

# Antecedents, moderators, and mediators in cross-domain knowledge integration and knowledge co-creation for sustainable development



Bruce Boyes  
17 August 2023

**REAL** **KM**  
**Evidence based.**  
**Practical results.**

I would like to acknowledge the Turrbal people, the traditional custodians of Meanjin (central Brisbane), the land on which this presentation is being given, and pay my respects to their Elders past and present.

<https://www.turrbal.com.au/>

# Bruce Boyes [www.bruceboyes.info](http://www.bruceboyes.info)

- Knowledge management (KM), environmental management, project management, and education professional.
- Editor, lead writer, and a director of the award-winning *RealKM Magazine* ([www.realkm.com](http://www.realkm.com)).
- Member of KM4Dev (Knowledge Management for Development community) Core Group.
- Teaching for Beijing Foreign Studies University (BFSU) CHP program in Baotou, Inner Mongolia, China.

# Qualifications and experience

- PhD candidate in Knowledge, Technology and Innovation Group at Wageningen University and Research.
- Master of Environmental Management with Distinction, which included social-ecological complexity studies.
- 30 years of experience in environmental management, with a focus on knowledge engagement in the face of complexity.
- 9 years of experience as an avionics technician, with systems training and a Certificate of Technology (Electronics).
- 7 years of teaching experience.

## In addition to RealKM, KM experience includes:

- Using agile & KM approaches to oversee an award-winning \$77.4 million western Sydney river recovery program.
- Leading a knowledge strategy process for Australia's 56 natural resource management (NRM) regional organisations.
- Pioneering multi-stakeholder and multiple knowledges approaches to support sustainable landscape management.
- Initiating and teaching two new knowledge management subjects at Shanxi University in China.

# KM4Dev [km4dev.org](http://km4dev.org)

- Founded in 2001.
- Global community of practice of primarily international development practitioners interested in KM and knowledge sharing theory, practice, and related matters.
- Activities include face-to-face and online meetings and forums.
- Two online community platforms: website with 6,022 members and email discussion group with 1,168 members.



# RealKM [realkm.com](https://realkm.com)

- Established in 2015.
- Objective of promoting and supporting evidence-based KM through sharing high-value KM and related research. This is done through publishing research summaries, feature articles, and article series.
- More than 8,000 subscribers and followers, published over 1,900 articles, and in February 2022 passed the highly significant milestone of one million total article views.

**REAL KM**  
Evidence based.  
Practical results.

# PhD research

- “Antecedents, moderators, and mediators in cross-domain knowledge integration and knowledge co-creation for sustainable development.”
- Knowledge, Technology and Innovation (KTI) department, Wageningen University & Research (WUR).
- Guided by Dr Sarah Cummings.
- Cohort of PhD candidates grew from KM4Dev Research Group.



# Context

- The distinguishing concept of the fifth generation of knowledge management (KM) for development has been identified as cross-domain knowledge integration and knowledge co-creation.
- The fifth generation features of multiple knowledges, multi-stakeholder processes, global public good and knowledge commons, emphasis on local knowledge, and emergence and complexity.
- Since the early 1990s, cross-domain knowledge integration and knowledge co-creation have been successfully applied in local-scale sustainable natural resource management (NRM) initiatives in Australia, including Bruce Boyes' work.

# Example: Sustainable Management of the Helidon Hills (1997-1998)



# Example: Sustainable Management of the Helidon Hills (1997-1998)



# Not upscaled nationally

- However, the local level activity has not been successfully upscaled.

## Australia among the world's worst on biodiversity conservation

Published: November 3, 2017 6.03am AEDT

A long-term monitoring project in Simpson Desert provides crucial information about the ecosystem. Mina Guli/Flickr, CC BY-NC

✉ Email  
🐦 Twitter 253  
📘 Facebook 1.5k  
🌐 LinkedIn

Australia is among the top seven countries worldwide responsible for 60% of the world's biodiversity loss between 1996 and 2008, according to a study published last week in the journal Nature.

