



*Mundus
maris*

Science, Art, and Activism

Cornelia E Nauen, Mundus maris asbl, Belgium

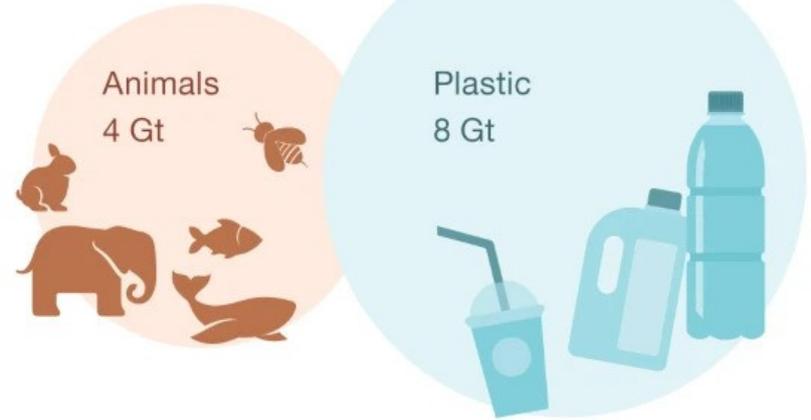
Environmental Humanities Leiden University, 27 October 2023



Artefacts vs Nature

Contrasting key components of global biomass and anthropogenic mass in the year 2020 (dry-weight basis).

Source: Elhacham, E., Ben-Uri, L., Grozovski, J. et al., 2020. Global human-made mass exceeds all living biomass. *Nature*, 588:442–444. <https://doi.org/10.1038/s41586-020-3010-5>



