Governing (river) Sand
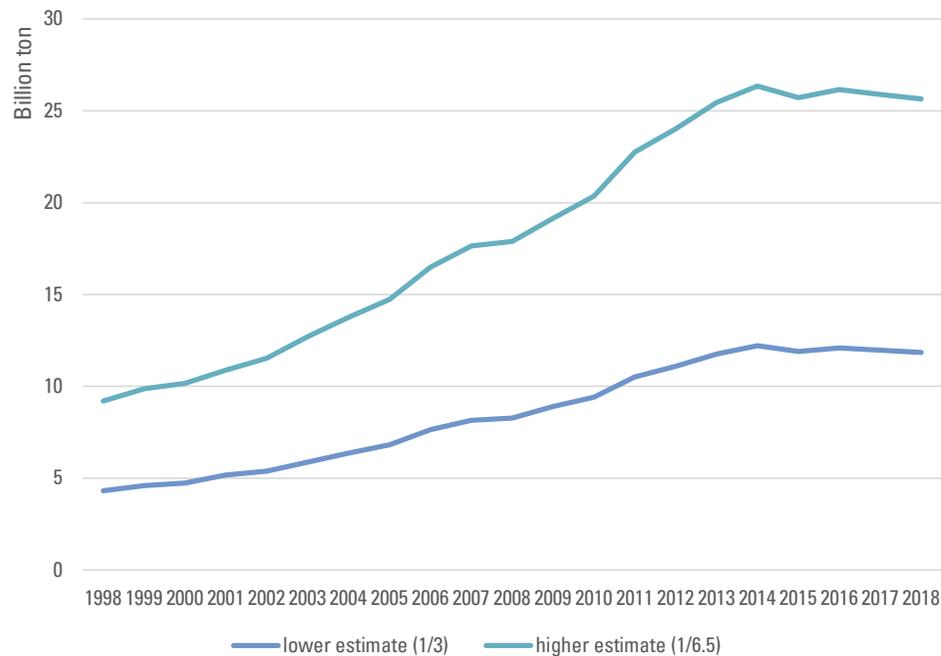
Global questions, local approaches, and lessons for Nepal

Bert Suykens

Ghent University
Chr. Michelsen
Institute (CMI),
Bergen

CMI CHR. MICHELSEN INSTITUTE

CRG CONFLICT RESEARCH GROUP

GHENT UNIVERSITY

Global urgency: sand crisis?

- Spectacular growth in (estimated) sand extraction

- Policy: UNEP-Grid
  - Peduzzi, Sand, rarer than one thinks (2014)
  - Sand and sustainability (2019)

- Academic
  - Torres et al, Tragedy of the sand commons (Science, 2017); Bendixen at all, time is running out for sand (Nature, 2019)
  - Michelutti, the wild east (2019, India)
  - Rege (2016, India), Hoffman (2021, Nepal)

- Media/journalism
  - Vince Beiser, the world in a grain (2018)
  - Sand Wars (documentary, 2013)
  - Vice: sand & ecological crisis in Bangladesh (2021)

Common messages: govern sand!

- Sand is now (at risk to fall) in the hands of sand mafias => criminal extraction

- Environmental destruction

- Uncontrolled extraction: Running out of sand

Sand and sustainability (UNEP, 2022): Ten recommendations

Sand = strategic resource	Place based perspectives for just sand transitions	Regenerative and circular futures	Integrate policy and legal frameworks
Ownership and access (mineral rights)	Map, monitor and report	Best practices, national standards and international frameworks	Resource efficiency
	Source responsibly	Restore ecosystems	

Place based perspectives

- Sand livelihoods (ASM) and River livelihoods

- Participation & local government

- Just transition: (inclusive) workers rights and livelihoods (intersectionality)

Ownership and access

- Deciding on who owns sand (government, riparian land owners)

- Deciding on mechanisms for granting (commercial access) to sand (+ exclusions)

- Benefit sharing

- Consenting regime (economic, environmental, planning)

Integrate policy and legal frameworks

- Balancing different needs/policy fields (mining, environment, water, land use, fishery, infrastructure, …)

- Different levels of government

- Coherence in purpose?

- Stakeholder analysis

- Information sharing

- Joint agendas/values

Map, monitor and report

- Very little research/basic knowledge (now boom; guestimates)

- geological, environmental and socio-economic knowledge + existing governance mechanisms

- Monitoring: environmental impact assessment

- Monitoring: governance functioning

What is
river sand extraction/mining?