### Author



**Noel D Preece**

Adjunct Principal Research Fellow  
at Charles Darwin and, James  
Cook University

<https://theconversation.com/australia-among-the-worlds-worst-on-biodiversity-conservation-86685>

# Australia ranks last for climate action among UN member countries

**Nation scores just 10 out of 100 on tackling fossil fuel emissions in new report on sustainable development goals**



📷 The Loy Yang Power Station in Traralgon, Victoria. A UN-backed report has ranked Australia last on climate action. Photograph: David Gray/Getty Images/500px Prime

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**Lisa Cox**

Thu 1 Jul 2021 19:14 AEST

<https://www.theguardian.com/environment/2021/jul/01/australia-ranks-last-for-climate-action-among-un-member-countries>

# Not upscaled globally

- In the time since the establishment of the UN in 1945, the UN system has launched seven decades of international development.
- Currently, Sustainable Development Goals (SDGs) and Agenda 2030 covering the 2015-2030 period.

## **II. Sounding the alarm: Sustainable Development Goals progress at the midpoint**

At the midpoint of the implementation of the 2030 Agenda, a sobering reality emerges: the world is falling short of meeting most of the Goals by 2030. While certain areas have witnessed progress, there remains a concerning proportion of targets that are either progressing too slowly or regressing.



2023

# The Sustainable Development Goals Report

## Special edition



<https://sdgs.un.org/sites/default/files/2023-07/The-Sustainable-Development-Goals-Report-2023.pdf>

# Antecedents, moderators, and mediators

- The lack of sustainability progress suggests antecedents, moderators, and mediators in the facilitation of outcomes.
- Gaining a better understanding of these variables is the focus of Bruce Boyes' PhD research.



# Areas of investigation

1. Cultural and societal factors.
2. Dark-side KM tactics.
3. Coloniality in knowledge and KM.

The three areas are inter-related.

# First paper published

- The first paper from this research has been published as the first paper in a special issue of KM4D journal.
- Boyes, B., S.J.R. Cummings, F. Tesfaye Habtemariam and G. Kemboi. 2023. 'We have a dream': proposing decolonization of knowledge as a sixth generation of knowledge management for sustainable development. *Special Issue on 'Uncomfortable truths in international development: approaches to the decolonization of knowledge from development practice, policy and research.'* *Knowledge Management for Development Journal* 17(1/2). 11-41.  
<https://www.km4djournal.org/index.php/km4dj/article/view/548>

# ‘We have a dream...’

- We—both the authors and the wider KM4Dev community—'have a dream': our common aspirations for a fairer development knowledge system/ecology.
- Adopting ‘We have a dream’ as the slogan of the sixth generation also reflects that this new generation was formally proposed and launched at the Dr Martin Luther King Jr Memorial Library, Washington DC, on 9 May 2023.

# A new sixth generation of KM4SD

- Paper presents a conceptual framework for a proposed new sixth generation of knowledge management for sustainable development (KM4SD).
- Uses the term 'sustainable development' rather than just 'development' to reflect the importance of development which is sustainable in terms of people and planet.
- Identifying concept of the new sixth generation of KM4SD is the 'decolonization of knowledge.'

# The six generations

- The proposed sixth generation of KM4SD follows on from the fifth generation of knowledge management for development first proposed ten years ago (Cummings, Regeer, Ho, & Zweekhorst, 2013).
- The identifying concept of the fifth generation of KM4D was then delineated as cross-domain knowledge integration and knowledge co-creation in recognition of KM4D's close affinity to transdisciplinary approaches.
- Fifth generation followed four earlier generations (Cummings et al., 2013; Ferguson & Cummings, 2008).

Cummings, S., Regeer, B. J., Ho, W. W., & Zweekhorst, M. B. (2013). Proposing a fifth generation of knowledge management for development: investigating convergence between knowledge management for development and transdisciplinary research. *Knowledge Management for Development Journal*, 9(2), 10-36. <https://km4djournal.org/index.php/km4dj/article/view/170/224>.

# The six generations

- First generation was ICT-based, with the identifying concept of 'Knowledge as a commodity.'
- Second generation was organization-based, with the identifying concept of 'Knowledge as an asset within organizations.'
- Third generation was knowledge sharing-based, with the identifying concept of 'Knowledge sharing between organizations.'
- Fourth generation was practice-based, with the identifying concept of 'Knowledge processes embedded in organizational processes.'

