How we can address environmental sustainability in our evaluations?

Patricia Rogers

Australian Evaluation Society conference 1 September 2022
Adelaide, Australia

GEI

BetterEvaluation

Why we need to consider environmental sustainability in all evaluations

This article is more than **3 years old**

Human society under urgent threat from loss of Earth's natural life

Scientists reveal 1 million species at risk of extinction in damning UN report

Editor's pick: best of favorite stories of th journalism in 2020

Forest clearance in Indone
Photograph: Ulet Ifansasti/Gr

Human society is in jec
natural life-support sys
they announced the re
ever undertaken.

This article is more than **2 years old**

We have 12 years to limit climate change catastrophe, warns UN

Urgent changes needed to cut risk of extreme heat, drought, floods and poverty, says IPCC

Overwhelmed by climate change? Here's what you can do

A firefighter battles a fire in California. The world is currently 1C warmer than preindustrial levels. P
Ringo HW Chiu/AP

The world's leading climate scientists have warned there is only a d
years for global warming to be kept to a maximum of 1.5C, beyond w
even half a degree will significantly worsen the risks of drought, floc
extreme heat and poverty for hundreds of millions of people.

Nature's emergency: Where we are in five graphics

By Helen Briggs, Becky Dale and Nassos Stylianou
BBC News

5 May 2019

Nearly half of planet's land in need of 'conservation attention' to halt biodiversity crisis

**New study finds 44% of world's land sur
protection, with 1m wildlife species at r**

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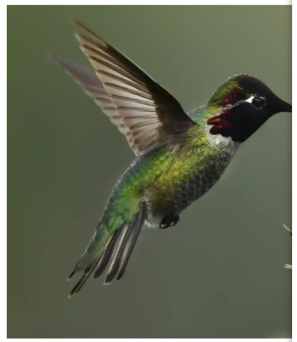


One co-author said 'future generations will look
at pictures of dinosaurs' if conservation action was

Almost half the planet's land surface ne
the biodiversity crisis is to be halted, a r

At least 64.7 million sq km (25 million s
attention" but overlaps with areas wher
quarter of the world's population - raisi
for conservationists, communities and g

Much of the land area is already covered

Banks lent $2.6tn linked to ecosystem and wildlife destruction in 2019 - report

Lack of policies regulating impact on natural world means finance industry effectively bankrolling biodiversity loss, analysis finds

The world's banks must start to value nature and stop paying for its destruction

A view of land cleared of peatland forest for palm oil plantation in South Aceh, Indonesia, The peat swamp area is the habitat of the Sumatran orangutan, now on the verge of extinction. Photograph: Ulet Ifansasti/Getty Images

The world's largest investment banks provided more than $2.6tn (£1.9tn) of financing linked to the destruction of ecosystems and wildlife last year, according to a new report.

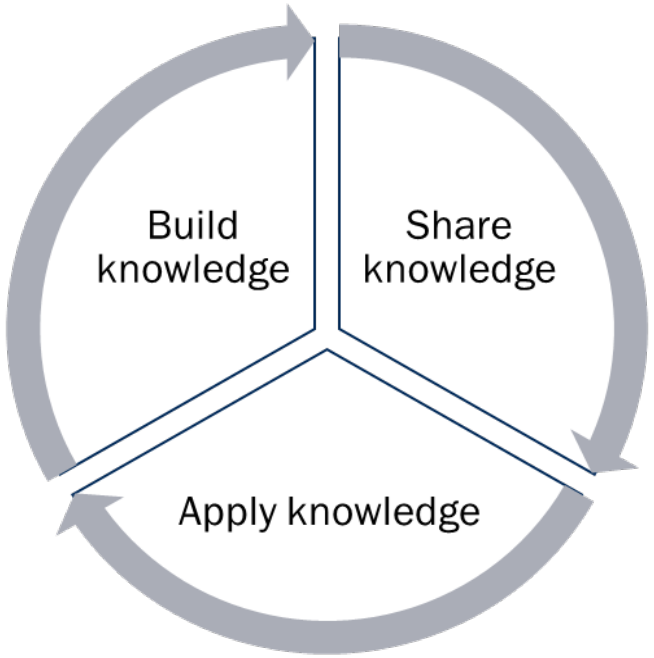
Iterative, collaborative development of evaluation practice

Examples

Possible methods & frameworks

Questions, comments, suggestions

Minimum Viable Product guidance



Webinars, workshops, presentations, videos

Thought experiments, practical trials

Who is involved in Footprint Evaluation?

The core footprint evaluation team

Andy Rowe
ARCeconomics

Patricia Rogers
Independent

Jane Davidson
Real Evaluation

Kaye Stevens
Independent

Global Evaluation Initiative collaboration

Dugan Fraser

BetterEvaluation team:

Alice Macfarlan; Emma Smith; Simon Davies

Phase I thought partners

Juha Uitto
Global Environment Facility Independent Evaluation Office

Katherine Dawes
US Environmental Protection Agency

Mine Pabari
Athari Advisory

Alain Frechette
Rights & Resources Initiative

Weronika Felcis
University of Latvia

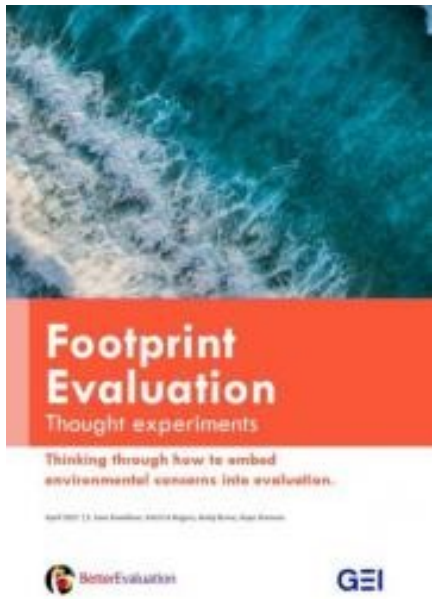
Elliot Stern
Lancaster University

Helen Watts
Corangamite Catchment Management Authority

Participants in footprint evaluation discussion group and events

What has informed the MVP guidance?

- **Various earlier projects** before the footprint evaluation initiative
- **Advice and examples** from thought partners and participants in discussion group and events
- **Current examples** of evaluations and other work addressing natural systems



- **Thought experiments**
  - **Community garden** – learning from successful case to inform other projects
  - **Community corrections** – Treasury required evaluation of major investment
  - **Local community development** – retrospective impact evaluation to understand value and inform future programs
  - **Unconditional cash transfer policy** – contributing to evidence base
- **Cases**
  - **Mid-term review of national private sector development strategy** – to inform revision of strategy
  - **Personal Protective Equipment (PPE) provision during COVID-19 pandemic** – to inform future evaluations and planning

Your context

What are your roles?

- external evaluator
- internal evaluator
- evaluation manager
- self-evaluator
- evaluation educator
- evaluation researcher
- other

Your context

- What level of experience do you have in considering environmental sustainability in evaluation?
  - just beginning,
  - some experience,
  - extensive

Your context

What sorts of programs might you be evaluating?

- Health
- Education
- Community services
- Transport
- Agriculture
- Defence
- Natural resources
- Other?

Your context

What particular expertise or perspective might you be able to contribute to this effort?

