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# **Social science research methods**

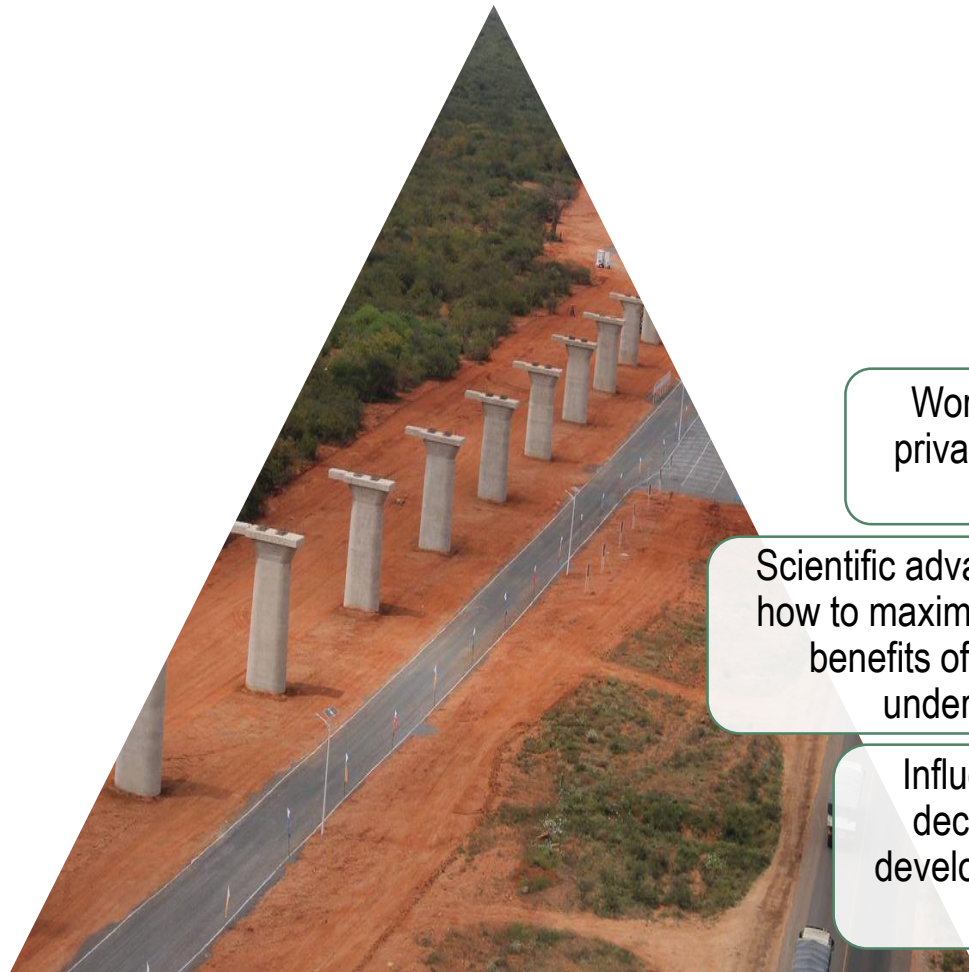
A training course offered by the  
Development Corridors Partnership

March 18<sup>th</sup> and 19<sup>th</sup> 2019, Nairobi



# The Development Corridors Partnership

**Overall Research Question:** How can development corridors be designed and implemented to maximise their delivery of sustainable, inclusive and resilient economic growth?

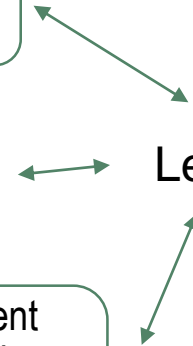


Working with decision makers (public & private) to influence development corridor design and implementation

Scientific advancement and capacity building on how to maximise long term social and economic benefits of development corridors without undermining ecological integrity

Influence China and UK overseas investment decision making to contribute to sustainable development of growth corridors in the context of the Belt and Road initiative

Learning



# The partnership





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<http://developmentcorridors.org>

[@devcorridors](https://www.instagram.com/devcorridors)

# Introductions

- What is your name?
- What is your role?
- What is your academic disciplinary background (e.g. natural science, social science, a mixture, something else)
- Why do you want to learn more about social science?
- What are your expectations for the training?



