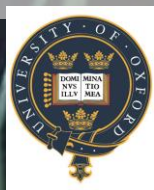




IUFRO-SPDC Training on Systematic Review in Forest Science

Pietermaritzburg, South Africa, 15-17 July 2017 Report by Gillian Petrokofsky, University of Oxford
& IUFRO



ICFR2017

BIAS

Workshop
participants in
South Africa came
from 12 countries



SPECIAL PROGRAMME FOR DEVELOPMENT OF CAPACITIES (SPDC)

“To expand and foster forest research capacity in economically disadvantaged countries in Africa, Asia and Latin America”



ABOUT IUFRO



- IUFRO is the only **network with a global scope** for cooperation in forest science.
- The IUFRO network unites more than **15,000 scientists** in about **650 Member Organizations** in **126 countries**.
- IUFRO is a member of the **International Council for Science (ICSU)** and cooperates with scientific networks in related fields (e.g. European Geosciences Union, etc.).

Interaction with Society

SPDC

Scientific Competence

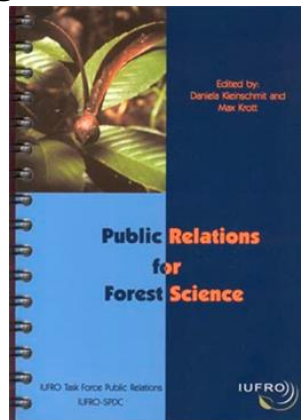
“Working effectively at the interface of forest science and forest policy“



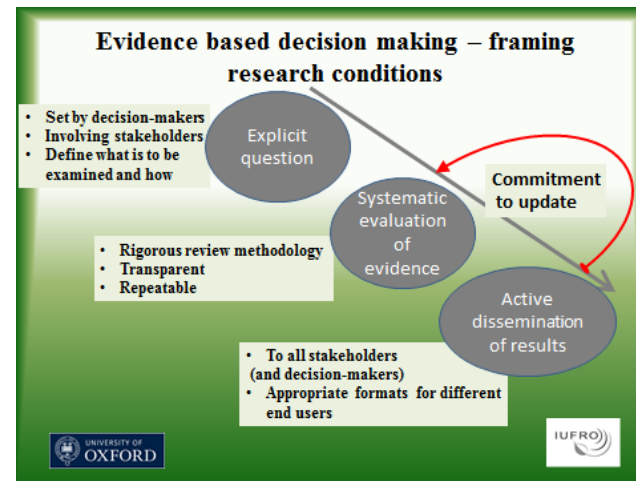
Preparing and Writing Research Proposals



