

## **Supplementary material for:**

### **The relative importance of human disturbance, environmental and spatial factors on the community composition of wetland birds**

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#### **Containing:**

Results of Environmental data

List of the observed bird species

Criteria used to quantify the magnitude human disturbance

Results of variation partitioning analyses on bird community composition

## SUPPLEMENTARY INFORMATION

**Table S1.** Overview of key wetland characteristics and mean (minimum, maximum) values for local environmental variables for each wetland across sampling sites, seasons (wet and dry) and years (2010 and 2011). Permanency: 1 = Temporary; 2 = Semi-permanent; 3 = Permanent. Abbreviation environmental variables: TON = total organic nitrogen;  $\text{NH}_4^+$  = ammonium;  $\text{NO}_3^-$  = nitrate; TP = total phosphorus;  $\text{PO}_4^{3-}$  = orthophosphate;  $\text{BOD}_5$  = Five day Biochemical Oxygen Demand; COD = Chemical Oxygen Demand; EC = Electric Conductivity; pH = logarithmic measure of hydrogen ion concentration.

Variables	Kitto	Kofe	Boye	Awetu	Haro 1	Haro 2	Haro 3	Haro 4	Bulbul	Balawajo
Permanency	3	3	3	3	2	2	2	1	2	1
Area (hectare)	95	110	92	15	5	6	10	26	8	20
No. of sampling sites	14	14	8	7	3	4	3	3	3	3
Water depth (m)	0.6 (0.1-1.8)	0.26 (0.02-0.8)	0.7 (0.05-2.3)	0.7 (0.4-1.2)	0.5 (0.2-1)	0.5 (0.2-0.8)	0.4 (0.05-0.8)	0.35 (0.18-0.4)	0.7 (0.2-1.5)	0.36 (0.14-1)
Sludge depth (m)	0.5 (0.04-1.4)	0.8 (0.17-1.6)	0.7 (0.02-3.2)	0.4 (0.3-1)	0.32 (0.05-0.8)	0.36 (0.1-0.8)	0.34 (0.15-0.8)	0.21 (0.2-0.25)	0.3 (0.0-0.7)	0.5 (0.2-0.9)
Water temperature (°C)	20 (16-24)	22.5 (18-31)	22 (19-25)	20 (18-23)	23 (20.5-30)	27 (23-33)	23 (18.8-27)	25 (20-31)	22.7 (21-27)	23 (20-26)
pH	7.2 (6.7-8.1)	6.7 (6-7.6)	6.8 (6.6-7.2)	7.1 (7-7.5)	7 (6-9.3)	7.8 (6.8-9.6)	7.5 (6.8-9.2)	7.5 (6.8-9.1)	7.6 (6.6-9.8)	7 (6.6-7.5)
DO (mg/l)	4.6 (0.4-7.5)	3.1 (0.2-7.6)	2.4 (0.5-6.6)	4.4 (0.5-7.2)	3.2 (0.9-9.5)	7.6 (4.3-11.3)	6 (3.4-12.7)	6.8 (2.8-12.8)	5.5 (2.2-10)	4.2 (1.5-6.5)
DO saturation (%)	62 (5-93)	44 (1.8-107)	33 (7-84)	60 (8-95)	44 (4-151)	117 (55-197)	88 (49-195)	105 (40-213)	80 (31-148)	60 (22-97)
EC ( $\mu\text{S}/\text{cm}$ )	123 (60-215)	104 (26-293)	151 (59-246)	138 (79-220)	119 (69-294)	133 (69-294)	150 (72-292)	79 (60-109)	82 (67-113)	102 (62-231)
Chlorophyll a ( $\mu\text{g}/\text{l}$ )	12 (11-13.5)	12 (11-27)	12.9 (11-20.8)	12 (11-12.3)	15 (12.5-20)	14.5 (12-16)	21 (12.6-66)	18.8 (13-29)	15.4 (12-21.9)	12 (11.7-13)

