

Achieving No Net Loss for people and biodiversity

Victoria Griffiths

DPhil Student

Oxford University



VicGriffiths1

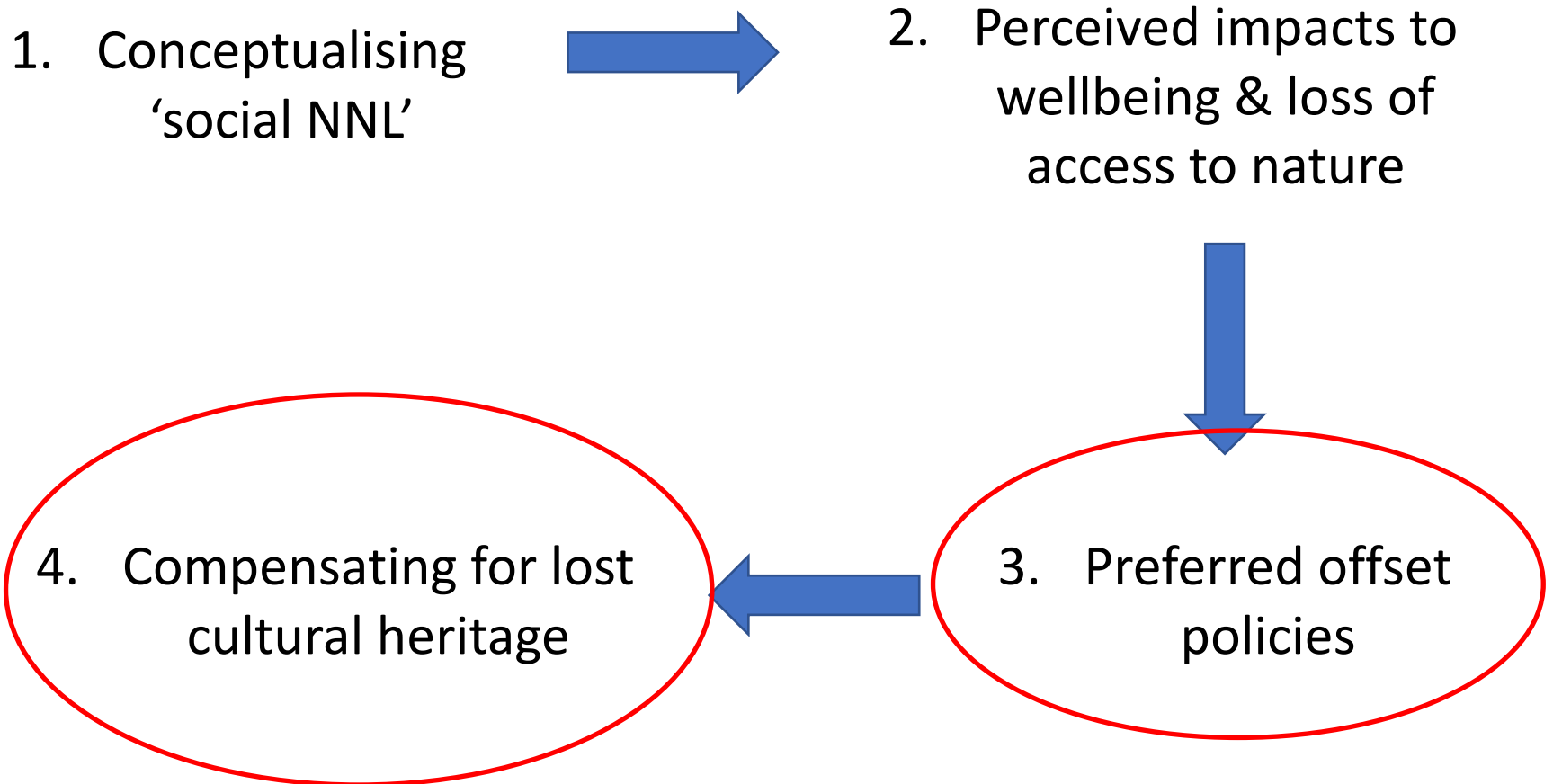


Research aim

- Expand NNL to include people's social and cultural values associated with biodiversity
- NNL for both people and nature?
- NNL policies: achieve a **NNL of biodiversity** and a **social NNL**



Research questions



Case studies



Case studies



European Investment Bank © EIB Photolibrary

Bujagali HPP (250 MW)

- Completed in 2012
- Predominantly World Bank funded
- Flooded Bujagali Falls



Isimba HPP (183.2 MW)

- Downstream of Bujagali
- Under construction (2018)
- Chinese and Ugandan Governments

Case studies

Kalagala Offset

- Offset includes:
 - Kalagala Falls & Itanda Rapids
 - No power generation activities
 - Develop tourism activities at the falls
 - Conserve Mabira & 6 other CFRs
- Isimba impact?



https://en.wikipedia.org/wiki/Mabira_Forest





Nile
Victoria

Isimba Dam (2)

Nawanyago

Buyabi

Kalagala
Offset
Catchment

Buwenge

Kalagala Falls

Itanda Rapids

Mutai

Bujagali Dam (1)

Kasowa

Magamaga

Kakira

Mabira Central Forest Reserve

Namataba

Jinja

Lake Victoria

© 2015 Google
Image Landsat

Google earth

16.2 km



Study area



Rapids, Rafting, Bujagali & Isimba dams



Study area

Agriculture



Study area



Fishing

Study area



Brick making



Sand mining

Study area



Central Forest Reserves (CFRs)