“Communicating forest research – Making science work for policy and management“



Systematic Review in Forest Science



Research Methods



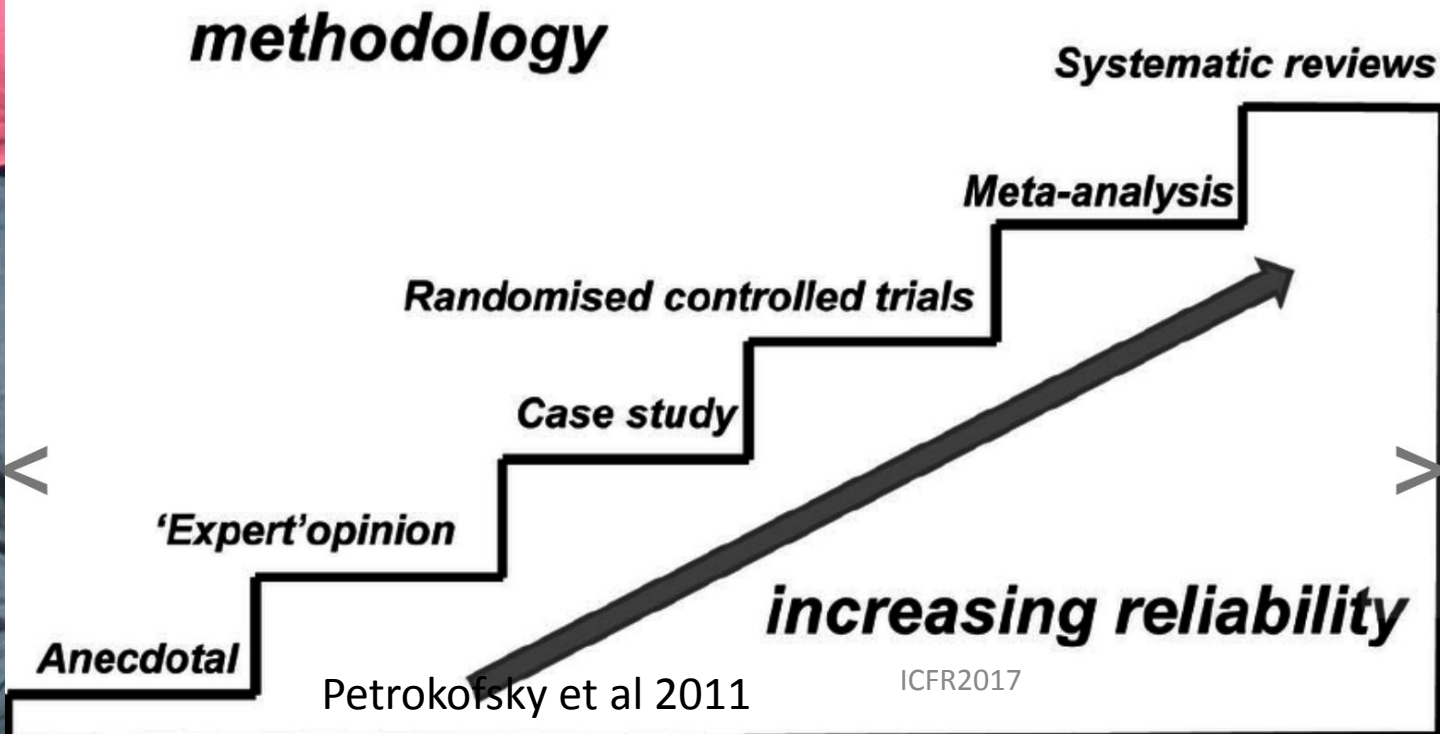
Workshop aims

- The workshop introduces participants to systematic review as a powerful tool in evidence synthesis.
- The tool is used to improve decision-making and any policy formulation that draws on scientific evidence. This workshop will draw on best practice guidance and existing systematic reviews to make progress on a current priority.
- Participants will work in small groups to develop mini-protocols for conducting systematic reviews on topics of interest to individual groups.
- Participants will learn how to apply some of the elements used in a systematic review to make their own work (not just future systematic reviews) more robust and reliable.
- An important feature of the workshop is that it will proceed in an open, collaborative environment with shared learning and peer-to-peer support.
- Active participation helps build confidence in applying the techniques of systematic review and simulates the work of a real systematic review team in action.



