Table S1. Questionnaire (administered originally in Spanish)

The Centre for Multidisciplinary Studies of Coastal Zones (CEMZOC) of the Universidad de Oriente is conducting a study on mangrove management and climate change mitigation. We are asking for your criteria on the use and benefits of mangroves in your community. We would like to thank you in advance for your cooperation and for your permission to publish the information collected and processed without revealing the identity of the participants/respondents.

GENERAL INFORMATION

A. Sociodemographic questions

1. Sex_____ .
2. Age____
3. Occupation_____
4. How many years have you lived in this community? _____

B. Regarding "mangrove"

1. How many species of mangroves do you know? ____
2. What are these species named? _____

C. USE OF MANGROVE RESOURCES

Uses of the ecosystem and associated resources (Please rate how you use resources according to the following scale: 1=never, 2=sometimes, 3=always)	**Frequency of use**		
	1	**2**	**3**
1.Collection of marine species for consumption or sale			
a. Fish			
b. Oysters, snails (Molluscs)			
c. Crabs, shrimp, lobsters (Crustaceans)			
2.Use of the resource as a dye			
3.Use of parts for traditional medicine			
4.Decorative use			
5.Recreational uses:			
a. Wildlife observation			
b. swimming area			
6.Use for research or educational visits			
7.Spiritual use or religious practices			
8.Use of wood as an energy source			
9.Use of wood for construction			

D. PERCEPTION OF ECOSYSTEM SERVICES

Type of ecosystem service	**(Please rate the level of importance you perceive for mangrove services according to the following scale: 1=not important, 2=important, 3=very important)**	**Importance level**		
		1	**2**	**3**
Support service	1. It serves as a refuge for the juvenile stages of numerous species, feeding and engendering a large number and diversity of marine and terrestrial organisms			
	2. Provides habitat for a large number of marine and terrestrial fauna			
Provision service	3. Source of food for consumption and sale			
	4. Source of natural medicine for numerous diseases			
Regulation service	5. Protection in coastal areas against storms, cyclones and waves.			
	6. Helps maintain seawater quality by retaining sediment			
	7. Helps mitigate the effect of climate change by sequestering carbon			
Cultural service	8. They can be used as recreation and educational sites			
	9 Local culture/heritage symbol			

E. THREATS TO THE MANGROVE ECOSYSTEM AND MANAGEMENT

Questions	**Answers**
1. Do you think that the degradation of the mangrove forest in your area affects you and your community?	[ ]1= not affected [ ]2= some are affected [ ]3 = extremely affected
2. Current state of the mangrove forest near your community?	[ ] 1 = Bad [ ] 2 = good [ ] 3 = excellent
3. What changes have you noticed in the mangrove during your life in this community?	[ ] 1 = There have been no changes [ ] 2 = completely disappeared [ ] 3 = I don't know
4. How important are mangroves to your livelihood?	[ ] 1 = not important [ ] 2 = important [ ] 3 = very important
5. What institution/organisation/body is responsible for mangrove management in your locality?	[ ] Local communities [ ] Local government [ ] Flora and Fauna [ ] CITMA [ ] Forest Ranger Corps [ ] Others:

6. Are you aware of interventions for mangrove management? Scale: 1=unaware, 2=somewhat aware, 3= fully aware . You must ask and evaluate each of the following possibilities:	1	2	3
a. Specialised programme or plan for the management			
b. Various seminars/trainings that consider mangrove management			
c. Existence of legal instruments			
d. Sanctions for violation of existing environmental legislation			
e. There is any body, any level or institution responsible ?			

7. What do you think about the current form of management regarding the protection and exploitation of mangroves?
[ ]1 = Not supported:
[ ]2 = Supported:
[ ]3 = Supported but not effective:
[ ]4 = Supported and effective:
[ ]5 = Supported and very effective:

8. Please list the natural or anthropogenic threats that you think have the highest to lowest effect on your mangroves:

Table S2. Percentage distribution of respondents at each level of importance of mangrove ecosystem services.

