

Building resilience of remote Indigenous communities across northern Australia

Kamaljit K Sangha

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Darwin Centre for Bushfire Research, CDU



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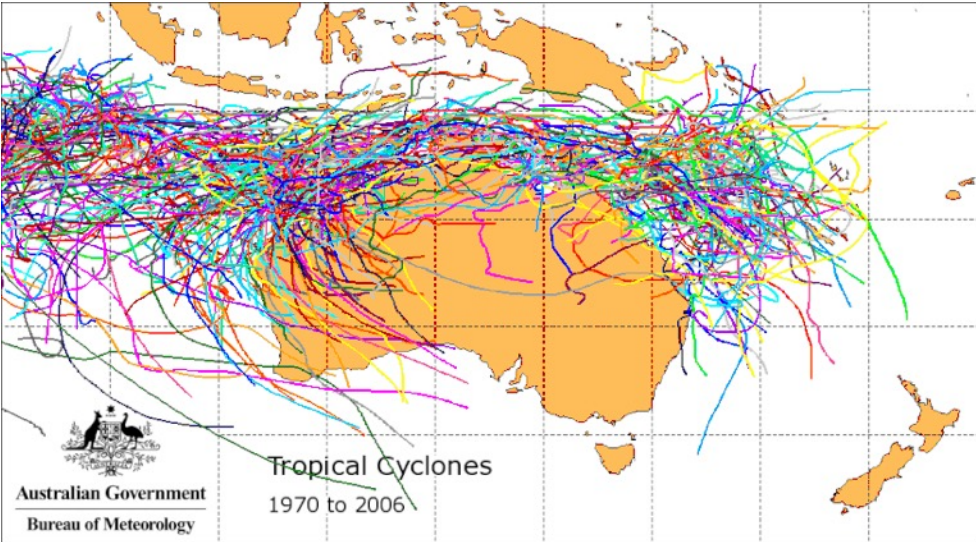
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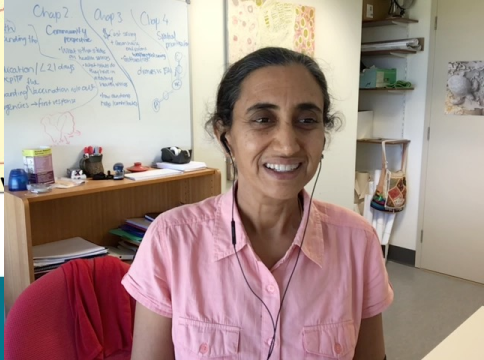
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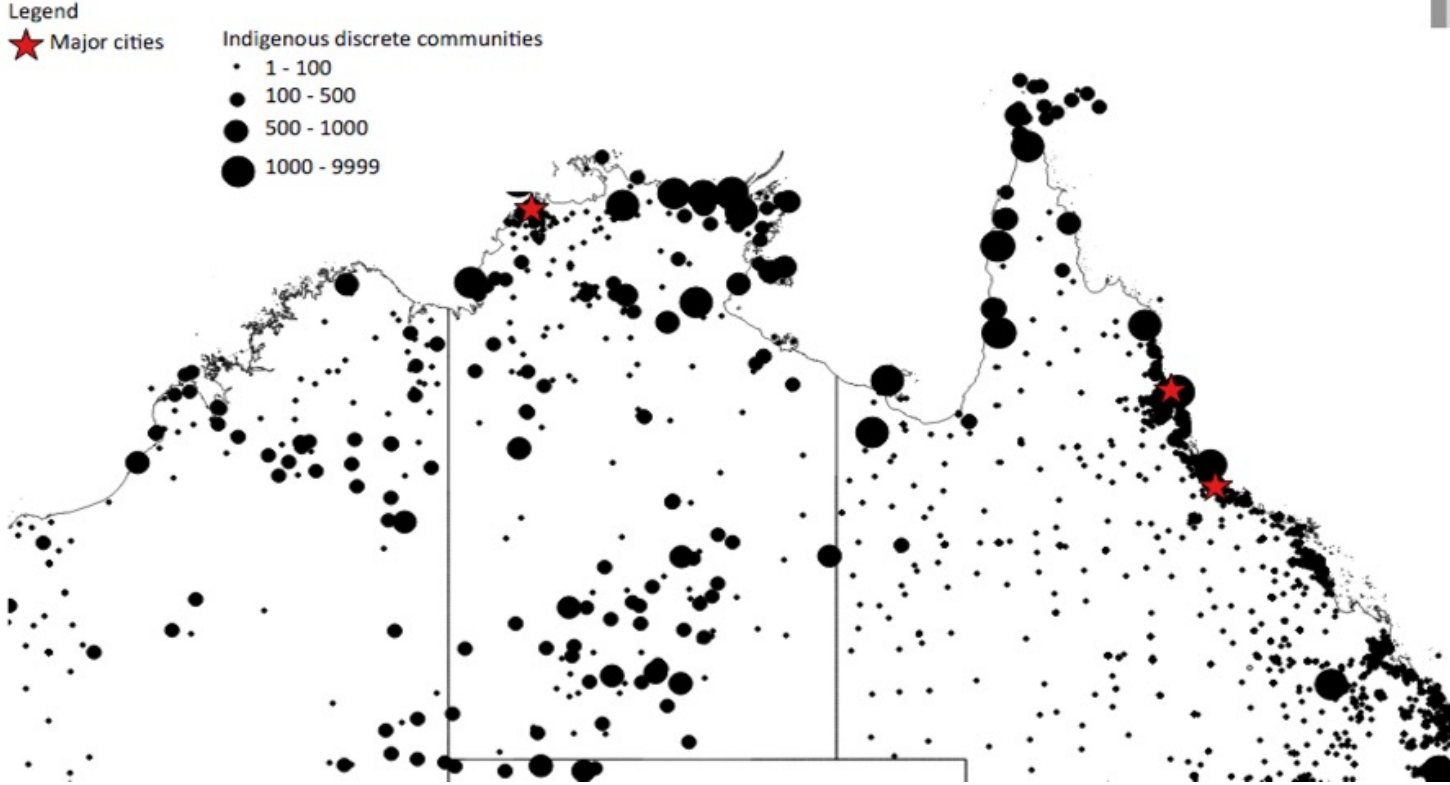
A wide range of Natural Disasters