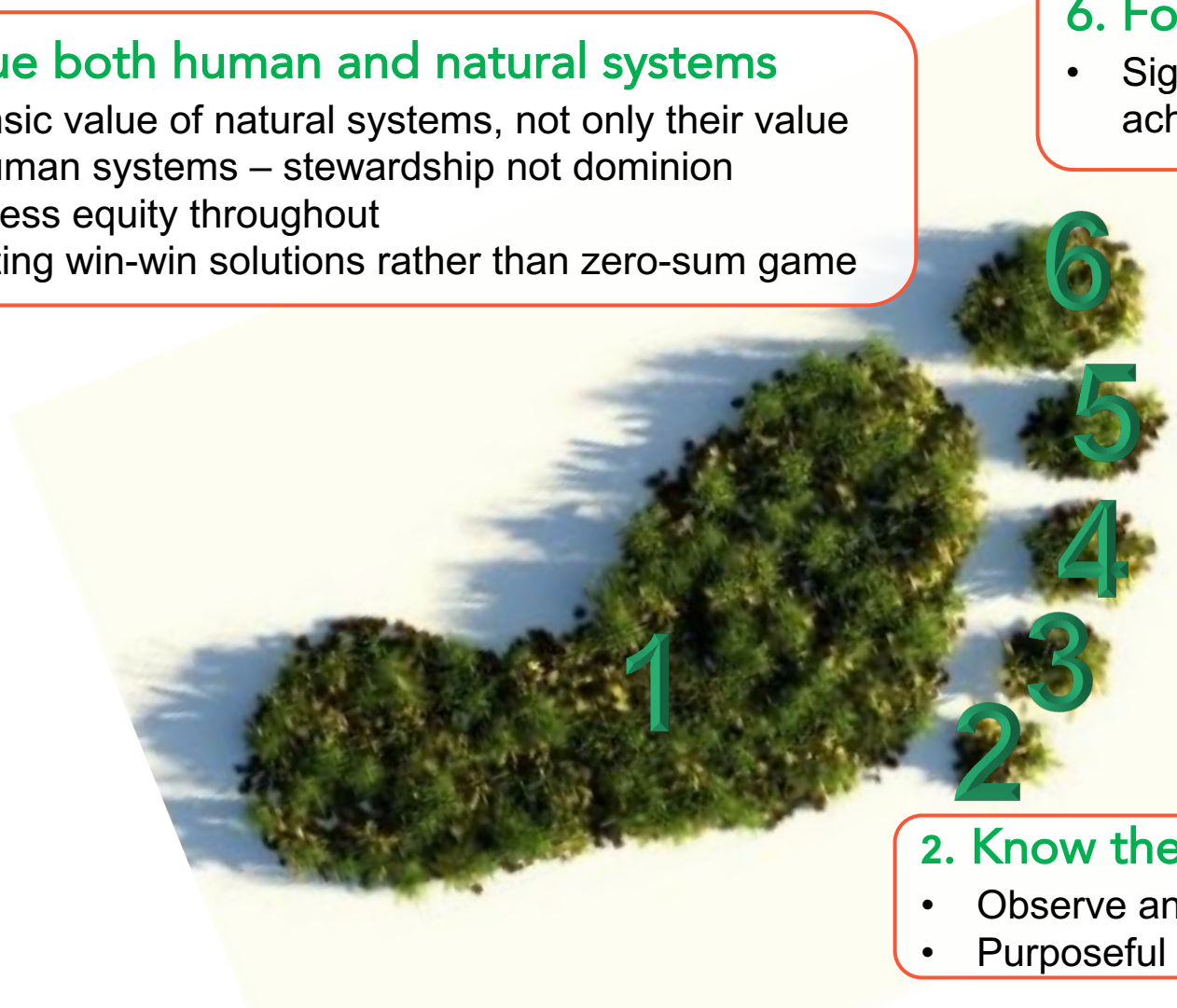
Emerging principles for footprint evaluation

1. Value both human and natural systems

- Intrinsic value of natural systems, not only their value to human systems – stewardship not dominion
- Address equity throughout
- Crafting win-win solutions rather than zero-sum game

6. Focus on the big issues

- Significant impacts not just what is easily measurable or achievable



5. Use systems thinking

- Feedback loops, tipping points, fractals, boundary critique

4. Draw on multiple sources of evidence and expertise

- Natural systems science
- Local and Indigenous knowledge

3. Expand the scope

- Spatially – downstream, downwind
- Temporally - intergenerational

2. Know the place

- Observe and engage - literally, virtually or vicariously
- Purposeful sampling

Some methods for different components of considering environmental sustainability

1. Get it on the agenda
2. Identify points of nexus
3. Gather and make sense of Knowledge and evidence
4. Implications for evaluation practices and structures

1. Get it on the agenda

Using existing evaluative criteria

Using footprint- ready Key Evaluation Questions

Using existing evaluative criteria

RELEVANCE
is the intervention doing the right things?

EFFECTIVENESS
is the intervention achieving its objectives?

IMPACT
what difference does the intervention make?

COHERENCE
how well does the intervention fit?

EFFICIENCY
how well are resources being used?

SUSTAINABILITY
will the benefits last?

OECD DAC criteria: Relevance

"Doing the right things" includes:

- **Equitably addresses the issues** in the human and natural systems.
- Recognises that the accumulated harm we have done to the natural system threatens all life and that **restoration of natural system function is a global responsibility**.
- **Addresses any systemic or structural issues** that have been causing environmental damage, especially in areas where human wellbeing is impacted and where natural functions are severely threatened.

Is the intervention doing the right things with respect to both the human and natural systems?

RELEVANCE
is the intervention doing the right things?

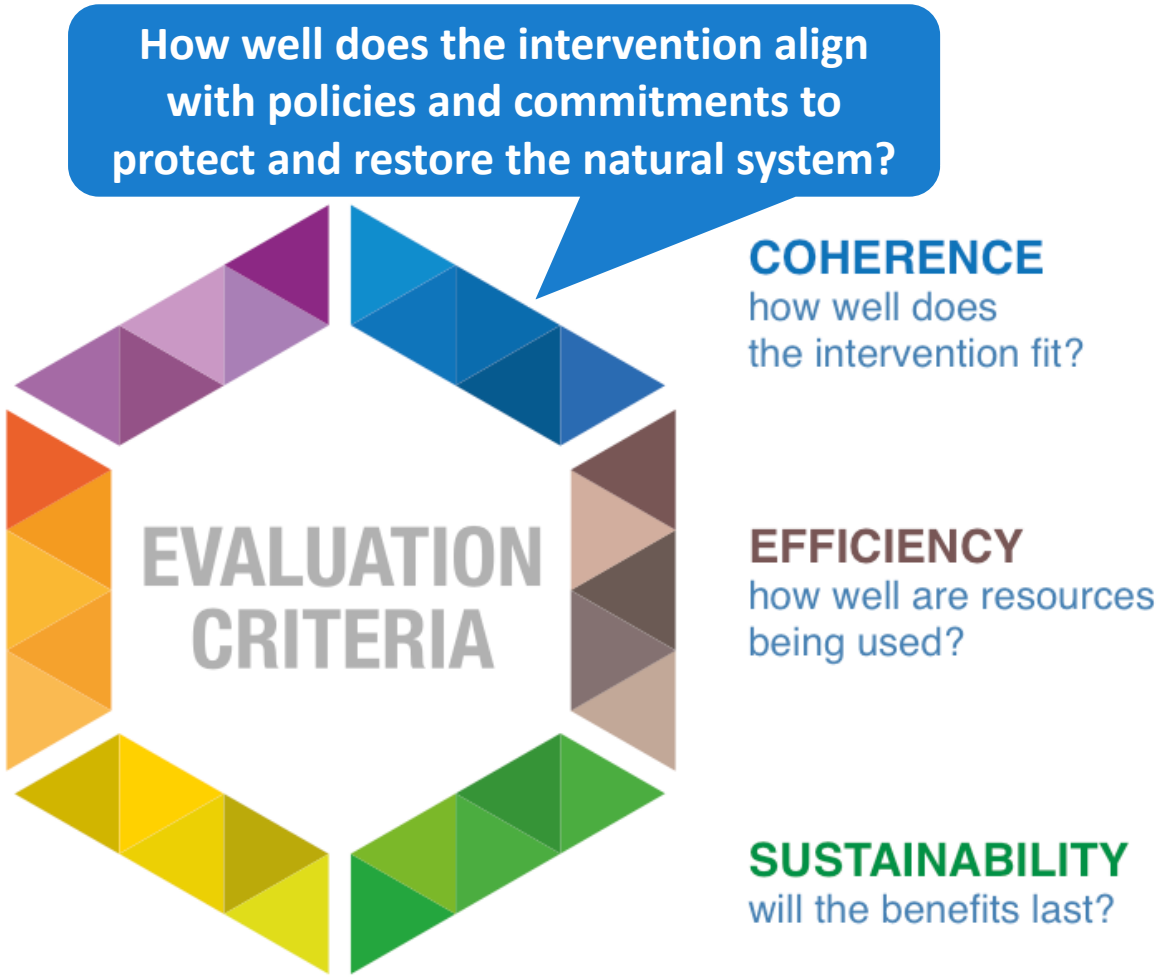
EFFECTIVENESS
is the intervention achieving its objectives?

IMPACT
what difference does the intervention make?

OECD DAC criteria: Coherence

Point to natural system-relevant policies or commitments that the initiative should logically be aligned with:

- International environmental commitments or treaties
- Local or national government policies, agreements and treaties
- Organisational strategy, policy and/or value statements



OECD DAC criteria: Impact

The OECD DAC criteria guidance identifies two ways we should incorporate natural system impacts:

*"Evaluators should pay particular attention to negative impacts, particularly those that are likely to be significant including – but not limited to – **environmental impacts** ....*

*"Transformational change can be thought of as addressing **root causes, or systemic drivers of … environmental damage**."*

RELEVANCE
is the intervention doing the right things?

EFFECTIVENESS
is the intervention achieving its objectives?

IMPACT
what difference does the intervention make?

What difference does the intervention make to both human and natural systems?

OECD DAC criteria: Sustainability

Worthwhile solutions are durable and their impacts are sustained over time.

To maximize durability and lasting impact, strategies need to be in place to make it likely that positive impacts are resilient and sustained, especially in the face of emerging environmental change.

COHERENCE
how well does the intervention fit?