Ecosystem services by mangrove localities		Importance level (%)		
		Not important	**Important**	**Very important**
Monte Cabaniguán/Ojo de agua (MCOA)	1. Nursery	3.6	7.2	89.2
	2. Wildlife habitat			100
	3. Food source	1.2	10.8	88.0
	4. Coastal protection	7.2	18.1	74.7
	5. Water purification	7.2	7.2	84.3
	6. Carbon sequestration	45.8	18.1	36.1
	7. Recreation/education	10.8	28.3	65.2
	8. Natural medicine	7.2	7.2	85.5
Guama (GUAM)	1. Nursery	-	1.1	98.9
	2. Wildlife habitat	-	-	100
	3. Food source	9.8	7.6	82.6
	4. Coastal protection	2.2	2.2	95.7
	5. Water purification	6.5	22.8	70.7
	6. Carbon sequestration	40.2	23.9	35.9
	7. Recreation/education	6.5	28.3	65.2
	8. Natural medicine	2.2	12.0	85.9
San Miguel de Parada (SAM)	1. Nursery	6.9	23.6	69.4
	2. Wildlife habitat	5.6	22.2	72.2
	3. Food source	27.8	47.2	25.0
	4. Coastal protection	6.9	27.8	65.3
	5. Water purification	12.5	27.8	59.7
	6. Carbon sequestration	41.7	31.9	26.4
	7. Recreation/education	8.3	50.0	41.7
	8. Natural medicine	6.9	55.6	37.5
Hatibonico (HAT)	1. Nursery	26.4	20.7	52.9
	2. Wildlife habitat	17.2	32.2	50.6
	3. Food source	35.6	20.7	43.7
	4. Coastal protection	34.5	28.7	36.8
	5. Water purification	32.2	28.7	39.1
	6. Carbon sequestration	43.7	27.6	28.7
	7. Recreation/education	34.5	28.7	36.8
	8. Natural medicine	33.3	19.5	47.1

Table S3. Correlations between the occupation and frequency of resource utilisation. Mangrove localities: MCOA = Monte Cabaniguán/Ojo de Agua; GUAM = Guamá; SAM = San Miguel de Parada; HAT = Hatibonico. Occupations: Government sector 1. = public sector occupations non-related to conservation; Government sector 2. = public sector occupations related to conservation. * = Correlation is considered significant at the 0.05 level (bilateral).; ** = Correlation is considered significant at the 0.01 level (bilateral).

Mangrove Locality	Uses	Occupation								
		Age	Time living in the community	Housewife	Government sector 1	Government sector 2	Private sector	Farmer	Retired	Student
MCOA	Source of fish	0.310**	0.354**	-0.356**	-	-	0.072	0.213	0.065	-
	Source of oysters, snails	0.218*	0.380**	-0.319**	-	-	0.151	0.059	0.141	-
	Source of Crabs, shrimp, lobsters	0.193	0.411**	-0.279*	-	-	0.09	0.096	0.12	-
	Use of the resource as a dye	0.079	-0.019	0.118	-	-	-0.12	0.015	-0.003	-
	Use as traditional medicine	0.213	0.281*	-0.332**	-	-	0.15	0.099	0.091	-
	Decorative use	0.049	0.110	-0.048	-	-	-0.073	0.186	-0.131	-
	Recreational uses: Wildlife observation	0.107	0.054	-0.084	-	-	-0.175	0.230*	0.035	-
	Recreational uses: Swimming area	0.157	0.164	-0.384**	-	-	0.111	0.235*	0	-
	Use for research or educational visits	-0.021	0.006	-0.054	-	-	-0.078	0.186	-0.11	-
	Spiritual use or religious practices	0.035	0.088	-0.081	-	-	-0.041	0.19	-0.141	-
	Use of wood as an energy source	0.064	0.022	-0.042	-	-	-0.149	0.208	-0.043	-
	Use of wood for construction	0.021	-0.122	-0.042	-	-	-0.019	0.112	-0.103	-
GUAM	Source of oish	0.012	-0.007	0.265*	0.128	0.034	-0.039	-0.225*	-0.161	-0.106
	Source of oysters, snails	0.110	0.102	0.118	0.188	-0.046	0.072	-0.262*	-0.125	-0.015
	Source of Crabs, shrimp, lobsters	0.041	0.035	0.125	0.170	-0.035	0.092	-0.173	-0.218*	-0.035
	Use of the resource as a dye	0.227*	0.055	0.248*	-0.159	-0.106	0.181	-0.189	0.076	-0.044