Ferguson, J. E., & Cummings, S. (2008). Knowledge management in practice. The case of international development. In A. Koohang, K. Harman, & J. Britz (Eds.), *Knowledge Management: Research & Application*, (pp. 75-112). Santa Rosa, CA: The Informing Science Press. <https://research.vu.nl/en/publications/knowledge-management-in-practice-the-case-of-international-develo>.

# Development of the conceptual framework


- Development of the conceptual framework for a proposed new sixth generation of KM4SD has not involved the conduct of empirical research or a typical literature review.
- Rather, it has been developed through collaborative and co-creative social processes driven by the KM4Dev community.
- These processes have been assisted by an emerging but still very small body of research in regard to the decolonization of knowledge in the context of sustainable development.



# Development of the conceptual framework

- The research-informed collaborative and co-creative social processes had their genesis in the latter part of 2019.
- At that time, the topic and issue of decolonization began to be raised in the KM4Dev discussion group, and the need for the decolonization of knowledge and KM was also independently put forward in *RealKM Magazine*.



# New initiatives begin decolonising research, libraries, and knowledge systems. But what about decolonising KM?

 Bruce Boyes · 13 Dec 2019


 2,404  5 minutes read



*This article is part of a [series of articles](#) on decolonising KM.*

In a [previous \*RealKM Magazine\* article](#), I alerted to the serious global knowledge imbalance, which extends to knowledge about knowledge management (KM). As an [article from \*The Conversation\*](#) that I quoted states:

<https://realkm.com/2019/12/13/new-initiatives-begin-decolonising-research-libraries-and-knowledge-systems-but-what-about-decolonising-km/>

# How do we fix the world's very unequal knowledge – and knowledge management – map?

 Bruce Boyes • 9 Aug 2018

 2,639  5 minutes read

*This article is part of a [series of articles](#) on decolonising KM.*

In [part 2 of our article series](#) “The case for indigenous knowledge systems and knowledge sovereignty”, Dr. Zeremariam Fre alerts to the “marginalisation of indigenous knowledge and its adherent communities in the

<https://realkm.com/2018/08/09/how-do-we-fix-the-worlds-very-unequal-knowledge-and-knowledge-management-map/>



<https://www.mdpi.com/2071-1050/10/3/682/htm>

## KM4Dev Knowledge Cafés

Date	No.	Theme	Speakers/participants
June 2020	7	Decolonization of knowledge	Bruce Boyes, Charles Dhewa
November 2020	10	Uncomfortable truths in development	Ann Hendrix-Jenkins, Kishor Pradhan, Stacey Young, Sarah Cummings
April 2021	15	Decolonization of knowledge: an action plan	KM4Dev members in Africa, Europe, and the Americas
May 2021	16	Decolonization of knowledge: an action plan	KM4Dev members in Asia, Australia, and the Middle East
June 2022	24	Different Thinking in Knowledge Management	Bruce Boyes
July 2022	25	From knowledge injustice to knowledge justice: the role of KM4Dev	Sarah Cummings, Gladys Kemboi, Jacob Loefdahl, Rocio Sanz

# Uncomfortable truths in development

- Knowledge Café 10, held in November 2020, had the title 'Uncomfortable truths in development.'
- A significant event in the development of the proposed new sixth generation of KM4SD, this Knowledge Café was inspired by an extensive 'uncomfortable truths' discussion in the KM4Dev discussion group.

# Uncomfortable truths in development

- This discussion had in turn been triggered by Ann Hendrix-Jenkins posting her confronting article ‘What’s killing us in international NGOs?’ to the group.
- Hendrix-Jenkins strongly criticised what she saw as international development’s ‘supremacy culture as a product of colonialism, capitalism and geopolitics.’
- The ‘Uncomfortable truths in development’ Knowledge Café stimulated the writing of a series of equally thought-provoking blog posts.

# Uncomfortable truths in development

- ‘Coloniality and wilful hermeneutic ignorance’ (Cummings, 2020).
- ‘Sham of dignity and equality in development’ by Pradhan (2020).
- ‘Committed development workers: you are not alone’ (Hendrix-Jenkins, 2020).
- ‘We can do better’ (Young, 2021).
- ‘Energizing pathways for decolonizing knowledge in the Global South’ (Dhewa, 2021).
- ‘Towards a feminist knowledge management’ by Harish (2021).

