

# Scoping on best practice gaps in mangrove conservation

Diani Beach, Kenya

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Participants from the best practice scoping workshop, Diani Beach Kenya April 4-6 2018. Photo ©Julika Tribukait/WWF

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## Partner organisations



## Mangrove Best Practices: an overview for the WIO

This document and the below matrix represent the current understanding of the availability of as well as needs and challenges in terms of best practices for mangrove conservation, including restoration, in the Western Indian Ocean (WIO) region.

The matrix aims to guide on-going and future regional and national mangrove efforts in countries of the WIO, as well as global initiatives, such as Save Our Mangroves Now! (SOMN!) and the Global Mangrove Alliance (GMA). This is a working draft - future editions of this may contain updated information as it becomes available.

This matrix was developed during a scoping workshop on best practices for the WIO region with cross-learning experiences from Asia. The workshop was held 3-6 April 2018 Tiwi Beach, near Mombasa, Kenya, organized by IUCN and WWF Germany as part of the Save Our Mangrove Now! initiative, funded by the German Federal Ministry for Economic Cooperation and Development (BMZ).

This effort also contributes to IUCN's role as focal point of the Community of Ocean Action for Mangroves as part of the SDG14 Our Oceans conference follow-up activities.

The workshop reflected on a set of **overarching communication needs** to ensure more long-term successful mangrove conservation:

- Natural mangrove regeneration takes time, and mangrove restoration is very site specific.
- The appropriate use of and work with mangrove targets, especially towards restoration.
- Mangrove ecosystems are very much connected to and influenced by oceanic elements which need specific considerations and a seascape approach, rather than a pure landscape/terrestrial approach.
- The conservation of intact mangroves can avoid more GHG emissions than the restoration of mangroves and renewed carbon sequestration.

Several **crosscutting points** consistently came up within the matrix:

- Capacity building- effective communication/knowledge dissemination, training.
- Knowledge compilation- coordinating efforts/knowledge are already available but scattered between different actors.
- Building effective implementation and communication platforms- between the various sectors involved in mangrove conservation i.e. government, experts, communities and finance sector
- Legislation- Law enforcement and clarifying land tenure between government and communities

More details on the below can be found in the complete and original version of the matrix. Contact Raphaëlle Flint at [Raphaelle.flint@iucn.org](mailto:Raphaelle.flint@iucn.org) for more information.

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## Acronyms

BCI	Blue Carbon Initiative
CIFOR	Centre for International Forestry Research
CSR	Cooperate and Social Responsibility
DRR	Disaster Reduction and Relief
ES	Ecosystem Services
IBCP	International Blue Carbon Partnership
ICZM	Integrated Coastal Zone Management
IMS	Institute of Marine Sciences, University of Dar es Salaam
KFS	Kenyan Forestry Service
KMFRI	Kenyan Marine and Forestry Research Institute
LMMA	Locally Managed Marine Areas
NEMA	National Environmental Management Authority
NMMP	National Mangrove Management Plan
PES	Payments for Ecosystem Services
PFMPs	Pelagic Fishery Management Plan
ROAM	Restoration Opportunities Assessment Methodology
SPM	Summary for Policy Makers
UEM	Universidade Eduardo Mondlane
WIOMN	Western Indian Ocean Mangrove Network

	Data/product creation (through research etc.)	Information and outputs collecting/collation	Communication/ dissemination/outreach
<b>RESEARCH</b>			
<b>1) Mangrove knowledge base (ecological, hydrological, socio-economic)</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: Broad level information on mangroves within the region between academia and NGO's Needed: Further regional site specific and accurate WIO data	Needed: Central data depositories at national level available to all stakeholders - A standardised approach in methodology for field assessments	Needed: Specific and regional level information shared via the WIOMN - Info available to policy makers and practitioners with translations
<i>Who is working on this regionally/(globally)?</i>	Regionally: KMFRI generates site specific data for projects; IMS Tanzania, Wetlands International (Rufiji) - Mozambique- data is stored by Ministry of Environment and University (UEM).	Regionally: - KMFRI has a data depository for the region acting as UN Environment's regional clearing house- contact J. G. Kairo. An overview on who else is collecting similar data in the region would be useful.	- The GMA is creating a data portal with an eye to creating linkages between other mangrove data to improve dissemination – If this works out GMA could possibly contribute.
<i>Who else could contribute?</i>	- Could IUCN MSG provide guidance on standardized methodology or CIFOR?		- WIOMN could, given support and working through a local member
<b>2) Resource maps – types and quality</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: Status, condition and trends <sup>1</sup> . GMA is currently creating a spatial database of maps for mangroves, led by WWF. Needed: - Accuracy of data and/use of modern technologies - Compilation of long term data	Needed: Compile existing maps and data (sources) and best practices guidance and capacity building for mapping and resource surveys - Identify existing guidance material from other regions; and/or develop appropriate best practices for WIO	Needed: Greater accessibility and usage of existing data/maps - Relevant equipment and material within government authorities e.g. Informatics, briefing and summaries for policy makers
<i>Who is working on this regionally/globally?</i>	- Global databases such as OBIS (Ward Appletans) who have maps of species <sup>2</sup>	- WWF (Aurélie Shapiro) provides webinars - NASA and US Forest Service supported mapping in the region (e.g. Mozambique and Tanzania) - <a href="#">Regional centre for mapping of resources for development</a>	- WWF online ( <a href="#">GLOBIL</a> ) and App for Mangrove Surveillance - Wetlands International: Mangrove Watch Africa
<i>Who else could contribute?</i>			