	Use as Traditional medicine	0.281**	0.021	0.234*	0.239*	-0.202	0.039	-0.227*	-0.022	-0.145
	Decorative use	0.109	0.162	-0.094	0.086	0.054	0.255*	-0.129	-0.115	-0.044
	Recreational uses: Wildlife observation	-0.098	-0.146	-0.090	0.206*	-0.059	0.088	0.046	-0.073	-0.127
	Recreational uses: Swimming area	0.019	0.068	0.070	-0.251*	0.154	0.039	-0.120	0.039	0.096
	Use for research or educational visits	-0.008	-0.123	-0.002	-0.136	0.008	0.362**	-0.067	-0.026	-0.075
	Spiritual use or religious practices	0.023	-0.091	0.106	-0.074	-0.060	0.205	-0.055	-0.049	-0.060
	Use of wood as an energy source	0.023	-0.091	-0.070	0.164	0.083	0.091	-0.156	-0.040	-0.087
	Use of wood for construction	0.078	0.104	-0.168	-0.072	0.082	0.144	-0.121	0.253*	-0.031
SAM	Source of Fish	-0.070	0.068	-0.01	-0.011	-0.15	0.043	-	0.084	-
	Source of oysters, snails	-0.074	0.133	0.018	-0.049	-0.119	0.023	-	0.108	-
	Source of crabs, shrimp, lobsters	-0.075	0.163	0.01	-0.06	-0.12	0.017	-	0.142	-
	Use of the resource as a dye	0.161	-0.020	0.173	-0.2	-0.08	-0.147	-	0.309**	-
	Use as Traditional medicine	0.150	0.098	0.23	-0.133	0.048	-0.059	-	-0.05	-
	Decorative use	0.162	-0.004	0.174	-0.095	-0.059	-0.108	-	0.092	-
	Recreational uses: Wildlife observation	0.340**	-0.139	-0.025	-0.087	0.125	0.197	-	-0.147	-
	Recreational uses: Swimming área	-0.125	0.279*	-0.02	0.007	-0.072	0.006	-	0.057	-
	Use for research or educational visits	0.250*	0.084	0.042	-0.13	0.345**	0.149	-	-0.264*	-
	Spiritual use or religious practices	0.164	0.035	0.532**	-0.244*	-0.066	-0.122	-	-0.103	-
	Use of wood as an energy source	0.040	0.180	-0.001	-0.149	0.227	0.149	-	-0.1	-
	Use of wood for construction	0.085	0.146	0.053	0.026	-0.15	-0.035	-	0.039	-

HAT	Source of Fish	-0.092	-0.145	-0.177	0.127	0.256*	-0.035	-0.119	-0.186	-0.069
	Source of oysters, snails	-0.117	-0.151	-0.236*	0.115	0.276**	0.014	-0.118	-0.179	-0.065
	Source of crabs, shrimp, lobsters	-0.082	-0.143	-0.178	0.113	0.247*	-0.005	-0.117	-0.186	-0.070
	Use of the resource as a dye	-0.290**	-0.246*	0.036	0.144	-0.068	-0.103	-0.062	-0.080	0.026
	Use as Traditional medicine	-0.212*	-0.274*	-0.118	0.058	0.193	-0.009	-0.109	-0.156	0.022
	Decorative use	-0.293**	-0.317**	0.000	0.091	0.019	-0.091	-0.061	-0.071	0.035
	Recreational uses: Wildlife observation	-0.229*	-0.198	-0.046	0.213*	-0.027	-0.066	-0.068	-0.100	-0.119
	Recreational uses: Swimming area	-0.255*	-0.286**	-0.143	0.123	0.176	-0.061	-0.103	-0.208	0.101
	Use for research or educational visits	-0.182	-0.148	-0.148	0.352**	-0.046	-0.167	-0.060	-0.076	-0.106
	Spiritual use or religious practices	-0.247*	-0.216*	-0.085	0.366**	-0.175	-0.100	-0.047	-0.129	-0.083
	Use of wood as an energy source	-0.234*	-0.164	-0.178	0.222*	0.115	-0.178	-0.080	-0.045	-0.011
	Use of wood for construction	-0.232*	-0.174	-0.124	0.291**	-0.036	-0.140	-0.055	-0.055	-0.096

Note: Each mangrove locality has been analysed independently.