# Development of the conceptual framework

- The ideas developed and issues debated in KM4Dev Knowledge Cafés 10, 15, and 16 and the blog posts inspired by Knowledge Café 10 have informed the features of the sixth generation of KM4SD.



# Sixth generation of KM4SD: Decolonization of knowledge

'We have a dream...'

(Bruce Boyes, Sarah Cummings, Fitsum Tesfaye Habtemariam and Gladys Kemboi)



Epistemic justice



Anti-racism



Indigenous and local knowledge



Diversity in KM approaches



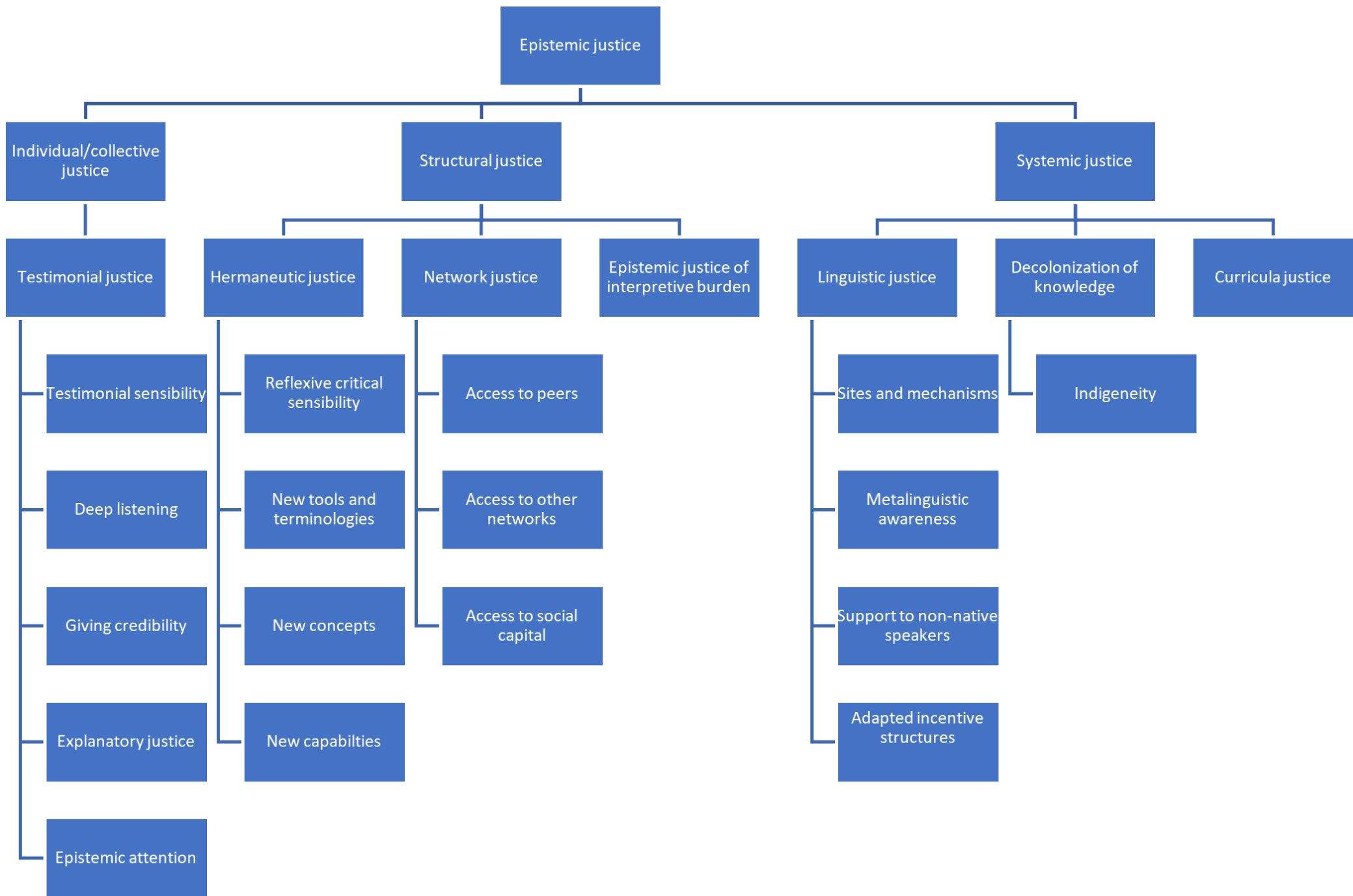
New knowledge partnerships



New knowledge practices

# Epistemic justice

- Building on research in other fields of academia and practice, a holistic, action-oriented framework of epistemic justice, namely fair treatment in knowledge-related and communicative practices, has been proposed for sustainable development and beyond.
- The new framework of epistemic justice is focused on ‘positive’ justice to avoid resistance and to inform effective action.
- Cummings, S., Dhewa, C., Kemboi, G., & Young, S. (2023). Doing epistemic justice in sustainable development: Applying the philosophical concept of epistemic injustice to the real world. *Sustainable Development*, 1-13. <https://doi.org/10.1002/sd.2497>.



# Anti-racism

- There is currently a notable concern and active dialogue within the international development sector regarding the potential ways in which racism and White supremacy culture, including the influences of colonialism, coloniality (and its association with modernity), and racial dynamics (both systemic and interpersonal), may subtly manifest as underlying issues in the sector's culture, systems, processes, and narratives.

<b>Dimension of racism</b>	<b>Definition</b>
<b>Colour-blindness</b>	Silence on and blindness to race, racism, and racial difference.
<b>White Gaze</b>	Sets Whiteness, Europe, and the West as the standard of the modern world, that 'others' are compared against and found lacking, inferior and wanting.
<b>Saviourism</b>	A belief that White people can save Black people and people of colour, in particular women and children (from poverty, climate change and other development challenges).
<b>Eurocentrism</b>	Imposition of European/Western thought and leadership as the universal norm to benefit all.
<b>Neutrality</b>	Discusses development, partnerships (and relationships) as if they are politically, socially, economically neutral.
<b>Exclusion</b>	Exclusion and erasure of the multiple ways Black and Indigenous people and people of colour protect the environment, create jobs, and improved health care, etc.