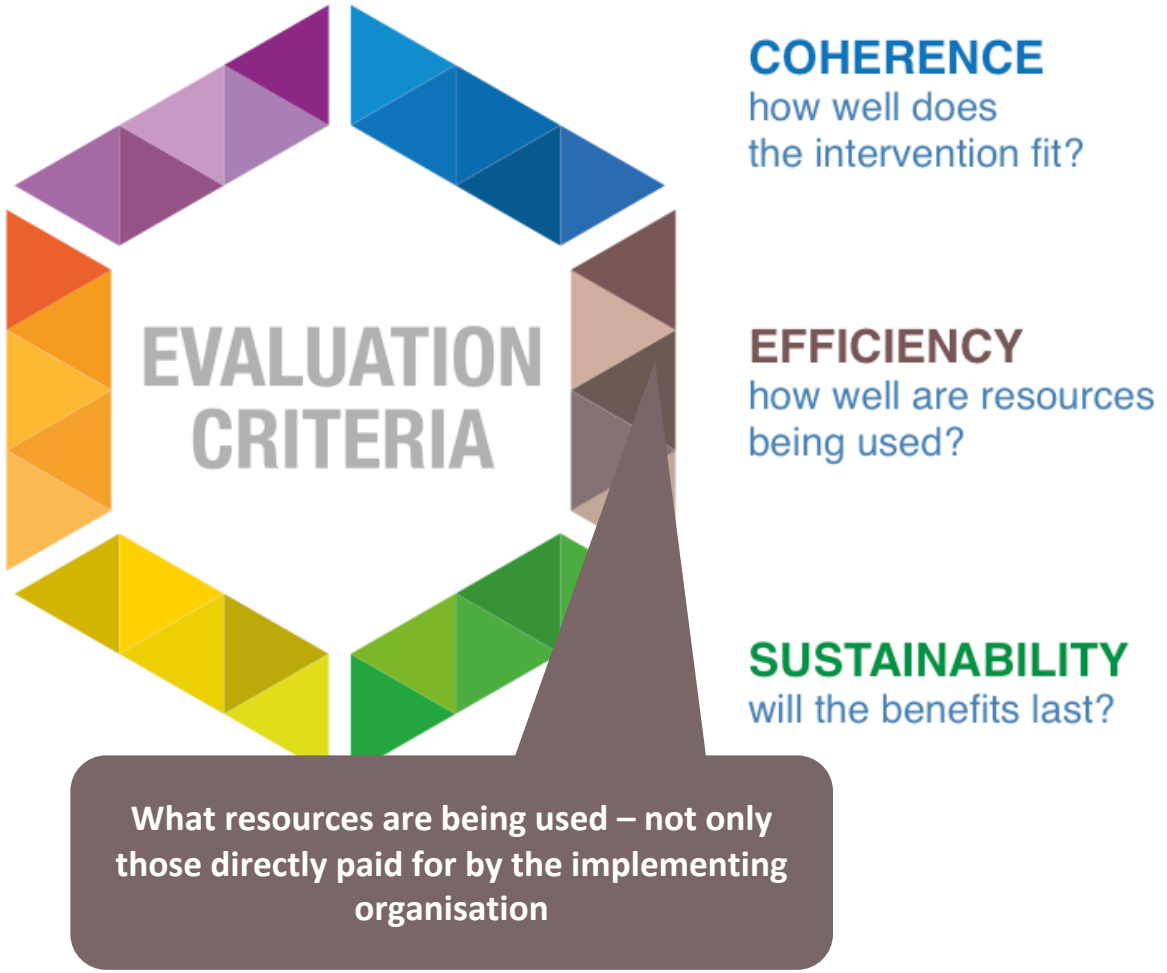
EFFICIENCY
how well are resources being used?

SUSTAINABILITY
will the benefits last?

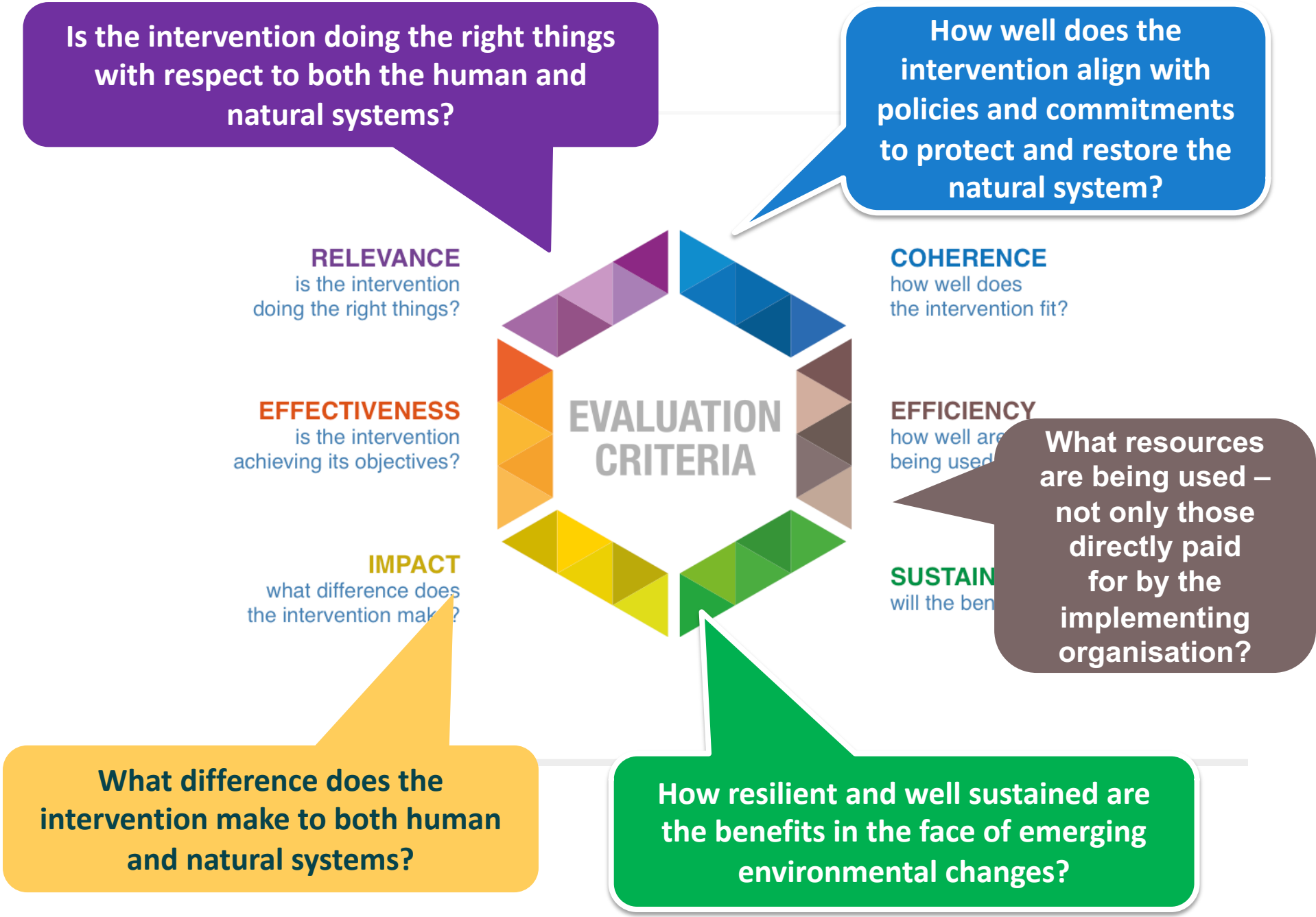
How resilient and well sustained are the benefits in the face of emerging environmental changes?