Table S4. Correlations between the occupation and awareness of ecosystem services. Mangrove localities: MCOA = Monte Cabaniguán/Ojo de Agua; GUAM= Guamá; SAM = San Miguel de Parada; HAT = Hatibonico. Occupations: Government sector 1. = public sector occupations non-related to conservation; Government sector 2. = public sector occupations related to conservation. * = Correlation is considered significant at the 0.05 level (bilateral).; ** = Correlation is considered significant at the 0.01 level (bilateral).

Mangrove **locality**	**Uses**	**Occupation**						
		Housewife	**Government sector 1**	**Government sector 2**	**Private sector**	**Farmer**	**Retired**	**Student**
MCOA	Nursery	-0.269*	-	-	0.012	0.177	0.097	-
	Consumption and sale	-0.058	-	-	-0.045	0.041	0.103	-
	Medicinal use	-0.186	-	-	0.014	0.091	0.114	-
	Erosion protection	-0.217*	-	-	-0.088	0.194	0.161	-
	Carbon retention	-0.256*	-	-	-0.009	0.082	0.287**	-
	Salinity protection	-0.186	-	-	0.014	0.091	0.114	-
	Recreation and education	-0.169	-	-	0.108	-0.029	0.136	-
	Religious/Spiritual use	-0.068	-	-	-0.089	0.099	0.092	-
GUAM	Nursery	0.053	0.052	0.043	0.035	-0.284**	0.035	0.043
	Consumption and sale	-0.046	0.018	-0.051	0.150	-0.116	-0.056	0.111
	Medicinal use	0.045	-0.031	-0.111	0.133	0.055	-0.072	-0.011
	Erosion protection	0.109	-0.026	-0.226*	0.070	0.079	-0.105	0.086
	Carbon retention	-0.159	0.213*	-0.089	0.183	0.059	-0.069	-0.121
	Salinity protection	-0.142	-0.061	-0.034	0.254*	0.066	0.114	-0.106
	Recreation and education	-0.048	-0.142	0.006	0.237*	-0.042	0.069	-0.010
	Religious/Spiritual use	0.100	0.023	-0.133	-0.108	-0.121	0.139	0.078
SAM	Nursery	-0.096	0.011	0.038	-0.004	-	0.080	-
	Consumption and sale	-0.073	-0.121	0.258*	0.070	-	0.013	-
	Medicinal use	-0.163	-0.112	0.298*	0.140	-	0.003	-
	Erosion protection	-0.117	-0.084	0.058	0.106	-	0.110	-
	Carbon retention	0.050	-0.009	0.117	0.004	-	-0.134	-
	Salinity protection	-0.162	0.014	0.107	-0.006	-	0.110	-
	Recreation and education	-0.165	-0.108	0.166	0.174	-	0.054	-
	Religious/Spiritual use	0.119	-0.267*	0.354**	-0.025	-	0.039	-
HAT	Nursery	-0.085	0.028	0.236*	0.138	-0.151	-0.280**	-0.120

	Consumption and sale	-0.111	0.021	0.265*	0.073	-0.129	-0.216*	-0.085
	Medicinal use	-0.026	-0.040	0.281**	0.150	-0.135	-0.328**	-0.095
	Erosion protection	-0.087	0.001	0.227*	0.179	-0.130	-0.308**	-0.079
	Carbon retention	-0.038	-0.035	0.188	0.080	-0.113	-0.153	-0.048
	Salinity protection	-0.079	-0.031	0.238*	0.149	-0.135	-0.224*	-0.088
	Recreation and education	-0.125	0.002	0.226*	0.141	-0.130	-0.207	-0.079
	Religious/Spiritual use	-0.002	0.106	-0.074	-0.002	-0.047	-0.020	-0.083

Note: Each mangrove locality has been analysed independently.