Lartey, N. (2023). The anti-racist narratives review of the International Institute for Environment and Development, UK. *Knowledge Management for Development Journal* 17(1/2): 181-196.  
<https://km4djournal.org/index.php/km4dj/article/view/541/666>.

# Indigenous and local knowledge (ILK)

- Despite the diversity within Indigenous and local knowledge systems among peoples and cultures, there are some common characteristics such as that knowledge emerges from a close association with the land, is passed down through generations and often integrates culture, practice and beliefs.
- ILK is making a significant contribution to the management of natural landscapes, and also contributes to disaster preparedness and resilience.

# Diversity in KM approaches

- What is known as KM originated in a relatively small part of the world with generally uniform culture and values.
- While much of the rest of the world may not have practiced KM as such, it has been successfully managing knowledge for a very long time and has potentially learnt much in the process.
- Given this, it would be very wrong to assume that what is known as KM constitutes all there is to know about managing knowledge or has even found the best ways of doing it.



<https://realkm.com/2023/04/23/video-further-reading-what-knowledge-managers-can-learn-about-tkm-from-outside-the-km-field/>



# Knowledge partnerships

- Many development sectors in Global South and North countries have already made significant progress in forging new and more equal knowledge partnerships.
- Communities of practice are an important tool for facilitating successful knowledge partnerships.
- KM4Dev is an outstanding and ground-breaking example of such a community, building and sustaining knowledge partnerships and productive personal and professional relationships in a virtual space with limited face-to-face interaction over two decades.

# New knowledge practices

1. The design and implementation of programs and strategies that are evidence-based will support decolonization of knowledge, harnessing the power of data and knowledge to make better decisions.
2. New types of knowledge practice will support community-led social and behaviour change strategies, in recognition of the fact that achieving the SDGs requires not only changes in policies and systems but also changes in people's attitudes, behaviours, and practices.

# New knowledge practices

3. Decolonization of knowledge will require a greater emphasis on facilitation techniques. Facilitation is defined as providing assistance in helping individuals engage in their optimal thinking and practice by encouraging full participation, fostering mutual understanding, and nurturing a sense of shared responsibility.