TON (mg/l)	1.87 (0.04-13)	4.4 (0.1-34)	2.7 (0.05-19)	2.4 (0.8-7.4)	2.6 (0.13-9)	6.5 (0.8-29)	6.3 (1-19.5)	7 (0.9-21.5)	3.6 (1-8.4)	5.6 (0.4-12)
NH <sub>4</sub> (mg/l)	0.19 (0.01-0.8)	0.3 (0.01-2)	0.16 (0.01-1.1)	0.4 (0.03-1.6)	0.1 (0.01-0.3)	0.1 (0.01-0.3)	0.1 (0.01-0.3)	0.16 (0.03-0.3)	0.9 (0.01-5)	0.46 (0.02-1.1)
NO <sub>3</sub> (mg/l)	2.73 (0.06-12)	0.7 (0.01-4)	0.7 (0.03-2.6)	1 (0.16-6)	0.9 (0.05-3)	1.4 (0.05-5.4)	1.2 (0.13-2.6)	1.7 (0.08-4.9)	0.6 (0.13-1.8)	1 (0.1-2.9)
TP (mg/l)	0.11 (0.03-0.5)	0.08 (0.01-0.4)	0.13 (0.01-0.5)	0.4 (0.13-1.2)	0.24 (0.01-0.5)	0.25 (0.02- 0.6)	0.2 (0.01-0.6)	0.6 (0.06-1.2)	0.45 (0.03-1.1)	0.3 (0.05-0.7)
PO <sub>4</sub> <sup>3-</sup> (mg/l)	0.07 (0.01-0.3)	0.34 (0.01-5.4)	0.08 (0.01- 0.8)	0.14 (0.02- 0.6)	0.07 (0.01- 0.2)	0.06 (0.01- 0.2)	0.07 (0.01-0.2)	0.3 (0.04-0.7)	0.1 (0.05-0.2)	0.1 (0.02-0.2)
BOD <sub>5</sub> (mg/l)	10 (2.2-40)	16.3 (1-66)	28.4 (1.2-158)	40 (5-113)	28 (4.5-62)	24 (3-54)	61 (1.8-488)	25 (8-56)	76 (9-225)	19 (2-58)
COD (mg/l)	17 (4-57)	27 (4-89)	47.3 (3.5-221)	60 (8-168)	50 (9-105)	40 (7.8-81)	94 (2.8-728)	40 (13-81)	136 (18-408)	28 (3.8-79)
Vegetation cover (%)	80 (10-100)	74 (10-100)	82 (30-100)	66 (10-100)	60 (10-80)	43 (10-60)	58 (10-85)	52 (30-75)	34 (10-50)	90 (80-100)

**Table S2.** List of the observed bird species with their relative abundance and frequency of occurrence across all observation sites. Conservations status for each species is based on the The International Union for Conservation of Nature (IUCN) red list. Conservation status: LC = Least concern; NT=Near Threatened; VU = Vulnerable. Bird Category: S= Wetland specialist: G= Wetland generalist: A= Wetland associated.

Code	Common name	Scientific name	Order	Family	Category	IUCN status	Frequency of occurrence (%)	Relative abundance (%)
1	African jacana	<i>Actophilornis africanus</i>	Charadriiformes	Jacaniidae	S	LC	31.5	4.5