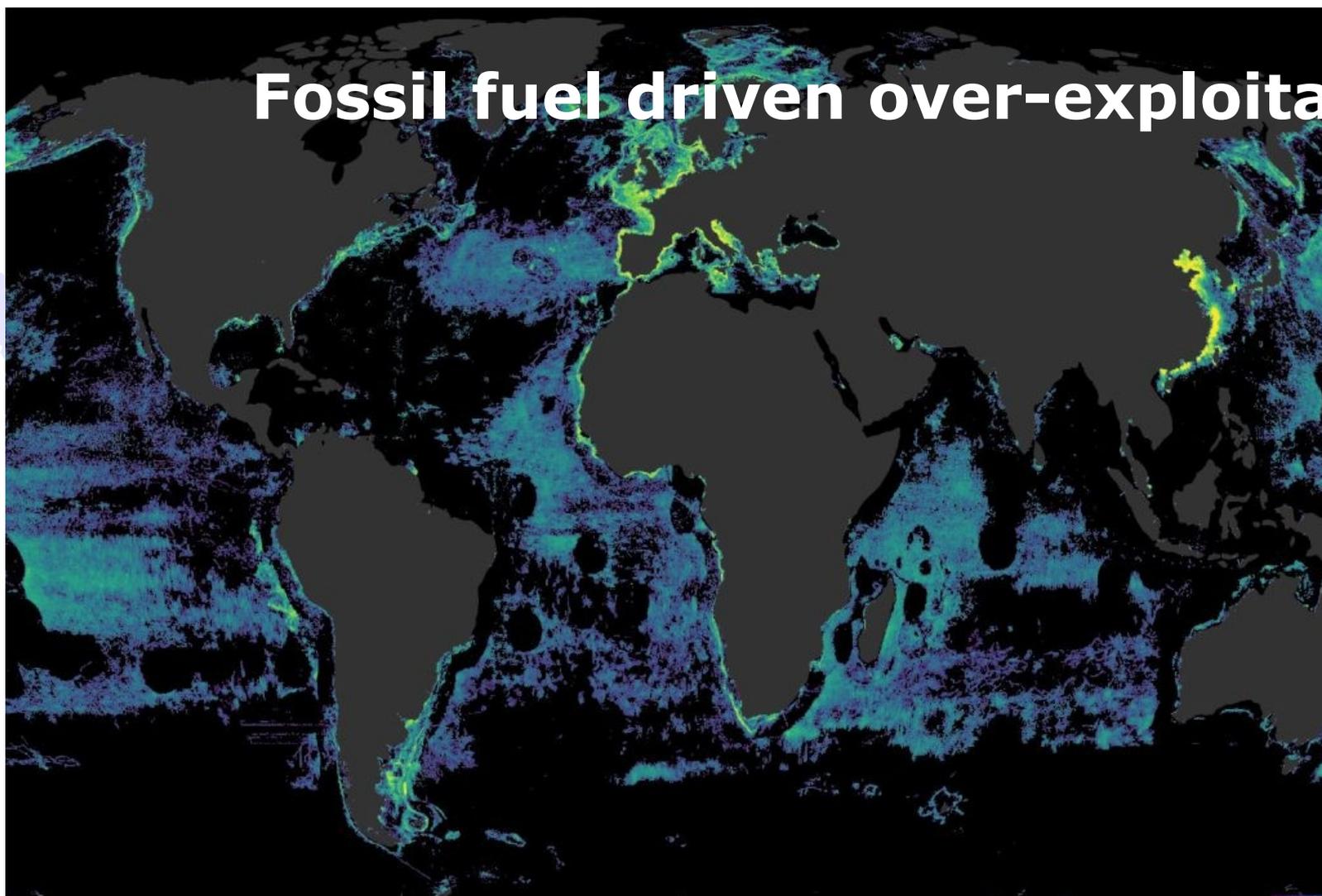
Living biomass

Human-made mass





Fossil fuel driven over-exploitation



Source: Global Fishing Watch, 2016 data, combining long-lining and near-coastal bottom trawling in hours fishing per square kilometer

.001 .01
Hours



Scientific evidence \neq societal change

Major studies / events

- The limits to growth, Club of Rome, 1972
- IPCC reports since 2013 humans dominant
- IPBES 2021
- UN Water Conference 2023
- UN Ocean Conferences 2017/22





Global agreements give hope

- CBD-COP15: the Kunming-Montreal Global Biodiversity Framework.
- Law of the Sea: Agreement to ensure the conservation and sustainable use of biodiversity in marine areas beyond national jurisdiction (BBNJ)
- WTO Agreement to start phasing out harmful fisheries subsidies





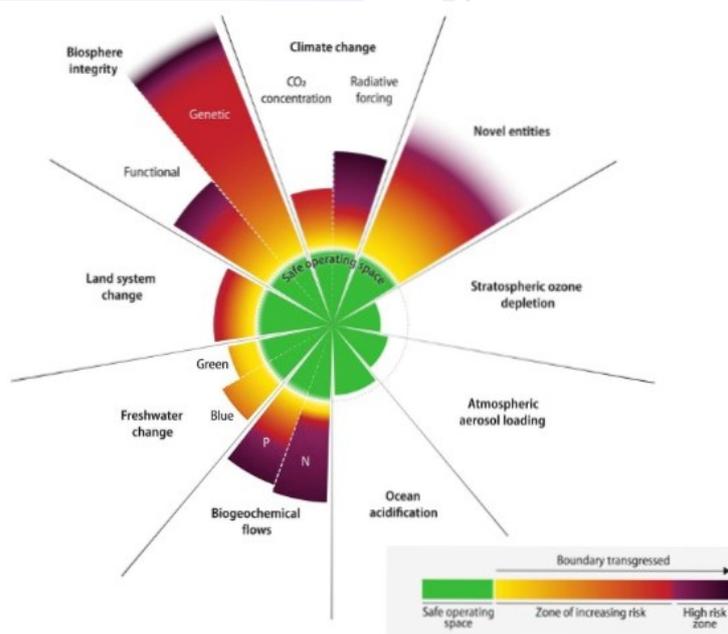
Avoid green sacrifice zones

- First – place emphasis on **ratifications** and **implementation**, including capacity building for countries in the Global South and fair benefit sharing.
- Second – beware of approaches only focused on high risk **technological fixes**; they often increase demand on material and energy fluxes, rather than bringing demands down to within planetary boundaries. (1, 2)
- Third – **fair transitions** need degrowth of waste and excess by the rich and meeting basic needs of the poor. (3)

(1) Jasanoff, S., 2007. Technologies of humility. *Nature*, 450:33.