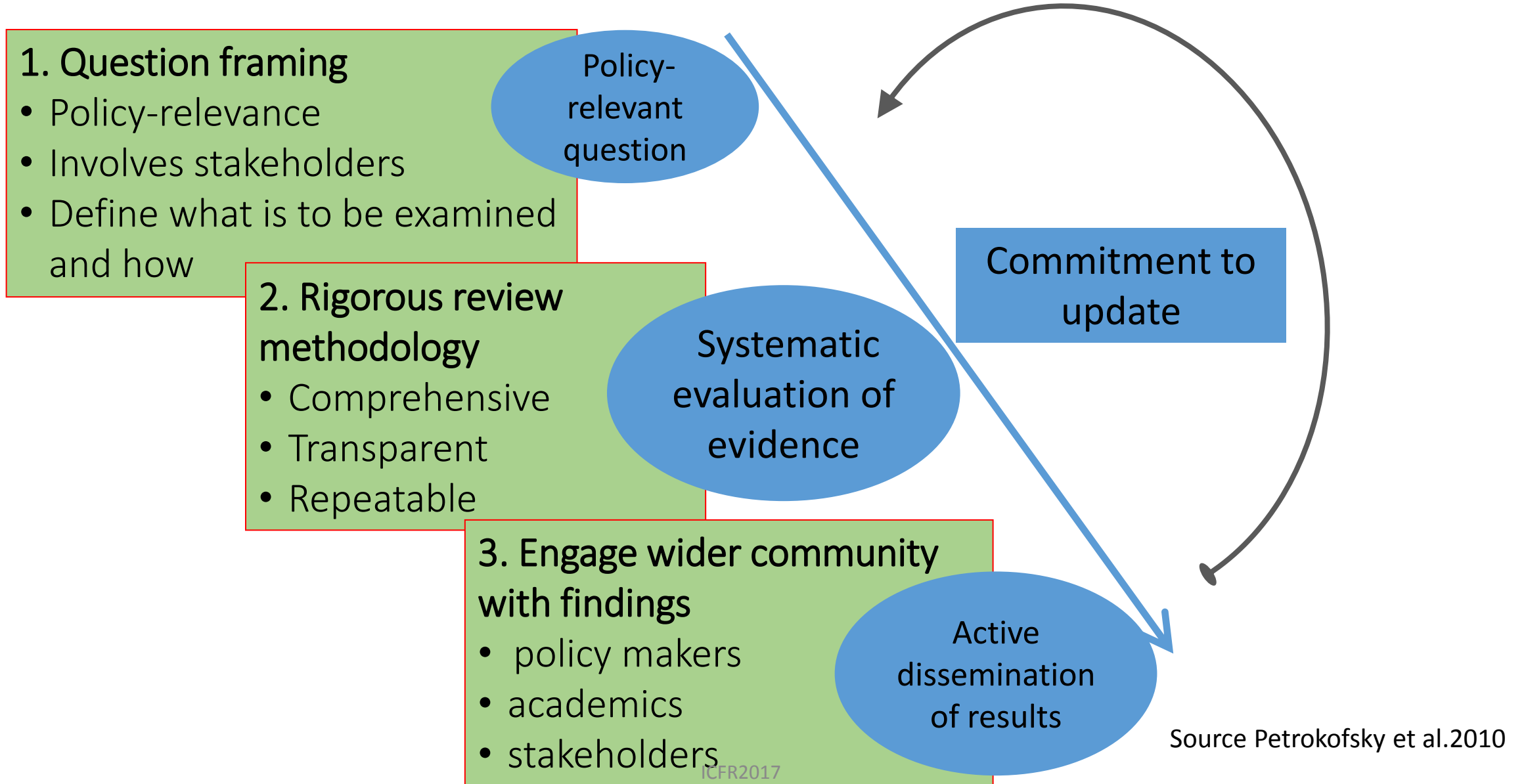
What is true? What constitutes 'evidence'?

A Hierarchy of Evidence



- What studies did you choose? Why?
- What studies did you NOT choose? Why?
- How reliable are the studies you chose?

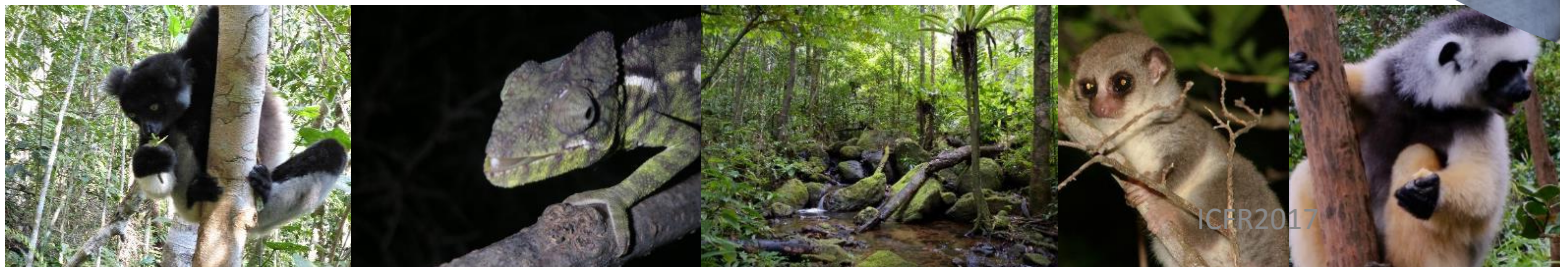
Systematic Reviews: the process





Does Participatory Forest Management better helps to meet conservation goals in Sub-Saharan Africa?