2	African fish eagle	<i>Haliaeetus vocifer</i>	Falconiformes	Accipitridae	S	LC	5	0.1
3	Black headed heron	<i>Ardea melanocephala</i>	Pelecaniformes	Ardeidae	S	LC	26.5	0.9
4	Black necked grebe	<i>Podiceps nigricollis</i>	Podicipediformes	Podicipedidae	S	LC	3.2	0.2
5	Black tailed godwit	<i>Limosa limosa</i>	Charadriiformes	Scolopacidae	S	NT	10.5	0.7
6	Blue breasted kingfisher	<i>Halcyon malimbica</i>	Coraciiformes	Halcyonidae	S	LC	2.3	0.1
7	Common moorhen	<i>Gallinula chloropus</i>	Gruiformes	Rallidae	S	LC	4.6	0.2
8	Common sandpiper	<i>Actitis hypoleucos</i>	Charadriiformes	Scolopacidae	S	LC	17.4	1
9	Common stilt	<i>Himantopus himantopus</i>	Charadriiformes	Recurvirostridae	S	LC	7.8	0.4
10	Fulvous whistling duck	<i>Dendrocygna bicolor</i>	Anseriformes	Anatidae	S	LC	1.8	0.1
11	Grey heron	<i>Ardea cinerea</i>	Pelecaniformes	Ardeidae	S	LC	11.9	0.4
12	Giant kingfisher	<i>Megaceryle maxima</i>	Coraciiformes	Cerylidae	S	LC	2.7	0.1
13	Hamerkop	<i>Scopus umbretta</i>	Pelecaniformes	Scopidae	S	LC	14.2	0.6
14	Hottentot teal	<i>Anas hottentota</i>	Anseriformes	Anatidae	S	LC	7.3	0.8
15	Knob billed duck	<i>Sarkidiomis melanotos</i>	Anseriformes	Anatidae	S	LC	27.9	2.6
16	Lesser moorhen	<i>Gallinula angulata</i>	Gruiformes	Rallidae	S	LC	2.7	0.1
17	Little grebe	<i>Tachybaptus ruficollis</i>	Podicipediformes	Podicipedidae	S	LC	6.4	0.3
18	Long tailed cormorant	<i>Phalacrocorax africanus</i>	Pelicaniformes	Phalacrocoracidae	S	LC	9.1	0.4
19	Malachite kingfisher	<i>Alcedo cristatus</i>	Coraciiformes	Alcedinidae	S	LC	9.6	0.3
20	Marsh sandpiper	<i>Tringa stagnatilis</i>	Charadriiformes	Scolopacidae	S	LC	15.5	0.9

21	Northern shoveler	<i>Spatula clypeata</i>	Anseriformes	Anatidae	S	LC	2.7	0.1
22	Pink backed pelican	<i>Pelecanus rufescens</i>	Pelicaniformes	Pelecanidae	S	LC	9.1	1
23	Purple heron	<i>Ardea purpurea</i>	Ciconiformes	Ardeidae	S	LC	2.7	0.1
24	Saddle billed stork	<i>Ephippiorhynchus senegalensis</i>	Ciconiformes	Ciconidae	S	LC	9.6	0.4
25	Squacco heron	<i>Ardeola ralloides</i>	Ciconiformes	Ardeidae	S	LC	6.8	0.2
26	White faced whistling duck	<i>Dendrocygna viduata</i>	Anseriformes	Anatidae	S	LC	24.2	3
27	Wood sandpiper	<i>Tringa glareola</i>	Charadriiformes	Scolopacidae	S	LC	14.6	0.7
28	Yellow billed duck	<i>Anas undulate</i>	Anseriformes	Anatidae	S	LC	42.5	6.3
29	Yellow billed stork	<i>Mycteria ibis</i>	Ciconiformes	Ciconidae	S	LC	14.6	1.1
30	African black duck	<i>Anas sparsa</i>	Anseriformes	Anatidae	S	LC	1.8	0.1
31	African darter	<i>Anhinga rufa</i>	Pelicaniformes	Anhingidae	S	LC	1.8	0.1
32	African snipe	<i>Gallinago nigripennis</i>	Charadriiformes	Scolopacidae	S	LC	0.5	0.1
33	African spoonbill	<i>Platalea alba</i>	Ciconiformes	Threskiornithidae	S	LC	1.4	0.1
34	Eurasian spoonbill	<i>Platalea leucorodia</i>	Ciconiformes	Threskiornithidae	S	LC	1.8	0.1
35	Mallard	<i>Anas platyrhynchos</i>	Anseriformes	Anatidae	S	LC	0.9	<0.1
36	Northern pintail	<i>Anas acuta</i>	Anseriformes	Anatidae	S	LC	0.9	0.1
37	Temminck's stint	<i>Calidris temminckii</i>	Charadriiformes	Scolopacidae	S	LC	0.5	0.1
38	White winged black tern	<i>Chlidonias leucopetrus</i>	Charadriiformes	Laridae	S	LC	1.4	0.1
39	Southern pochard	<i>Netta erythrophthalma</i>	Anseriformes	Anatidae	S	LC	0.5	0