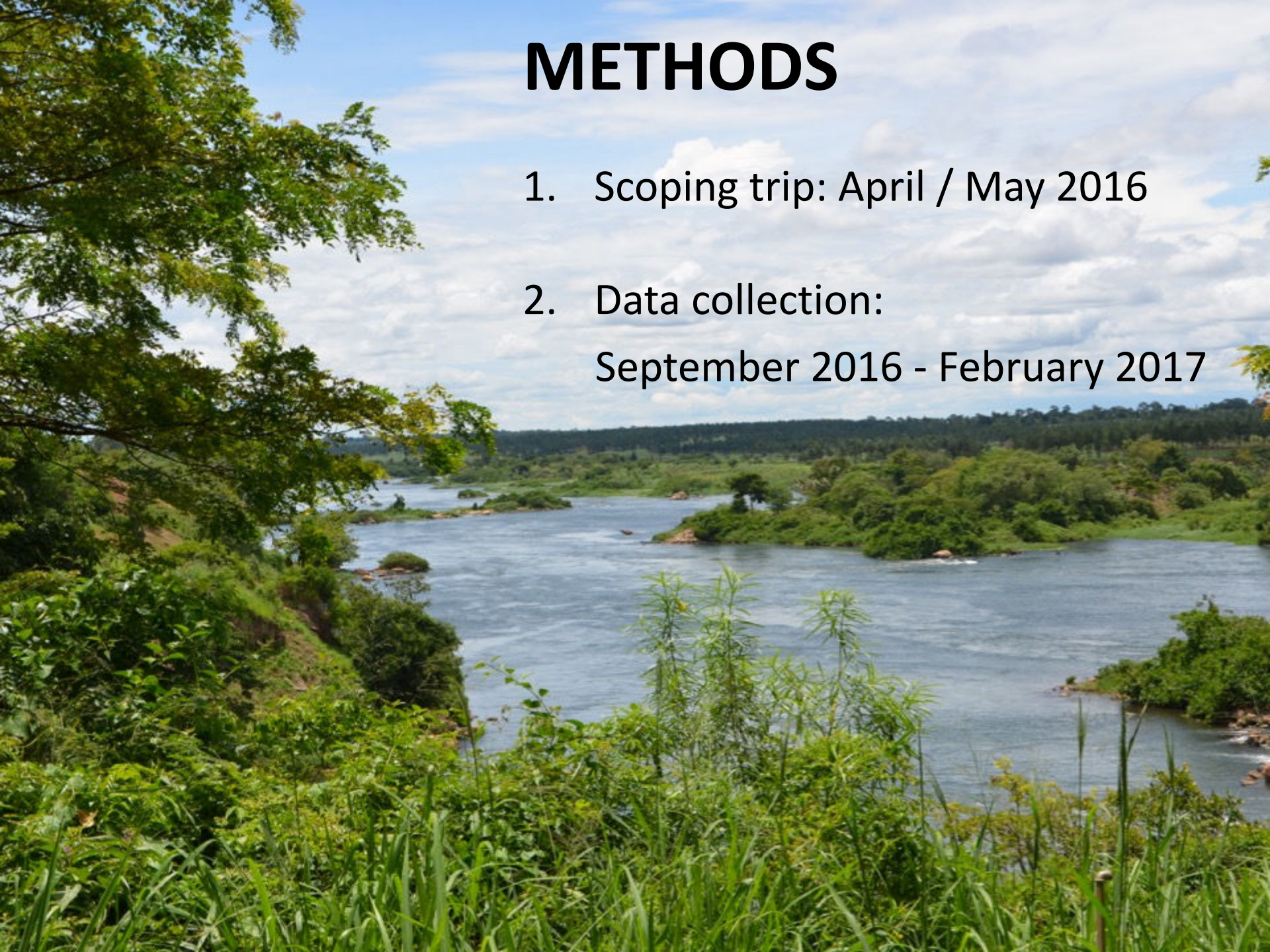
Study area

Cultural and spiritual values

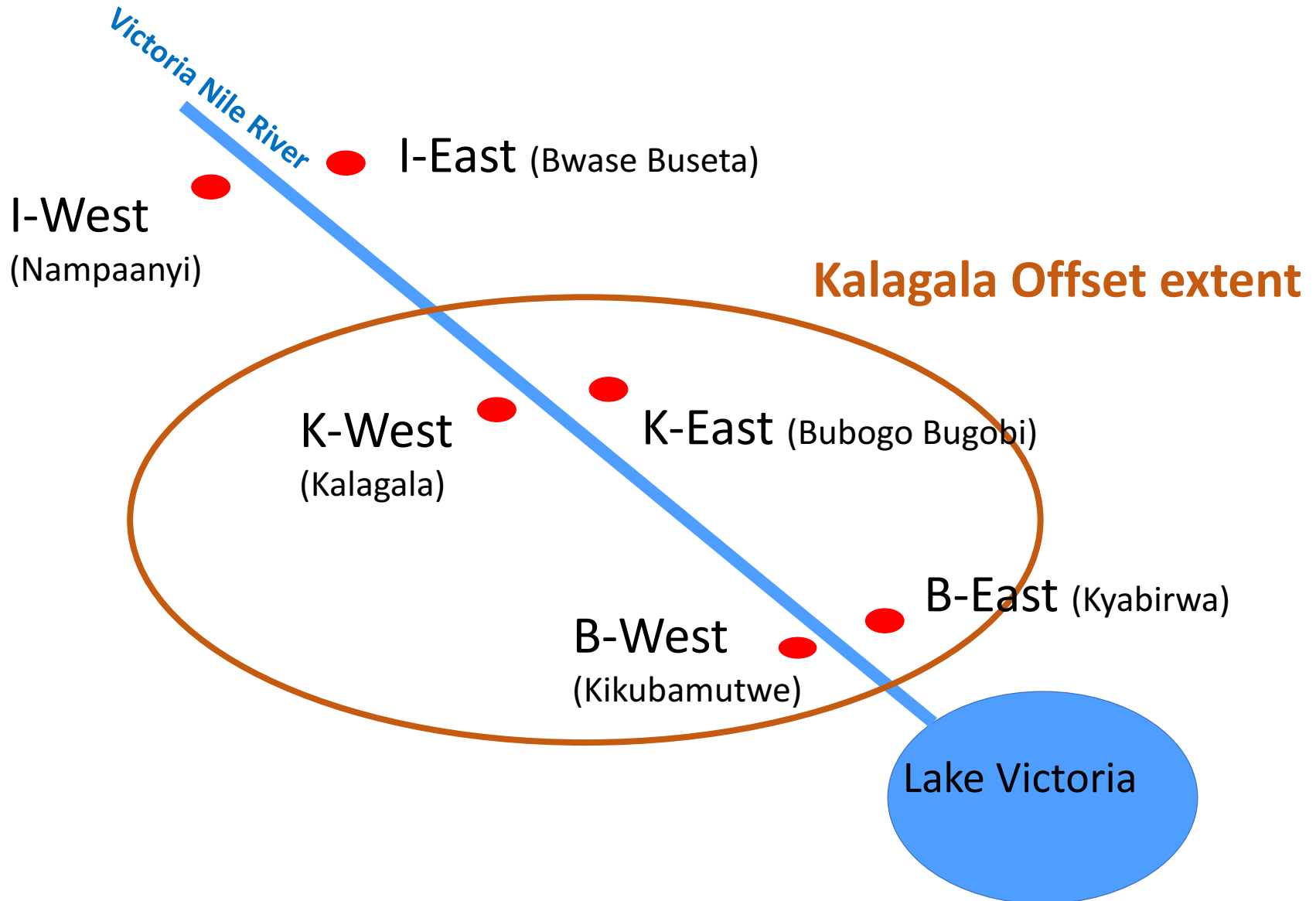


METHODS

1. Scoping trip: April / May 2016
2. Data collection:
September 2016 - February 2017



Methods



Methods



- Focus Group Discussions (FGD)

- FGD 1:

- Livelihood activities
- Use of natural resources
- Environmental & social activities

- FGD 2:

- Change in wellbeing



Methods

- FGD 3:
 - Spiritual sites
 - Importance of cultural heritage
 - Importance of cultural heritage to wellbeing

12 FGDs per village

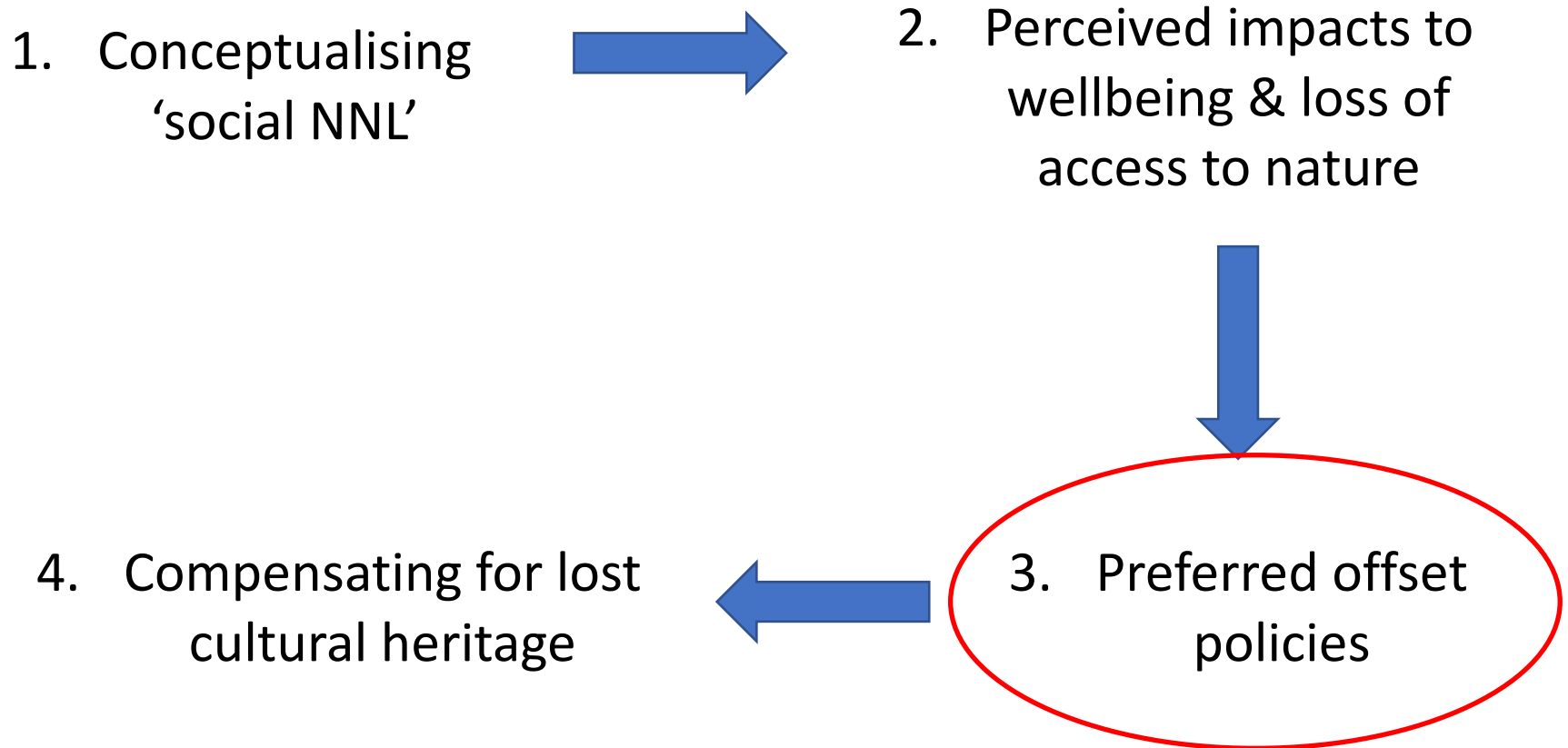


Methods

- **Household surveys**
 - Approx. 1300
 - HH's randomly selected
 - Piloted



Research questions















4. Preferences for offset activities

- Perceptions influence attitudes and acceptance
- Include local people in the decision-making process!
- Stakeholder engagement in the ESIA process
- Preferences for offset activities can influence its social acceptability and sustainability



Choice Experiment

Choice card 5			
	Scenario 1	Scenario 2	Scenario 3
Sustainable livelihood	1 000 000 UGX / year 	1 000 000 UGX / year 	500 000 UGX / year 
Employment	70 	 140	 140
Tourism revenue sharing			0 revenue sharing
Tree planting and removal of alien trees			 
Access to spiritual sites	Visitors – 1000 UGX Residents – 500 UGX	Visitors – 0 UGX Residents – 0 UGX	Visitors – 1000 UGX Residents – 500 UGX
Choice:			

