

Diversity and distribution of seagrasses in Chilika Lagoon: Regional threats and management recommendations

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Table S1 — Studies on seagrass diversity and distribution from Chilika Lagoon in last 25 years. Studies are arranged based on their survey year. ✓ Recorded; × not-recorded

Sr. No	Survey period	<i>H. ovalis</i>	<i>H. ovata</i>	<i>H. beccarii</i>	<i>H. pinifolia</i>	<i>H. uninervis</i>	<i>R. maritima</i>	<i>C. serrulata</i>	References
1	2000 – 2004	✓	✓	✓	✓	✓	×	×	Pattnaik <i>et al.</i> , 2008 ^(ref. S1)
2	2008 – 2010	✓	✓	✓	✓	✓	×	×	Bhatta & Patra 2018 ^(ref. S2)
3	2013	✓	✓	✓	✓	✓	×	×	Priyadarshini <i>et al.</i> , 2014 ^(ref. S3)
4	2014	×	×	×	×	✓	×	×	Behera & Nayak, 2015 ^(ref. S4)
5	2014	✓	✓	✓	✓	✓	×	×	Geevarghese <i>et al.</i> , 2017 ^(ref. S5)
6	1998 – 2002 & 2012 – 2016	✓	✓	✓	✓	✓	✓	✓	Pattnaik <i>et al.</i> , 2020 ^(ref. S6)
7	2018	✓	✓	✓	✓	✓	×	×	Kaladharan <i>et al.</i> , 2021 ^(ref. S7)
8	2019	×	×	×	×	×	✓	×	Dilipan <i>et al.</i> , 2022 ^(ref. S8)
9	2012 – 2020	✓	✓	✓	✓	✓	×	×	Tripathy <i>et al.</i> , 2020 ^(ref. S9)
10	2018 – 2019	✓	✓	✓	✓	✓	✓	×	Tripathy <i>et al.</i> , 2021 ^(ref. S10)
11	2022 – 2023	✓	✓	✓	✓	✓	✓	×	This study

Table S2 — Comparison between species diversity recorded in the current study (December 2021 – March 2022) with a previous (Dec 2019/April 2020; Tripathy *et al.*, 2021^(ref.13)) survey for sites within the southern, central, and outer channel sectors. +/- in black colour represents data sourced from Tripathy *et al.*, 2021^(ref.13); +/- in red colour refers to data collected in the current study

Sector/locations	<i>H. ovalis</i>	<i>H. ovata</i>	<i>H. beccari</i>	<i>H. pinifolia</i>	<i>H.uninervis</i>	<i>R. maritima</i>
SS						
Talatala	+	-	-	+	-	-
	+	+	-	+	-	+
Kumarpur	+	-	-	+	+	+
	+	-	-	+	-	-
Budhibara	+	+	-	-	-	+
	+	-	-	+	-	-
Dhobotutha	+	-	+	+	-	+
	-	-	+	+	-	+
Gopakuda	+	-	-	+	-	-
	+	+	-	+	+	-
Somolo	+	-	-	+	-	+
	-	-	-	+	-	-
Panchakudi	+	-	-	+	-	-
	+	-	-	+	-	-
CS						
Nalabana	+	+	-	+	-	+
	+	-	-	+	+	+
OC						
Barunakuda	-	-	-	+	-	-
	-	-	-	+	-	-

(Contd...)

Table S2 — Comparison between species diversity recorded in the current study (December 2021 – March 2022) with a previous (Dec 2019/April 2020; Tripathy *et al.*, 2021^(ref..13)) survey for sites within the southern, central, and outer channel sectors. +/- in black colour represents data sourced from Tripathy *et al.*, 2021^(ref..13); +/- in red colour refers to data collected in the current study (*Contd...*)

Sector/locations	<i>H. ovalis</i>	<i>H. ovata</i>	<i>H. beccari</i>	<i>H. pinifolia</i>	<i>H.uninervis</i>	<i>R. maritima</i>
Rambhartia	-	-	+	+	-	-
Khirisahi	+	-	-	+	-	-
Rajhans	-	-	-	+	+	+
	+	-	-	+	-	-

