In land	Wash in drain	Wash in stream	Dispose to toilet and wash the baby in drain or stream	Dispose to toilet and wash the baby in land

Grey water disposal

Is there a sink in the kitchen? Yes/No

How do you dispose the kitchen wastewater?

Do you have a bathroom inside the house? Yes/No

How do you dispose the water from the bathroom?

Distance of disposal system to nearest stream:

History of waterborne diseases

Diseases: Dysentery, diarrhea, viral hepatitis, any other

Years infected

Garbage

How do you dispose the garbage: [] Burning, [] Dispose in bare land, [] Dispose in garbage collection pit, [] Dispose in nearby stream, [] Other?

Do you use the stream water for any purpose?

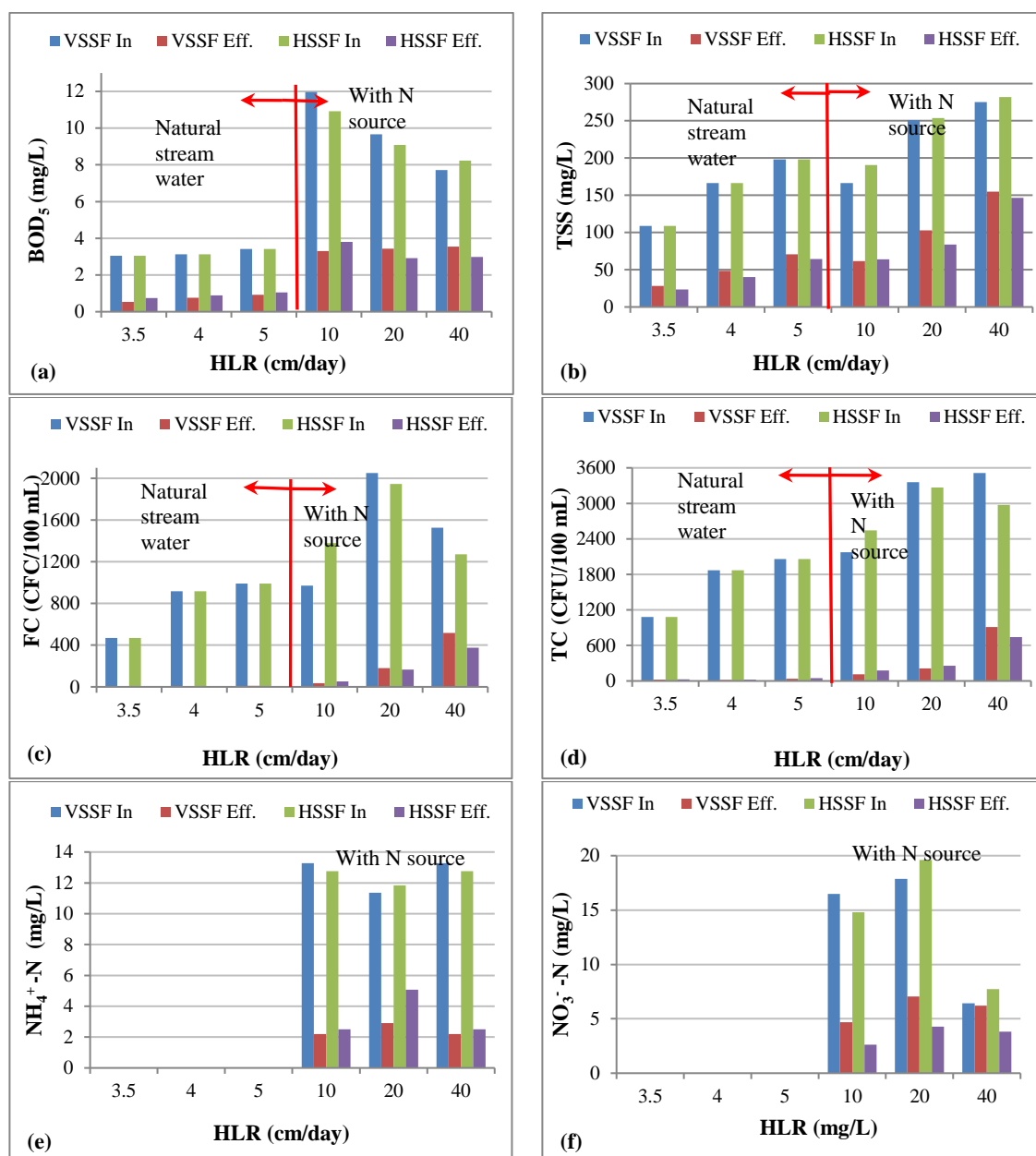


Figure S1. The average water quality variation corresponding to different HLRs at the influent and effluents of VSSF and HSSF wetland units for (a) BOD₅, (b) TSS, (c) FC, (d) TC, (e) NH₄⁺-N, and (f) NO₃⁻-N.