4. Preferences for offset activities

Questions:

1. What social actions natural resource-dependent people in a developing country prefer as part of a biodiversity offset
2. Whether socio-demographic variables influence these preferences
3. Whether these preferences differ between geographically separate villages
4. Whether preferences differ between villages experiencing different degrees of economic development

4. Preferences for offset activities

- Offsetting activities that improved social outcomes for:



<http://www.brendansadventures.com>

Whole village

VS



Individually targeted activities

- Some social benefits were favoured over others

4. Preferences for offset activities

Whole village



1. Tourism revenue sharing – investment in community development

High population growth rate & high levels of poverty in Uganda

=

need for more development and improvement of services

4. Preferences for offset activities

Whole village

- Improving the degraded CFRs

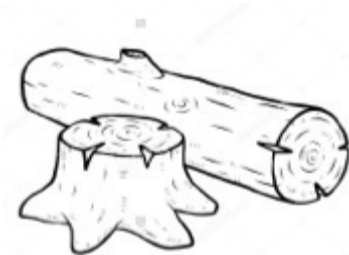


2. Tourism revenue sharing – restoration and management of CFRs

- Approx. 85% of Uganda's rural population is reliant on natural resources



3. Tree planting programme



3. Respondents opposed clearing

4. Preferences for offset activities

Whole village

4. Payment to access spiritual sites
 - Negative attitudes towards free access for everyone



4. Preferences for offset activities

Questions:

1. What actions natural resource-dependent people in a developing country prefer as part of a biodiversity offset
2. Whether socio-demographic variables influence these preferences
3. Whether these preferences differ between geographically separate villages
4. Whether preferences differ between villages experiencing different degrees of economic development

Results

Preference heterogeneity:

Education:

- Attitudes towards revenue sharing
- More educated the person, the more negative they were



Gender:

- Attitudes towards revenue sharing
- Compared to the baseline, men's preference for investment in CFRs was greater than that of women



4. Preferences for offset activities

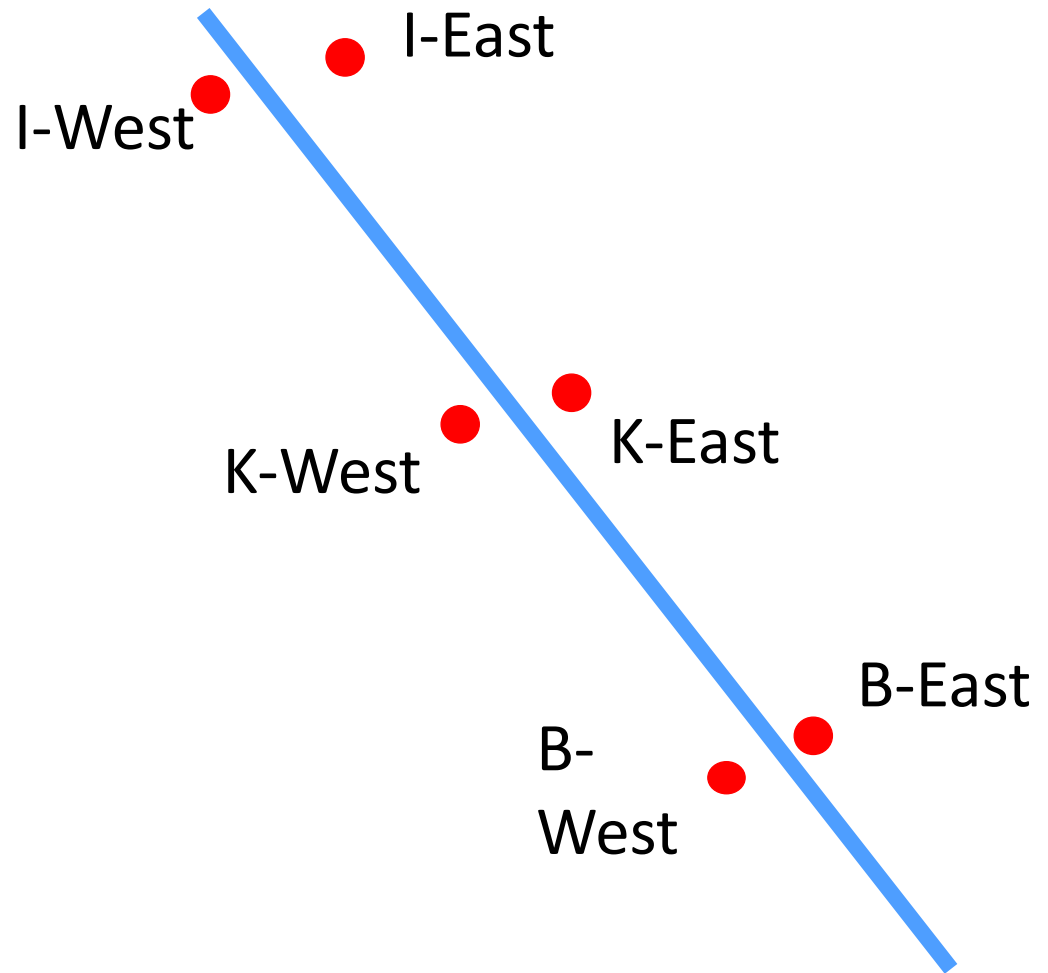
Questions:

1. What actions natural resource-dependent people in a developing country prefer as part of a biodiversity offset
2. Whether socio-demographic variables influence these preferences
3. Whether these preferences differ between geographically separate villages
4. Whether preferences differ between villages experiencing different degrees of economic development

