

Appropriate Safe Water Technology Selection Tool

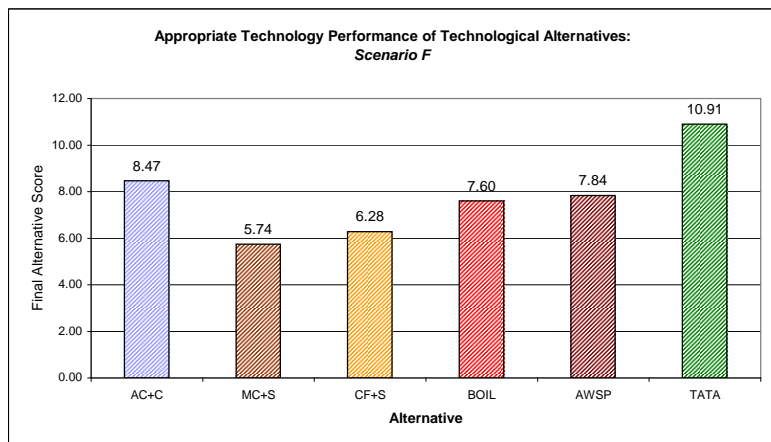
Name of user: Imran
 Target community: Mylai Balaji Nagar
 Assessment date: Mar 10 2012
 Assessment type: Sensitivity (Scenario F)

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	Summary ranking from community members
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 - %age modified to 20

Appropriate Technology Criteria	Criterion		Alternative Ranking Site							Alternative Response Site						Suite Weight	Suite Response Site						
	Rank	Weight	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)	6.81	0.076	2.5	2.5	2.5	2.5	5	6	0.30	0.36	0.40	0.21	0.21	0.11							
		1b - (on-going)			3.5	2	1	6	3.5	5													
2	Health impact		1.55	0.172	3	4.5	4.5	2	6	1	0.69	0.43	0.43	0.86	0.17	1.03							
3	Ease of Use/difficulty		7.13	0.07	5	6	4	2	3	1	0.14	0.07	0.21	0.35	0.28	0.42							
4	Time and effort required (convenience)		6.48	0.082	4	6	5	2	3	1	0.25	0.08	0.16	0.41	0.33	0.49							
5	Production rate		5.84	0.094	3	5	4	1	2	6	0.38	0.19	0.28	0.56	0.47	0.09							
6	Appearance of product water		3.16	0.143	2	3	5	6	4	1	0.71	0.57	0.29	0.14	0.43	0.86							
7	Taste, odour, and palpability of product water		4.35	0.121	6	3	4.5	4.5	2	1	0.12	0.48	0.30	0.30	0.60	0.73							
8	Aspirational appeal		6.68	0.079	3.5	5.5	5.5	3.5	2	1	0.27	0.12	0.12	0.27	0.39	0.47							
9	Durability		5.39	0.102	1.5	5	6	1.5	4	3	0.56	0.20	0.10	0.56	0.31	0.41							
10	Fit in the home environment		7.61	0.062	2	5	4	3	6	1	0.31	0.12	0.18	0.25	0.06	0.37							
											3.73	2.63	2.48	3.92	3.25	4.98	1.00	3.73	2.63	2.48	3.92	3.25	4.98
Technical criteria suite																							
			<u>hndrd</u>	<u>unity</u>																			
1	Tech. effectiveness	1a - (turbidity control)	21.78	0.218	3	2	5	6	4	1	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	3	4	0.65	0.13	0.78	0.26	0.52	0.39							
3	Reliability		17.39	0.174	4	6	5	1	3	2	0.52	0.17	0.35	1.04	0.70	0.87							
4	Robustness		11.11	0.111	5	4	6	1	3	2	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	3	5	0.15	0.75	0.90	0.45	0.60	0.30							
6	Risk of recontamination		8.83	0.088	1	5	4	6	2	3	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	5	2	0.39	0.65	0.65	0.13	0.26	0.65							
											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.
7.07	5.60	6.07	7.32	6.65	9.30	7.0



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	20%	0%	0%	0%	20%	20%
4e	Excessive fluoride	0%	0%	0%	0%	0%	0%
Total Merit/Demerit Points							
1.40	0.14	0.21	0.28	1.19	1.61		
FINAL ALTERNATIVE SCORE							
AC+C	MC+S	CF+S	BOIL	AWSP	TATA		
8.47	5.74	6.28	7.60	7.84	10.91		