©Christina Shitima

©Siyum Adugna Mamo

© Shameem Reza Khan 2022

Image of a dredger worker walking over bamboo during duty

Case studies

- Tanzania: formalization of illegal sand mining in Dar es Salaam (in collaboration with Christina Shitima, Mzumbe University)

- Bangladesh: legal sand extraction: monitoring sand booms/transitions (in collaboration with Mohammad Atique Rahman, Dhaka University; Development Research Initiative (DRI), Dhaka)

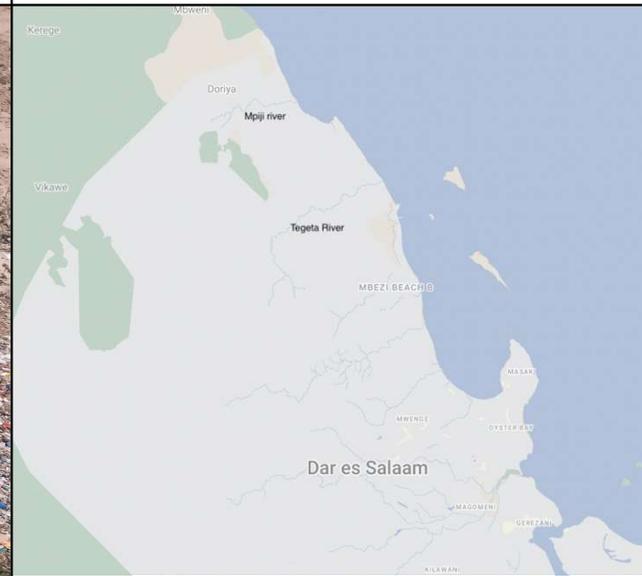- Kenya: participatory sand management (UNEP)

Tanzania: Formalizing sand mining in Dar es Salaam

Shitima, C., & Suykens, B. (2022). *River sand commodity chains in Tanzania*. Ghent: Gic Network.

Shitima, C., & Suykens, B. (2023). Formalization of sand mining in Dar es Salaam, Tanzania. *Resources Policy, 82*, 103589.

© Christina Shitima

Place based perspectives?

- Formalization of existing practices

- Manual labour formalized (cooperatives)

  - Very positive about formalization (no harassment)

  - Exlusion of female workers?

- + contractors for big infrastructure

- Community involvement limited

Ownership and access

- Rivers = state ownership (water authority)

- Permits for short duration (three months, six months), but renewed

- Officially local workers (cooperatives recognized by local authorities), but reported influx

Tanzania: Formalizing sand mining in Dar es Salaam

Integrate policy and legal frameworks

- Many authorities and interests involves

- Many authorities tax (one tax gate)
  - Water
  - Mining
  - Environment
  - Municipality
  - Ward
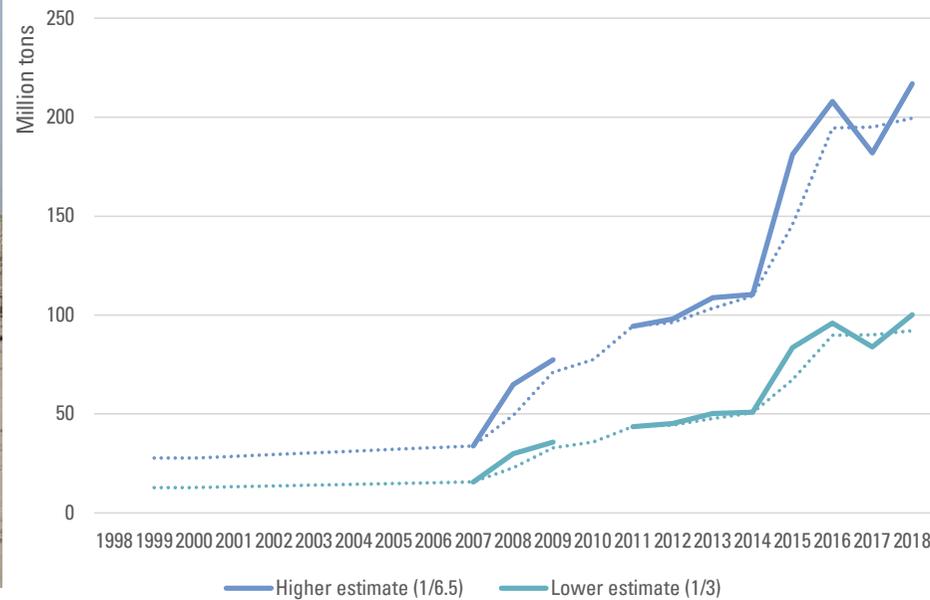
- But driver: urban infrastructure

Map, monitor and report

- Most challenging

- Extraction has grown after formalization

- Division of labour manual and mechanized not respected

- Checks on environmental impact seem limited:
  - Taxation interests
  - Infrastructure interests
  - Labour interest

- Community benefits seem limited

Tanzania: Formalizing sand mining in Dar es Salaam

Bangladesh: monitoring sand booms/transitions

Together with Mohammad Atique Rahman (Dhaka University), Development Research Initiative (DRI), Dhaka & Magnus Hatlebakk (CMI).