<sup>1</sup> Available in - Mangroves of the western Indian ocean: status and management, 2016

<sup>2</sup> Secretariat of the Convention on Biological Diversity (2016) Ecologically or Biologically Significant Marine Areas (EBSAs). Special places in the world's oceans. Volume 3: Southern Indian Ocean. 128 pages



<b>3) Ecosystem provisions by mangroves</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	- See (Lee <i>et al.</i> , 2014) <sup>3</sup> . - WIOMSA specific regions books e.g. <i>Chwaka Bay (Zanzibar) and The Maputo Bay Ecosystem</i> - with accounts on mangroves/seagrasses.. Needed: Research on connectivity between mangroves and other coastal ecosystems (Huxham <i>et al.</i> , 2015, no date) <sup>4</sup>	Needed: Compilation of research results and best practices on: a) Mangrove fisheries and connection with seagrasses (contact C. Warnjiru (KMFRI) publishing her PhD on this topic) and b) transboundary connectivity using parasitic markers	Needed: Infographics or posters on the connectivity results - Sensitization of local population via local channels, e.g. barazas (community gatherings), schooling, focus on community priorities etc. over a long term
<i>Who is working on this regionally/globally?</i>	- Ongoing work by Dr Lina Barrios <sup>5</sup> . - KMFRI at Mikoko Pamoja - Martin Gullström, Stockholm University <a href="#">research team</a> .	- Environmental DNA at Stellenbosch University	- TNC (Contact George Maina) produced a booklet on coral reef monitoring that could be a useful example see <sup>6</sup> .
<i>Who else could contribute?</i>			
<b>4) Data management and portal</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Needed: Central data depositories beyond those in point 1 - Develop better understanding of and data on appropriate management for mangroves' multiple ecosystem services and incentive schemes (PES for e.g)	Needed: Collect best practices for set-up and management of data /information portals - for e.g. <a href="#">InfoFLR</a> type platform for restoration guidance or IUCN app ( <a href="#">Africa TreeFinder</a> with ICRAF) or <a href="#">Blue Solutions</a> (brings together collected best practices)	Existing: Use of existing regional and national mangrove networks and depositories of information. E.g. <a href="#">MAP downloads</a> - <a href="#">Farm Radio</a> project in Malawi
<i>Who is working on this regionally/globally?</i>			- Information sharing via the WIOMN - linking to the Knowledge Hub of GMA and SOMN
<i>Who else could contribute?</i>			
<b>RESTORATION</b>			

<sup>3</sup> Lee, S. Y. *et al.* (2014) 'Ecological role and services of tropical mangrove ecosystems: A reassessment', *Global Ecology and Biogeography*, 23(7), pp. 726–743. doi: 10.1111/geb.12155.

<sup>4</sup> Huxham, M. *et al.* (no date) 'Carbon in the coastal seascape: how interactions between mangrove forests, seagrass meadows and tidal marshes influence carbon', *Current Forestry Reports Carbon*, pp. 1–21. And Huxham, M. *et al.* (2015) 'Applying Climate Compatible Development and economic valuation to coastal management: A case study of Kenya's mangrove forests', *Journal of Environmental Management*. Elsevier Ltd, 157, pp. 168–181. doi: 10.1016/j.jenvman.2015.04.018.

