

Supplemental Data

Factors associated with operational sustainability of rural water supplies in Cambodia

Tim Foster, Andrew Shantz, Sunetra Lala and Juliet Willetts

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Table A1 – Cross-tabulation of handpump technology and ownership vs other explanatory variables

Characteristic	All	Technology		Ownership	
		VN6	Afridev	Private	Communal
All	608 (100%)	507 (100%)	101 (100%)	284 (100%)	324 (100%)
Technology					
VN6	507 (83%)	-	-	267 (94%)	240 (74%)
Afridev	101 (17%)	-	-	17 (6%)	84 (26%)
Ownership					
Private	284 (47%)	267 (53%)	17 (17%)	-	-
Communal	324 (53%)	240 (47%)	84 (83%)	-	-
Source of funding					
Users	220 (36%)	216 (43%)	4 (4%)	213 (75%)	7 (2%)
Shared	54 (9%)	31 (6%)	23 (23%)	7 (2%)	47 (15%)
External	334 (55%)	260 (51%)	74 (73%)	64 (23%)	270 (83%)
Water quality^a					
Good	166 (28%)	145 (29%)	21 (21%)	73 (27%)	93 (29%)
Poor	427 (72%)	347 (71%)	80 (79%)	201 (73%)	226 (71%)
Distance to Kampot^b					
35-45 km	370 (61%)	336 (66%)	34 (34%)	219 (77%)	151 (47%)
45-55 km	201 (33%)	144 (28%)	57 (56%)	48 (17%)	153 (47%)
55-65 km	36 (6%)	26 (5%)	10 (6%)	17 (6%)	19 (6%)
Handpump age (years)^c					
1-2 yrs	209 (35%)	196 (39%)	13 (13%)	91 (32%)	118 (37%)
3-5 yrs	168 (28%)	141 (28%)	27 (27%)	60 (21%)	108 (34%)
6-10 yrs	142 (24%)	119 (24%)	23 (23%)	105 (37%)	37 (12%)
≥11 yrs	84 (14%)	48 (10%)	36 (36%)	27 (10%)	57 (18%)

^a Information on water quality perceptions not obtained for 15 water points. ^b GPS coordinates not obtained for one water point. ^c Information on handpump age not obtained for five water points

Table A2 - Results for univariable logistic regression with 'functional status' status as outcome variable

Explanatory variable	All handpumps		Handpumps aged ≤10 years	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Technology: VN6 vs Afridev	1.26 (0.65-2.44)	0.498	0.83 (0.32-2.14)	0.706
Ownership: Private vs Communal	2.19 (1.24-3.88)	0.007	3.51 (1.69-7.30)	0.001
Funding: Users vs External	1.70 (0.97-2.97)	0.062	2.37 (1.20-4.68)	0.013
Funding: Shared vs External	1.15 (0.37-3.54)	0.808	1.68 (0.42-6.72)	0.462
Funding: Users vs Shared	1.48 (0.46-4.76)	0.510	1.41 (0.30-6.58)	0.665
Water quality: Good vs Poor	4.19 (1.74-10.1)	0.001	6.10 (1.60-23.2)	0.008
Distance to provincial capital	0.89 (0.82-0.97)	0.005	0.91 (0.84-1.00)	0.039
Handpump age	0.92 (0.88-0.96)	<0.001	0.90 (0.83-0.97)	0.009

OR = odds ratio. Bold values indicate statistical significance (p<0.05)

Table A3 - Results for univariable logistic regression with 'no previous breakdowns' as outcome variable

Explanatory variable	All handpumps		Handpumps aged ≤10 years	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Technology: VN6 vs Afridev	0.41 (0.25-0.69)	0.001	0.20 (0.10-0.43)	<0.001
Ownership: Private vs Communal	0.43 (0.24-0.76)	0.003	0.36 (0.20-0.64)	0.001
Funding: Users vs External	0.36 (0.21-0.63)	<0.001	0.32 (0.18-0.57)	<0.001
Funding: Shared vs External	0.85 (0.47-1.51)	0.571	1.24 (0.56-2.73)	0.591
Funding: Users vs Shared	0.43 (0.19-0.96)	0.040	0.26 (0.10-0.69)	0.007
Water quality: Good vs Poor	1.88 (0.84-4.22)	0.126	1.84 (0.76-4.42)	0.174
Distance to provincial capital	0.96 (0.91-1.03)	0.248	0.99 (0.93-1.05)	0.687
Handpump age	0.86 (0.77-0.96)	0.006	0.75 (0.61-0.92)	0.007

OR = odds ratio. Bold values indicate statistical significance (p<0.05)

Table A4 - Results for univariable logistic regression with 'repaired at most recent breakdown' as outcome variable

Explanatory variable	All handpumps		Handpumps aged ≤10 years	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Technology: VN6 vs Afridev	2.01 (0.75-5.36)	0.163	2.62 (0.57-12.1)	0.216
Ownership: Private vs Communal	1.67 (0.80-3.51)	0.175	1.81 (0.87-3.77)	0.112
Funding: Users vs External	1.21 (0.68-2.12)	0.517	1.24 (0.71-2.19)	0.367
Funding: Shared vs External	1.43 (0.26-7.97)	0.683	1.49 (0.13-16.8)	0.735
Funding: External vs Shared	0.84 (0.11-6.34)	0.868	0.84 (0.05-13.1)	0.900
Water quality: Good vs Poor	1.56 (1.15-2.12)	0.004	1.94 (1.24-3.05)	0.004
Distance to provincial capital	0.91 (0.86-0.96)	0.001	0.91 (0.84-0.98)	0.017
Handpump age	0.97 (0.92-1.02)	0.272	0.97 (0.90-1.05)	0.446

OR = odds ratio. Bold values indicate statistical significance (p<0.05)