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# Outline of the two days

08:00-8:45	Registration and morning coffee	
08:45-9:00	Welcome, and training objectives, expectations, outcomes	Dr Gedis Lesutis
9:00-11:00	Social science research: general introduction	Dr Chris Sandbrook
11:00-11:30	Coffee break	
11:30-13:00	Household surveys: Part 1: Basic Theory of Household surveys	Dr Tobias Nyumba
13:00-14:00	Lunch Break	
14:00-16:30	Household surveys: Part 2: Survey organisation	Dr Tobias Nyumba



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# Outline of the two days

08:15-9:00	Registration and morning coffee	
9:00-11:00	Participatory modelling of social-ecological systems: Part 1	Dr Jessica Thorn
11:00-11:30	Coffee break	
11:30-12:30	Participatory modelling of social-ecological systems: Part 2 : Participatory scenario planning	Dr Jessica Thorn
12:30-13:30	Lunch Break	
13:30-16:00	Qualitative research: understanding “data” and “fieldwork encounters”	Dr Gedis Lesutis
16:00-16:20	Coffee Break	
16:20-17:00	Research ethics	Dr Chris Sandbrook
17:00-17:30	Closing remarks and awarding certificates of participation	



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# Introducing social science research

Dr Chris Sandbrook  
University of Cambridge



# Outline of the session

1. What is social science?
2. The role of social science in conservation and development
3. Fundamental issues in social science:
  - a) Deductive and inductive research
  - b) The qualitative / quantitative divide
  - c) Alternative underlying philosophies
  - d) Methodology and methods
4. The value, and challenge, of interdisciplinarity
  - Illustrated with a case study throughout



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# What is social science?

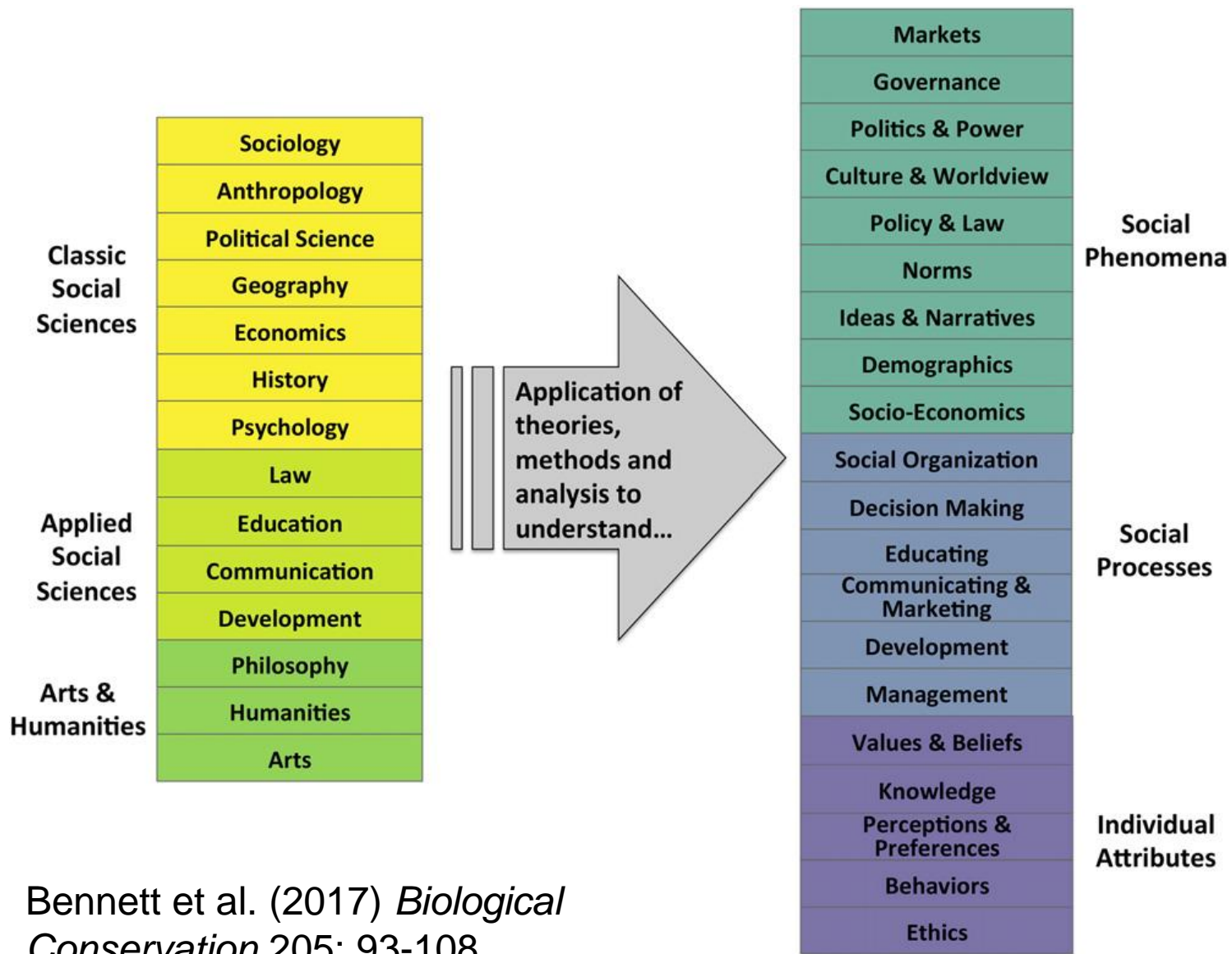
- *“The scientific study of human society and social relationships”* (Oxford English Dictionary)
- Includes multiple disciplines, each with its own specialism and approach
- Sometimes divided into ‘classic’ (e.g. anthropology), and ‘applied’ (e.g. development studies)
- Social scientists study a wide range of social phenomena, social processes and individual attributes



