



Fighting on arrival and fighting for survival

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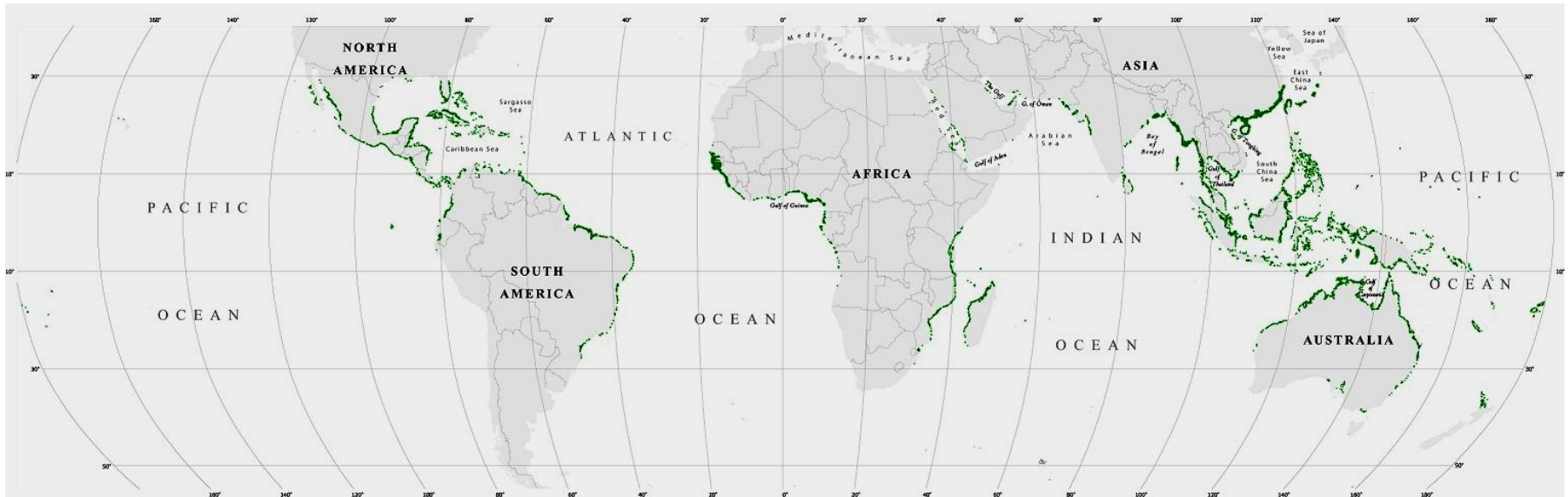
Uta Berger

Nico Koedam

Farid Dahdouh-Guebas

Facts and figures

Global distribution of mangroves- Giri *et al.*, 2010



- 67 plant species, 123 countries
- 0.1% of continental surface
- 11% of input of terrestrial carbon

One world



Tamil Nadu



Florida

The road to....



Sri Lanka



Florida

The questions

Ranking of the global impacts

- Scale
- Intensity

Scientific approach

- Ask the experts
 - Delphi technique



- Modelling using KIWI

Delphi on mangroves




Step wise process

Choose 1 country

Free web based tools

← Welcome to the Delphi Survey on Mangroves Updated Nov 9, 2011 9:51 AM




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19
days until
Deadline for Round 1



Edit sidebar

Welcome to the Delphi Survey on Mangroves

Aims


- To generate a consensus on the definition of 'mangrove ecosystems'
- To understand the key functions in mangroves
- To resolve ambiguities in mangrove vegetation checklists
- To develop a consensus on vulnerability of mangrove ecosystems and time frame required to restore their functionality
- To freely distribute this 'expert based' knowledge to the world and help standardize future studies

This Delphi based survey invites a selection of mangrove 'experts' from around the globe to contribute their scientific opinion on the above fundamental aspects of mangrove ecology. The experts have been chosen based on their research experience and number of peer-reviewed publications related to mangrove ecology. The [procedure](#) will consist of 2-3 rounds of an online web based questionnaire consisting of 11 questions. At the end of each round, a report will be compiled and uploaded in this website to share the results. To read more about the rationale behind this study and expected outcomes, please [click here](#).

