

1 *Supplementary Information*

2 **Table A** Pilot WWTP physico-chemical parameters 2018

Tank	Temperature (°C)	pH	Suspended Solids (mg/L)	BOD ₅ (mg/L)	COD (mgO ₂ /L)
F0	29.2	7.0	618	646	936
F1	28.0	7.2	273	272	480
F2	30.7	7.6	45	78	264

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4 **Table B** Physico-chemical parameters of WWTP 2022

Tank	Moringa oleifera seeds (MOS)	Suspended Solids (mg/L)	BOD ₅ (mg/L)	COD (mgO ₂ /L)	Total Nitrogen (mgN/L)	Phosphorus (mg PO ₄ ³⁻ /L)	Temperature (°C)	pH	Conductivity (µS/cm)	DO (mg/L)
F0	without MOS	306	362	480	19	20.8	28.7	6.7	1202	0.12
F1	without MOS	296	240	330	38	20.2	28.9	7.0	1190	0.21
F2	without MOS	45	48	520	58	18	29.55	7.4	1104	0.20
F0	with MOS	204	474	320	52	19.3	28.85	6.8	1252	0.13
F1	with MOS	112	217	575	60	19.8	29.05	7.0	1222	0.15
F2	with MOS	51	62	740	28	19.2	31.5	7.4	1154	0.15

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6 **Table C** Physico-chemical limits of treated wastewaters set by the Senegalese rejection
7 standard NS 05-061

Temperature (°C)	pH	Suspended Solids (mg/L)	BOD ₅ (mg/L)	COD (mgO ₂ /L)	Total Nitrogen (mgN/L)	Phosphorus (mgPO ₄ ³⁻ /L)
25-35	5,5-9,5	50	80	200	30	10

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9 **Table D 2020 and 2022 microbiology campaigns done on the WWTP pilot**

Tank	Moringa oleifera seeds (MOS)	Ampicillin (AMP)	E. coli (cfu/mL)		Feacal coliform (cfu/mL)		Vibrio cholerae (cfu/mL)		Enterococcus spp (cfu/mL)		Total flora (cfu/mL)	
			2020	2022	2020	2022	2020	2022	2020	2022	2020	2022
F0	Without	Without	1.97E+04	5.25E+04	2.13E+04	6.28E+05	3.30E+03	1.00E+07	LQ	1.08E+03	2.63E+07	1.73E+10
F1	Without	Without	5.00E+04	1.80E+04	1.55E+04	3.42E+05	1.35E+03	2.38E+08	LQ	4.50E+02	1.58E+08	1.53E+08
F2	Without	Without	2.73E+02	2.00E+03	2.97E+02	2.50E+04	2.17E+01	4.34E+03	LQ	1.67E+01	2.65E+06	1.73E+10
F0	With	Without	5.47E+03	6.58E+04	3.77E+03	4.53E+05	1.12E+03	9.05E+02	LQ	4.33E+02	7.00E+06	1.20E+08
F1	with	Without	1.06E+04	1.77E+05	1.11E+04	1.74E+05	5.90E+01	1.25E+03	LQ	6.67E+01	1.20E+07	3.33E+06
F2	with	Without	1.73E+02	4.33E+03	4.57E+01	5.32E+03	1.40E+01	1.12E+02	LQ	1.33E+02	1.80E+06	8.33E+06
F0	Without	with	1.49E+04	6.43E+05	1.41E+04	6.69E+07	4.30E+02	0.00E+00	LQ	0.00E+00	1.92E+06	> 300E+06
F1	Without	with	1.25E+04	8.22E+05	1.30E+04	1.63E+05	1.47E+01	2.00E+03	LQ	0.00E+00	1.80E+07	> 300E+06
F2	Without	with	2.03E+02	4.10E+05	1.70E+02	1.98E+05	4.67E+00	0.00E+00	LQ	0.00E+00	6.83E+05	3.33E+06
F0	With	with	1.23E+03	3.62E+05	1.10E+03	1.17E+05	2.20E+02	2.93E+05	LQ	0.00E+00	1.34E+06	1.67E+08
F1	with	with	3.23E+03	8.78E+05	2.67E+02	1.02E+06	1.33E+01	1.00E+06	LQ	0.00E+00	1.45E+06	> 300E+06
F2	with	with	6.00E+00	1.19E+04	1.03E+01	1.75E+05	0.00E+00	4.50E+04	LQ	0.00E+00	6.40E+05	1.33E+07

10 LQ = limit of quantification

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