<sup>5</sup> Of Manchester Metropolitan University. [Lina.barrios@mmu.ac.uk](mailto:Lina.barrios@mmu.ac.uk)

<sup>6</sup> Kawaka, J. *et al.* (2016) *Coral Reef Monitoring in Eastern Africa: A Guide for Communities*. TNC/CORDIO.

<b>5) Best practice methods/approach to identify local/national restoration potential</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	- Best practice manuals (Green Coast, 2009; Lewis III and Brown, 2014; Trump and Gattenlöhner, 2015; Wetlands International, 2016; Wylie, Sutton-Grier and Moore, 2016) <sup>7</sup> , KMFRI conservation tool kit, ISMI Manual, WIOMSA restoration guide for WIO region in development, <a href="#">ROAM</a> ... Needed: Develop appropriate method(s) to identify restoration potential and likelihood of success or difficulties in specific regions. Experienced experts needed in the field.	- Mapping Global Mangrove Restoration Potential, by TNC with IUCN (available late 2018)	
<i>Who is working on this regionally/globally?</i>	- Mangrove Watch Africa - Mangrove Capital Africa	Globally: TNC	
<i>Who else could contribute?</i>			
<b>6) Restoration practices / processes (to increase success rates) includes capacity building</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Resources available: Growing research on best practice for mangrove restoration – see references on pg 6 Needed: More local case studies and do's and don'ts - Better understanding of mangrove best practice at the level of forestry staff and practitioners.	Existing- Resources whose application should depend on the specific site conditions – see references on pg 6 Needed: Evaluate some of the current tools to produce a standardised document - Collection and synthesising of available resources - Include restoration do's and don'ts in curriculum of communities, practitioners and local authorities	Needed: User friendly guidance in local languages, illustrated guides, instructional videos, posters, radio... simple messages - Communication mantra: Observe nature – Why is there no natural regeneration? Is the hydrology working sufficiently?

<sup>7</sup> Green Coast (2009) 'Best Practice Guidelines on Restoration of Mangroves in Tsunami Affected Areas', pp. 1–22.

Lewis III, R. R. and Brown, B. (2014) *Ecological mangrove rehabilitation - A Field Manual*. Available at: [http://www.mangroverestoration.com/pdfs/Final PDF - Whole EMR Manual.pdf](http://www.mangroverestoration.com/pdfs/Final%20PDF%20-%20Whole%20EMR%20Manual.pdf).

Trump, K. and Gattenlöhner, U. (2015) *Mangrove Restoration Guide- best practices and lessons learned from a community-based conservation project*. Radolfzell, Germany.

Wetlands International (2016) 'Mangrove restoration: to plant or not to plant?'

Wylie, L., Sutton-Grier, A. E. and Moore, A. (2016) 'Keys to successful blue carbon projects: Lessons learned from global case studies', *Marine Policy*.

Elsevier, 65(March), pp. 76–84. doi: 10.1016/j.marpol.2015.12.020.

<i>Who is working on this regionally/globally?</i>			
<i>Who else could contribute?</i>		- There is a potential role for the IUCN MSG and IUCN's commission on education	- There is a potential role for WIOMN
<b>7) Lessons learned from restoration sites</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing- see references <sup>8</sup> Needed: Teaching material for key gatekeepers in different sectors (see point 13)	- As an e.g. see <a href="#">Eden Restoration Project in Madagascar</a> (private sector working locals) Needed: Find /write up of existing demonstration sites: e.g Mikoko Pamoja; Limpopo River Estuary	Needed: Develop and conduct study tours to communicate results via training of locals as well
<i>Who is working on this regionally/globally?</i>	- Report of Mikoko Pamoja by MP team - With funding, MAP could conduct verification visits to sites of mass plantations- Contact Alfredo Quatro.		
<i>Who else could contribute?</i>			
<b>MANAGEMENT PLANS</b>			
<b>8) Development of national mangrove management plan</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: Initiatives for landscape scale national plans e.g. NMMP- Tanzania, Kenya, Dina- Madagascar Needed: Finalise/review national plans and adapt a standard approach for the National Mangrove Management Plans (NMMP) - Conduct resource base inventories	Needed: Sharing of existing national plans, e.g. Kenyan Mangrove Ecosystems Management Plan - Review management effectiveness of existing plans - identify priorities and challenges	Needed: Produce summary for policy makers
<i>Who is working on this regionally/globally?</i>	Potentially: Julien Noel Rakotoarisoa (Madagascar Mangrove focal point), Sonia Ricardo Muando (focal point Mozambique) and Salomao Banderia via Universidade Eduardo Mondlane (Mozambique), Charity M. Munyasya (Deputy Chief Conservator of Forests KFS), Tanzania (MPRU/TFS)		
<i>Who else could contribute?</i>	- UEM could contribute further to the Mozambique management plan.		