Courtesy: NTES



Distribution of Indigenous peoples across the landscape

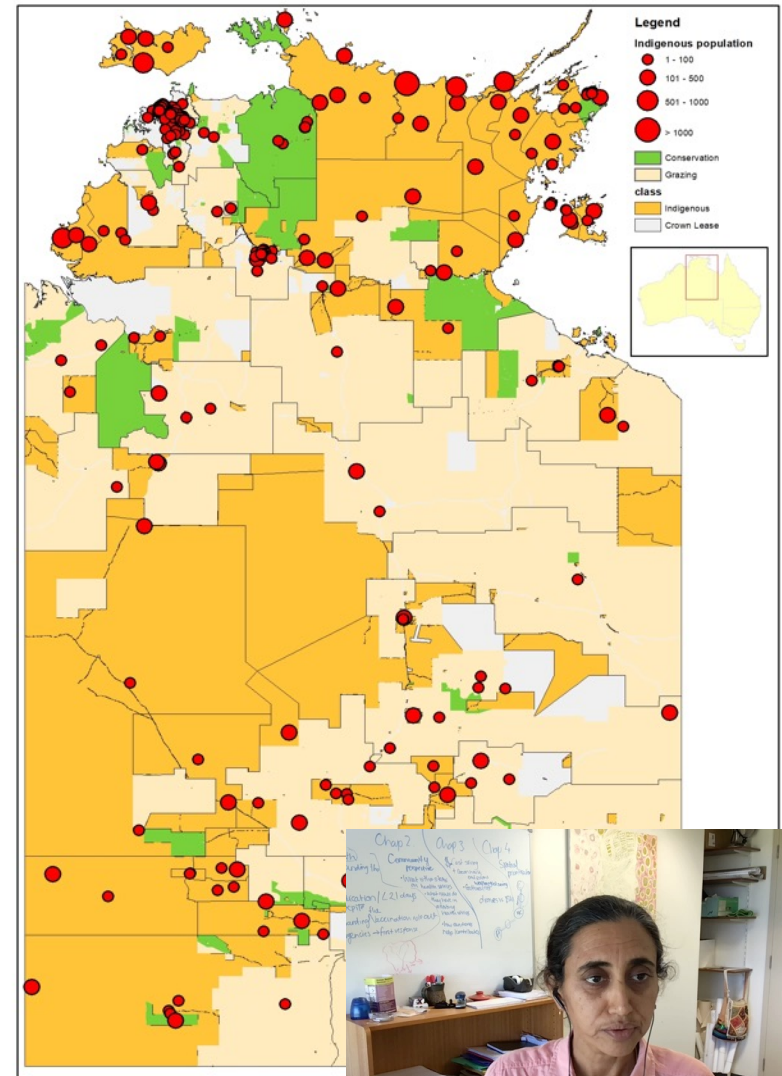


Resources to manage NDs are poor across the north!



