

Appropriate Safe Water Technology Selection Tool

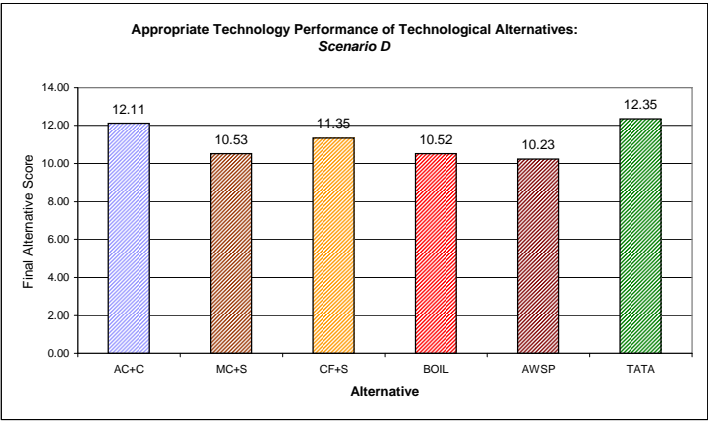
Name of user: Imran
 Target community: Mylai Balaji Nagar
 Assessment date: Mar 10 2012
 Assessment type: Sensitivity Analysis (Scenario D)

Alternative Identities		
Sl. No.	Code	Alternative
1	AC+C	Alum coagulation + Chlorination
2	MC+S	Moringa coagulation + SODIS
3	CF+S	Cloth filtration + SODIS
4	BOIL	Boiling
5	AWSP	AWSP filter + Chlorination
6	TATA	TATA Swach Filter

Variable Input Component Identities		
Sl. No.	Input Component	Source
1a	End-user preference criteria weights (SENSITIVITY VARIABLE)	Primary ranking by order with cost removed as its own site
1b	Technical criteria weights	Summary ranking from subject matter experts
2	Alternative ranking site	Assessment in Ch 6
3	Criteria suite weights	Assume as 1 from discussion in Ch 3
4a	Socio-cultural and local appropriateness criteria merit/demerit factors	Assessment in Ch 6
4b	Special considerations for technology feasibility flowchart	Assessment in Ch 6

Appropriate Technology Criteria	Criterion Rank	Weight	Alternative Ranking Site						Alternative Response Site						Suite Weight	Suite Response Site					
			AC+C	MC+S	CF+S	BOIL	AWSP	TATA	AC+C	MC+S	CF+S	BOIL	AWSP	TATA		AC+C	MC+S	CF+S	BOIL	AWSP	TATA
End-user preference criteria suite																					
1	Costs	1a - (capital)	2.5	2.5	2.5	2.5	5	6	4.00	4.75	5.25	2.75	2.75	1.50							
		1b - (on-going)	3.5	2	1	6	3.5	5													
2	Health impact		1	0.2	3	4.5	4.5	2	0.80	0.50	0.50	1.00	0.20	1.20							
3	Ease of Use/difficulty		8	0.044	5	6	4	2	0.09	0.04	0.13	0.22	0.18	0.27							
4	Time and effort required (convenience)		6	0.089	4	6	5	2	0.27	0.09	0.18	0.44	0.36	0.53							
5	Production rate		5	0.111	3	5	4	1	0.44	0.22	0.33	0.67	0.56	0.11							
6	Appearance of product water		2	0.178	2	3	5	6	0.89	0.71	0.36	0.18	0.53	1.07							
7	Taste, odour, and palpability of product water		3	0.156	6	3	4.5	4.5	0.16	0.62	0.39	0.39	0.78	0.93							
8	Aspirational appeal		7	0.067	3.5	5.5	5.5	3.5	0.23	0.10	0.10	0.23	0.33	0.40							
9	Durability		4	0.133	1.5	5	6	1.5	0.73	0.27	0.13	0.73	0.40	0.53							
10	Fit in the home environment		9	0.022	2	5	4	3	0.11	0.04	0.07	0.09	0.02	0.13							
			45	1					7.72	7.35	7.44	6.71	6.11	6.68	1.00	7.72	7.35	7.44	6.71	6.11	6.68
Technical criteria suite																					
			hndrd	unity																	
1	Tech. effectiveness	1a - (turbidity control)	21.78	0.218	3	2	5	6	0.87	0.76	0.54	0.76	0.44	1.20							
		1b - (microbiological control)	3	5	4	1	6	2													
2	Availability		13.01	0.13	2	6	1	5	0.65	0.13	0.78	0.26	0.52	0.39							
3	Reliability		17.39	0.174	4	6	5	1	0.52	0.17	0.35	1.04	0.70	0.87							
4	Robustness		11.11	0.111	5	4	6	1	0.22	0.33	0.11	0.67	0.44	0.56							
5	Absence of environmental impacts and hazards		14.94	0.149	6	2	1	4	0.15	0.75	0.90	0.45	0.60	0.30							
6	Risk of recontamination		8.83	0.088	1	5	4	6	0.53	0.18	0.26	0.09	0.44	0.35							
7	Absence of hazards to users		12.94	0.129	4	2	2	6	0.39	0.65	0.65	0.13	0.26	0.65							
			1						3.33	2.97	3.59	3.40	3.39	4.31	1.00	3.33	2.97	3.59	3.40	3.39	4.31

Interim Alternative Score						
AC+C	MC+S	CF+S	BOIL	AWSP	TATA	Ave.
11.06	10.32	11.03	10.10	9.50	10.99	10.5



Merit/Demerit Factors							
Socio-cultural and local appropriateness criteria suite							
1	Traditional knowledge, practices, and perceptions	3%	2%	3%	4%	1%	3%
2	Local taste preferences	-3%	0%	0%	0%	-4%	0%
3	Perception of treatment process by users	0%	0%	0%	0%	0%	0%
4	Relation to institutional environment	0%	0%	0%	0%	0%	0%
Special considerations for technology feasibility flowchart							
4a	Excessive iron and/or manganese	0%	0%	0%	0%	0%	0%
4b	pH outside of the normal range	0%	0%	0%	0%	0%	0%
4c	Excessive nitrate	0%	0%	0%	0%	0%	0%
4d	Excessive organics	10%	0%	0%	0%	10%	10%
4e	Excessive fluoride	0%	0%	0%	0%	0%	0%
Total Merit/Demerit Points							
1.05	0.21	0.32	0.42	0.74	1.37		
FINAL ALTERNATIVE SCORE							
AC+C	MC+S	CF+S	BOIL	AWSP	TATA		
12.11	10.53	11.35	10.52	10.23	12.35		