Presented by Conservation Management Group





Does Assisted Natural Regeneration Of Degraded
Miombo Woodlands Improve Biodiversity And
Livelihoods?



CAN REDD+ IMPLEMENTATION LEAD TO IMPROVED COMMUNITY LIVELIHOOD AND CLIMATE CHANGE MITIGATION IN SUB- SAHARAN AFRICA?

Bakengesa S., Augustino A., Amoako J., Kayumba I. and Mavaringana M.

A protocol presented at IUFRO- SPDC Workshop on Systematic
Review in Forest Science.

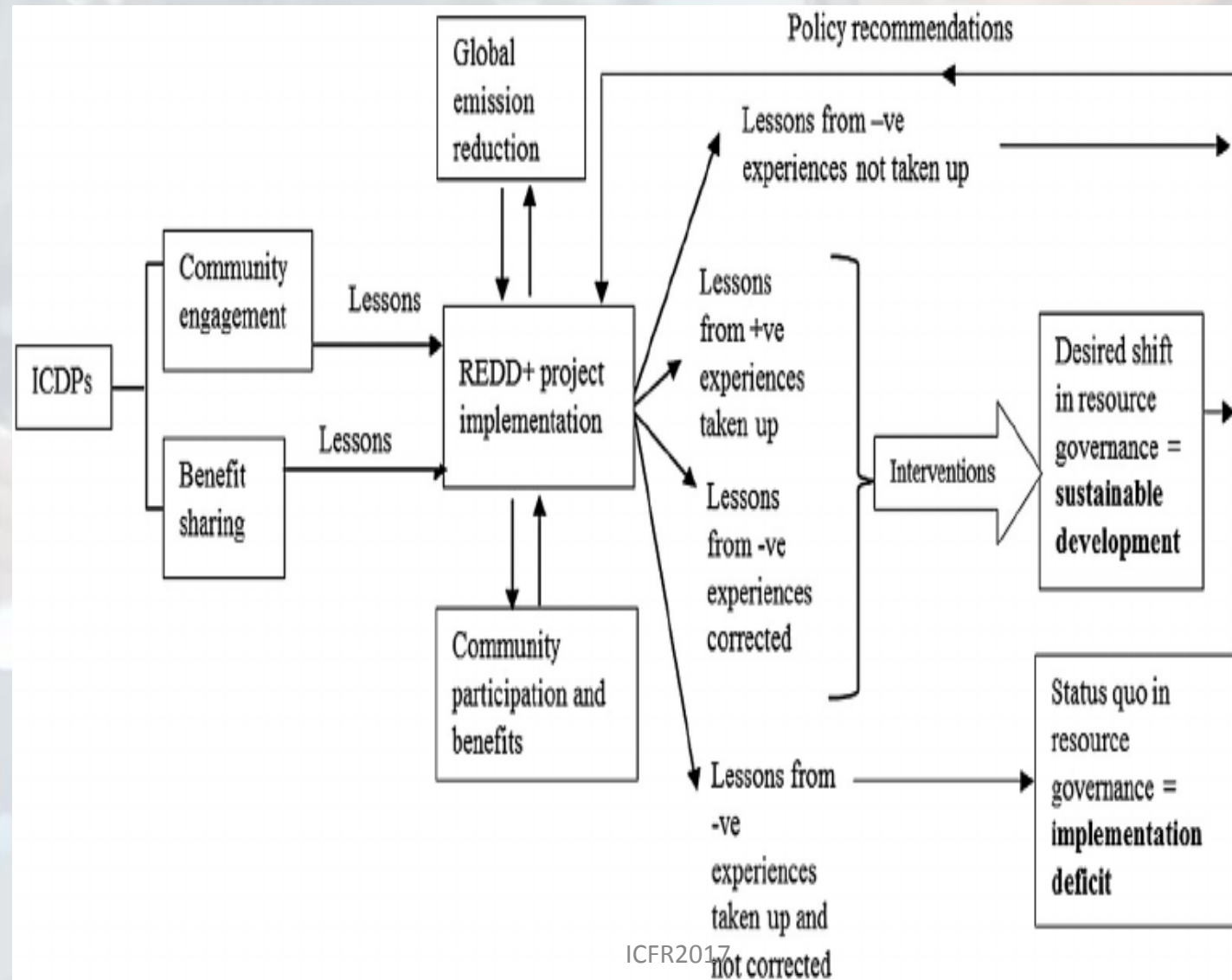
Ascot Inn, Pietermaritzburg, South Africa.