OECD DAC criteria: Efficiency

Efficiency needs to consider the resources being used – not only those being paid for directly by the implementing organisation



Using existing evaluative criteria to get environmental sustainability on the agenda



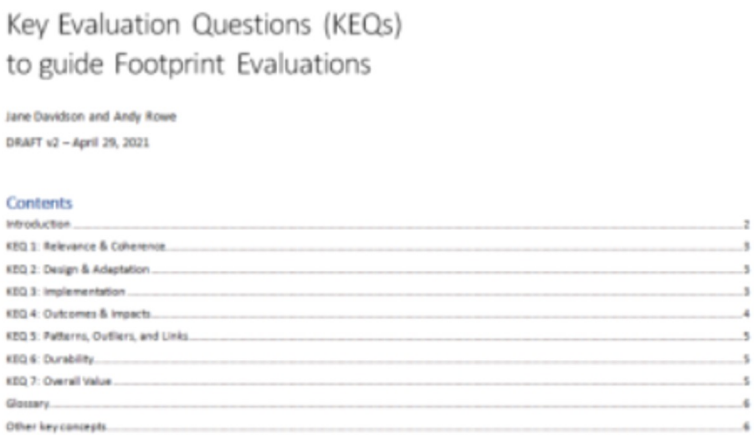
Example: Private Sector Development Strategy

Criteria	What success looks like	Potential sources
Coherence	Consistent with international obligations and other policies (e.g. National Development Plan, Paris Agreement, Convention on Biological Diversity)	• Statements of international commitments (World Fact Book), and related national, state and local policies
Impact	Potential negative environmental impacts are identified and risk mitigation strategies put in place (e.g. risks of water pollution from tanneries' waste disposal)	• Previous research and evaluation studies of negative environmental impacts of electrification, industrial parks and tanneries • Information on risk mitigation strategies through documents (especially Environmental Impact Statements and interviews)
	Actual negative environmental impacts are monitored and addressed (e.g. risks of water pollution from tanneries' waste disposal)	• Reported incidents • Available data from monitoring systems – or lack of these • Published research (e.g. graduate theses)
Sustainability	Strategies are in place to make it likely that positive strategy impacts are resilient and sustained in the face of environmental changes (e.g. impact of changes in water table on plans for irrigation and value-added agriculture)	• Information on resilience strategies from documents and interviews

Using footprint-ready KEQs

Key Evaluation Questions (KEQs) to guide Footprint Evaluations

The key evaluation questions (KEQs) are designed to support the inclusion of environmental sustainability by embedding consideration of the environment in each evaluation question rather than adding environmental considerations as a standalone question.


Key Evaluation Questions (KEQs) to guide Footprint Evaluations

Jane Davidson and Andy Rowe

DRAFT v2 – April 29, 2021

Contents

View Resource

www.betterevaluation.org/resources/key-evaluation-questions-keqs-guide-footprint-evaluations

Key Evaluation Questions

1. Relevance & coherence	How relevant is the evaluand to the issues facing the population/sector and the natural environment – and how well does it complement other related efforts in the context?
2. Design & adaptation	How well does the design address the strengths, needs, and aspirations of both human and natural systems – in ways that are equitable, restorative, and enable both to thrive?
3. Implementation	How well has the evaluand been implemented so that the right people and natural system elements receive what is most needed at the right times and places and in the right ways?
4. Outcomes & impacts	How good, valuable, and important are the outcomes and impacts on both human and natural systems, particularly where equity and/or previous harm needed to be addressed?
5. Patterns, outliers & links	How did the evaluand influence change – and then how did that change continue to unfold – in the relevant coupled human and natural systems? Where, when, for whom, and under what conditions did we see the most and least valuable outcomes? Why?
6. Durability	How resilient and durable are the changes that the evaluand has contributed to, and how well are they likely to last in the face of emerging environmental and other changes?
7. Overall value	How good, valuable, or worthwhile is the evaluand overall, given its relevance and coherence, design and implementation, the value of its outcomes and impacts, their durability, and what it cost to achieve them?

KEQ 4:

How good, valuable, and important are the outcomes and impacts on both human and natural systems, particularly where equity and/or previous harm needed to be addressed?

Quick explainer of what's included under outcomes and impacts:

Outcomes and impacts include **changes contributed to or prevented by the evaluand** across their relevant temporal scales – and their shelf life (sustainment).

This **includes effects on** the human system as well as **the natural environment** – all affected subgroups, communities, organisations, society, the economy, and the natural systems within which they exist – both intended and unintended, for both the target population/ environment and anyone or anything else substantially impacted.

Sub-questions to consider under this KEQ :

How substantially did the evaluand contribute to (or adversely impact) the most important strengths, needs, and aspirations of both human and **natural systems – particularly of the most critical and/or threatened parts of the natural system** and those who had been most marginalized, oppressed, and/or least well served in the human system?

How appropriately does the evaluand **value, privilege, protect, or exploit different parts of the relevant human and natural systems** (e.g., different groups of people, different parts of the ecosystem)?

How well did the evaluand contribute to or achieve the **needed systemic and structural changes**, including processes and capacities, so that **root causes are addressed (not just symptoms) and results sustained**?

Questions Comments

- How much additional work will be needed in your situation to get environmental sustainability on the agenda?
- Which strategies will be likely to be most effective?
- Any specific questions or comments?

2. Identify points of nexus between human and natural systems and potential consequences

What are points of nexus?

Methods and processes

Consultations, interviews, planetary boundaries, lifecycle stages, ecosystem services, issues identified in EIS/EIA, regulations and guidelines

Points of nexus and potential consequences

- Couplings
- Interactions
- Connections

Includes:

- Interdependencies - where systems depend on another
- Constraints - such as trade-offs between systems
- Synergies - shared benefits for systems

More information: UK Parliamentary Office of Science and Technology (2016) The Water-Energy-Food Nexus https://post.parliament.uk/research-briefings/post-pn-0543/

Recognise intertwined nature of environmental sustainability and equity

Transdisciplinarity

Equity

Democratic accountability

"the nexus should be understood to have strong social justice dimensions.

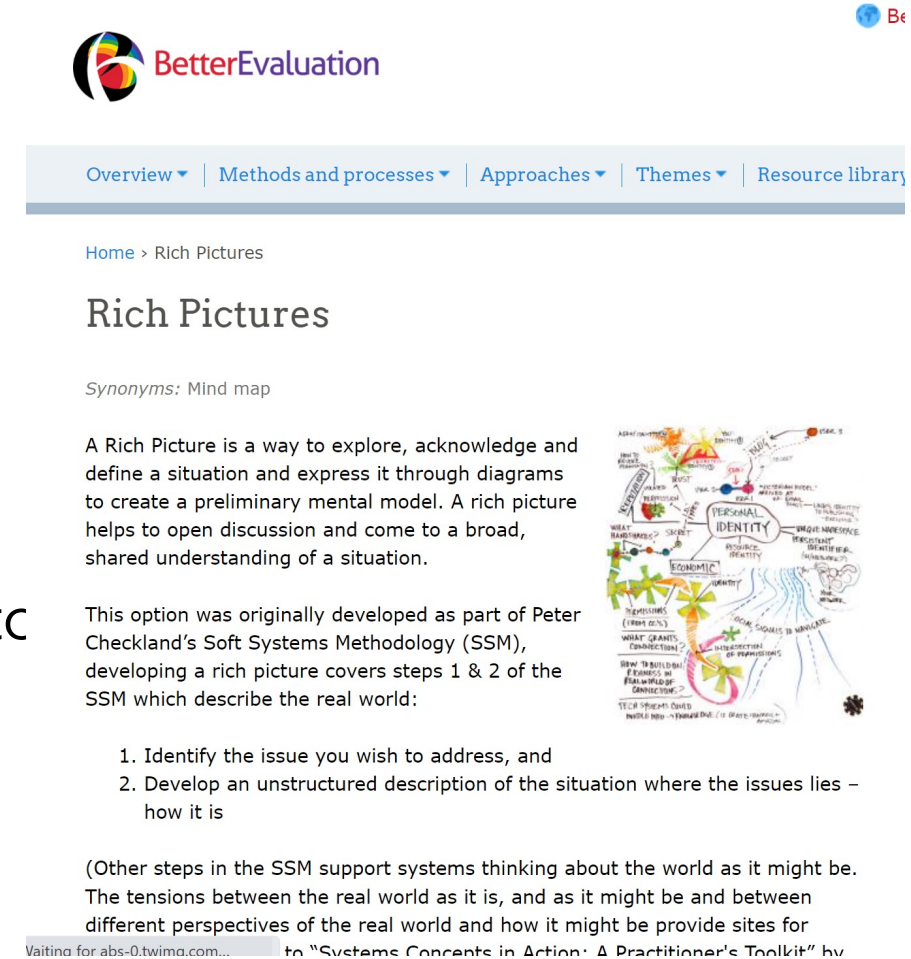
Synergies and trade-offs across different domains, and interventions aimed at 'managing' those effects, will impact people in different ways, both positively and negatively.

Taking a nexus approach, for us, means keeping these implications at the forefront of our analysis and decision-making, and ensuring that we focus attention equally on distributive, procedural, and recognition elements of social justice."