© Mohammad Atique Rahman

Place based perspectives

- Generic sand law (The Balumohal and Soil Management Act, 2010)
  - No participation, or community involvement!!
- In favour of sand businessmen
  - Still important labour opportunities
    - Skilled labour (dredging)
    - Unskilled labour (filling, leveling)
- Sand transitions
  - Displacement of labour through capital (manual extraction => mechanization)

Ownership and access

- State ownership
- Lease through tender process, control over sand extraction site
  - Right to collect royalty
  - Organize extraction
- Local political interests
  - Mayor/ex-mayor/everybody is political

Bangladesh: Monitoring a sand boom/transition

Integrate policy and legal frameworks

- Succesfull: district commissioner > Divisional commissior > DC > deputy

- Protect infrastructure

- Protect environment (not when area declared protected environment; 'if the natural environment of the river, fish, aquatic animals or plants are destroyed or threatened)

- But: extraction ubiquitous

Map, monitor and report

- 'Full survey' by revenue officers on potential sand mining areas (?)

- Environmental and infrastructure checks (?)

- BUT: monitoring?
  - Unregulated dredging (political power)
  - Regulated dredging not monitored (no limits to extraction).
  - Who gets lease: (local) political interests

Bangladesh: Monitoring a sand boom/transition
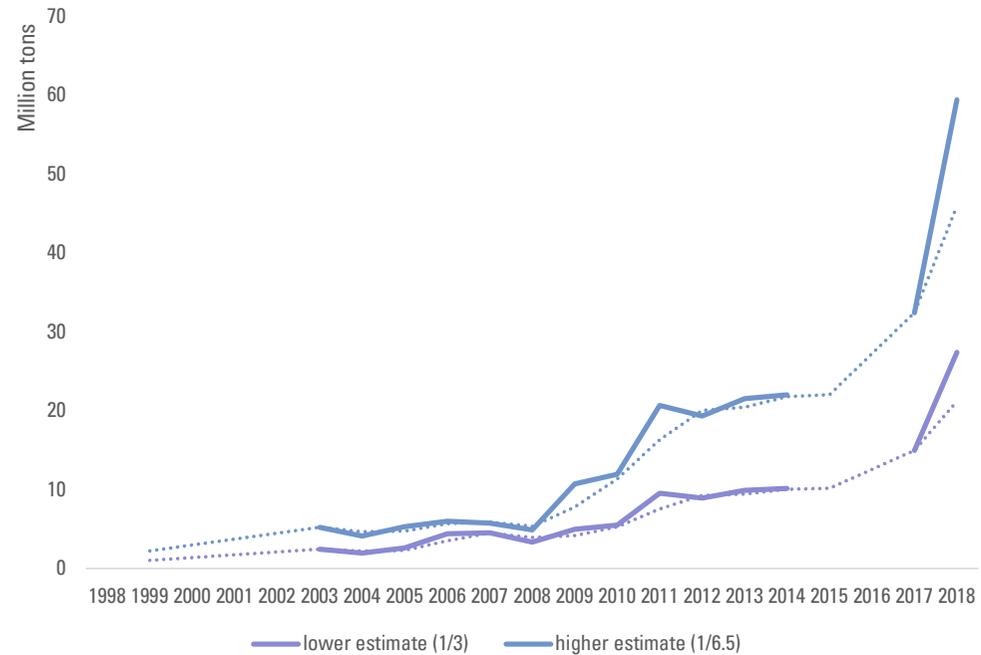
Kenya: Community monitoring in Makueni county

- Decentralization: sand under county government management
- Mining act: ASM outside of scope
- Environmental impact assessments but no community involvement + corruption

- But: Makueni county: integrated policy and legal framework
    - Sand conservation and Utilization Act, 2015.
    - Makueni County Sand Conservation and Utilization Authority (Halishini Yusuf)

Licensing and registration	Revenu and restoration	Community involvement	Benefits	challenges
• Sub national export ban • >2 tons • Concessions • Authorized extraction sites	• 50% revenue to restoration and conservation	• participatory committee • monitoring sand deposits • reporting on unauthorized sand extraction • Awareness (water quality, employment)	• reduction violent conflicts over sand • school dropout reduction • better water availibility	• no coordination between counties • water and sand as transboundary

Source: Lynggaard, J.R. & Gallagher, L. 2023. Sand Policy Review 2: Kenya. Geneva: UNEP-Grid.

Lessons for Nepal

Ongoing research: Saumya Pandey (CMI & Ghent University), Lagan Rai (Snatakottar degree campus, T.U.), Yogendra Gurung (Tribhuvan University) & Magnus Hatlebakk (CMI)

© Saumya Pandey

Place based perspectives

Ownership and access

- Place-based perspectives
  - Need to understand current types of extraction and livelihood impacts
- What type of extraction is most suited where: technologically agile
- Think about community involvement

- How to involve communities
  - labour
  - Management (JFM)
  - Monitoring

- Contractors and local political networks?
- Bans

Lessons for Nepal

Integrate policy and legal frameworks

- Most challenging

- A lot of different interests with different institutions
  - Clear division of labour
  - Joint task force (see Tanzania)
  - Single authority (see kenya)
  - Existing bureaucracy (Bangladesh)

Map, monitor and report

- We still do not know a lot
  - Invest in research

- Implementation
  - Monitoring is key
  - Environmental impact
  - Political economy

Lessons for Nepal

Thanks

Questions?