Delphi technique: The Delphi technique is a structured, iterative survey of 'experts'. It is designed to generate unbiased opinion and transform such opinions into a group consensus through feedback. The participating experts are anonymous and any communication between them about the survey is not allowed. To read more about the Delphi method, please [click here](#).

To participate in **Round 1**, please click below:

<https://docs.google.com/spreadsheets/viewform?formkey=dDNLcXVORUNJVFJRVzFlZk5EckGc0E6MQ>



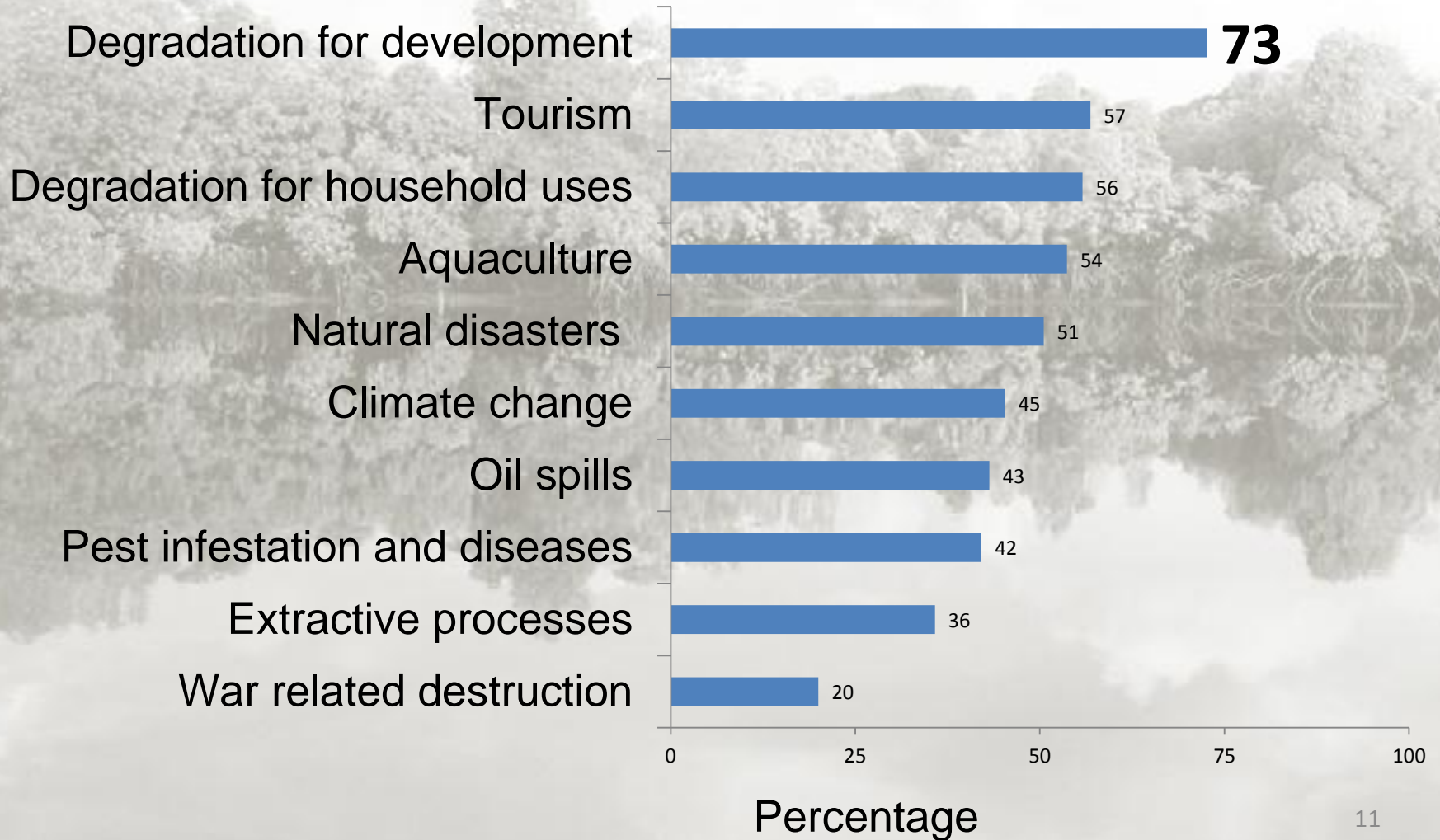
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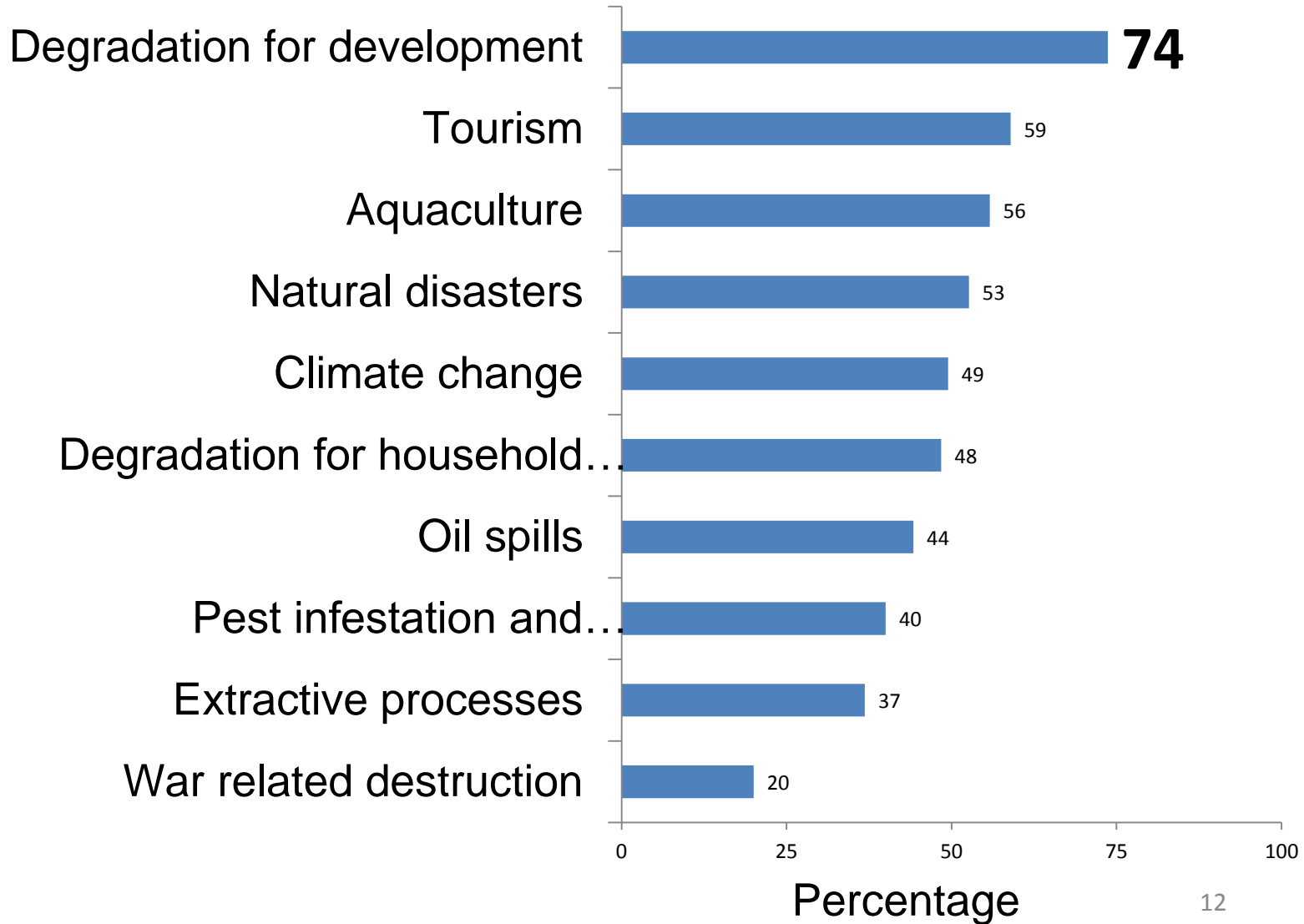
Results