More information: Hejnowicz and others (2018) The Nexus: A New Approach to Sustainability Transformations – What, Why and Howhttps://www.cecan.ac.uk/blog/the-nexus-a-new-approach-to-sustainability-transformations-what-why-and-how/

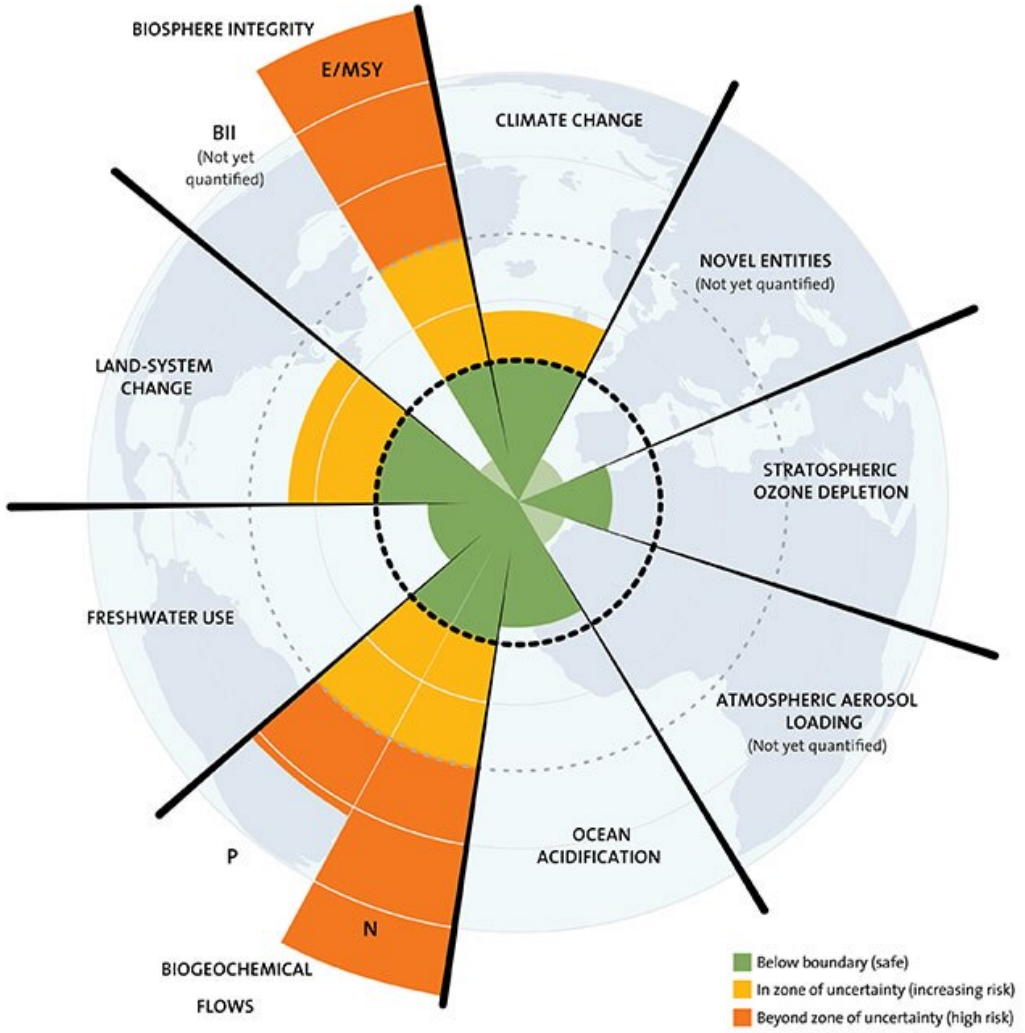
Talk with people!

- Stories, narratives
- Rich Pictures
- New interviews
- Previous interviews (reported in media)
- Opinion pieces in blogs, newsletters, letters to



https://www.betterevaluation.org/en/evaluation-options/richpictures

Planetary boundaries



Nine Boundaries

- Climate change
- Novel entities (includes plastics, antibiotics)
- Stratospheric ozone depletion
- Atmospheric Aerosol Loading
- Ocean acidification
- Biochemical flows (nitrogen and phosphorus)
- Freshwater Use
- Land-system changes
- Biosphere integrity (function and genetic)

More information: J. Lokr J. Lokrantz/Azote based on Steffen et al. 2015

Life cycle stages (cradle to grave)

Identifying **potential outcomes** for natural and human systems at each stage – and the factors which affected these