40	Common bittern	<i>Botaurus stellaris</i>	Pelecaniformes	Ardeidae	S	LC	0.5	0
41	Black crane	<i>Amauromis flavirostris</i>	Gruiformes	Rallidae	G	LC	2.7	0.1
42	Black-crowned crane	<i>Balearica pavonina</i>	Gruiformes	Gruidae	G	VU	26.9	1.5
43	Egyptian goose	<i>Alopochen aegyptiacus</i>	Anseriformes	Anatidae	G	LC	32	2.7
44	Fan-tailed widow-bird	<i>Euplectes axillaris</i>	Passeriformes	Ploceidae	G	LC	59.4	5.4
45	Great white egret	<i>Egretta alba</i>	Ciconiformes	Ardeidae	G	LC	16	1.1
46	Little egret	<i>Egretta garzetta</i>	Ciconiformes	Ardeidae	G	LC	11.4	0.6
47	Marabou stork	<i>Leptoptilos crumeniferus</i>	Ciconiformes	Ciconidae	G	LC	2.3	0.5
48	Pied kingfisher	<i>Ceryle rudis</i>	Coraciiformes	Alcedinidae	G	LC	18.3	0.7
49	Rouget's rail	<i>Rougetius rougetii</i>	Gruiformes	Rallidae	G	NT	6.4	0.2
50	Sacred ibis	<i>Threskiomis aethiopicus</i>	Ciconiformes	Threskiornithidae	G	LC	64.4	5.1
51	Spur-winged lapwing	<i>Vanellus spinosus</i>	Charadriiformes	Charadriidae	G	LC	11	0.7
52	Wattled crane	<i>Grus carunculatus</i>	Gruiformes	Gruidae	G	VU	6.4	0.3
53	Wattled ibis	<i>Bostrychia carunculata</i>	Ciconiformes	Threskiornithidae	G	LC	6.8	0.4
54	Winding cisticola	<i>Cisticola marginatus</i>	Passeriformes	Cisticolidae	G	LC	3.7	0.2
55	Yellow-mantled widow-bird	<i>Euplectes macroura</i>	Passeriformes	Ploceidae	G	LC	13.2	0.9
56	Yellow wag-tail	<i>Motacilla flava</i>	Passeriformes	Motacillidae	G	LC	19.2	0.6
57	Glossy ibis	<i>Plegadis falcinellus</i>	Ciconiformes	Threskiornithidae	G	LC	1.4	0
58	Abyssinia ground hornbill	<i>Bucorvus abyssinicus</i>	Coraciiformes	Bucerotidae	A	LC	4.6	0.1