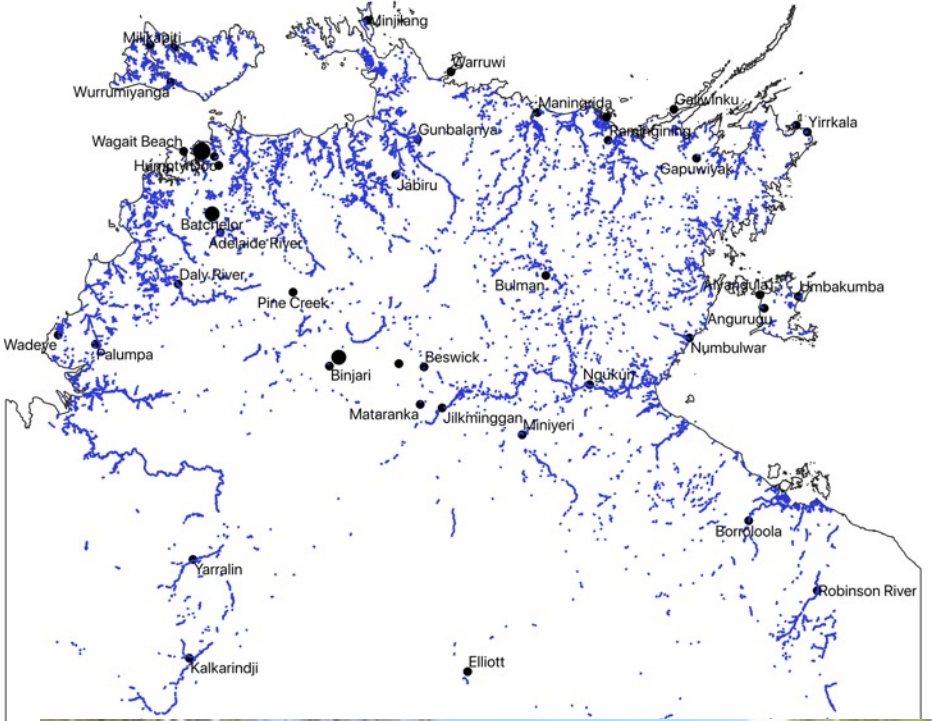
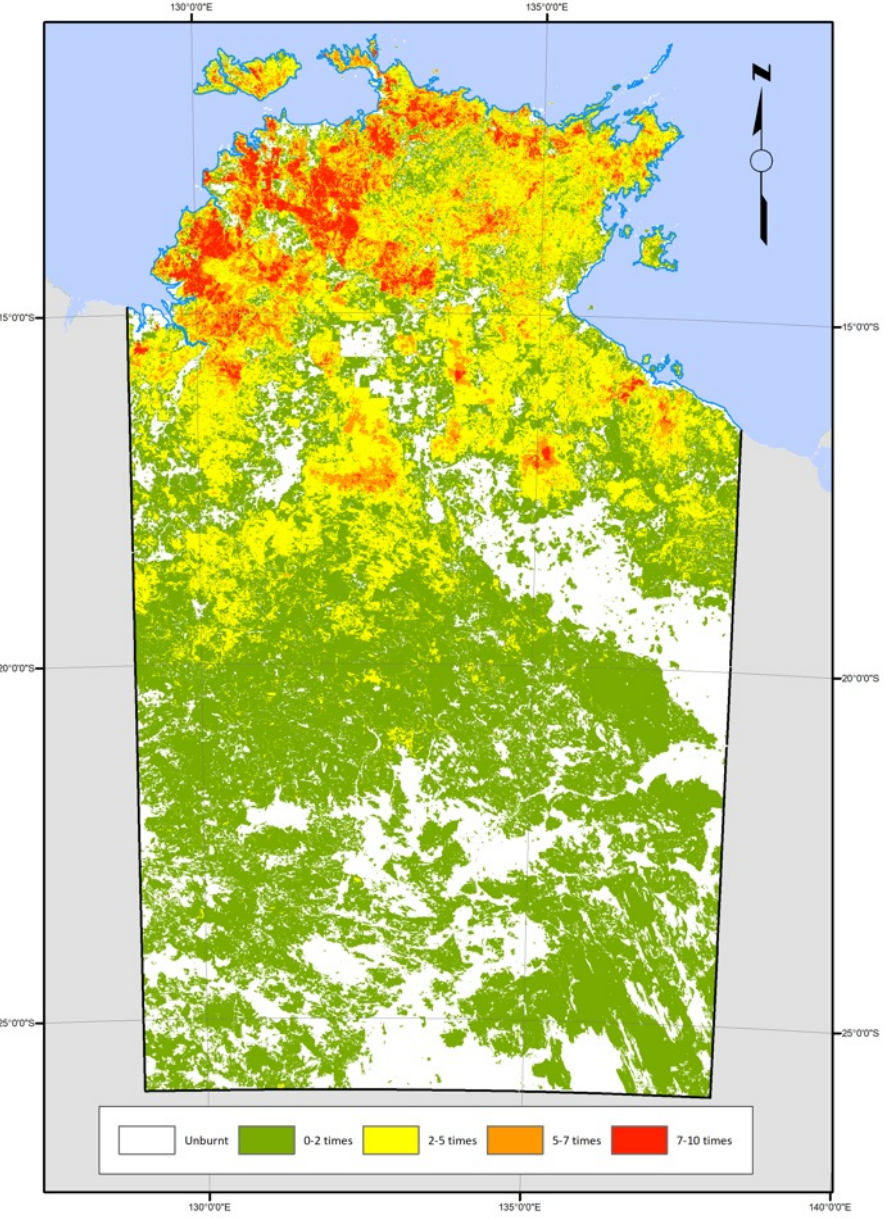
The NT context:

- Total population 247,000
- Indigenous population 74,000 (~30% of total pop)
- 96 Major and minor communities with >600 outstations – dispersed across the landscape
- >20 coastal communities experiencing floods/cyclones/ bushfires, throughout the year
- Many intangible losses