Supplementary Figures

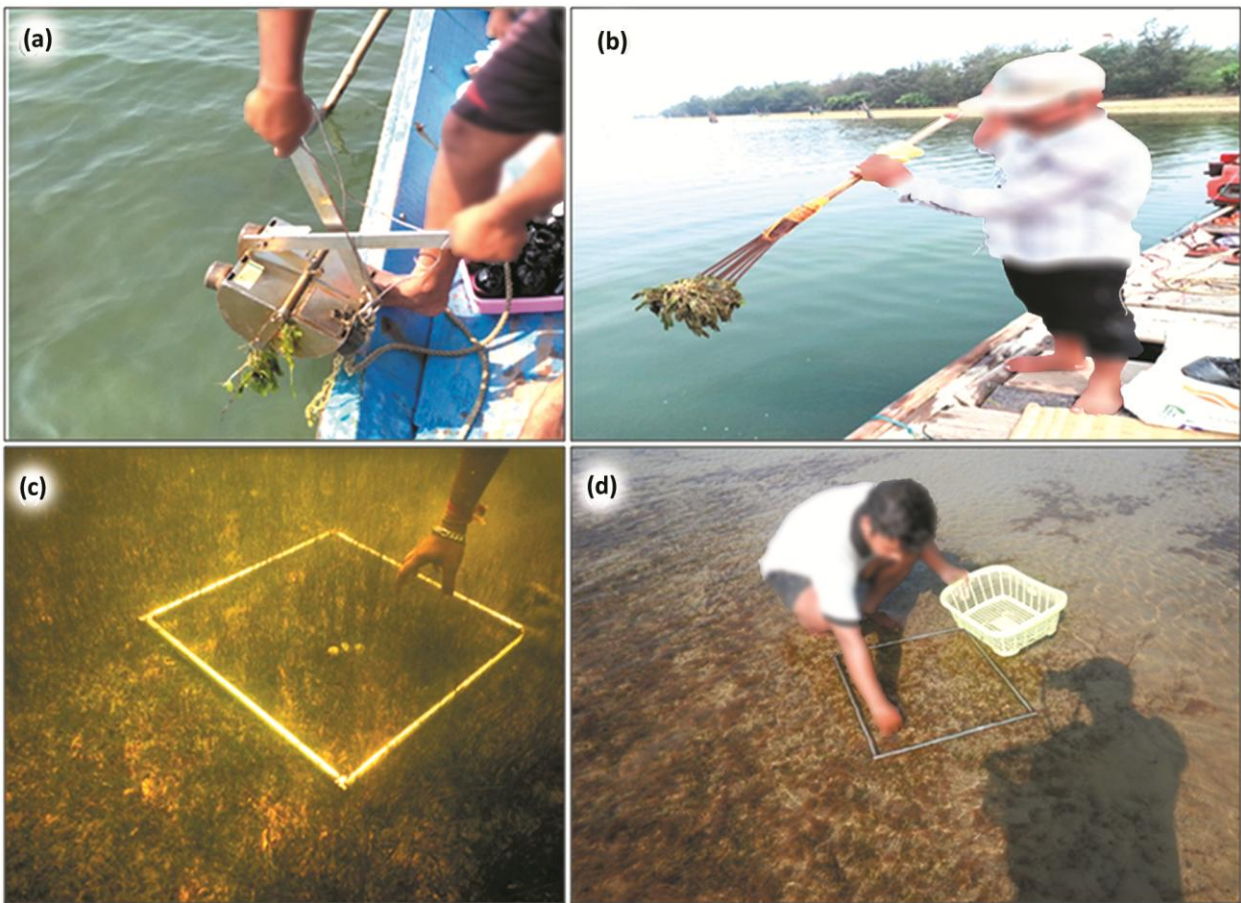


Fig. S1 — Field photographs showing (a) Seagrass harvesting using Van Veen grab sampler, (b) A bamboo pole mounted rake, (c) Deployment of quadrat over seagrass meadow, and (d) Harvesting of seagrass biomass from quadrat