<sup>8</sup> Beware some government figures which can be seriously misleading without a truthing mission to confirm the figures



<b>9) Integrated (coastal) community (forest) / participatory management plans, including LMMA - good examples</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: PFMPs/LMMA programmes under the NMMP - Local-based resource base inventory- details unknown Needed: Development of PFMPs/LMMA, harvesting plans, etc	Resources: Template by Bangor University - Contact D. Wodehouse - Good examples from Madagascar (WWF via Dannick Randriamanantena) and <a href="#">Eden Project Reforestation</a> (Madagascar) Needed: Collection of successful / effective plans from WIO and elsewhere	Needed: Public community forums - Policy briefs
<i>Who is working on this regionally/globally?</i>	- The Myanmar Government encourages villagers to take over their mangroves' management.		
<i>Who else could contribute?</i>			
<b>COMMUNITY AND BROADER STAKEHOLDER ENGAGEMENT BEST PRACTICES</b>			
<b>10) Integration of local/traditional knowledge with useful technical knowledge/research to achieve greater buy-in with communities</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: WWF mobile application to collect mangrove data (available in local languages) targeted at field officers but (with training) for communities. Needed: Scope for research on traditional knowledge and how local communities govern their areas. - Voluntary assessment tool with a focus on promoting local innovation	Needed: Reconfirm and finalise boundaries with villagers using GPS to create maps and finalise zoning. E.g. coral reefs – fisheries managed by local communities - Collect anecdotes, stories, literature available	Existing: MFF has <a href="#">done work in this area</a> for the Asia region Needed: Building long term partnerships with communities; building a community of mangrove champions
<i>Who is working on this regionally/globally?</i>	- In Lamu, research reviews local exploitation patterns even if not part of the mangrove stretch.	- Voluntary assessment tool trialled by a project in Mozambique by IUCN	
<i>Who else could contribute?</i>			
<b>11) Gender mainstreaming and human rights based approaches</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: <a href="#">ROAM</a> - Methodology to assess opportunities for gender balancing in forest landscape restoration, <a href="#">Wise-use principles</a> in wetlands- RAMSAR, WWF social policy on <a href="#">Indigenous Peoples rights</a> and <a href="#">gender</a> . Needed: Clearer understanding of human rights based principles and how they are applied	Needed: Adapt toolkits on Gender to local customs (beware - ideas of gender equity varies between cultures ) - Focus on adaptive management through learning - Need to analyse what the difference / impact is having women present	Needed: Build learning space for scope to learn and share lessons for women only and between genders. - Emphasis on female champions - Need to involve men to ensure gender-based violence doesn't escalate where benefits flow to women.
<i>Who is working on this</i>		Global: IUCN has been using an	- <a href="#">IUCN gender office</a> has useful website

<i>regionally/globally?</i>		<a href="#">Environment and Social management system</a> which includes a Gender policy.	on this area of work
<i>Who else could contribute?</i>			
<b>12) Successful partnerships between implementing agents e.g. CBO's and BINGOs to ensure successful integration of local needs</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Needed: Review previous (including unsuccessful) projects implemented within the region, to scope how successful the partnership was.	Needed: Using results from the review develop lesson learned/guidelines to showcase solutions to forge a successful partnership.	Needed: Build capacity at local levels with long-term support (including legal, technical, sustainable livelihoods and fuels, community rules-enforcement/sanctions).
<i>Who is working on this regionally/globally?</i>	- AFR100		
<i>Who else could contribute?</i>	- Potentially GMA, SOMN, Global Partnership on Forest Landscape Restoration, WWF		- Potentially GMA, SOMN
<b>13) Specific focus on key gatekeepers e.g. forestry department staff</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: Forest Dept or gov. agencies regard mangroves as terrestrial forest and don't see the need for training. Needed: Sharing the associated Knowledge Products— modules, field guides –backed by live trainings at a field level. (Mangrove loss often due to a lack of law enforcement and understanding the threats e.g. lack of enforcement/capacity and why?	A solution is two-pronged (1) Capacity development could be in form of live training. (2) For equipment provision list of basic equipment guards need and get. To get into policy via MOU with the govt., some material and pinpointing which budgets to cover future costs with. Ideally approaches 1 and 2 would be provided together. - A review of current teaching in forestry schools on mangroves is needed.	Existing: MAP runs CBEMR training (includes local government) on an ad hoc basis. Needed: Training programme of forestry dept. staff to act as supporters and motivators of local rehabilitation efforts and helping to source resources inc. knowledge and best practice.
<i>Who is working on this regionally/globally?</i>		- Myanmar head of the forestry dept. is aware of knowledge gap and open minded	- Avoid perception of outside interference- contact J. Enright.
<i>Who else could contribute?</i>	- IUCN MSG should have input to initiate contact at senior levels	- Potentially GMA, SOMN!	- For training, MAP and MSG
<b>Law/Policy</b>			
<b>14) Coordination mechanism between mandated ministries and laws</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Needed: Document good examples. E.g Formalise inter-ministerial WGs with MoUs + clear, identified roles between various institutions	Needed: Collation of good coordination examples	Needed: Easily understandable briefs on laws
<i>Who is working on this regionally/globally?</i>		- e.g from World Bank - Inter-ministerial working groups- for more information	