59	African citril	<i>Serinus citrinelloides</i>	Passeriformes	Fringillidae	A	LC	2.7	0.1
60	African wattled lapwing	<i>Vanellus senegallus</i>	Charadriiformes	Charadriidae	A	LC	45.2	4.1
61	African mourning dove	<i>Streptopelia decipiens</i>	Columbiformes	Columbidae	A	LC	17.8	1.2
62	African paradise monarch	<i>Terpsiphone viridis</i>	Passeriformes	Monarchidae	A	LC	13.2	0.6
63	African rook	<i>Corvus frugilegus</i>	Passeriformes	Corvidae	A	LC	3.7	0.1
64	Balagfecht weaver	<i>Ploceus baglafecht</i>	Passeriformes	Ploceidae	A	LC	15.5	1
65	Black kite	<i>Milvus migrans</i>	Accipitriformes	Accipitridae	A	LC	6.4	0.3
66	Barn swallow	<i>Hirundo rustica</i>	Passeriformes	Hirundinidae	A	LC	25.1	2.5
67	Brown-throated sand- martin	<i>Riparia paludicola</i>	Passeriformes	Hirundinidae	A	LC	4.6	0.5
68	Black-headed weaver	<i>Ploceus melanocephalus</i>	Passeriformes	Ploceidae	A	LC	24.7	3.9
69	Blue-headed coucal	<i>Centropus monachus</i>	Cuculiformes	Cuculidae	A	LC	24.7	1.1
70	Blue-spotted wood dove	<i>Turtur afer</i>	Columbiformes	Columbidae	A	LC	2.7	0.1
71	Bronze mannikin	<i>Lonchura cucullata</i>	Passeriformes	Estrildidae	A	LC	29.2	1.6
72	Brown-snake eagle	<i>Circaetus cinereus</i>	Accipitriformes	Accipitridae	A	LC	2.7	0.1
73	Cattle egret	<i>Bubulcus ibis</i>	Ciconiformes	Ardeidae	A	LC	57.5	8.3
74	Common bulbul	<i>Pycnonotus barbatus</i>	Passeriformes	Pycnonotidae	A	LC	6.4	0.7
75	Common fiscal	<i>Lanius collaris</i>	Passeriformes	Laniidae	A	LC	11.9	0.2

76	Copper sunbird	<i>Cinnyris cupreus</i>	Passeriformes	Nectariniidae	A	LC	6.8	0.3
77	Common waxbill	<i>Estrilda aestrild</i>	Passeriformes	Estrildidae	A	LC	9.6	0.4
78	Crested francolin	<i>Francolinus sephaena</i>	Galliformes	Phasianidae	A	LC	2.3	0.1
79	Eastern plantain-eater	<i>Crinifer zonurus</i>	Cuculiformes	Musophagidae	A	LC	8.2	0.3
80	Fan-tailed raven	<i>Corvus rhipidurus</i>	Passeriformes	Corvidae	A	LC	14.2	0.8
81	Grey-backed fiscal	<i>Lanius excubitoroids</i>	Passeriformes	Laniidae	A	LC	40.2	3
82	Grey wood-pecker	<i>Mesopicos goertae</i>	Piciformes	Picidae	A	LC	2.7	0.1
83	Helmented guineaowl	<i>Numida meleagris</i>	Galliformes	Numidae	A	LC	6.8	1.4
84	Lesser-blue-eared glossy Starling	<i>Lamprotornis chloropterus</i>	Passeriformes	Sturnidae	A	LC	15.1	1
85	Long-tailed pipit	<i>Anthus similes</i>	Passeriformes	Motacillidae	A	NT	2.3	0.1
86	Hadada ibis	<i>Bostrychia hagedash</i>	Ciconiformes	Threskiornithidae	A	LC	81.3	6.8
87	Little Bee-eater	<i>Merops pusillus</i>	Coraciiformes	Meropidae	A	LC	31.1	2
88	Olive thrush	<i>Turdus olivaceus</i>	Passeriformes	Turdidae	A	LC	3.2	0.2
89	Pectoral patch cisticola	<i>Cisticola brunnescens</i>	Cuculiformes	Cisticolidae	A	LC	2.3	0.1
90	Pintailed whydah	<i>Vidua macroura</i>	Passeriformes	Viduidae	A	LC	15.1	0.5
91	Red-billed firefinch	<i>Lagonosticta senegala</i>	Passeriformes	Estrildidae	A	LC	9.6	0.3
92	Red-eyed dove	<i>Streptopelia semitorquata</i>	Columbiformes	Columbidae	A	LC	21.5	1.3
93	Richard's pipit	<i>Anthus richardi</i>	Passeriformes	Motacillidae	A	LC	5.5	0.2
94	Ring-necked dove	<i>Streptopelia capicola</i>	Columbiformes	Columbidae	A	LC	5	0.2