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Bennett et al. (2017) *Biological Conservation* 205: 93-108



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# What is social science?

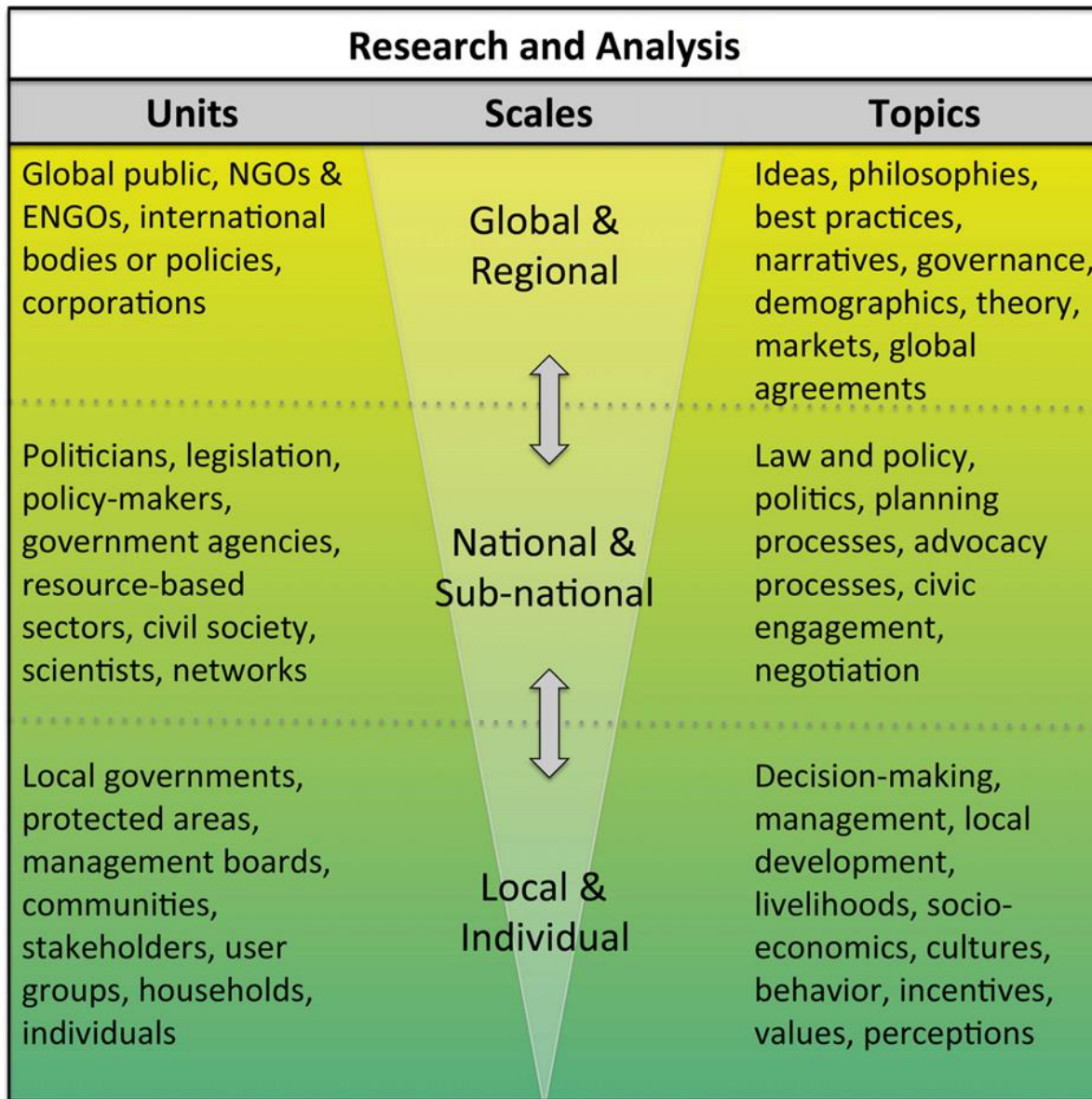
- Social scientists work at a wide range of scales