(2) Richardson, K. et al., 2023. Earth beyond six of nine planetary boundaries. *Science Advances*, Vol 9(37) DOI: 10.1126/sciadv.adh2458

(3) Zografos, C. & Robbins, P., 2020. Commentary. Green Sacrifice Zones, or Why a Green New Deal cannot ignore the cost shifts of just transition. *One Earth*, 3:543-546.





Low impact fisheries

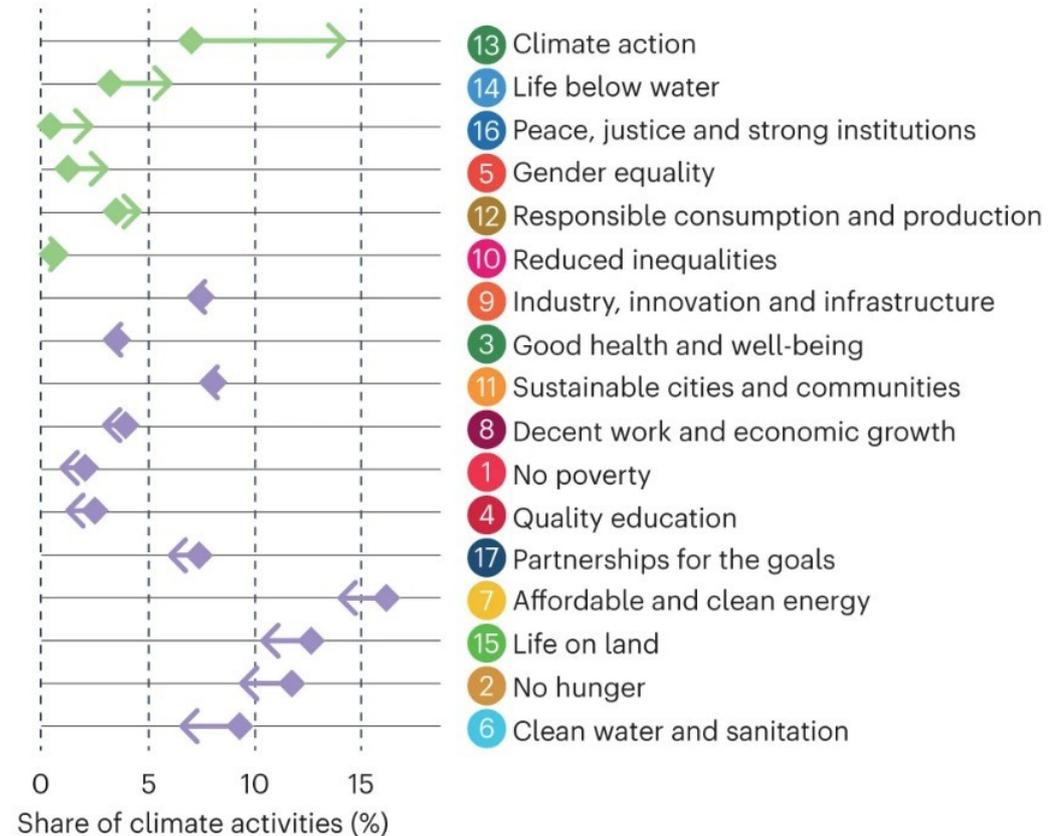
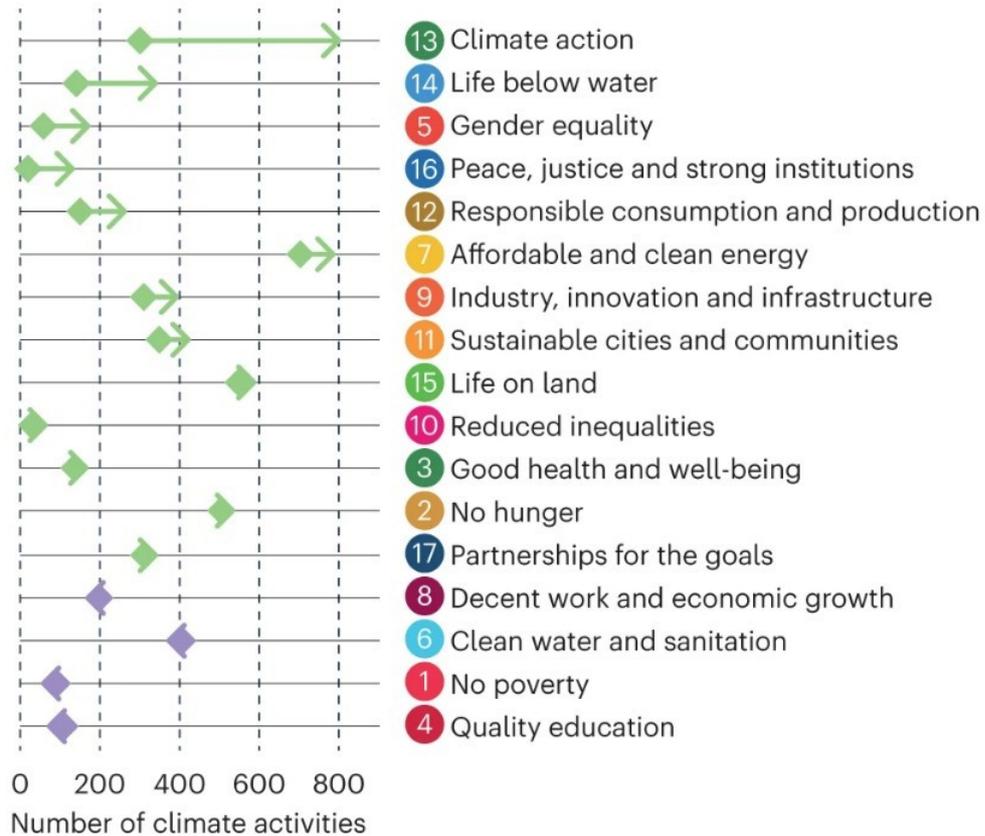
- Industrial fisheries are the main drivers of marine ecosystem degradation and species mass extinctions. Climate change exacerbates the effects.
- Small-scale fisheries account for about 25% of fish food production (similar to trawls) and 90% of employment.
- The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (2014)
- Can sustainability concerns drive policy change in favour?