Figure S1. *Frequency of mangrove resource use in the sites studied. A-Consumption of fish, B- Consumption of molluscs, C-Consumption of shellfish, D-Use as dye, E-Use as traditional medicine, F-Use for wildlife observation, G-Recreational and educational use, H-Religious/ Spiritual use, I-Use as an energy source, J- Use as a source of timber.*

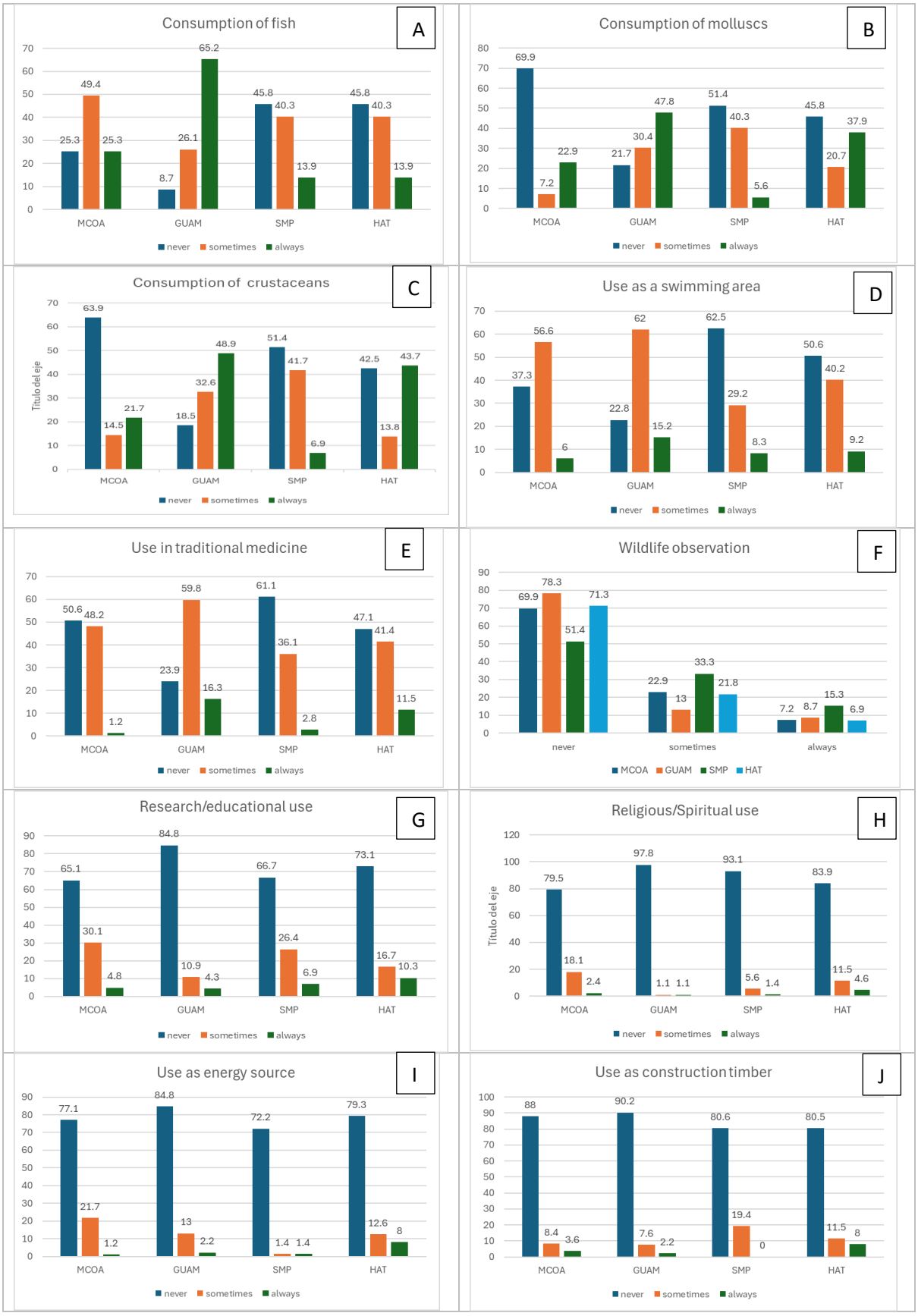
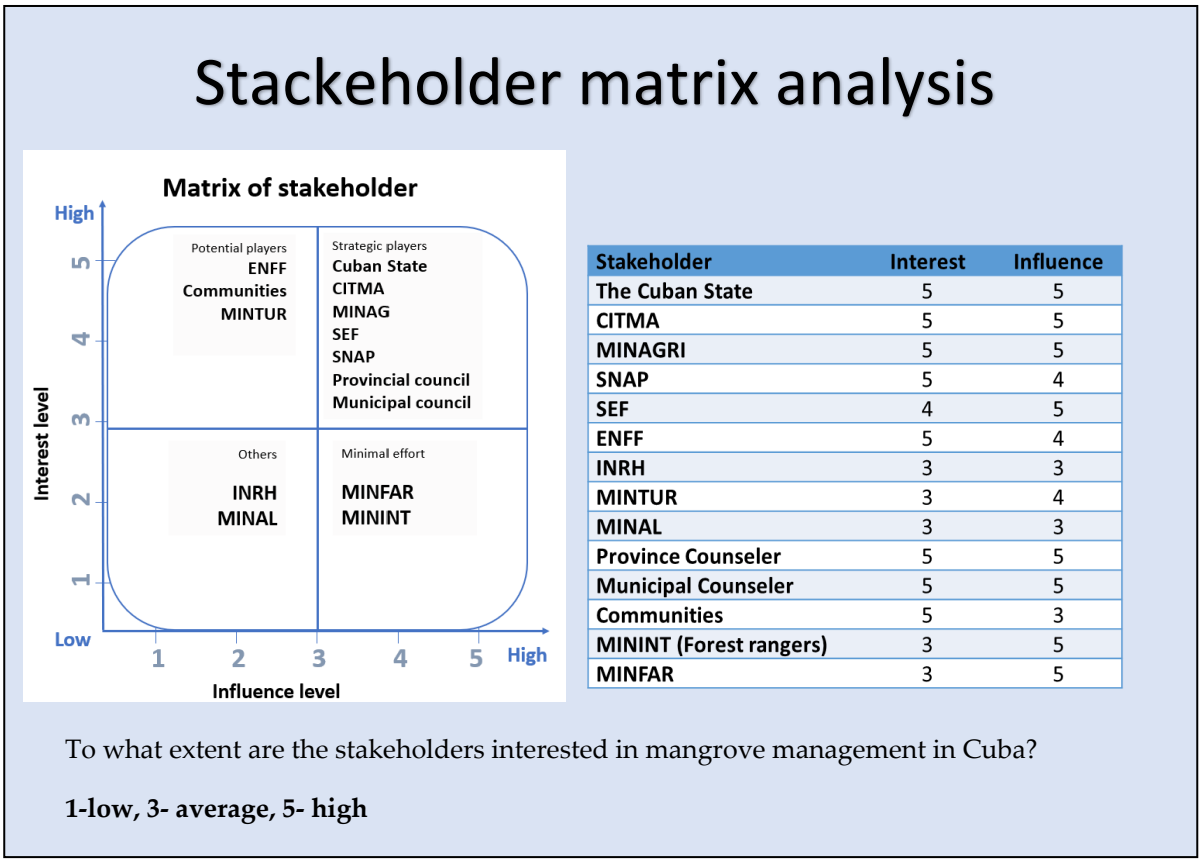


Figure S2. Level of estimated interest and influence of specific stakeholders and governance bodies in the mangrove management system and governance in Cuba (Mendelow's Matrix)



Stakeholder	Interest	Influence
The Cuban State	5	5
CITMA	5	5
MINAGRI	5	5
SNAP	5	4
SEF	4	5
ENFF	5	4
INRH	3	3
MINTUR	3	4
MINAL	3	3
Province Counseler	5	5
Municipal Counseler	5	5
Communities	5	3
MININT (Forest rangers)	3	5
MINFAR	3	5

List of acronyms:

CITMA: Ministry of Science and Environment

ENFF: National Enterprise of Flora and Fauna

INRH: National Institute of Hydric Resouces

MINAGRI: Ministry of Agriculture

MINAL: Ministry of Food Industry

MINFAR: Ministry of Revolutionary Armed Forces

MININT: Ministry of the Interior

MINTUR: Ministry of Tourism

SEF: State Forestry Service

SNAP: National System of Protected Areas