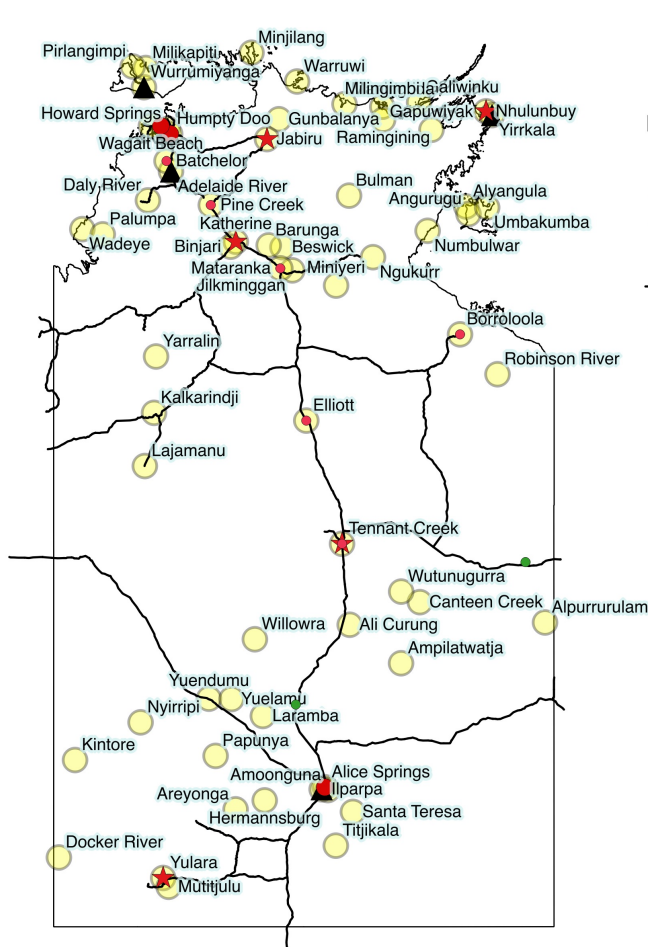


Average fire frequency from 2009-2018 in the NT

Flooding – annual in coastal remote communities

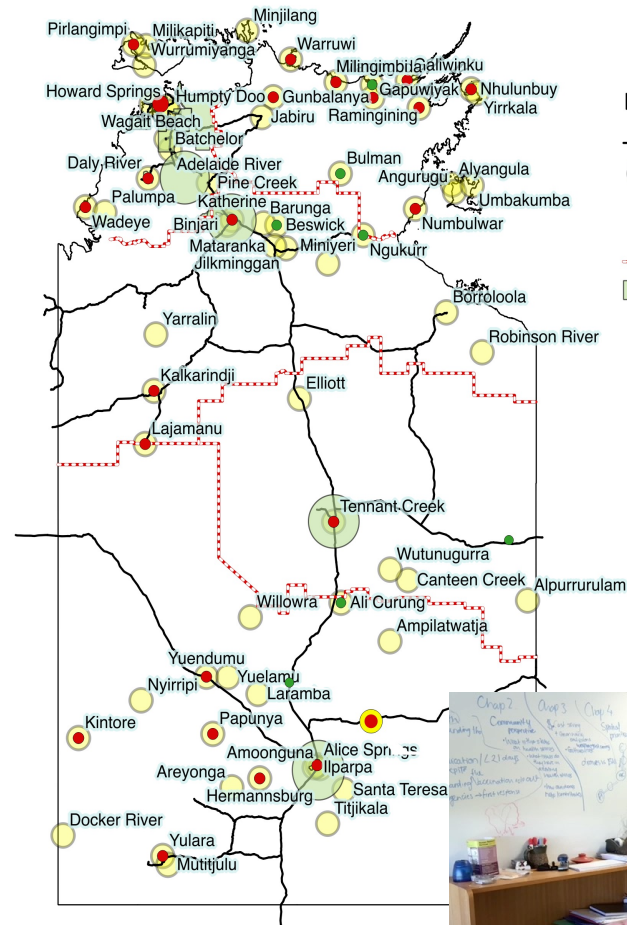


EM related resources: NTFRS and NTES in the NT



Legend

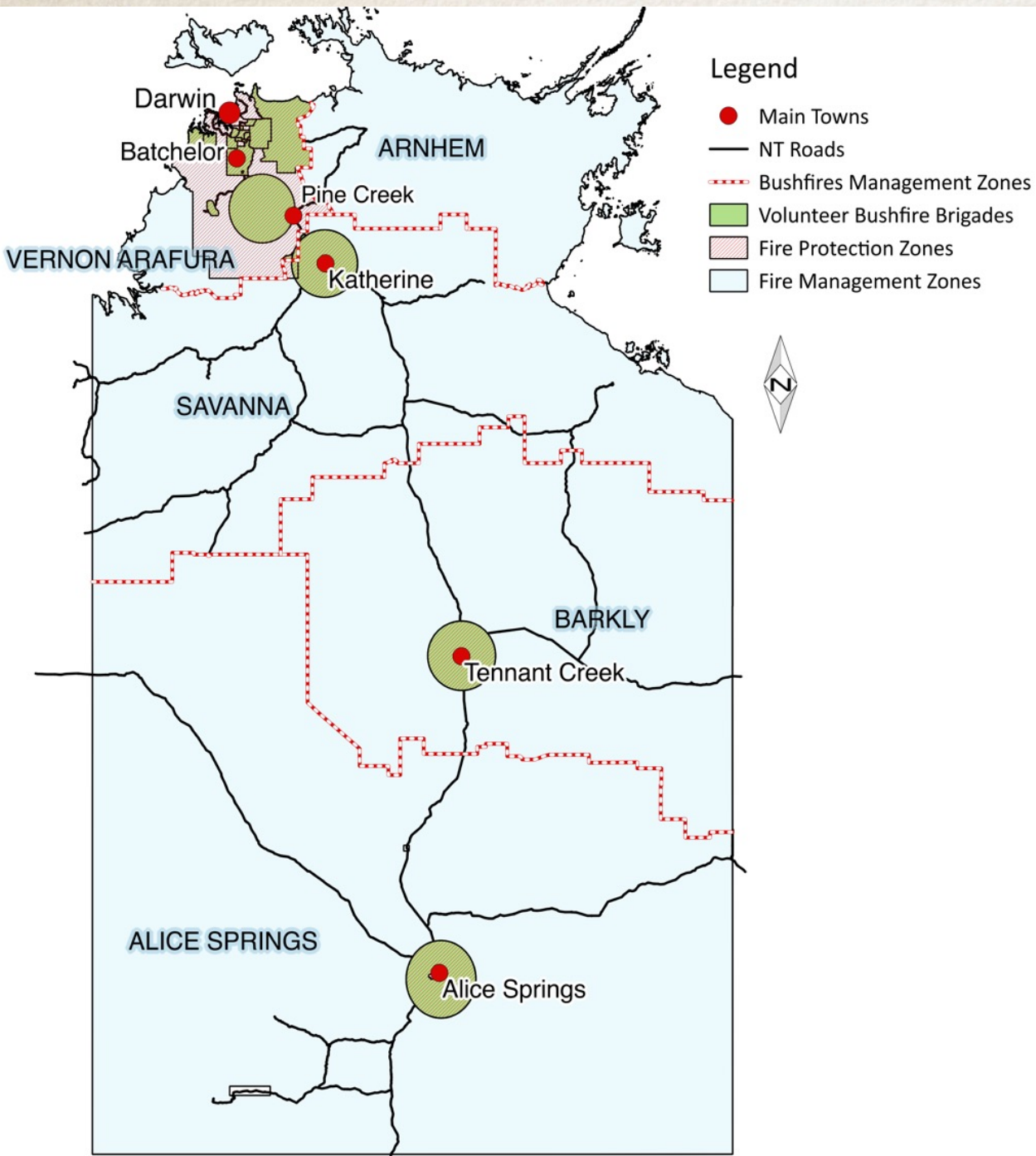
- Fire and Emergency Respor
- Career Fire Station
- ★ Auxillary/career Station
- ▲ Volunteer Fire Brigade
- NT Roads
- Towns and Communities