Name of country	Number of respondents
Australia	4
India	3
Brazil	2
South Africa	2
Mexico	2
USA	1
Bangladesh	1
Kenya	1
Kiribati	1
Indonesia	1
Sri Lanka	1

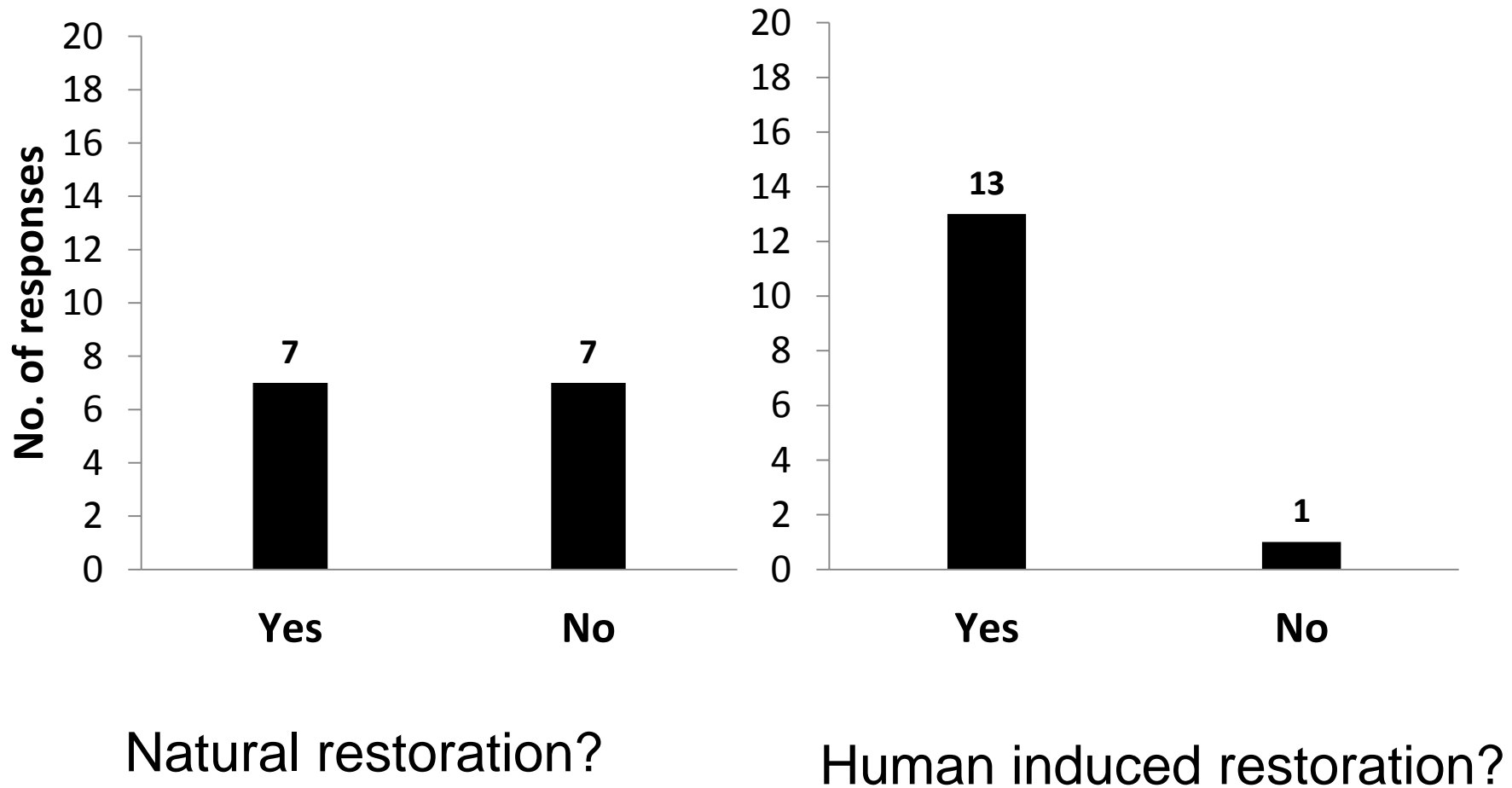
Spatial scale of threats



