

Towards sustainable vegetable production around agro-pastoral dams in Northern Benin: Current situation, challenges and research avenues for sustainable production and integrated dam management

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Journal title: Agriculture & Food Security

Additional file 1: Tables S1-S4

Table S1. Socio-demographic and biophysical characteristics of study participants

Variables	Frequency (%)	Min	Max	Mean	SD	SE
Gender						
Female	72.86					
Male	27.14					
Association membership						
Yes	91.43					
No	8.57					
Position to the dam						
Upstream	75.71					
Downstream	24.29					
Age		16	78	43.89	13.51	1.61
Number of year in vegetable cropping around APDs		1	25	8.47	5.24	0.63
Total land size (m ²)		92	2500	412.58	429.85	57.96
Number of vegetable cultivated		1	8	4.37	1.84	0.22

Table S2. Pesticides labelled for cotton used by some vegetable producers around the Nikki agropastoral dam

Pesticides	Active ingredients	WHO Class
Tihan 175 O-Teq	Spirotetramate + Flubendiamide	III
Cotofan 350 CE	Endosulfan	II (and also Banned)
Nurelle D 236 EC	Cypermethrine + chlorpyrifos ethyl	II
Cotalm P 218 CE	Lambda-cyhalothrine + profenofos	II
Lambdacal P 215 EC	Lambda-cyhalothrine + profenofos	II
Capt 88 CE	Cypermethrine + Acetamipride	II
Thunder 145 O-Teq	Betacyfluthrine+Imadacloprid	Ib

Table S3. Logistic regression testing the effect of age, gender, number of year in vegetable production, position related to the dams, vegetable species richness, and village on the probability that a vegetable producer perceived that his/her activity affected dam water quality and crocodiles and contributed to dam siltation

	<i>Coefficient</i>	<i>Odds ratio</i>	<i>z-value</i>	<i>p-value</i>
Intercept	-4.426	0.012	-0.998	0.318
Age	-0.011	0.989	-0.176	0.860
Gender	1.254	3.503	1.001	0.317
Number of year in vegetable production around the dam	0.096	1.101	0.630	0.529
Position or location to the dams	0.181	1.199	0.087	0.931
Vegetables species richness	-0.004	0.996	-0.015	0.988
Village	-0.191	0.826	-0.147	0.883

p-values >0.05 are non-significant

Table S4. Multinomial logistic regression testing the effect of age, gender, number of year in vegetable production, position related to the dams, vegetable species richness, and village on the probability that a vegetable producer ranked a given source of dam siltation as the first source that affected dam water quality and crocodiles and contributed to dam siltation

	Farming			Livestock			Vegetable		
	<i>Coefficient</i>	<i>Odds ratio</i>	<i>t-value</i>	<i>Coefficient</i>	<i>Odds ratio</i>	<i>t-value</i>	<i>Coefficient</i>	<i>Odds ratio</i>	<i>t-value</i>
Age	0.085	1.088	1.744	0.0128	1.013	0.545	0.041	1.042	1.703
Gender	-15.97	1.165e-07	-0.006	0.128	1.136	0.195	-0.182	0.833	-0.265
Number of year in vegetable production around the dam	0.293*	1.341	2.391	0.034	1.034	0.540	0.056	1.058	0.912
Position or location to the dams	-0.523	0.593	-0.406	-0.118	0.889	-0.167	-0.118	0.889	-0.167
Vegetables species richness	0.695*	2.005	1.868	0.370	1.448	2.055	0.233	1.263	1.324
Village	-15.118	0.941	-0.009	0.693	2.118	0.721	-0.511	1.059	-0.568

* indicating $p < 0.05$; other p -values are non-significant (>0.05)