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Bennett et al.  
(2017)  
*Biological Conservation*  
205: 93-108



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# The role of social science in conservation and development

- Conservation issues (e.g. biodiversity loss) occur because of the actions of people
- Development is about the wellbeing and livelihoods of people
- Both fields are therefore inescapably social. To understand what is happening and improve the situation *social science is needed*
- However, most conservationists have a background in biology. This is useful, but not enough
- There is widespread agreement that more social science capacity is required



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# The role of social science in conservation and development

- What purposes can social science play for conservation and development?
  - Instrumental
    - *e.g. working out an effective strategy to change behaviour*
  - Descriptive
    - *e.g. a historical account of conservation and development in Kenya*
  - Reflexive
    - *e.g. asking critical questions about how development is framed & justified*
  - Generative
    - *e.g. coming up with innovative concepts and practices*



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# The role of social science in conservation and development

- Social science is not always intended to be ‘useful’ or ‘for’ conservation and/or development
- Social scientists often brought in late for an instrumental purpose
- This undervalues their potential contribution

*“social scientists are problem formulators, data collectors, analysts, and theory developers who can provide insights that can guide the social processes associated with conservation [and development]”*  
(Bennett et al. 2016 *Conservation Biology* 31:56-66)

- Different conservation / development social science disciplines play different roles