Hann in Senegal



From: [Global stocktake and the SDG midterm review as opportunities for integration](#)



First NDCs ◆ ◆ Updated NDCs
◆ Increase ◆ Decrease

Hermwille, L., Dzebo, A., Iacobuță, G.I. et al., 2023. Global stocktake and the SDG midterm review as opportunities for integration. *Nat. Clim. Chang.*, 13:1002–1004. <https://doi.org/10.1038/s41558-023-01813-2>



Challenge the implementation gap

- First – the lawyers, politicians, lobbyists, international NGOs etc can build trust over long negotiation periods, but are often remote from the less shiny parts of their societies.
- When it comes to national legislation to operationalise international agreements it is often difficult
- The ground realities, e.g. for small-scale fishers, men, women, and children, make it often harsh to adjust in the absence of access to good infrastructure and social services, including education and health.





Improving livelihoods



<https://www.youtube.com/watch?v=DbcjY5PDUuc>



What is it?

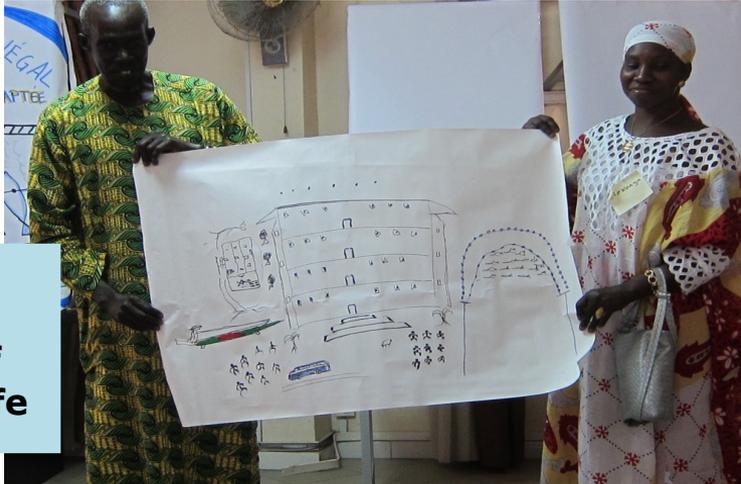
The Small-Scale Fisheries Academy is a safe multi-actor platform for respectful dialogue, joint learning, co-creation of knowledge and innovation for the recovery, protection and sustainable use of marine and coastal resources and prosperous artisanal fisheries.