		contact Nina Wambiji	
<i>Who else could contribute?</i>			
<b>15) Analysis of national and local mangrove laws and their interactions / effectiveness</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: Various global case studies are documented e.g. - <a href="#">Nick Beresnev</a> has done another legal review in SE Asia Needed: More research in the region is needed	Needed: Collection of national examples and analysis providing tailored content of key information for forest officials - Create matrix of national – local laws – highlighting where the laws intersect	Needed: Dissemination via inter-ministerial working groups and key gatekeepers through capacity-building - Public participation is needed to raise awareness of the laws, use baraza / similar - Develop training materials based on this and simplification of relevant national/local laws
<i>Who is working on this regionally/globally?</i>	- SOMN is in the process of documenting the case studies	- SOMN! publication forthcoming in 2018 - Wetlands International: legal study for Tanzania - InfoFLR has approx. 90 such profiles of POLICIES on restoration, would be open for additional mangrove analyses and focus	
<i>Who else could contribute?</i>	- Gov. of Madagascar will develop a national mangrove law to regulate the use of mangrove wood- Contact J. Noel		
<b>16) Good/best practices benefit sharing schemes and Effectiveness of community incentive schemes</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: E.g.s In Mozambique, orgs with licenses to harvest forest materials have to pay 20% to the govt. and that 20% goes to communities. In India government funds have advisory boards with NGO members. Kenya: Forest Act, Wildlife Act, Environmental Management Act etc. have trust funds Needed: Publicly available guidance on how to access this money	Needed: Compilation of good/best practices - Create guidance on how to deal with conflicts between different stakeholders, and competing interests - Compile best practices and case studies of improved livelihoods/alternative livelihood options to be used as inspiration.	Needed: All communication material should be short, in local languages and available in non-written formats as well - Community awareness raising and capacity building on how to access the funds.
<i>Who is working on this regionally/globally?</i>			
<i>Who else could contribute?</i>			
<b>17) Effective implementation of rules and sanctions/conflict resolution incl. capacity building</b>			
<i>Current efforts, key available resources - Existing and what more is</i>	Existing: Possible e.g in upland community forestry research Needed: Documentation of successes	Needed: Compilation of means /best practices to provide more power to rangers	Needed: Community education, training and awareness raising on the binding rules and need for self-compliance,

<i>needed?</i>	e.g. local mechanism to solve local disputes - Wider discussion in communities on best practices on local measures re users, protection and enforcement		enforcement, BP knowledge, Laws and their effective use. - Set up an intelligence information gathering scheme
<i>Who is working on this regionally/globally?</i>			
<i>Who else could contribute?</i>			- D. Wodehouse (Bangor Uni.)
<b>18) Land tenure (e.g. in the case of uncertain tenure and abandoned aquaculture ponds/ Salt ponds)</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Needed: Develop guidelines for investments, which include actions to deal with complaints and the non-compliant - Donor education on the importance of this issue - Access to lessons learned and experiences from Asia (MFF and MAP).	Needed: SWOT analysis to learn from good practices and failed projects and recommendation on way forward - Specific research studies (eg. strength and failure)	Needed: Dissemination and harmonization of the investment and land tenure guidelines within the region
<i>Who is working on this regionally/globally?</i>	- <a href="#">Stephen Brooks</a> at USAID- Yale.		
<i>Who else could contribute?</i>			
<b>FINANCE AND SUSTAINABILITY</b>			
<b>19) Case studies of funding / business models (beyond and including blue carbon and PES) for long-term mangrove management and protection</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: On-going field of work IUCN, SOMN Needed: More case studies / lessons learned needed	Existing: Compilation of case studies is available to some degree Needed: More is needed	Needed: Disseminate case studies on one platform - Bring together finance experts with mangrove conservationists
<i>Who is working on this regionally/globally?</i>	- Linwood Pendleton et al and IBCP developing detailed mangrove finance concept	- This is being done to some extent in forthcoming SOMN mangrove investment paper but needs more attention.	Globally: GMA and Regionally: New project starting with IUCN and partners in Mozambique
<i>Who else could contribute?</i>			