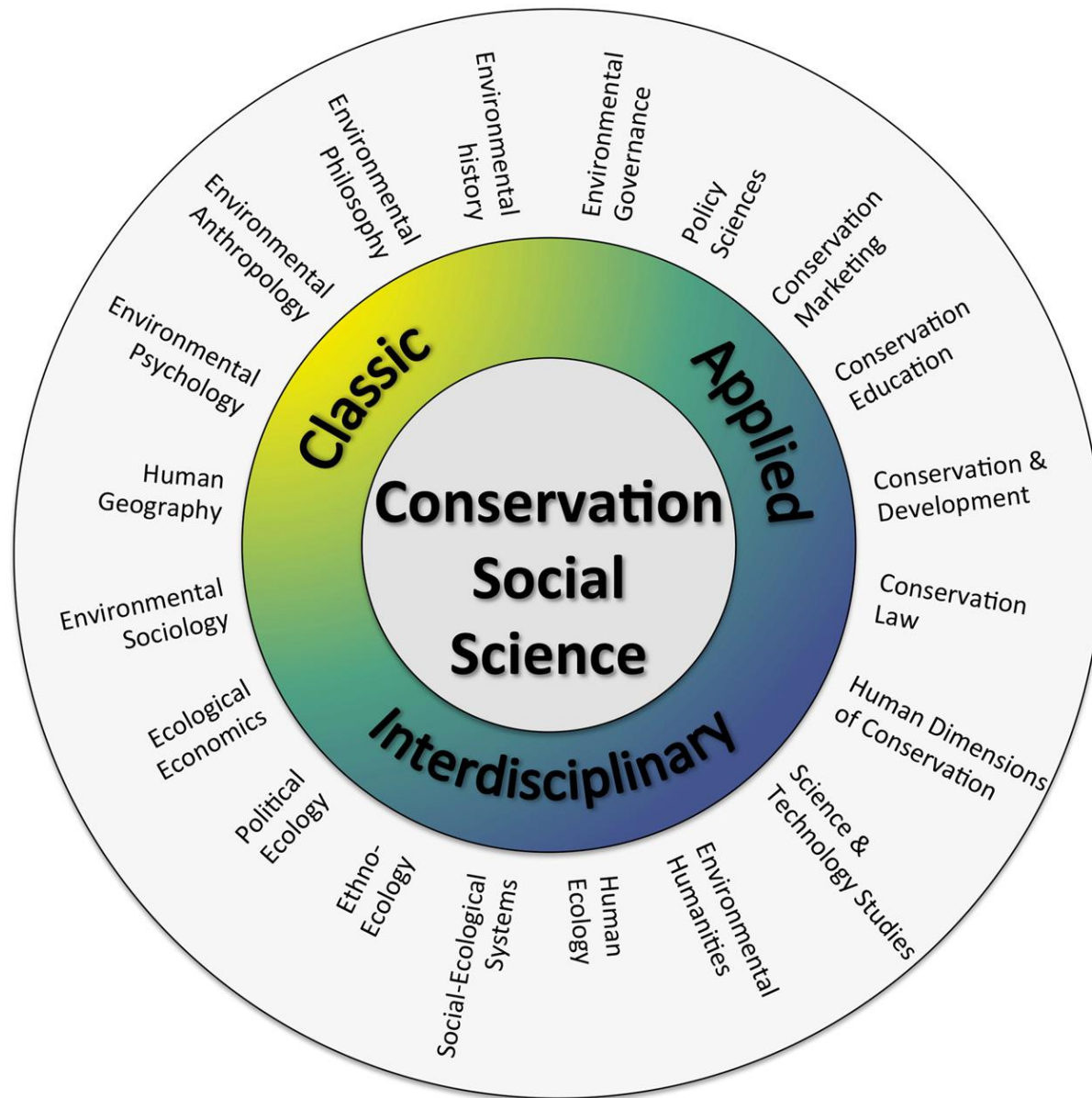


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A case study: Researching tourism  
impacts at Bwindi Impenetrable  
National Park, Uganda

Bwindi Impenetrable National  
Park, SW Uganda



Uganda

Kampala

Kigali  
Rwanda

Bujumbura  
Burundi



Image © 2006 MDA EarthSat

© 2005 Google

Pointer 0°18'44.03" N 30°53'06.15" E elev 4124 ft

Streaming ||||| 100%

Eye alt 634.74 mi



Bwindi NP

Bushenyi

Mbarara

Kanungu

Rukungiri

Ntungamo

Kisoro

Kabale

Southern Province

Byumba

Ruhengeri

Nord-Kivu

Gisenyi

Image © 2006 MDA EarthSat

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Pointer 1°08'50.96" S 29°51'11.41" E elev 6428 ft

Streaming |||.||| 75%

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Park HQ



Image © 2006 MDA EarthSat  
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# Bwindi Impenetrable National Park