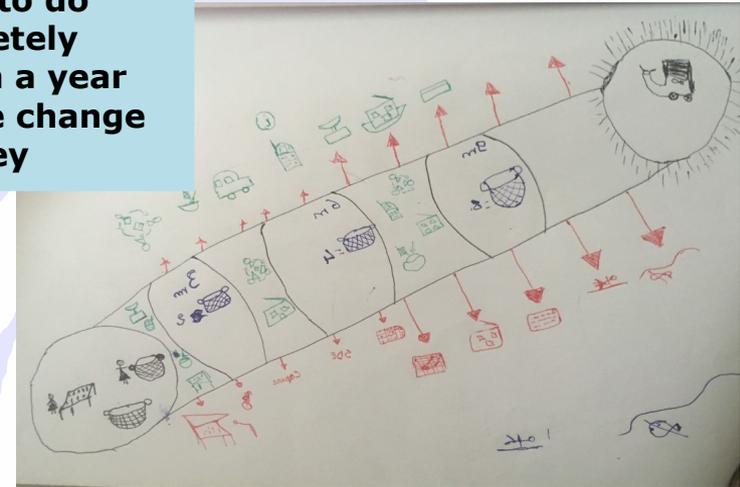
How does it work?

The Small-Scale Fisheries works with a learning by doing approach, testing inclusive and active adult education based on the conception of an ecology of knowledges proposed by Boaventura de Sousa Santos and organised through a social behaviour change communication strategy. The concept borrows from Paulo Freire's vision of dialogue and the so-called "Gender Action Learning System" (GALS) developed by Linda Mayoux. It is brought to life by visual facilitation led by Maria Fernanda Arraes Treffner.



Starting with a vision of happy life

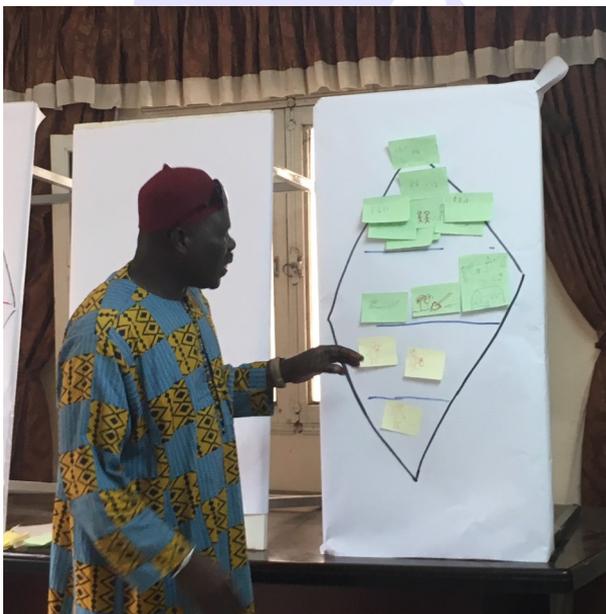
What to do concretely within a year on the change journey