17/7/2017.



The efficacy of biological control agents of *Leptocybe invasa* and *Mycosphaerella* leaf disease (MLD) of eucalypts in Sub-saharan Africa: a mini-protocol

Protocols often use a Conceptual framework – example from REDD group



Method 1. Transparent, extensive search strategy

“PICO” Framework

example from Miombo group

Population	Degraded Miombo woodland – additional keywords: savanna, dry land, forests, Angola, Mozambique, Namibia, Botswana, Zambia, Democratic Republic of Congo, Tanzania, Malawi, Nyasaland, Northern Rhodesia, Zimbabwe, Southern Rhodesia, Zaire, Tanganyika, Brachystegia, Julbernadia, Isoberlinia,
Intervention	assisted natural regeneration
Control	without assisted natural regeneration
Outcomes	Biodiversity, livelihood, income, species richness, species abundance, density of trees, seedlings, saplings, dominance, wood biomass

Method : Step 2 : Looking for reference using the criteria from the PICO

Google Scholar

Harzing's Perish or Published

998 references extracted

CABI

4500 references extracted

Mendeley

Remove duplicates

35 references

Selected for exclusion and inclusion criteria

20 references

Inclusion and Exclusion

Title

Review : 20 ; Removed : 5 ; for next step : 15

K : -0.85

Abstract

Review : 15 ; Removed : 9 ; for next step : 6

K : 0.4 and K : 0.16

Critical appraisal

Review : ; Removed : ; for next step :

Example from Conservation group

3. Sources:

CAB Direct (1024)

Google Scholar (502)

Methods – example from Forest Health Group

4. Inclusion criteria

- Literature was captured, duplicates were removed.
- All 3 authors reviewed a random sample of 20 papers: based on relevance of title
- Kappa analysis was done for all 3 reviewer combinations
- If Kappa was lower than 0.6, reviewers discussed discrepancies with help of external consultant (Gill😊) and came to an agreement
- Criteria: relevant exposure and population

Consistency of reviewers: using kappa statistic

Inter-rater agreements

ben/rose				
	yes	no	total	
yes	2	9	11	0.55
no	0	8	8	0.4
total	2	17		
	0.1	0.85		

K = 0.26

rose/herb				
	yes	no	total	
yes	0	11	11	0.55
no	0	9	9	0.45
total	0	20		
	0	1		

K = 0.18

ben/herb				
	yes	no	total	
yes	0	0	0	0
no	2	18	20	1
total	2	18		
	0.1	0.9		

K = 0

Critical appraisal of included studies

– REDD group example set

Variables Paper No.	Reliability	Internal Validity	External Validity	Replicability
1 (Zambia)	✓	✓	✓	✓
2 (Ongolo)	✓	✓	✓	✓
3 (Ghana by Hansen)	x	✓	x	x
4 (Ghana by Jonathan)	x	✓	x	x
5 Jindal et al	x	✓	x	x

Another useful information resource a IUFRO initiative:

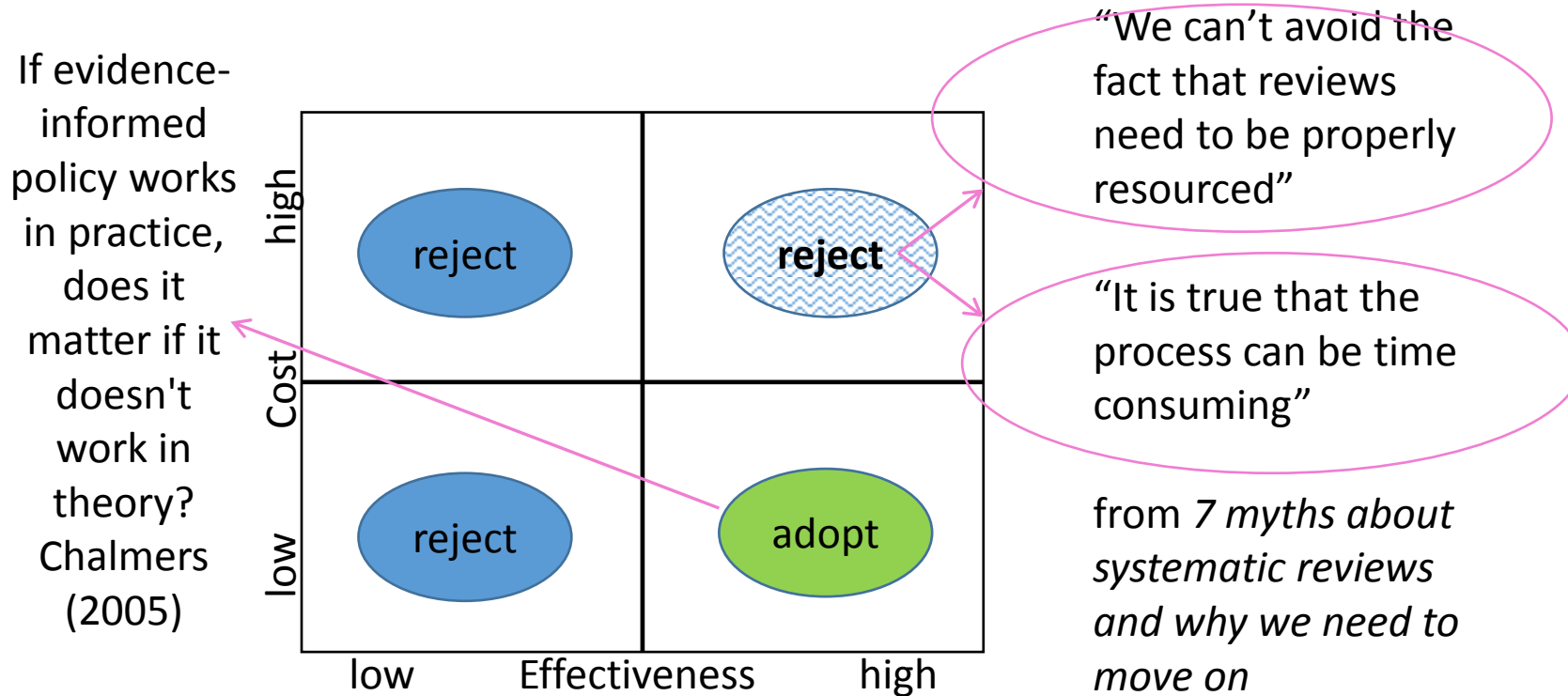
GLOBAL FOREST INFORMATION SERVICE (GFIS)

- GFIS promotes the dissemination and sharing of forest-related information.
- Information providers share **news, events, publications, projects, job vacancies, datasets and databases.**
- GFIS allows forest related organizations to **promote their information globally** with virtually no investment.