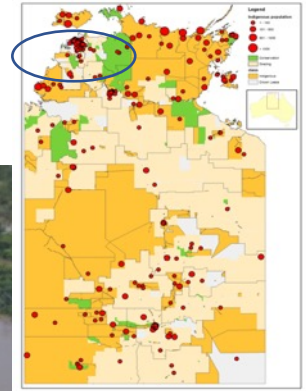
Legend

- NT main roads
- NT main towns and communities
- NTES Established Units
- NTES Emergency Response Group
- Bushfires NT Management Zone
- Volunteer Bushfire Brigades





DALY RIVER COMMUNITY CASE STUDY - FLOODS



- 1) Average annual cost of floods: \$3.8million
- 2) Across the NT, annual cost of floods and monsoon troughs: \$7.5million
- 3) Over the last 9 years: floods alone have costed million



TOTAL COST OF ND-RELATED LOSSES FOR THE NT = \$156M/YR

Natural Hazards

<https://doi.org/10.1007/s11069-021-04692-y>

ORIGINAL PAPER

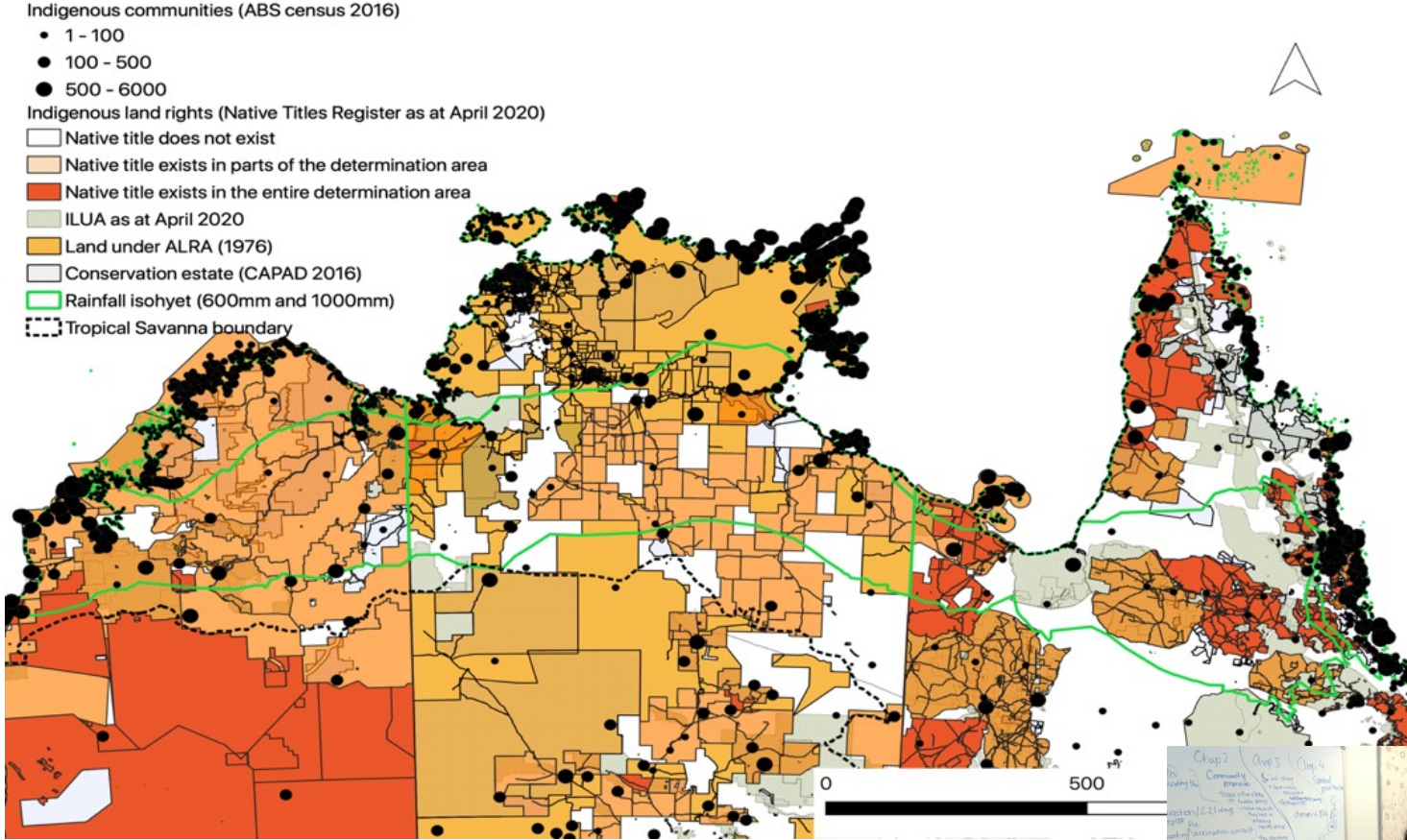


Assessing the real costs of natural hazard-induced disasters: A case study from Australia's Northern Territory