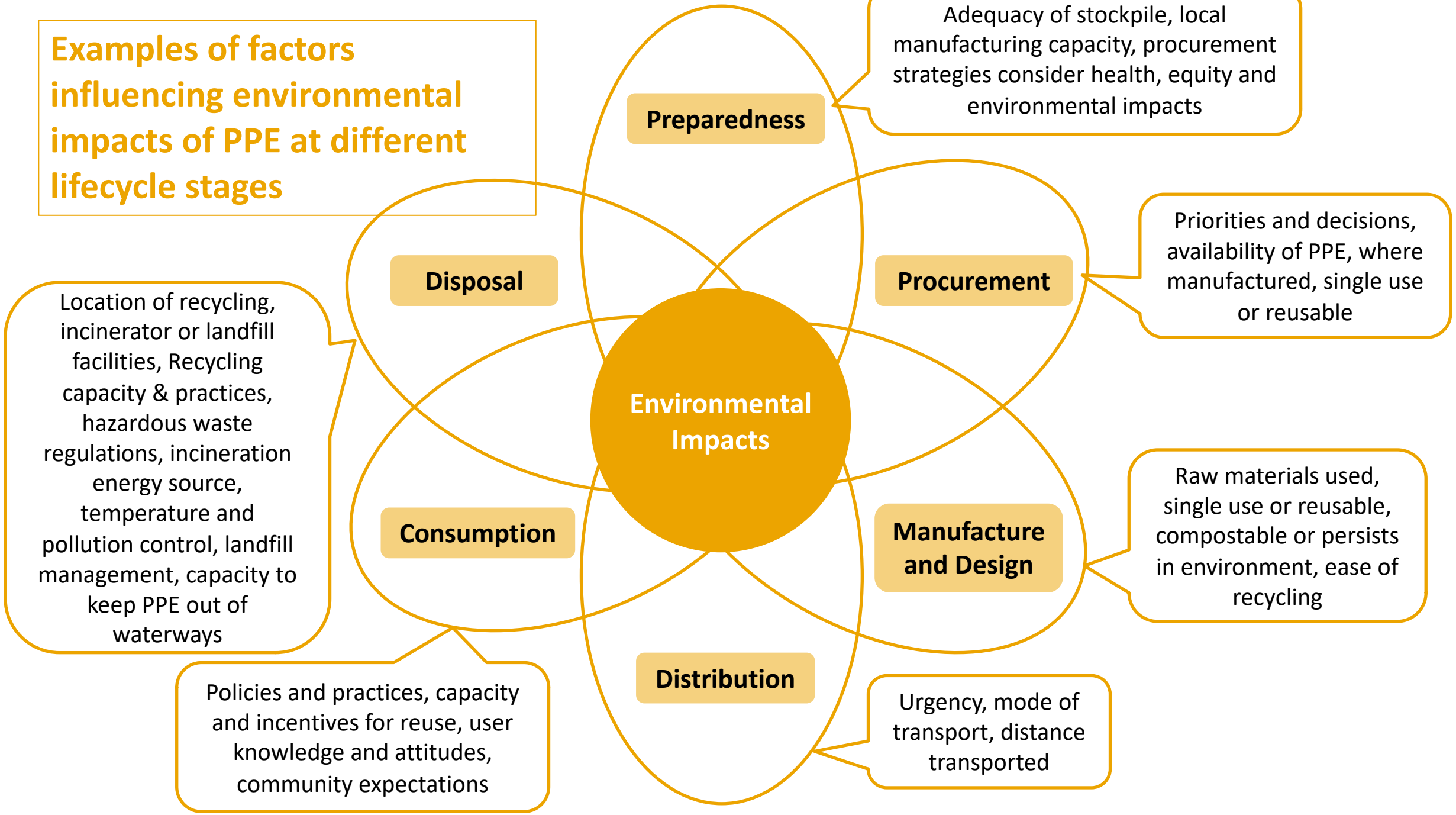
Construction

- Site acquisition
- Construction
- Operation
- Decommissioning

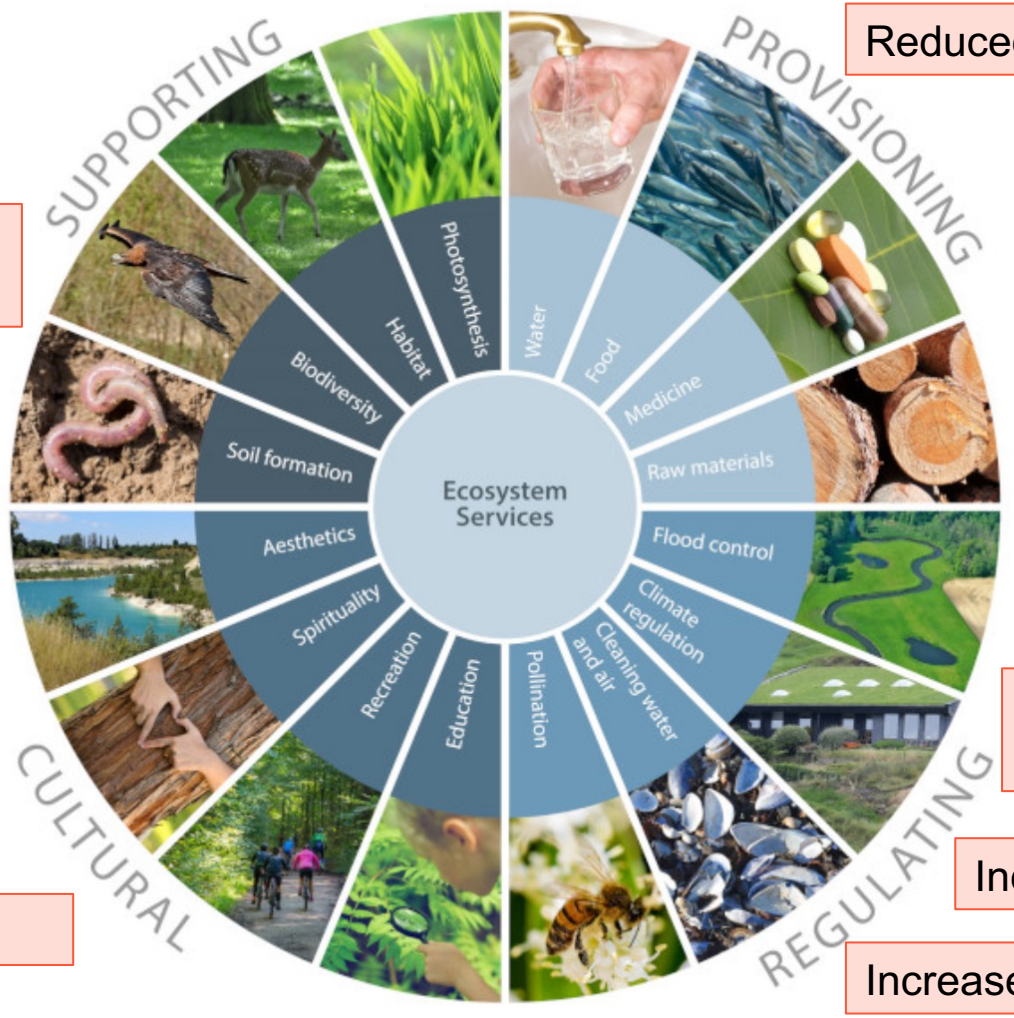
Products:

- Preparation
- Procurement
- Manufacturing and design
- Distribution
- Consumption
- Disposal

Examples of factors influencing environmental impacts of PPE at different lifecycle stages



Ecosystem services – example: logging in Victorian central highlands



Reduced numbers of endangered animals and plants and fungi

Barriers to cultural and spiritual activities

Reduced recreation opportunities

Reduced inflow to water catchment

Timber for paper and pulp

Increased water runoff, debris, flooding

Increased CO_2 production and decreased carbon sequestration

Increased risk of wildfire

Increased turbidity and decreased water quality

More information: Diagram: Department of Environmental Science, Aarhus University https://envs.au.dk/en/research-areas/society-environment-and-resources/biodiversity-and-ecosystem-services Impacts of logging http://www.longtermecology.com/great-forest-national-park , https://www.pachamama.org/effects-of-deforestation

Issues identified in EIS/EIA

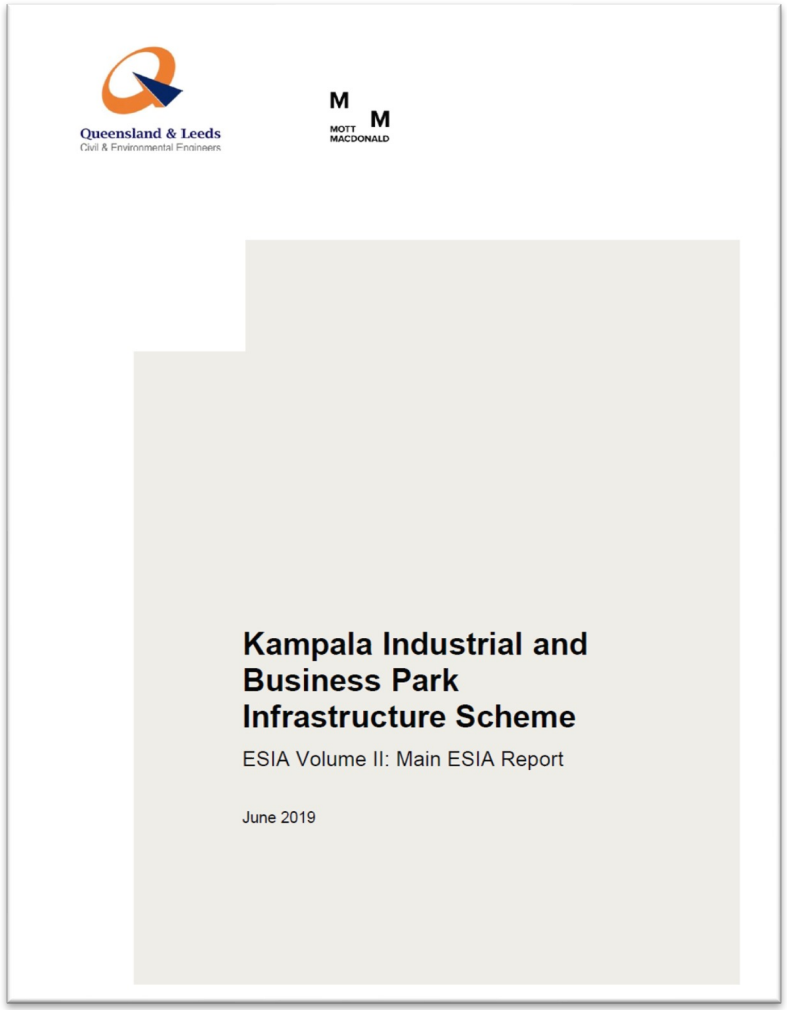
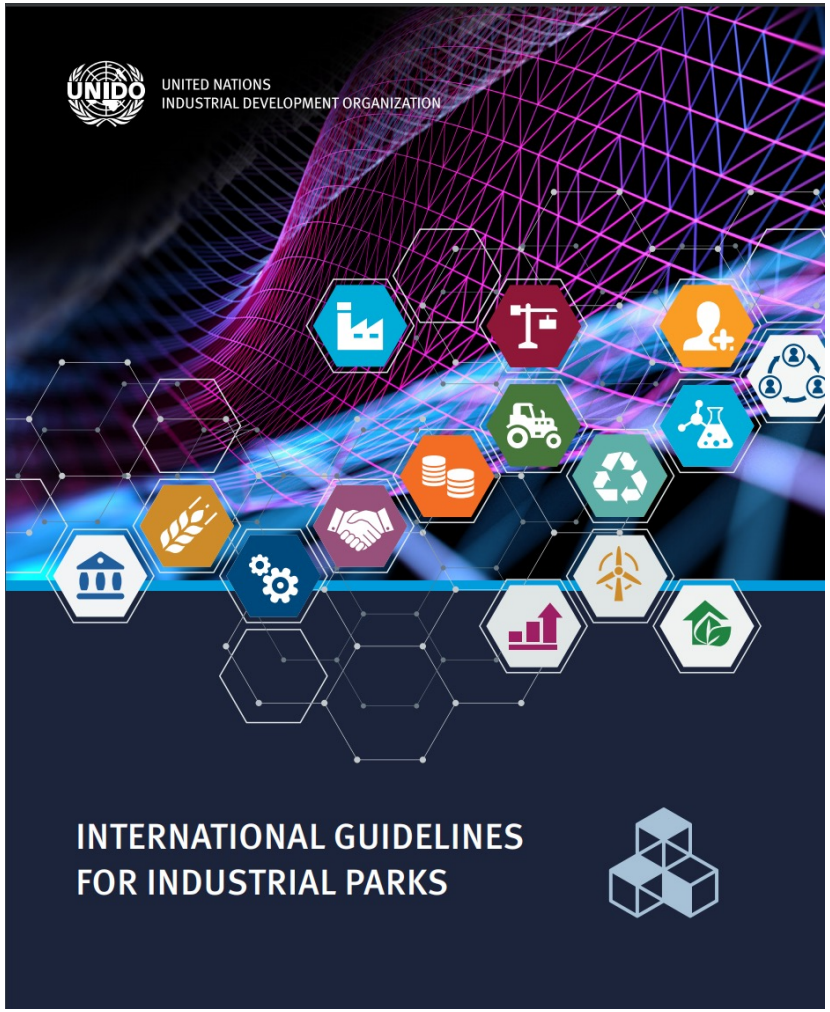