GFIS.net



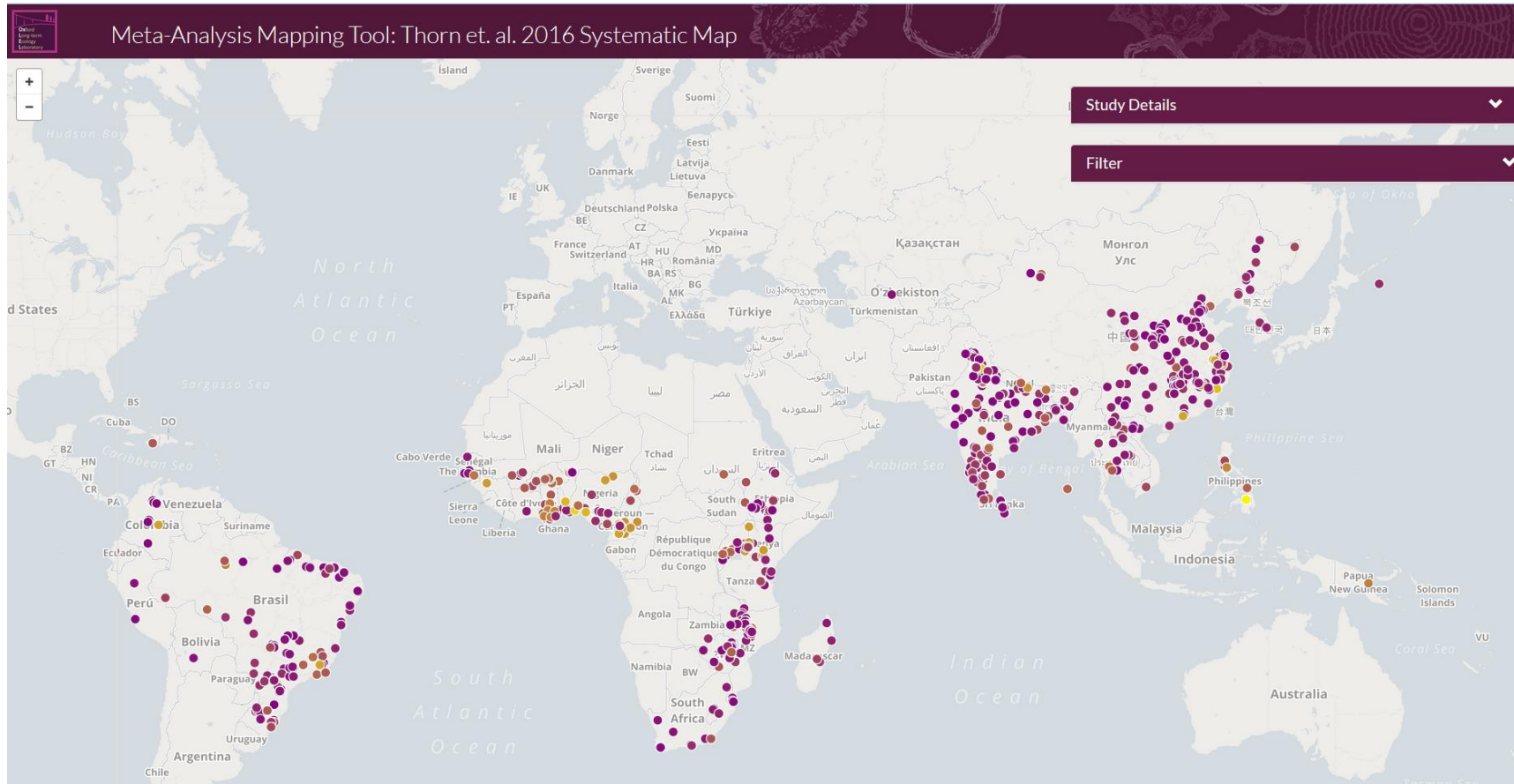
Effectiveness: cost & resources implications of evaluation methods