Kamaljit K. Sangha^{1,2}  · Jeremy Russell-Smith^{1,2} · Andrew C. Edwards^{1,2} ·
Akhilesh Surjan³



Possible solution: Involving Indigenous stakeholders in EM arrangements



Economic Rationale — Indigenous involvement in the EM sector



Costs for involving Indigenous stakeholders in EM arrangements across northern Australia

	NT	Qld	WA
Number of IRGs	31	17	12
1. Cost of employing two EM personnel (1 male and 1 female) half-time per IRG @ \$71,000 per yr	2,201,000	1,207,000	852,000
1. Cost of a vehicle (@\$70,000) for each IRG, amortised over 5 years	434,000	238,000	168,000
1. Operational costs (@\$30,000 per yr)	930,000	510,000	360,000
Total costs (\$/yr)	3,565,000	1,955,000	1,380,000
\$/yr (values in 2021)	6,900,000		

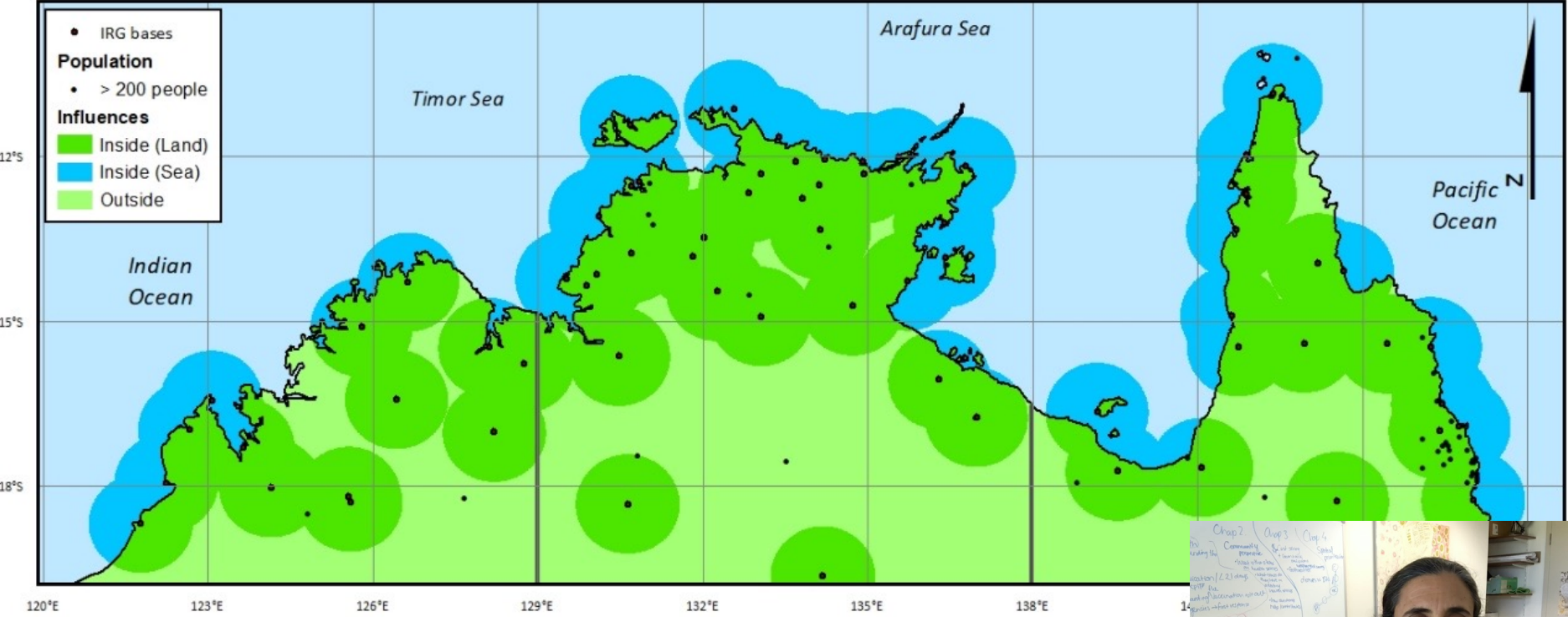


Cost-savings: over \$9 million per annum...