95	Speckled-mousebird	<i>Colius striatus</i>	Coliiformes	Collidae	A	LC	14.2	0.6
96	Speckled pigeon	<i>Columba guinea</i>	Columbiformes	Columbidae	A	LC	4.6	0.3
97	Stout cisticola	<i>Cisticola robustus</i>	Passeriformes	Cisticolidae	A	LC	13.7	1.5
98	Tambourine dove	<i>Turtur tympanistria</i>	Columbiformes	Columbidae	A	LC	5.5	0.3
99	Thick-billed raven	<i>Corvus crassirostris</i>	Passeriformes	Corvidae	A	LC	3.2	0.1
100	Tropical boubou	<i>Laniarius aethiopicus</i>	Passeriformes	Malaconotidae	A	LC	3.7	0.2
101	Variable sunbird	<i>Cinnyris venustus</i>	Passeriformes	Nectariniidae	A	LC	7.3	0.3
102	Woodland king-fisher	<i>Halcyon senegalensis</i>	Coraciiformes	Alcedinidae	A	LC	7.3	0.3
103	Abdim's stork	<i>Ciconia abdimii</i>	Ciconiiformes	Ciconidae	A	LC	0.5	<0.1
104	Sedge warbler	<i>Acrocephalus schoenobaenus</i>	Passeriformes	Acrocephalidae	A	LC	0.5	<0.1
105	Abyssinia ground thrush	<i>Geokichla piaggiae</i>	Passeriformes	Turdidae	A	LC	0.5	<0.1
106	Abyssinian long claw	<i>Macronyx flavicollis</i>	Passeriformes	Motacillidae	A	NT	0.5	<0.1
107	Abyssinian slaty flycatcher	<i>Melaenornis chocolatinus</i>	Passeriformes	Muscicapidae	A	LC	1.8	0.1
108	Abyssinian white-eye	<i>Zosterops abyssinicus</i>	Passeriformes	Zosteropidae	A	LC	0.5	<0.1
109	African firefinch	<i>Lagonosticta rubricata</i>	Passeriformes	Estrildidae	A	LC	0.5	<0.1
110	African thrush	<i>Turdus pelios</i>	Passeriformes	Turdidae	A	LC	1.4	<0.1
111	Yellow-throated warbler	<i>Setophaga dominica</i>	Passeriformes	Parulidae	A	LC	1.4	0.1
112	Black-billed bustard	<i>Eupodotis melanogaster</i>	Gruiformes	Otididae	A	LC	0.9	<0.1
113	Black bishop	<i>Euplectes gierowii</i>	Passeriformes	Ploceidae	A	LC	1.4	0.1