Results – individual villages

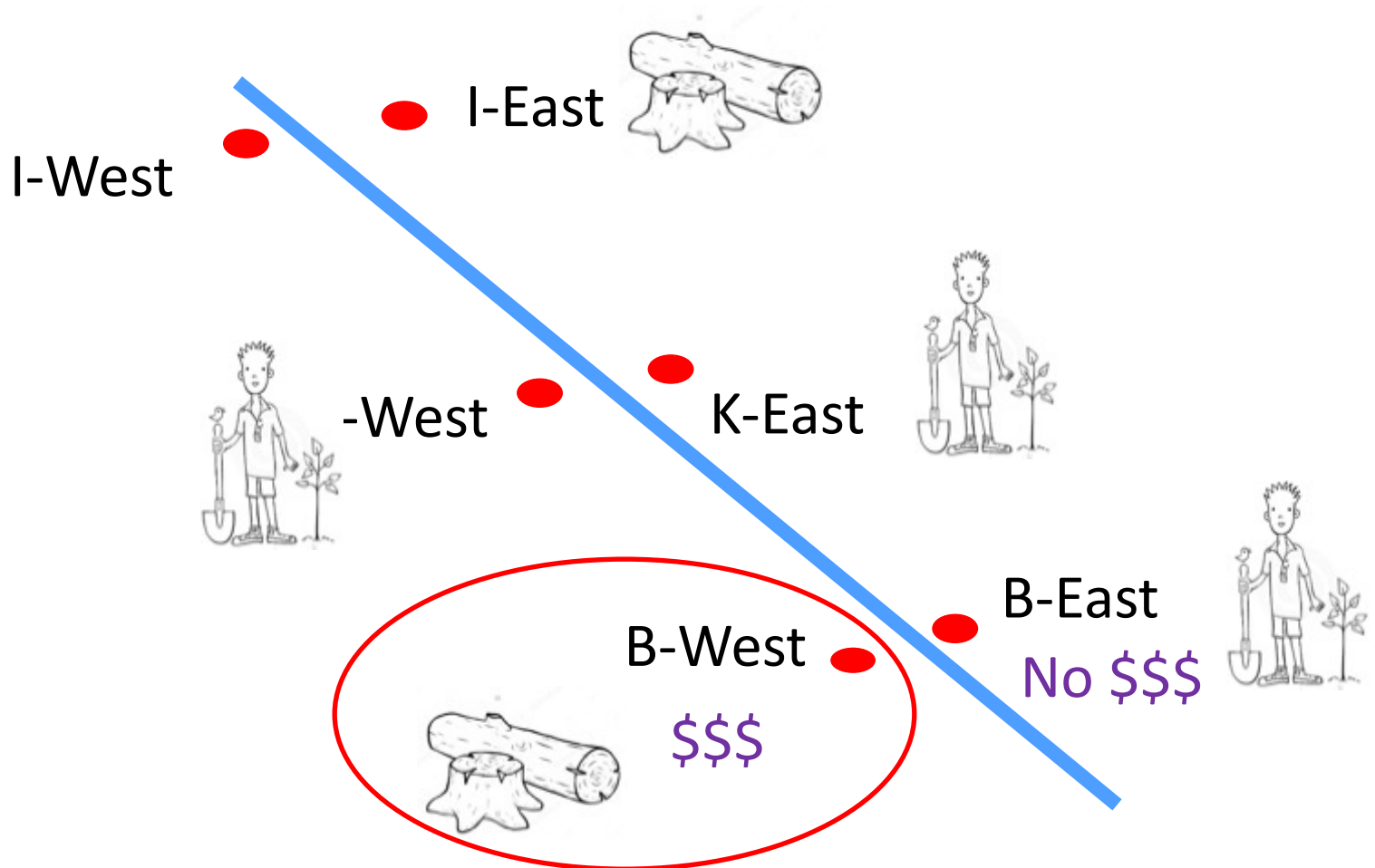
Geographic variability:

