

## Supplementary material

### **Socio-ecological aspects of sustaining Ramsar wetlands in three biodiverse developing countries**

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**Table S1. Fishes of Lake Kutubu**

Species endemic to the lake and surrounding areas (outlet and tributary streams, Lake Wanam) are shown in bold. Foi names are taken from Manasi (2011). For IUCN Red List status see <http://www.iucnredlist.org/> (14 November 2014). References are: 1, Jenkins and Nombri (1997); 2, Polhemus et al. (2004); 3, Allen (1985); 4, ANGFAQ (2007); 5, WWF (2000)

Scientific name	Common name	Foi name	IUCN Red List status	Reference
Family Terapontidae				
<b><i>Hephaestus adamsoni</i></b>	<b>Adamson's grunter</b>	Sesabo	Vulnerable A2cd	1, 2
Family Melanotaeniidae				
<b><i>Melanotaenia lacustris</i></b>	<b>Lake Kutubu rainbowfish</b>	Tadobo	Vulnerable A1ac	1, 2
<i>Melanotaenia monticola</i>	Mountain rainbowfish	Tenaádobó	Data Deficient	1
Family Eleotridae (sleepers)				
<i>Mogurnda cingulata</i>	Banded mogurnda	Bogodaba		5
<b><i>Mogurnda furva</i></b>	<b>Black mogurnda</b>	Damuanagu	Critically Endangered B1ab(iii)	1, 2
<b><i>Mogurnda kutubuensis</i></b> – pale and dark forms	<b>Lake Kutubu mogurnda</b>	Anagu		1
<b><i>Mogurnda maccuneae</i></b>	<b>Cune's mogurnda</b>	Iriguabi		4
<b><i>Mogurnda mosa</i></b>	<b>Mosa mogurnda</b>	Mosa		4
<b><i>Mogurnda spilota</i></b>	<b>Blotched mogurnda</b>	Borokao	Vulnerable A2cd	1, 2
<b><i>Mogurnda variegata</i></b>	<b>Variegated mogurnda</b>	Serekade	Critically Endangered B1ab(iii)	1, 2
<b><i>Mogurnda vitta</i></b>	<b>Striped mogurnda</b>	Gagibu/ Korogagibu	Vulnerable A2cd	1, 2
<i>Oxyeleotris fimbriata</i>	Fimbriate gudgeon	Nafa		1
Family Plotosidae (eeltail catfishes)				
<i>Neosilurus equinus</i>	Southern tandan	Dorobo		1
<b><i>Oloplotosus torobo</i></b>	<b>Kutubu tandan</b>	Awarihibu	Vulnerable A2cd	1, 2, 3
Family Gobiidae (gobies)				
<b><i>Glossogobius</i> sp. 6</b>	<b>Twinspot goby</b>	Korobudi		1
<b><i>Glossogobius</i> sp. 8</b>	<b>Bluntsnout goby</b>	Koro		1, 2
<b><i>Glossogobius</i> sp. 12</b>	<b>Kutubu goby</b>	Korobubaru		1, 2
Family Atherinidae (silversides)				
<b><i>Craterocephalus lacustris</i></b>	<b>Kutubu hardyhead<sup>A</sup></b>	<b>Dare</b>		<b>1, 4</b>
Family Anguillidae (freshwater eels)				
<i>Anguilla bicolor</i>	Indian short finned eel			1
Family Poeciliidae (mosquitofishes)				
<i>Gambusia affinis</i>	Mosquitofish (exotic)			1

<sup>A</sup>Incorrectly stated in ANGFAQ (2007) to occur also in Lake Jamur, Balimo Lagoon, Morehead, Kubuna and Bensbach rivers.

**Table S2. Geographic, demographic and sustainability aspects of the three developing countries compared with highly developed countries**

Total area data are from 2010 (see <http://data.worldbank.org/data-catalog/country-profiles>). 'Population', 'Income group', 'Ecological footprint of consumption' and 'Total biocapacity' data are from 2007 (see Global Footprint Network 2010 [www.footprintnetwork.org/atlas](http://www.footprintnetwork.org/atlas)). 'Income groups' are: HI (high), UM (upper-middle), LM (lower-middle), LI (low) (see Global Footprint Network 2010 [www.footprintnetwork.org/atlas](http://www.footprintnetwork.org/atlas) based on World Bank Data, <http://data.worldbank.org/about/country-and-lending-groups>). 'Human Development Index' data refer to United Nations Development Program 2013 (see <https://data.undp.org/dataset/Table-1-Human-Development-Index-and-its-components/wxub-qc5k#column-menu>). Ecological footprint of consumption is in global hectares per capita

Country	Total area (100 km <sup>2</sup> )	Population (million)	Income group	Human Development Index (rank)	Ecological footprint of consumption	Total biocapacity
Australia	7741.2	20.9	HI	0.938 (2)	6.8	14.7
USA	9831.5	308.7	HI	0.937 (3)	8.0	3.9
UK	243.6	61.1	HI	0.875 (26)	4.9	1.3
Colombia	1141.8	44.4	LM	0.719 (91)	1.9	4.0
Tanzania	947.3	41.3	LI	0.476 (152)	1.2	1.0
PNG	462.8	6.4	LI	0.466 (156)	2.1	3.8

**Table S3. Status of case-study countries and developing countries in the same Ramsar region with wetlands policies and Ramsar implementation instruments**

Developing countries are those classified as low income or lower middle income based on 2007 data from the Global Footprint Network 2010 [www.footprintnetwork.org/atlas](http://www.footprintnetwork.org/atlas)

Region and countries	Number of countries with a national wetlands policy	Number of countries with management plans for all Ramsar sites	Number of countries with ecological character descriptions for all Ramsar sites
Africa ( <i>n</i> = 43)			
Tanzania	0	0 (0/4 sites)	0 (0/4 sites)
Other countries	16	11	20
Oceania ( <i>n</i> = 4)			
PNG	0	0 (1/2 sites)	0 (0/2 sites)
Other countries	1	2	0
Latin America and Caribbean ( <i>n</i> = 10)			
Colombia	1	0 (5/6 sites)	1 (6/6 sites)
Other countries	6	1	5
<b>Total</b>	<b>24/57 (42%)</b>	<b>14/57 (25%)</b>	<b>26/57 (46%)</b>

## References

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