114	Black-headed batis	<i>Batis minor</i>	Passeriformes	Muscicapidae	A	LC	0.9	<0.1
115	Western banded snake eagle	<i>Circaetus cinerascens</i>	Accipitriformes	Accipitridae	A	LC	1.4	<0.1
116	Cardinal wood-pecker	<i>Dendropicos fuscescens</i>	Piciformes	Picidae	A	LC	0.5	<0.1
117	Cinnamon breasted rock bunting	<i>Emberiza tahapisi</i>	Passeriformes	Emberizidae	A	LC	1.4	0.1
118	Common camaroptera	<i>Camaroptera brachyura</i>	Passeriformes	Cisticolidae	A	LC	1.4	<0.1
119	Common stonechat	<i>Saxicola torquatus</i>	Passeriformes	Muscicapidae	A	LC	0.5	<0.1
120	Greenbul	<i>Andropadus importunus</i>	Passeriformes	Pycnonotidae	A	LC	1.4	0.2
121	Green-throated Sunbird	<i>Chalcomitra rubescens</i>	Passeriformes	Nectariniidae	A	LC	1.8	0.1
122	Grey- headed Sparrow	<i>Passer griseus</i>	Passeriformes	Ploceidae	A	LC	0.5	<0.1
123	Hemprich's hornbill	<i>Tockus hemprichii</i>	Coraciiformes	Bucerotidae	A	LC	1.4	<0.1
124	Heuglin's robinchat	<i>Cossypha heuglini</i>	Passeriformes	Turdidae	A	LC	0.9	<0.1
125	Hoopoe	<i>Upupa epops</i>	Coraciiformes	Upupidae	A	LC	0.5	<0.1
126	Lesser grey shrike	<i>Lanius minor</i>	Passeriformes	Laniidae	A	LC	0.5	<0.1
127	Little greenbul	<i>Eurillas virens</i>	Passeriformes	Pycnonotidae	A	LC	0.5	<0.1
128	Little-rush warbler	<i>Bradypterus baboecala</i>	Passeriformes	Locustellidae	A	LC	0.5	<0.1
129	Marico sunbird	<i>Cinnyris mariquensis</i>	Passeriformes	Locustellidae	A	LC	0.5	<0.1

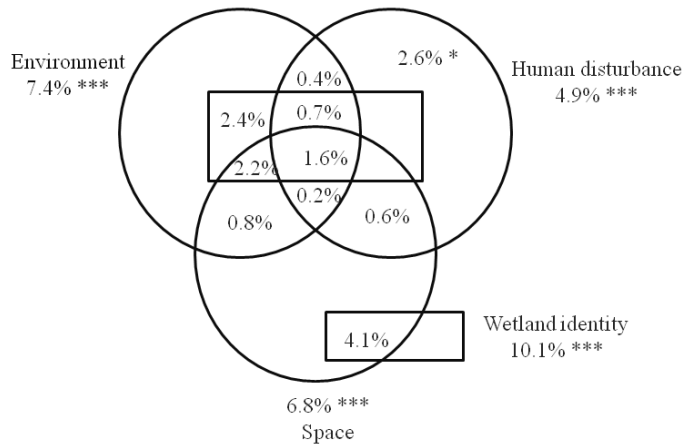
130	Northern wheatear	<i>Oenanthe oenanthe</i>	Passeriformes	Muscicapidae	A	LC	0.9	<0.1
131	Red-backed shrike	<i>Lanius collurio</i>	Passeriformes	Laniidae	A	LC	0.9	<0.1
132	Red-billed oxpecker	<i>Buphagus erithrorhynchus</i>	Passeriformes	Sturnidae	A	LC	1.4	<0.1
133	Red-checked cordon bleu	<i>Uraeginthus bengalus</i>	Passeriformes	Estrildidae	A	LC	0.9	<0.1
134	Red-headed quelea	<i>Quelea erythrops</i>	Passeriformes	Ploceidae	A	LC	0.5	<0.1
135	Red-tailed wheatear	<i>Oenanthe chrysopygia</i>	Passeriformes	Muscicapidae	A	LC	0.9	<0.1
136	Scarlet-chested sunbird	<i>Nectarinia senegalensis</i>	Passeriformes	Nectariniidae	A	LC	0.9	<0.1
137	Senegal coucal	<i>Centropus senegalensis</i>	Cuculiformes	Cuculidae	A	LC	1.4	<0.1
138	Village indigobird	<i>Vidua chalybeate</i>	Passeriformes	Ploceidae	A	LC	0.9	<0.1
139	Wire-tailed swallow	<i>Hirundo smithii</i>	Passeriformes	Hirundinidae	A	LC	0.5	<0.1
140	White-collared pigeon	<i>Columba albitorques</i>	Columbiformes	Columbidae	A	LC	0.9	0.3

**Table S3.** Criteria and ordinal scale used to quantify the magnitude of different types of human disturbance in close proximity of each sampling site.