Tourism revenue sharing

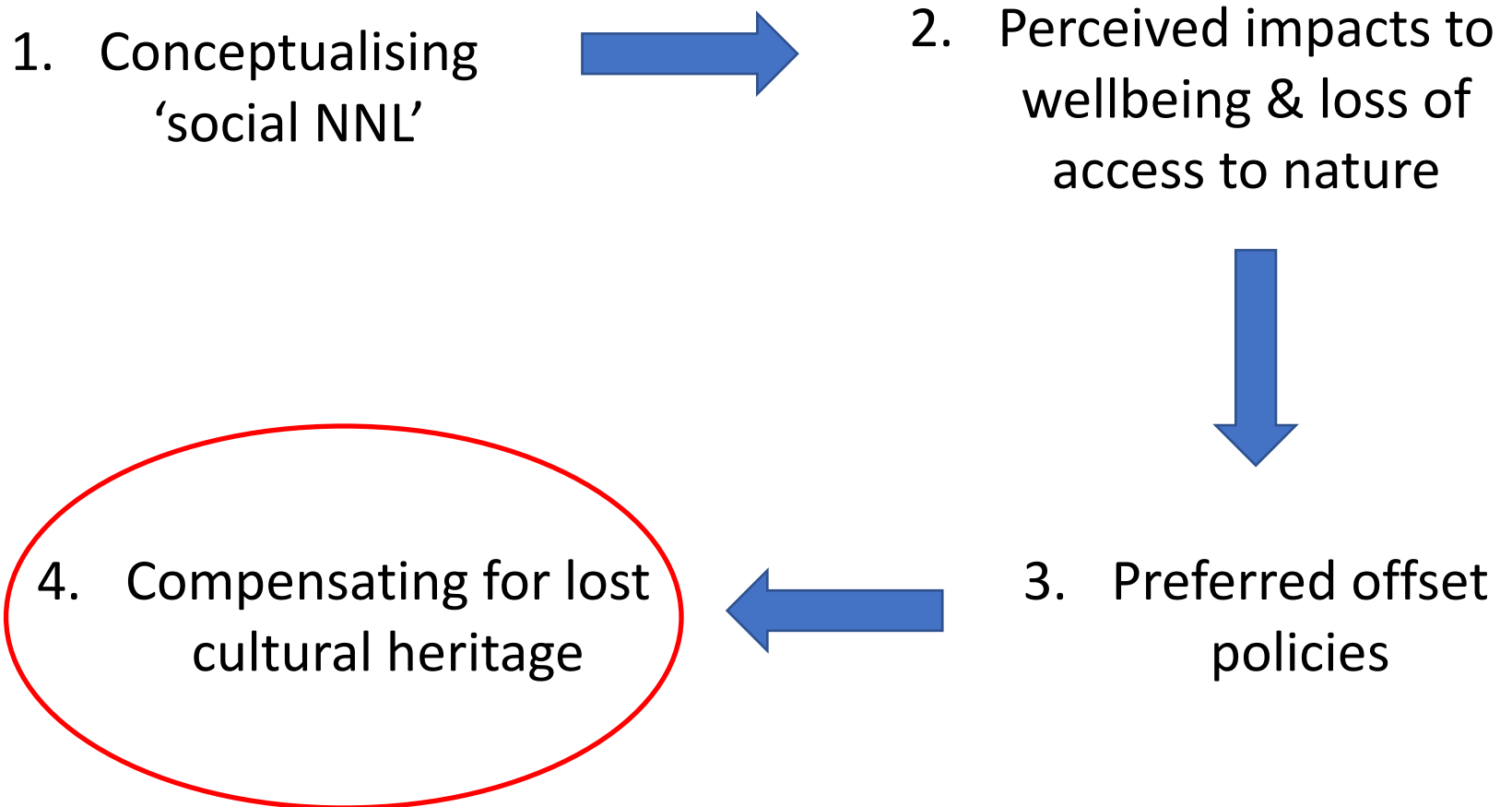


Results – individual villages

Geographic variability:

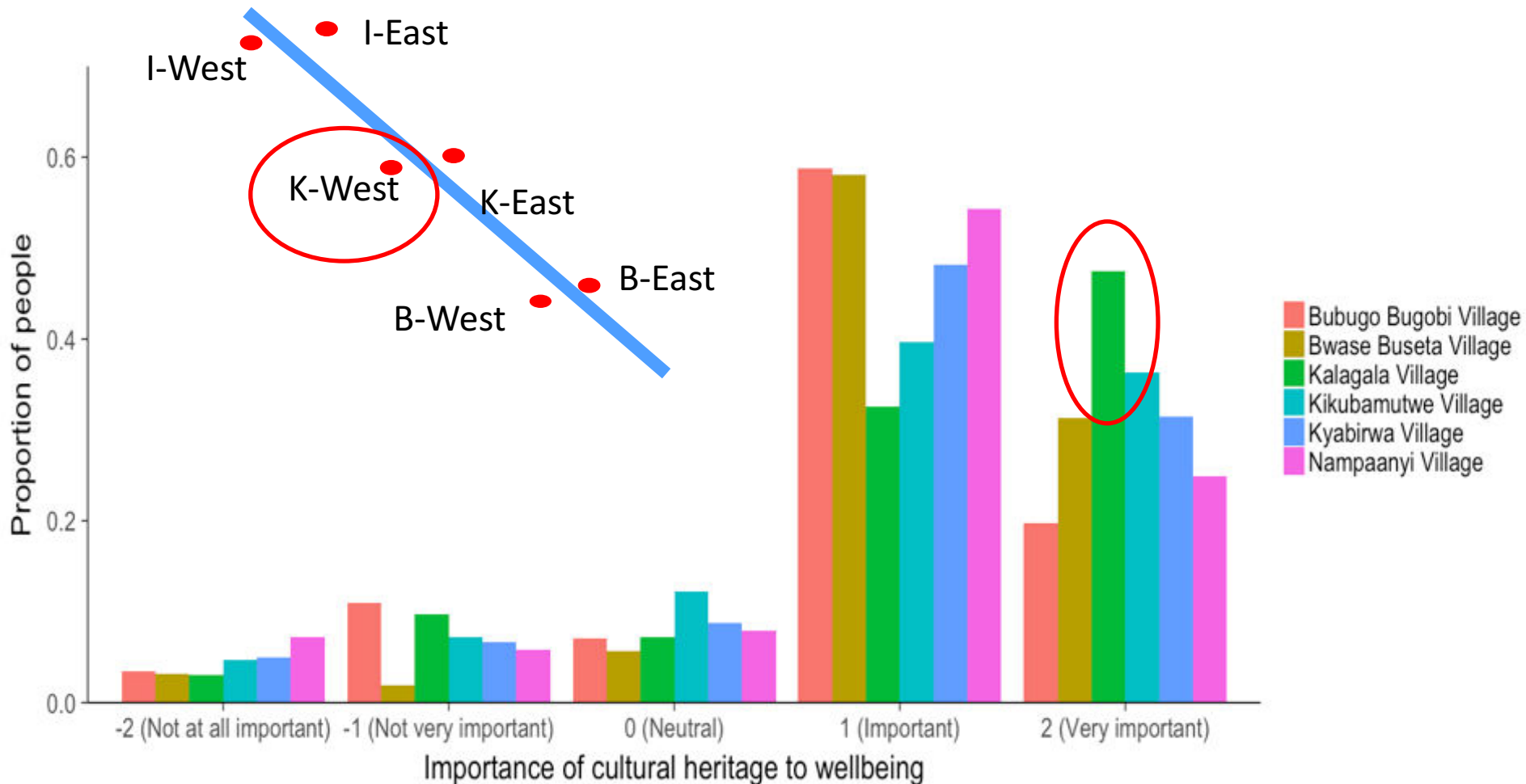


Research questions



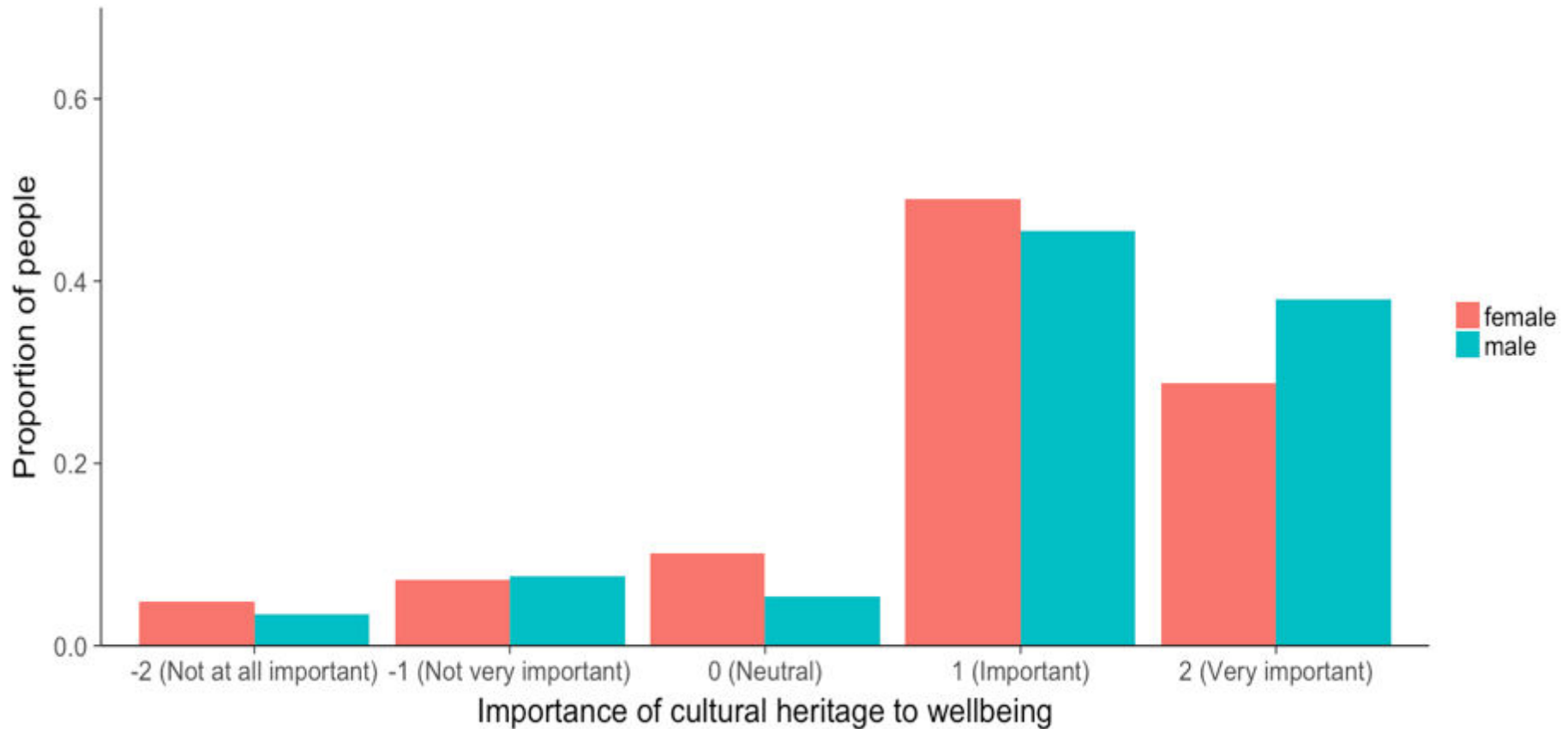
Preliminary findings

How important is cultural heritage to wellbeing?



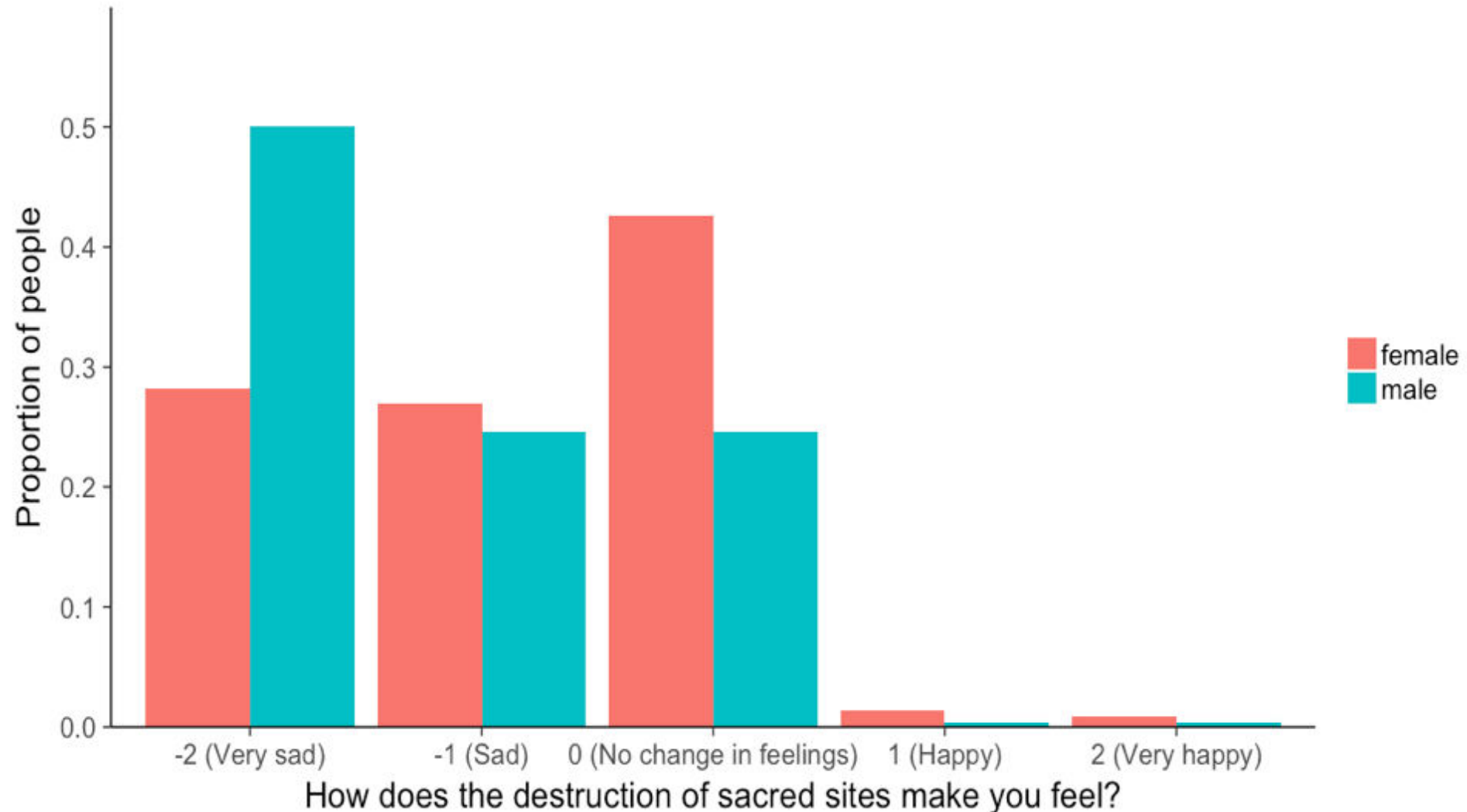
Preliminary findings

How important is cultural heritage to wellbeing?