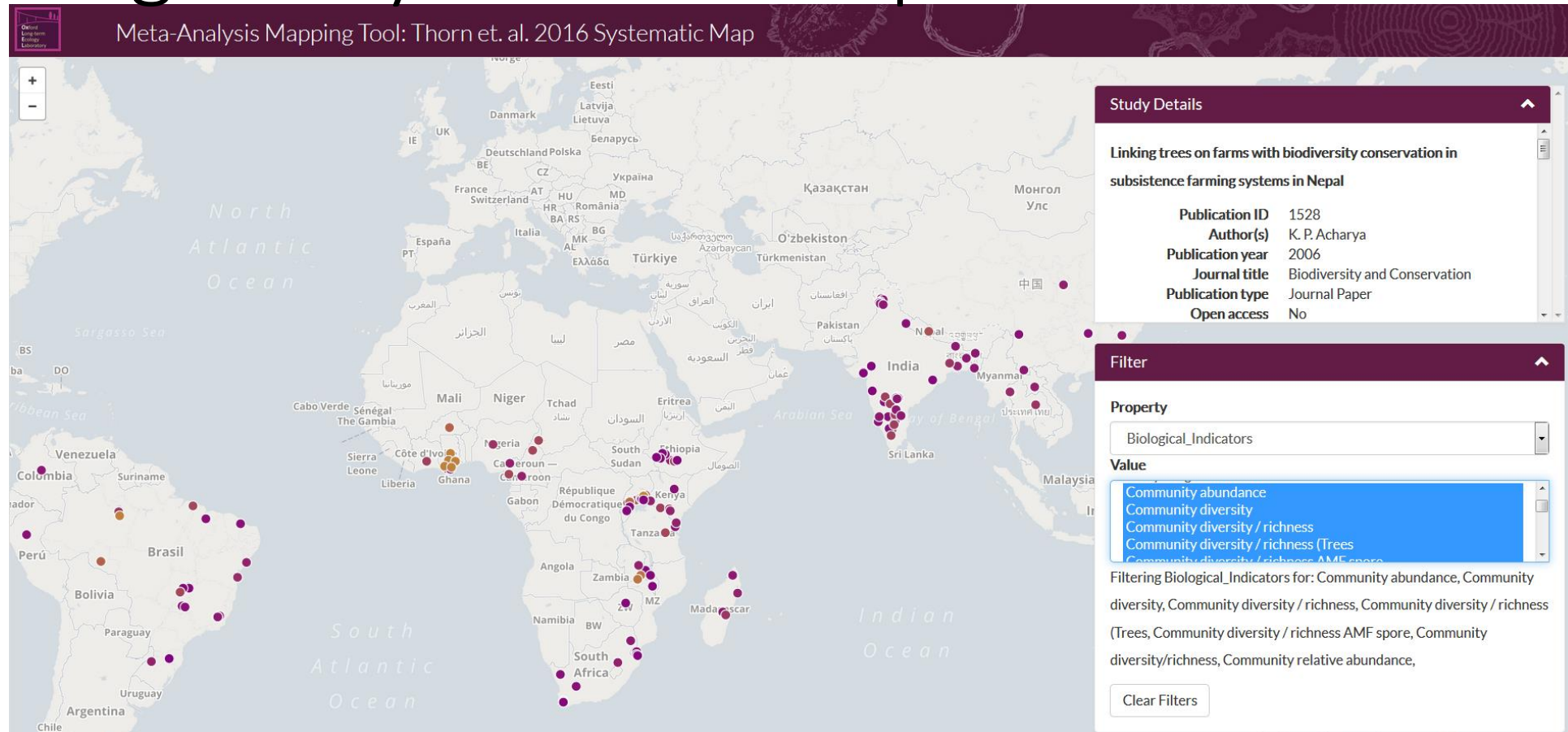
<http://www.alliance4usefulevidence.org/>

What can you do with the outputs?

Systematic map of evidence



Mining the systematic map



HOW TO GET INVOLVED: www.iufro.org



- Visit the IUFRO website and **DISCOVER IUFRO**
- Find IUFRO units under **SCIENCE IN IUFRO**
- Get in touch with unit coordinators
- Find out **WHO IS WHO** in IUFRO
- Contact officeholders and IUFRO Headquarters
- Find IUFRO co-sponsored **EVENTS**
- Plan to participate in IUFRO activities
- Don't miss the **25th IUFRO World Congress** and
- Come to Curitiba, Brazil, in September 2019
- Get **NEWS FROM THE NETWORK** and
- Become a **PART OF IT!**



Siyabonga kakhulu