# Next steps

My 3 inter-related areas of investigation:

1. Cultural and societal factors.
2. Dark-side KM tactics.
3. Coloniality in knowledge and KM.

# Cultural and societal factors



<https://realkm.com/2018/03/23/km-standard-controversy-lessons-from-the-environment-sector-in-regard-to-open-inclusive-participatory-processes/>

FEATURE STORY

# Restoring China's Loess Plateau

March 15, 2007

<https://www.worldbank.org/en/news/feature/2007/03/15/restoring-chinas-loess-plateau>



<https://realkm.com/2021/08/17/top-down-vs-collaborative-consensus-using-the-most-appropriate-approach-for-the-decision-making-level/>



# Dark-side KM tactics

- Alter, S. (2006, January). Goals and tactics on the dark side of knowledge management. In *Proceedings of the 39th Annual Hawaii International Conference on System Sciences* (HICSS'06) (Vol. 7, pp. 144a-144a). IEEE.  
[https://www.researchgate.net/publication/4216333\\_Goals\\_and\\_Tactics\\_on\\_the\\_Dark\\_Side\\_of\\_Knowledge\\_Management](https://www.researchgate.net/publication/4216333_Goals_and_Tactics_on_the_Dark_Side_of_Knowledge_Management)

## DAM REPORTS

# Government agency to be grilled on Warragamba wall

Angus Thompson

Officials from the NSW government-owned water agency are expected to face a public grilling in the new year over allegations researchers' reports were altered to downgrade the impacts the Warragamba Dam wall-raising will likely have on threatened species.

The Department of Planning, Industry and Environment has also sent a please explain to WaterNSW following evidence in a parliamentary inquiry the wording in expert reports was changed to lessen the effects on flora and fauna, including the critically endangered regent honeyeater.

Responding to a motion to investigate the veracity of the environmental assessments of the project, Liberal MLC Shayne Mallard told the upper house last month the government "shares the concerns about the allegations" and wanted to seek answers.

"They are serious allegations that have now been aired in this house as well as in the inquiry and in the media. I have sought a two-hour hearing that would allow government agencies to respond to those allegations," Mr Mallard said.

WaterNSW has signalled its intention to have officials attend, with a hearing likely to be scheduled for early next year.

"WaterNSW understands the parliamentary inquiry into the proposed Warragamba wall raising will reconvene in 2022 and looks forward to participating as required," an agency spokesman said, adding WaterNSW was responding to DPIE regarding the allegations raised in the inquiry.

The NSW government is proposing the \$1.6 billion infrastruc-



Concerns about raising the dam wall are increasing. Photos: James Brickwood

ture project to protect residents in the Hawkesbury-Nepean Valley from flooding, despite growing opposition from Aboriginal groups, the insurance industry and environmentalists about the inundation of the Burrigorang Valley and Blue Mountains World Heritage area.

Liberal MP Nathaniel Smith, whose Wollondilly electorate takes in the affected area, has also become the first government MP to voice outright opposition to the project after taking to social media to criticise the impact it would have on the local visitor economy and sensitive ecological area.

"Much of this land is irreplaceable and priceless," Mr Smith said on Facebook. Wollondilly and Blue

Mountains councils have repeatedly declared their opposition, while Hawkesbury Council – which would potentially benefit from raising the wall by more than 14 metres – recently voted against a motion to support it.

The *Herald* sought comment regarding Mr Smith's position from the office of Western Sydney Minister Stuart Ayres, who is overseeing the proposal, however received no response.

Premier Dominic Perrottet recently appeared to walk back the government's position in telling a budget estimates hearing the state was committed to keeping residents on the floodplain safe, but alternatives to raising the wall should be considered.

His comment preceded a decision by Planning Minister Rob Stokes not to give the proposal a "critical" status that would afford it certain legal privileges.

An inquiry previously heard Rachel Musgrave, an ecologist assessing the toll that raising the dam wall would have on threatened species, was so concerned about changes made to her findings for WaterNSW that she self-reported to government officials.

Another expert, Ross Crates, hired by SMEC, the consultancy outsourced by WaterNSW to gauge the threat the project posed to the critically endangered regent honeyeater, said there had been "significant editing" to his work.



*The*  
**BIGGEST  
ESTATE  
on EARTH**  
HOW ABORIGINES MADE AUSTRALIA

BILL GAMMAGE