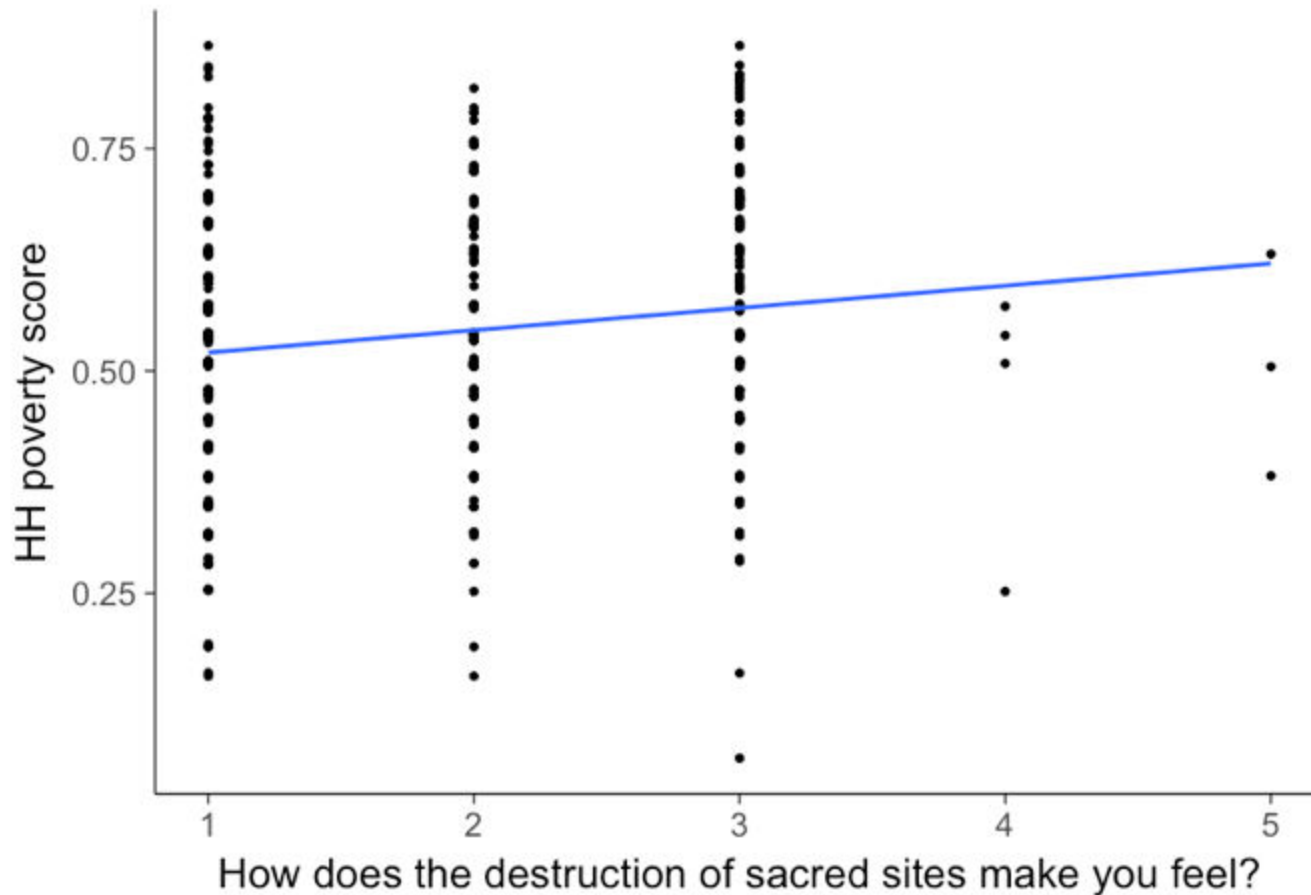
Preliminary findings

How do you feel about the loss of sacred sites in your village?



Preliminary findings

The less poor people are, the less sad they are about the destruction of the sacred sites



Preliminary findings

Thematic Analysis:

- Spirits

“He understands cultural heritage through spirits. He has shrines with his family spirits at his household”

(Kikubamutwe (B-West), men’s FGD)



Preliminary findings

Thematic Analysis:

- Nature
 - Medicinal herbs
 - Totems
 - Sacred sites
 - Bark cloth



“When a child is born, it is susceptible to many sicknesses, so it is given and bathed in different herbs to prevent and cure the various diseases. There are certain diseases that can only be cured with herbs”

(Bubugo Bugobi, women’s FGD)



Preliminary findings

Thematic Analysis:

- Cultural heritage changing
 - Changed for the worse
 - Become less important to people
 - Religion
 - Western culture
 - Modernity
 - Development projects

“Ever since the dam was constructed, everything got spoilt. It destroyed the falls and trees and other sacred sites”

(Kyabirwa, men's FGD)



Preliminary findings

Things to still think about

- Cultural heritage assessments in ESIA process
- **Lost cultural heritage:**
 - Relocation?
 - Compensation?
- NNL of biodiversity, cultural heritage & Social NNL





Thank you and questions?

Acknowledgements:

- E.J. Milner-Gulland (Oxford)
- Joseph Bull (Wild Business)
- Julia Baker (Balfour Beatty)
- Dilys Roe (IIED)
- NEMA
- Nature Uganda
- WCS Uganda
- Nick Hanley
- Oleg Sheremet



**Royal
Geographical
Society**

with IBG

Advancing geography
and geographical learning



VicGriffiths1

Email: victoria.griffiths@bnc.ox.ac.uk