Table 18.1: Summary of significant residual environmental effects

Topic	Significant Residual Effects
Construction Phase	
Air Quality	No significant residual effects.
Biodiversity	• Habitat loss of approximately 0.95km2 within the Forest Reserve, habitat degradation within 500m of the Scheme site and spread of Alien Invasive Species within Forest Reserve; • Pollution to Lake Victoria from effluents and spread of Alien Invasive Species; • Pollution to River Namanve from effluents, siltation and increased risk of flooding and spread of Alien Invasive Species; • Disturbance to birds from human activities, habitat and flora loss and degradation and hunting and poaching of wildlife due to improved access roads; • Disturbance to mammals from human activities, habitat loss and degradation, injury or death, increase in road kills and injuries and hunting and poaching of wildlife due to improved access roads.
Geology	No significant residual effects
Greenhouse Gases	• Emissions from the construction phase of the Scheme will represent a small part of national GHG emissions, at around 0.15% of 2014 levels (including land-use change and forestry).
Heritage	No significant residual effects
Landscape and Visual	• Change in tranquillity of the landscape character due to temporary presence of HGV movements and earthworks to impact representative views from settled cultivated land viewpoints during construction and operation • Removal of the reminder of wetland vegetation and increase of anthropization of a natural area to impact visitors to the Namanve wetland during construction and operation
Noise and Vibration	No significant residual effects.
Socioeconomics	• Economic displacement upon informal land users of KIBP site; • Temporary employment generation for LAI villages and Scheme workers; • Labour and occupational health and safety risks for Scheme workers; • Increased revenue for local and regional businesses for Local and regional businesses and WAI; • Scheme-induced in-migration for LAI villages; • Traffic and other community health and safety hazards for LAI villages.
Transport and Access	No significant residual effects.
Waste and Materials	• Waste generation – depletion of landfills impacting soil, biodiversity and human receptors.
Water Resources	• Runoff of hazardous or poisonous substances from the cleaning of vehicles, machinery and equipment upon surface waters and groundwater.
Cumulative Effects	• Cumulative effects upon air quality and noise • Cumulative effects upon visual amenity • Cumulative effects upon the Forest Reserve • Cumulative effects upon flora and fauna • Cumulative effects upon external roads users

Regulations and guidelines



Points of nexus at different levels: example: Community Corrections program

Human systems focus

Impacts

Increased and more equitable human well-being (social, health, economic, spiritual, cultural)

Outcomes

Effective rehabilitation

Reduced re-offending

Fewer prisoners

Outputs

Greater proportion of community corrections rather than custodial sentences

Might be changes in behaviours (including use of resources) or access to resources

Activities

Recruitment, training and supervision of more community corrections officers, referrals to services, active supervision

Exercise

- If you were evaluating the 2022 AES conference, what might be some points of nexus between human and natural systems and potential consequences?

Questions Comments

- In your context, what are likely to be useful methods and processes?
  - Consultations, interviews, planetary boundaries, lifecycle stages, ecosystem services, issues identified in EIS/EIA, regulations and guidelines

- Are there other useful ways of identifying points of nexus and possible consequences?

3. Gather and make sense of data

Existing data

Additional data

Sensemaking

Ask people!

- Stories, narratives
- Rich Pictures
- New interviews
- Previous interviews (reported in media)
- Opinion pieces in blogs, newsletters, letters to the editor

Monitoring data identified in Environmental Impact Assessments

19.2.3.6 ESHS monitoring officers

Lagan-Dott ESHS monitoring officers will complete surveys and daily checks to confirm E&S compliance regarding aspects such as noise, air quality, geology, biodiversity, heritage, landscape and visual, transport, water quality, waste management, spill management and health and safety. Where evidence of pollution or contamination is found, ESHS monitoring officers will contact those responsible and request the issue is rectified. They will be responsible for ensuring previously identified non-conformities are completed to an appropriate standard, enlisting support from the ESHS site manager where required. The officers will have an ability to explain technical matters simply to non-scientific audiences.

Existing research

Theses and published research

MAKERERE UNIVERSITY

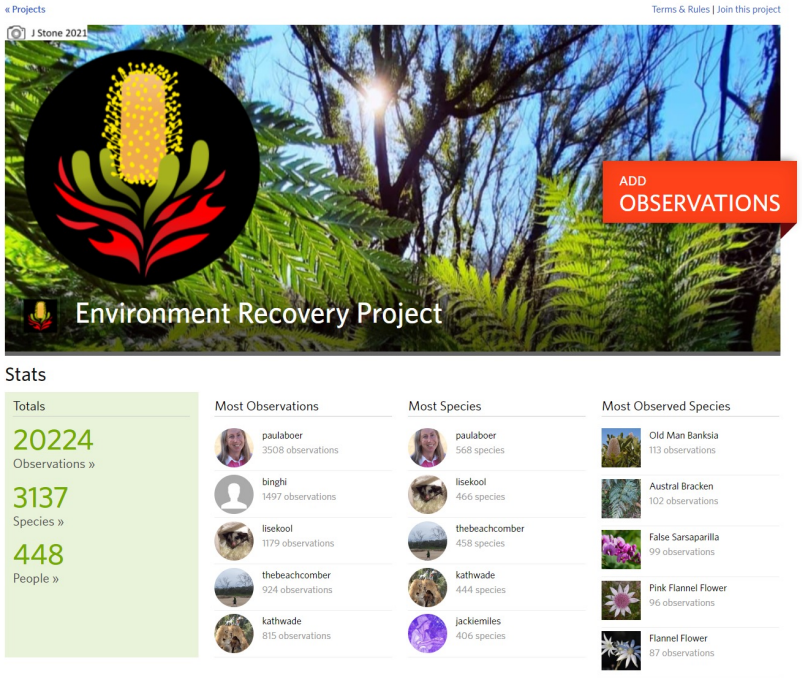
IMPACT OF TANNERY EFFLUENT DISCHARGE ON THE NABAJJUZI WETLAND ECOSYSTEM

BY

PETER SSEKAJJA – 208008730

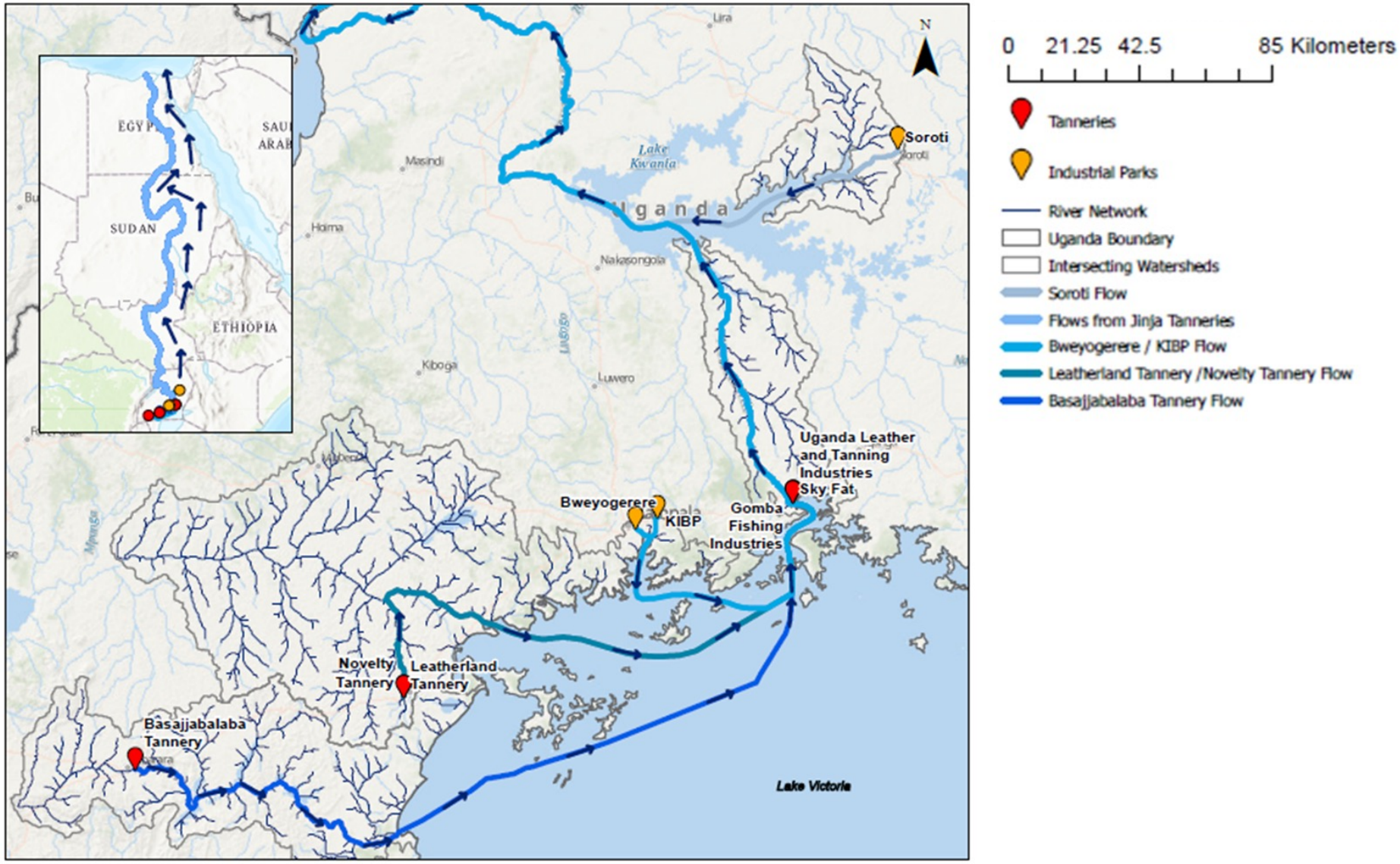
2015/HD02/578U

Citizen science



Exampl
e

Downstream Rivers Connected to Watersheds Intersecting with Ugandan Tanneries and Industrial Parks