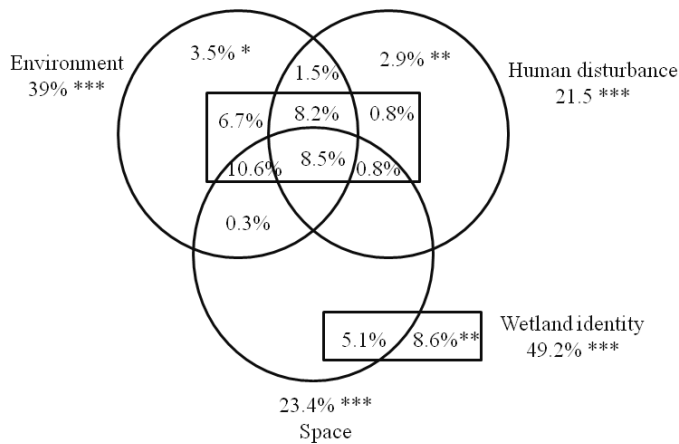
Human disturbance	score = 1	score = 2	score = 3
Cattle grazing	minimal grazing	moderate grazing	intensive grazing
Vegetation clearance	>10% vegetation removal	10-50% of vegetation removal	>50% of vegetation removal
Tree plantation	no plantation in >50m perimeter	plantation in >50m perimeter	plantation in wetland
Crop farming	no farming in >50m perimeter	farming in >50 m perimeter	farming in wetland
Clay mining	no clay mining	clay mining in >50 m perimeter	clay mining in wetland or >50m perimeter
Waste dumping	no waste dumping	water dumping near wetland	waste dumping in wetland
Ditching	no ditching	ditching within >50 m perimeter	ditching in wetland
Filling	no filling	filling near wetland	filling in wetland
Draining	no draining	draining within >50 m perimeter	draining in wetland

## SUPPLEMENTARY FIGURES

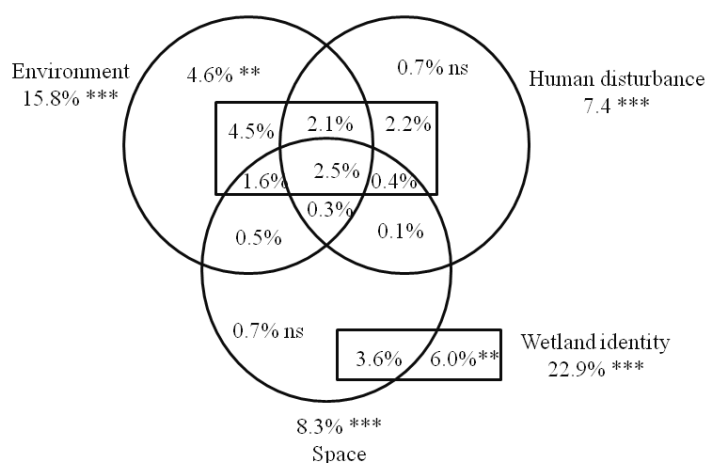
### A. Wetland specialist community



### B. Wetland generalist community



### C. Wetland associated community



**Figure S1.** Results of variation partitioning analyses on the community composition of (A) wetland specialist, (B) wetland generalist and (C) wetland associated birds with environment (E), human disturbance (H), space (S) and wetland identity (W) as explanatory variables. Percentages represent the adjusted  $R^2$ .  $R^2_{adj}$ . Values  $< 0$  are not mentioned. 'ns' not significant, '\*'  $p < 0.05$ , '\*\*'  $p < 0.01$ , '\*\*\*'  $p < 0.001$ ). Note that the significance of shared fractions cannot be tested.