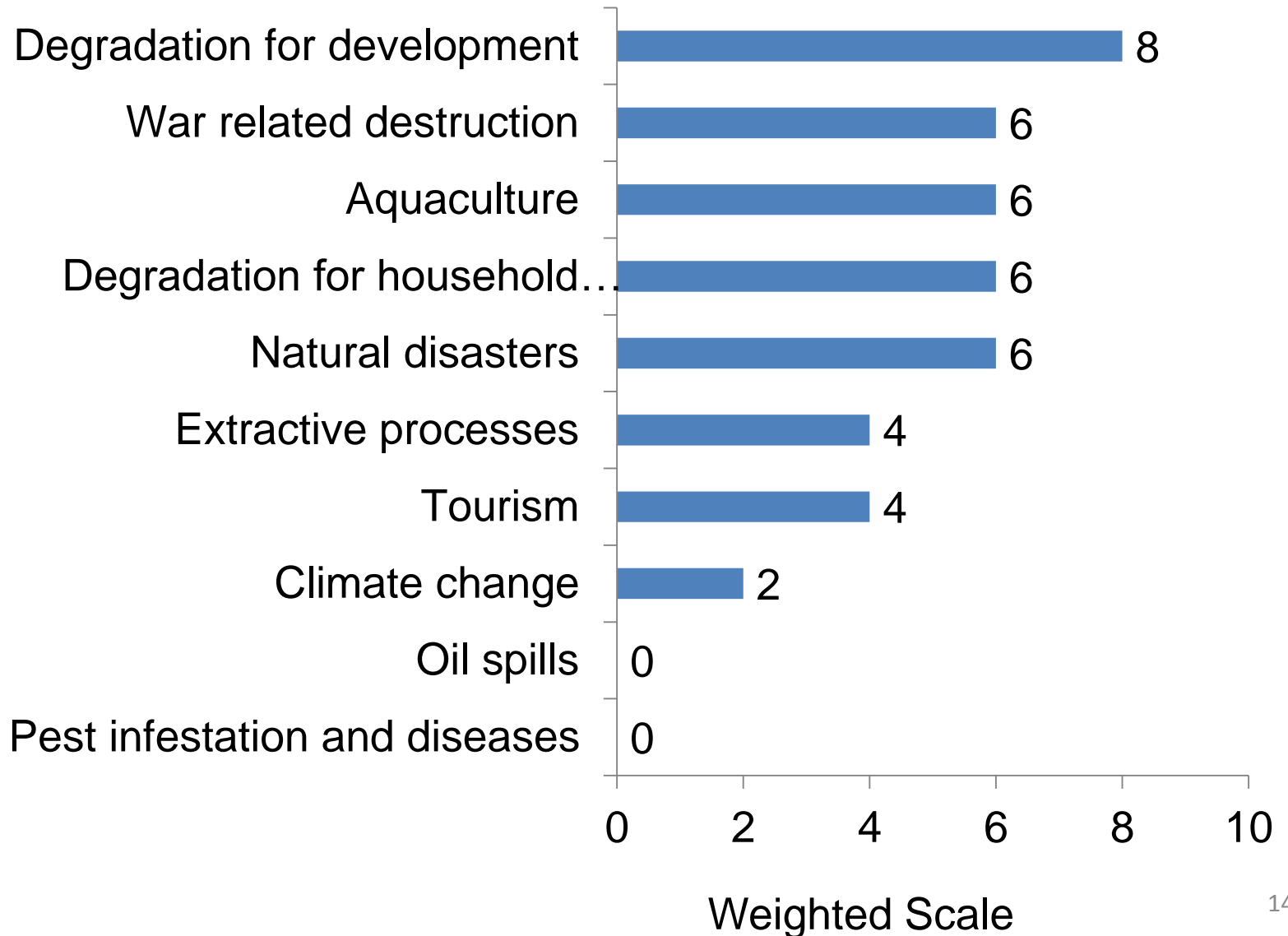
Intensity of threats



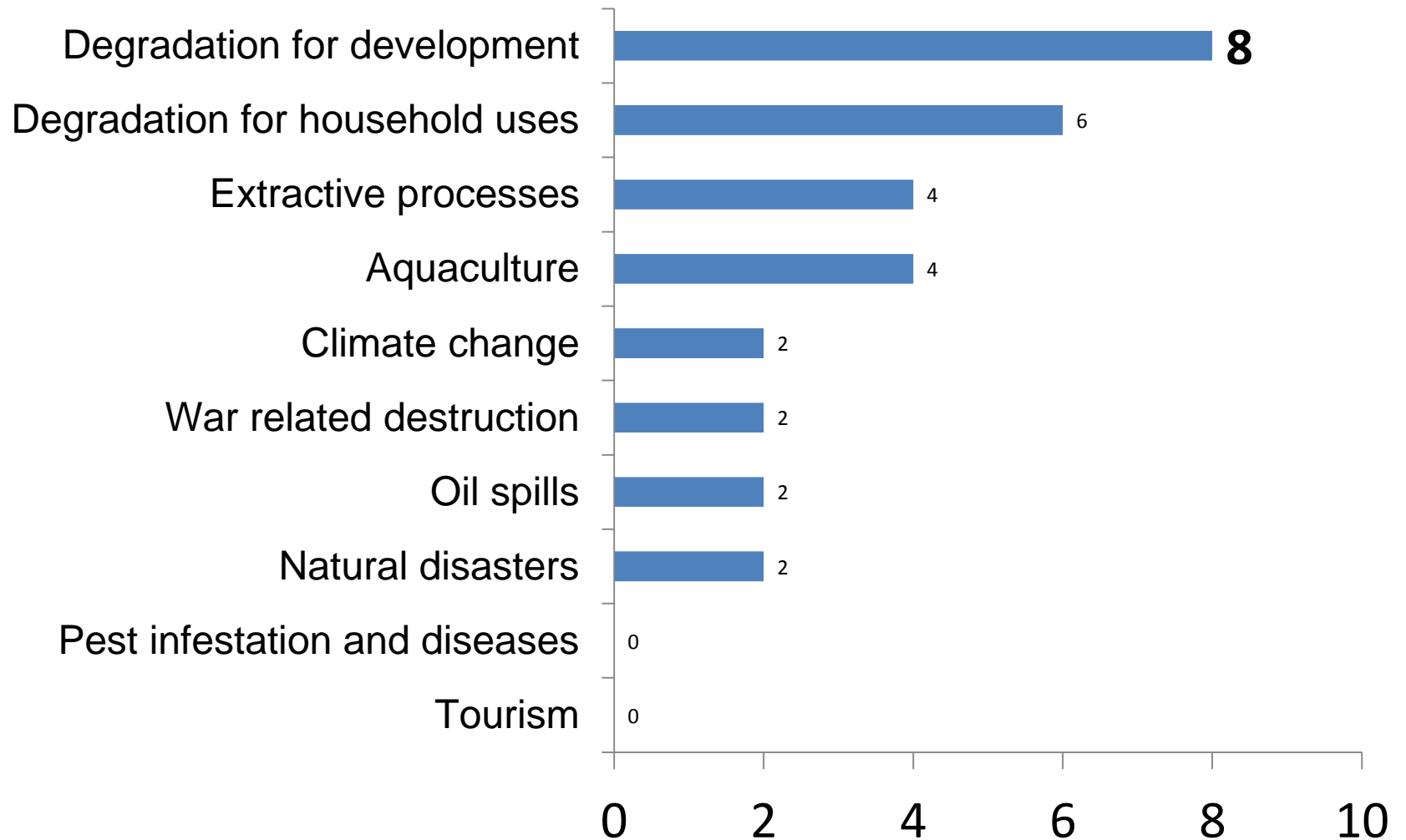
To be or not to be...