Credits: Laura Mills, author | Data courtesy of HydroSHEDS, geoBoundaries, Earth Resources Observation and Science (EROS) Center, BetterEvaluation | Created February 18, 2021 | Updated March 4, 2021

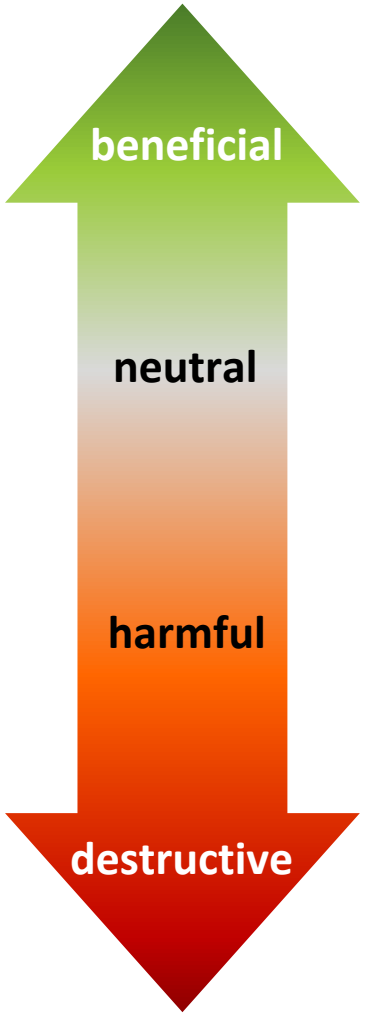
Making overall judgements

Restorative
Restores the natural environment so that it thrives

No Net Harm to the Natural System
Practices cause no harm OR restoration offsets any harm

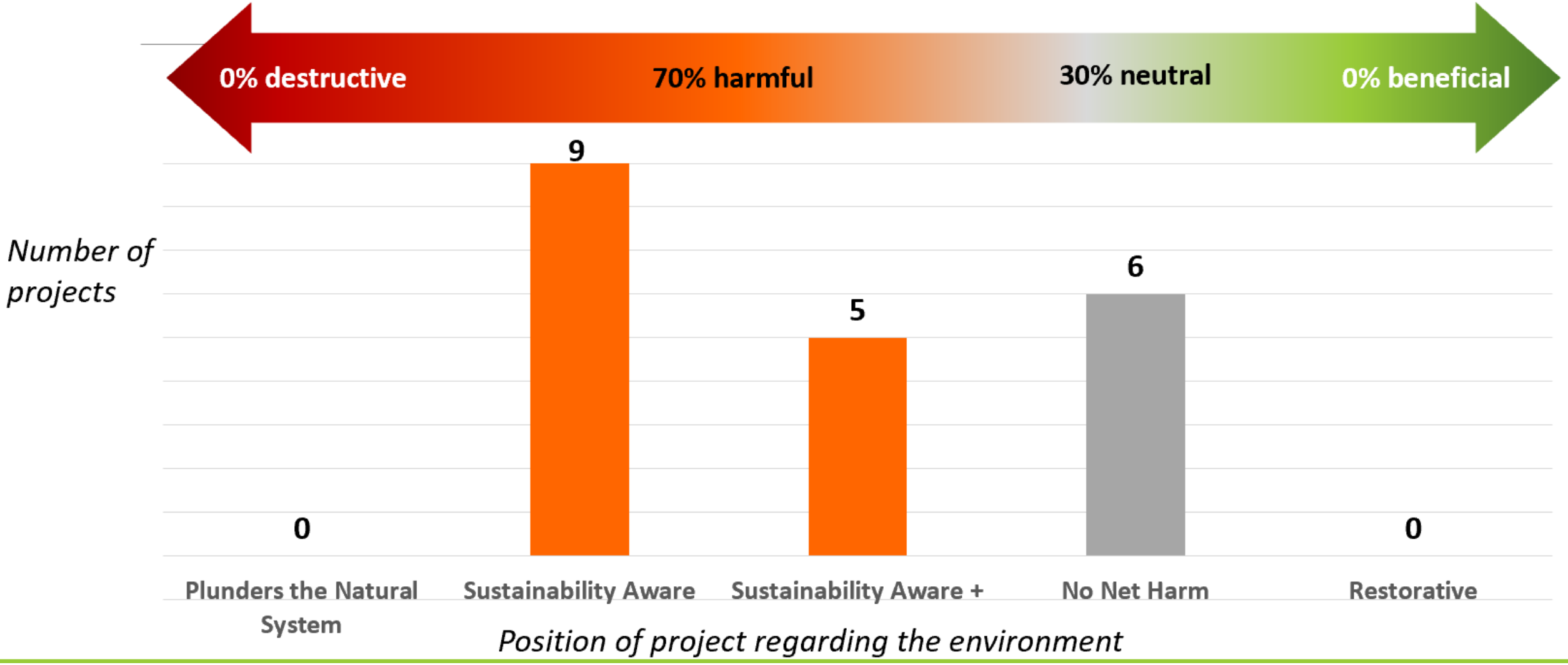
Sustainability-Aware Practice
Sustainability-aware practices limit environmental damage

Plunders the Natural System
Extractive and damaging practices cause serious harm



Existing data – eg Copernicus

An example of a synthesis by the evaluation team



Derived from IFAD IEO TE of IFAD's Support for Smallholder Farmers' Adaptation to Climate Change (2022)

Example of participatory synthesis

Step	Approach & sources	Output	Example
Nexus	Documents and consultation with science, intervention interests	Identify points of nexus	Farms and water bodies
Threats	Science and intervention interests complete brief rubric to assess risk	Identification of threats that pose the strongest threats to natural systems and provisional typology position	Water draws from aquifers, only minor threats from sediments and nutrient flows to water bodies
Interpret	All affecting interests and affected interests using rubrics to identify importance of strongest threats	Refined typology position and enhanced understanding of meaning to different interests and systems	Further depletion of aquifer without replacement will impair household water supply and quality, harm backyard gardens
So what?	Discussions and consultations with interests to understand, adapt typology rating and implications. Identify better options.	Final typology rating, text on consequences for different interests, identification of potential consensual more sustainable options	Planting indigenous shrubs and trees that better retain water, use less water themselves, provide sequestering; modest reprofiling of landscape to improve catchment

Questions Comments

- In your context, what are likely to be particularly useful ways of getting data and making sense of it?
  - Existing data
  - New data
  - Sensemaking processe

4. Implications for evaluation processes and structures

Evaluation practices and structures

Strategies for strengthening evaluation capacity to address environmental sustainability

Implications for evaluation practice and structures

- **Select and manage evaluation teams** to effectively consider environmental sustainability
- Embed processes and structures to **engage relevant expertise and representation of interests**
- Emphasise real-time evaluation and **rapid use**
- Focus on **facilitating use** of evaluation findings and processes

Possible strategies for capacity-strengthening of evaluation teams and evaluation managers

1. **Templates and guidance** - eg the updated version of the generic Key Evaluation Questions), guidance for choosing evaluation teams,
2. **Education, training and professional development** - including short courses, graduate programs, self-paced online learning for evaluators, evaluation commissioners and other people involved in evaluation (including evaluation training for natural systems specialists)
3. **Evaluation policies and standards**
4. **Expert review of TOR, designs, reports** - to inform and improve them (not at the end)
5. **Examples** - of evaluations and evaluation guidance & policies
6. **Information about methods** - especially methods unfamiliar to many evaluators
7. **Reference material** - eg environmental standards, environmental risks
8. **Networks of practice** - including VOPEs and other networks

Questions Comments

- In your context, what are likely to be important implications for evaluation practice and strengthening evaluation practice?

  - Select and manage evaluation teams , to engage relevant expertise and representation of interests, rapid use, facilitating use
  - Templates and guidance, education, training and professional development, evaluation policies and standards, expert review of TOR, designs, reports - examples , information about methods, reference material, networks of practice

Keep the conversation going:

- Join the Footprint Evaluation discussion group and sign up for the newsletter
- Share resources, examples and advice
- Visit the Footprint Evaluation page on BetterEvaluation for updated guidance and resources!

Thank you

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