<b>20) Sustainable livelihood strategies e.g. seaweed farming, beekeeping, growing Aloe vera, tailoring</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: Research on good/worst practice and the 'why's' manual Needed: On-going data gathering / write-up and analysis of field/pilot projects and input from local community members	Existing: Compilation of case studies on sustainable livelihood e.g.s is somewhat available(Hamza, 2013) <sup>9</sup> - Contact Amina Juma. - Good and worst practice manual (documented by KMFRI but not published). Needed: Produce template with questions (inc. what made it work or not work) and with contact info	Needed: Regional websites and fora
<i>Who is working on this regionally/globally?</i>		- Regional: Vanga (Kenya) workshop plans to disseminate the info on sustainable livelihoods and micro-finance	Regionally: WIOMN
<i>Who else could contribute?</i>			
<b>21) Engagement of non-traditional sectors as new partners (e.g. DRR/ CCA)</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: The <a href="#">Eden Reforestation Project in Madagascar</a> , IUCN publication <sup>10</sup> Needed: More data on mangroves role in (for e.g.) DRR and encourage coordination between relevant ministries around DRR for e.g.		
<i>Who is working on this regionally/globally?</i>	- IUCN - Contact Radhika Murti	- IUCN - Contact Radhika Murti	
<i>Who else could contribute?</i>			
<b>22) Educating donors about mangrove conservation needs to ensure successful project implementation (e.g. enough funds project needs)</b>			
<i>Current efforts, key available resources - Existing and what more is needed?</i>	Existing: Manuals and data already published but often unused. Needed: Managers of gov. agencies and NGO's receiving funds need support in finding this info already	Needed: Compile packages of best practice guidelines targeted at specific regions and target groups like for the successful education/training of donors.	Needed: Communication tools for donors perhaps through 1-2 impactful infographics or short briefing note
<i>Who is working on this regionally/globally?</i>			E.g.- FFI has communicated to their donor need to avoid project based funding models receiving a lump sum to use as

<sup>9</sup> Hamza, A. J. (2013) *mangroves and livelihood: an assessment of livelihood projects in mangrove ecosystems along the kenyan coast*. Available at: <https://www.oceandocs.org/handle/1834/6881>.

<sup>10</sup> Monty, F. et al. (2017) *Ecosystems protecting infrastructure and communities: lessons learned and guidelines for implementation*. Gland, Switzerland. doi: <https://doi.org/10.2305/IUCN.CH..2017.14.en>.



			needed.
<i>Who else could contribute?</i>			- Dominic Wodehouse

**Other topics which came up during the discussion and which merit further development and sharing of best practices:**

- Ecosystem services of mangroves
- Carbon measurements in mangroves
- How to do mangrove research without plastic bags?
- Lessons learned on how to identify and address social stressors as part of successful restoration projects
- Marine Spatial Planning (MSP) / Integrated Coastal Zone Management (ICZM) Plans
- Development of regional mangrove management plan
- Availability of experts/ knowing who the experts are
- Cross-level / sector coordination
- Creation and effective coordination with Community Forest Associations/organisations, or alike
- Creating / keeping consistent leadership at local/national level
- Is there scope/application for a single law on mangroves
- Good/best practices EIAs – to use as tools to help steer better restoration practices
- Important to consider trans-boundary aspect of mangroves e.g. Kenya and Tanzania (there is a database on this)
- Good/best practices benefit sharing schemes
- Effectiveness of community incentive schemes
- Examples from government efforts to decentralize mandates/implementation, e.g. conflicts / opportunities
- Community awareness of what activities are allowed in mangroves and which are not (e.g. new/revised boundaries)
- Practical application of law or common principles in governance of mangroves (enforces compliances, penalties for forestry officials etc.)