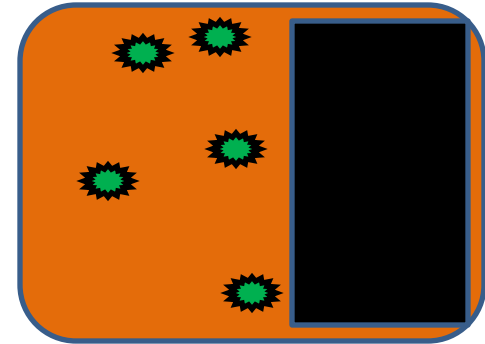
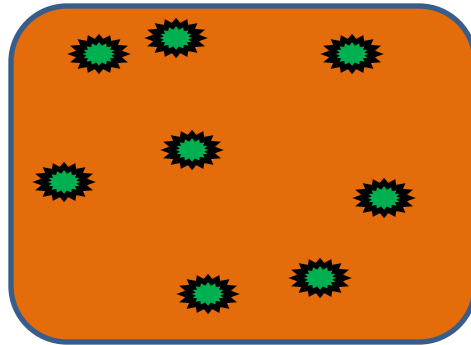
Natural restoration



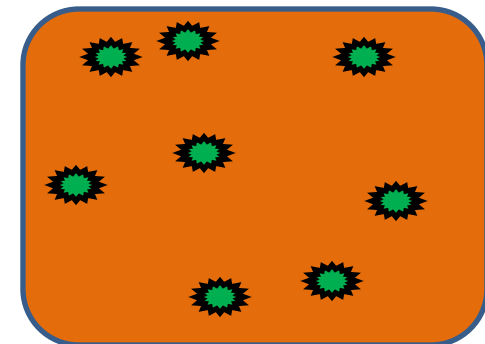
Human induced restoration



What if....



?