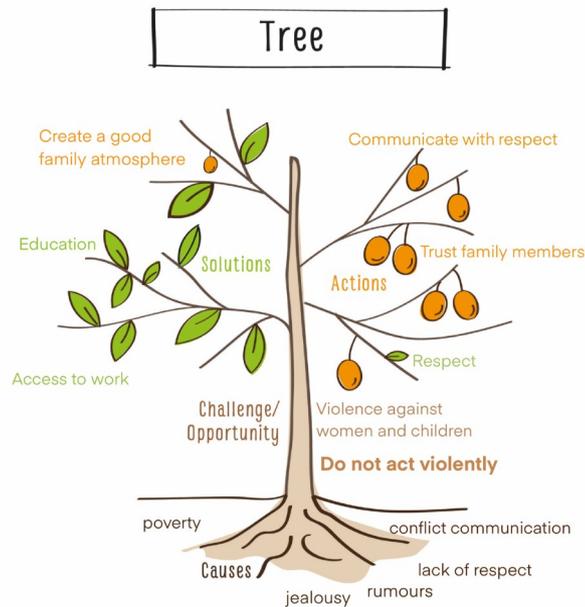


Towards gender equity

Respectful dialogue using such graphical teaching and learning aids allows to discuss even sensitive topics, formerly considered taboo, such as violence in the family and gender equity.



Diamond of good and not so good features, men



Diamond of good and not so good features, women



Resilience and recovery

Times of crisis like the covid pandemic coming on top of existing difficulties such as overfishing exacerbated by climate change, growing space competition with the tourism and fossil fuel extraction industries provoke new hardships but also stimulate innovation and diversification.





Counter disaster, increase options

Overfishing exacerbated by government selling more industrial licences, gas exploitation. In Yoff, academy members met with the new mayor seeking support. Meanwhile, Nabia invested into diversification with a food shop and restaurant. Marieme Soda Seck into child education.



**KEUR MAGOU
KM / FOURNITURE**

À *PINTHIUM YOFF*

NOS KITS
PRESCOLAIRE
ELEMENTAIRE
MOYEN
SECONDAIRE
SUPÉRIEUR



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Ready to listen to a chorus of voices?

The sciences are indispensable for understanding and deliberation processes. But scientists also need to listen to others, as local ecological knowledge and indigenous knowledges, where still available often have finer grained complementary knowledge.

Citizens are impact experts.

Government institutions play an important role. Ready to engage?

Can experimental spaces be set up to test alternatives iteratively for risk management?

Easiest at local levels to gain experience, encourage collective action, adapted to local circumstances and cultural traditions.

Scaling needs willingness to engage with 'otherness', decolonisation, striving for equity and fairness.





Playful learning with schools

In the occasion e.g. of World Ocean Day, theatre sketches and more with schools in Hann





After the beach cleaning

World Ocean Day, 8
June 2018

Beach clean up in
Kribi, a coastal town
in Cameroon, Central
Africa

Together with our
local partners
'Bénévoles
de l'Océan'





Art for the Ocean

World Ocean Day, 8 June
2021

Youth orchestra
San Telmo, Argentina
produced with support from
Mundus maris two music-
videos:

==> The message of the
Ocean to humans
<https://www.youtube.com/watch?v=bceyAyih-bM>

==> The response of
humans to the Ocean
<https://www.youtube.com/watch?v=NuYmNJSbCTs>





Science made simple



World Ocean Day, 8 June
Mundus maris at the
environment festival,
Brussels, Belgium
2019





WTO Campaign



We were part of the successful campaign to end harmful fisheries subsidies in June 2022.

Now the watchword is rapid ratification and implementation.



Acknowledgements & some Refs.



Maria Fernanda Arraes,
facilitator,
knowledge
management
expert, Brazil



Aliou Sall,
fisheries socio-
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Senegal



Stella Williams
agricultural
economist,
teacher, Nigeria

Arraes Treffner, M.F., 2019. Académie de la pêche artisanale au Sénégal. Design de l'initiative pilote. Système d'apprentissage-action focalisé sur les aspects du genre pour une pêche artisanale durable. Rapport du projet *Mundus maris* Académie de la pêche artisanale, 26p.

<https://www.mundusmaris.org/index.php/en/projects/proj2019/2255-1pilot-en>

Mundus maris did field work to develop teaching aids on the Ecosystem Approach to Fisheries for FAO's Nansen Project from 2011 to 2013. All materials are available here:

<https://www.mundusmaris.org/index.php/en/projects/proj2011/706-fao>

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Thanks for your attention
Comments for improvements and collaboration
welcome

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