Fig. S2 — Seagrass density with varying % cover in quadrate assessment

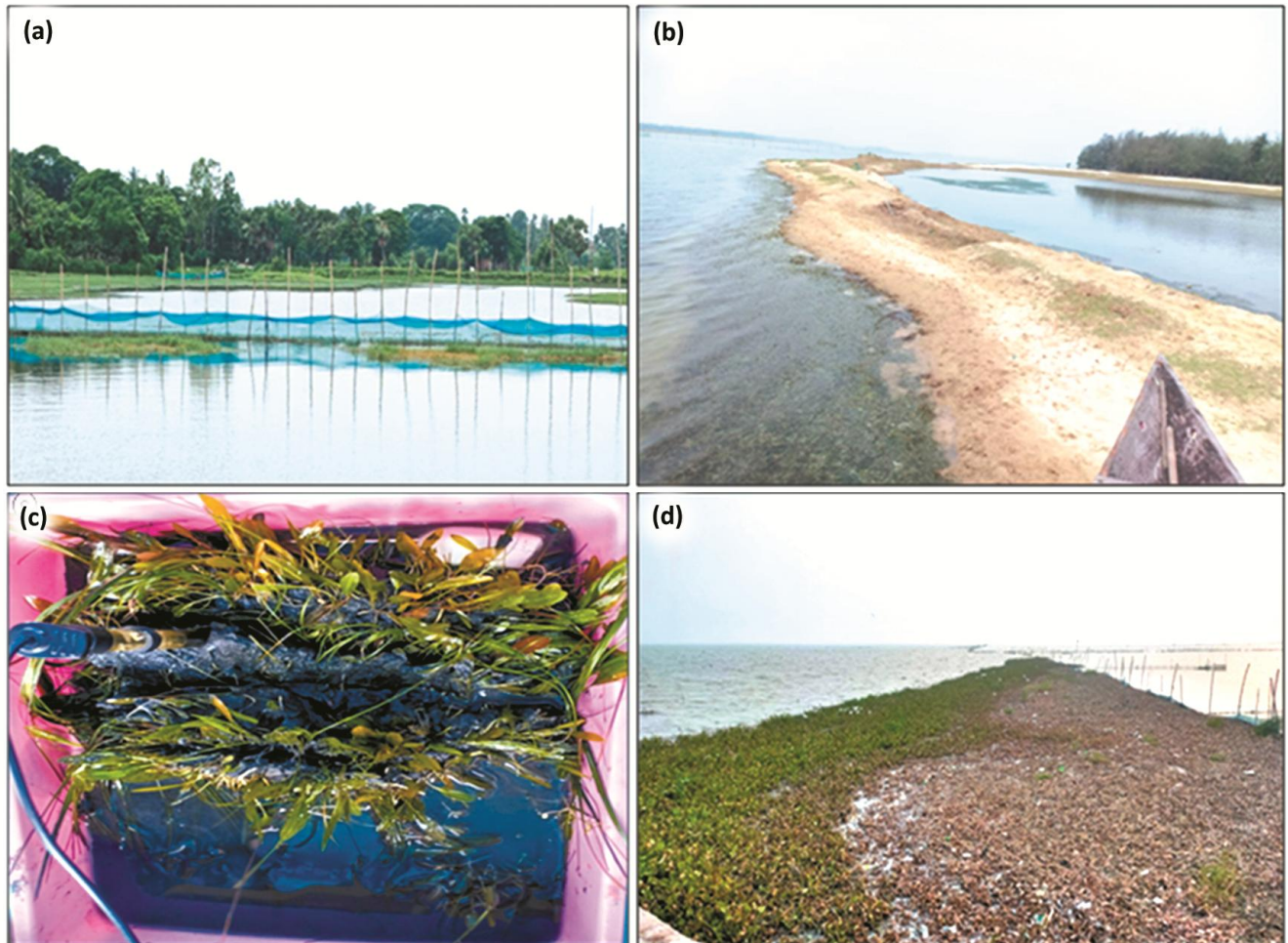


Fig. S3 — Regional threats to seagrass meadows in the Chilika Lagoon. (a) Net gherry, (b) Earthen gherry for prawn culture in the SS, (c) Anoxic dark black sediment underneath seagrasses in Nalabana, and (d) Deposition and decomposition of *Eichhornia crassipes* over seagrass meadows in SS during December 2021 after cyclone Gulab

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