Biomass= 300—400t/ha

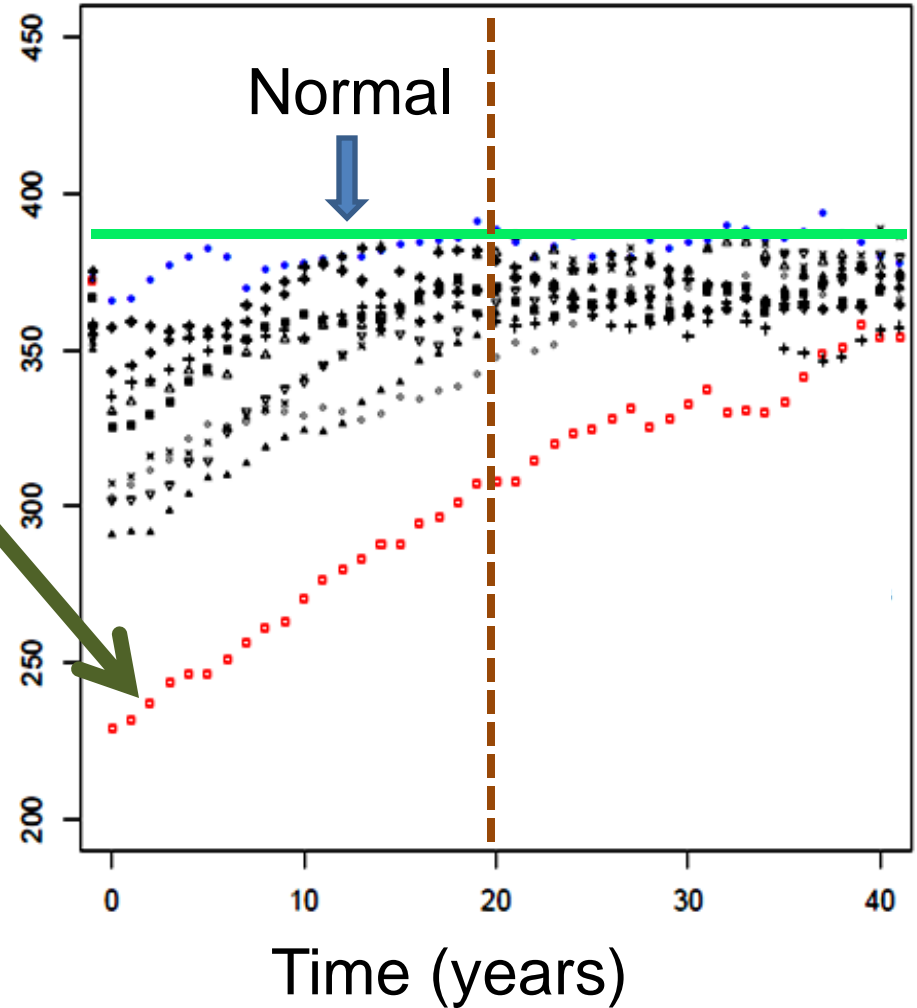
Max height= 50m

Recruitment= 390/ha (Putz and Chan, 1986)

Back to normal

- 1 Development
- 2 Tourism
- 3 Pests
- 4 Extractive processes
- 5 Climate change

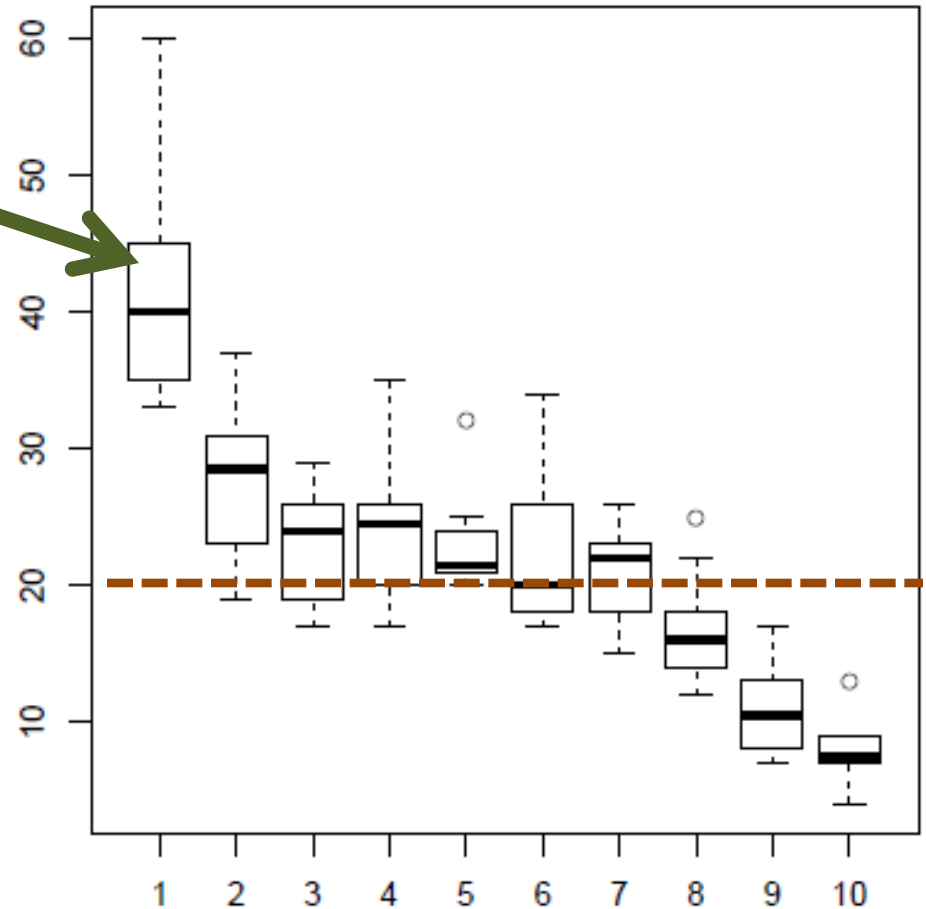
Biomass
(t/ha)



Recovery times

- 1 Development
- 2 Tourism
- 3 Pests
- 4 Extractive processes
- 5 Climate change

Time
(years)



Impacts

Conclusion

(Retrogressive) Development?

Recovery times relatively fast

Time to rethink



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Mangroves



ULB



Smithsonian



TECHNISCHE
UNIVERSITÄT
DRESDEN