	NT	Qld	WA
• Welfare cost savings (applying 0.5 average welfare costs for Indigenous people)	2,250,414	731,119	665,520
• Pride and self-respect (\$15,141/person/yr)	938,742	514,794	363,384
• Domestic violence related cost savings (\$20,950/person/yr)	1,298,900	712,300	502,800
• Incarceration related cost savings (average cost of \$8,978/person/yr)	556,636	305,252	215,472
• Total cost savings for each State/Territory (\$ per yr)	5,044,692	2,263,465	1,747,176
Total savings (\$ per yr)		9,055,3	



Communities covered by the Indigenous Rangers Groups by their involvement in the EM sector



Building collaborations...



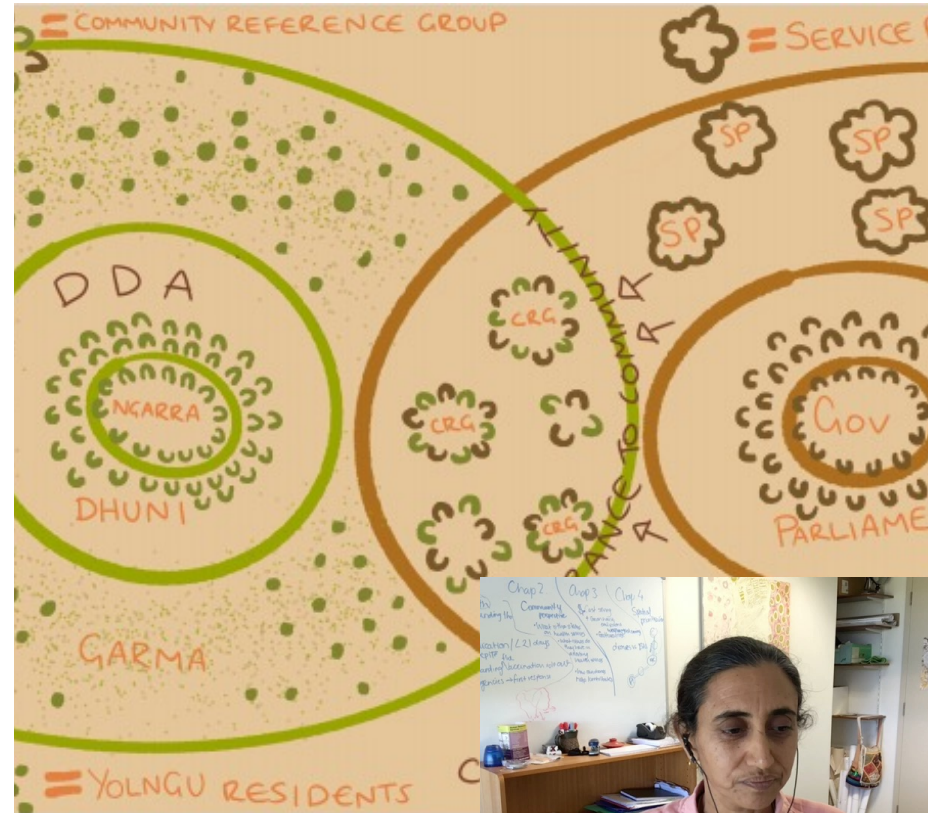
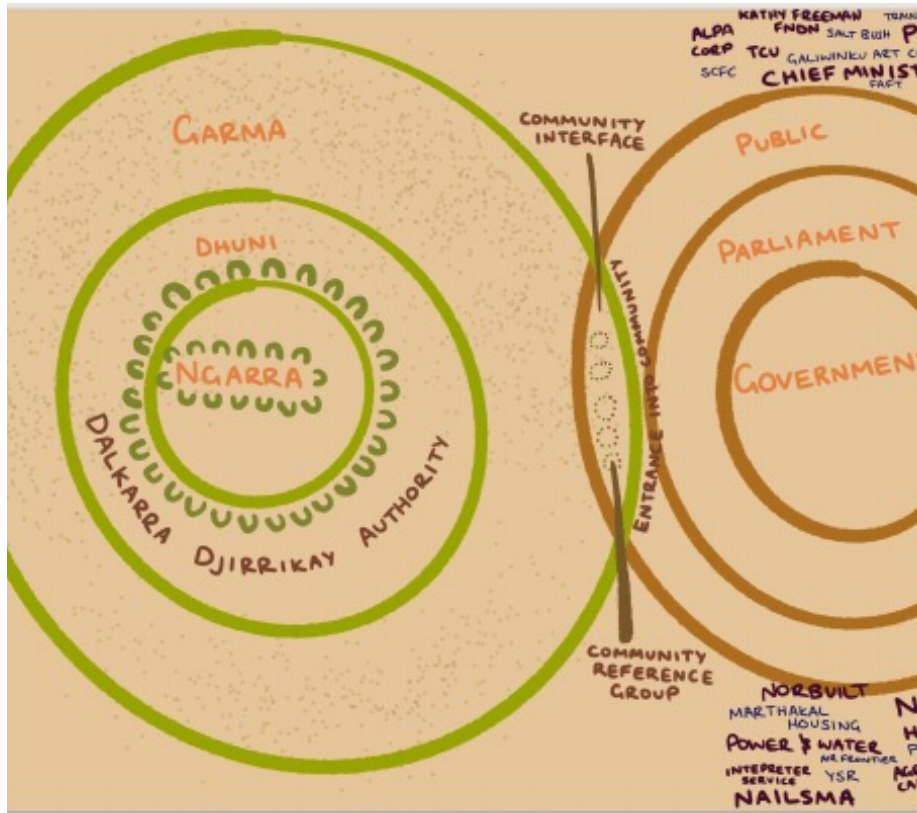
Understanding different perspectives...and finding ways to work together!

- Indigenous perspectives

- EM perspectives



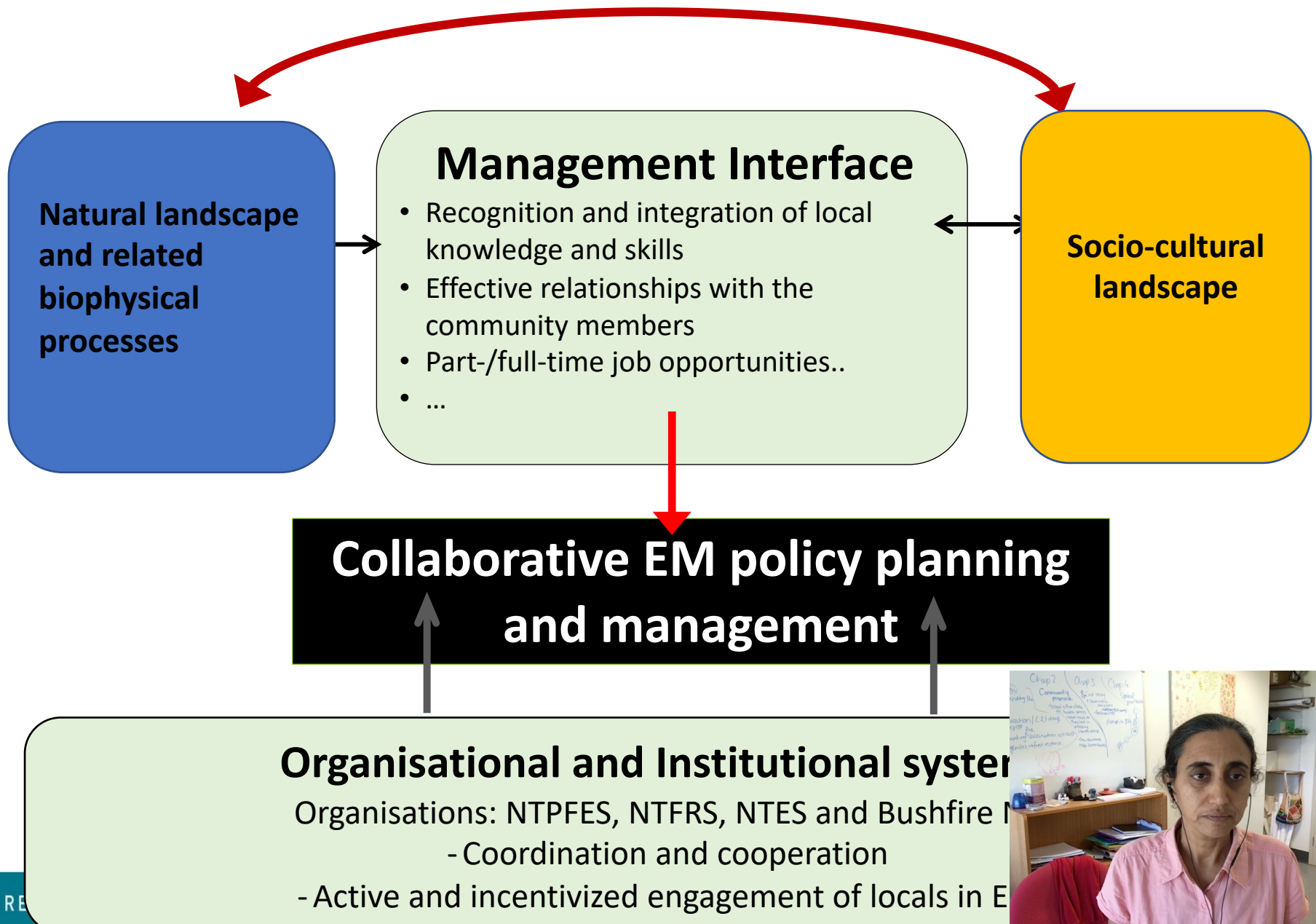
Strengthening and supporting local governance systems



Need to develop
fee-for-service or
other
incentivized
models to sustain
community
involvement in
the EM
arrangements
over long-term



A joint platform to manage natural hazards in remote locations



Thanks!



- Sangha, K.K., Russell-Smith, J., Evans, J., Edwards, A., 2020. Methodological approaches and challenges: environmental losses from natural disasters. *International Journal of Disaster Risk Reduction* 49, 1016.
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Any questions?

Email:
Kamaljit.Sangha@
cdu.edu.au

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