- Established as a National Park in 1991
- Previously a forest reserve with limited protection
- Surrounded by a dense human population – ‘an island of habitat’
- Extensively degraded during 70s and 80s
- Considerable conflict after 1991
  - Fires started
  - Conflict with park staff
  - “*When you mention the national park we want to vomit.*”
- Decided to adopt a policy of Integrated Conservation and Development (ICDP)
  - Incentives for local people rather than punishments



# Mountain gorillas at Bwindi

- Bwindi has about half the world population of mountain gorillas (total is ~ 880). Most groups habituated for tourism (10)
- Tourism central to ICDP at Bwindi
- Tourists pay \$600 US per day to visit the gorillas for 1 hour, in groups of 8 (\$1500 in Rwanda!)
- ~\$20 goes to local community, the rest to Uganda Wildlife Authority for park costs
- Tourist numbers are limited to reduce risk of disease transmission. Also various other rules to minimise risk
- Most tourists stay in luxury lodges
- An iconic site for 'ecotourism' – an ideal place to explore optimistic and critical views



Photo © C. Sholl

# Meet our two researchers

- Two imaginary researchers are going to do independent studies at Bwindi
- Both are interested in the impacts of gorilla tracking tourism for conservation and development
- Both wants to understand role of tourism income in shaping natural resource use behaviour
- *Jane*
  - Has a background in social psychology
  - Wants to improve conservation outcomes
  - Has a new intervention she wants to test
- *John*
  - Has a background in anthropology
  - Wants to build up a rich understanding of local culture and how tourism fits within it
  - Is interested in how local people came to be framed as a ‘problem’

What kind of research are they each doing?

- Instrumental
- Descriptive
- Reflexive
- Generative



# Fundamental issues in social science

- Social science has several characteristics than (can) make it different from natural science
- 1. Deductive versus Inductive research
- *Deductive*
  - The researcher comes up with a hypothesis based on theory
  - Then designs a strategy to test it – often experimental
  - Using quantitative data and statistical significance testing
  - If the null hypothesis is rejected, the theory is (possibly) correct
  - Often called ‘the scientific method’
  - Useful for examining cause-effect relationships



# Fundamental issues in social science

- *Inductive*
  - No specific hypothesis – just broad questions or issues
  - Data are collected and used to generate theory
  - Extreme form is ‘grounded theory’ – researcher has a completely open mind with no pre-conceived ideas
  - Inductive research can be useful where there is little idea of what might be happening in the study system
  - Also useful for building up an in-depth understanding of complex systems that cannot be broken down into simpler parts
- Both inductive and deductive research feature in social science and each suit particular situations



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# Meet our two researchers

- *Jane*

- Has studied a theoretical model of human behaviour
- Has an idea to improve the theory
- The idea generates a new hypothesis – if tourism income is received alongside some environmental education, it will be more likely to change resource use behaviour
- Designs an experiment to test it – some people get the training, others don't

- *John*

- Has an open mind and no specific research questions
- Sees the current situation as the product of complex interacting issues – history, politics, power relations, culture, economic relations, etc.
- Believes he can't say anything useful about tourism impacts without a rich understanding of this broader context
- Plans to study the system and then build theory to explain his findings

What kind of research are they each doing?

- Inductive
- Deductive

# Fundamental issues in social science

- 2: The quantitative / qualitative divide
- Two stages: Data and analysis
  - Quant data are numbers. Qual data are text & images (usually)
  - Quant analysis is statistics. Qual analysis is diverse
- Qual/quant can be a source of tension:
  - Quantitative researchers can see qualitative data as 'anecdote' and lacking in solid answers
  - Qualitative researchers can see quantitative data as too simplistic and narrow
- Those with natural science training usually favour the quant approach



# Meet our two researchers

- *Jane*
  - Plans to collect numerical data measuring the flows of tourism income, the attitudes of local people and their behavioural intentions
  - Plans to conduct statistical analysis of the data to reveal relationships between her educational intervention and behavioural outcomes
- *John*
  - Plans to collect images, and text from interviews, notes and documents
  - Plans to analyse this material to build up narrative descriptions of the study system and the role of tourism within it

What kind of research  
are they each doing?

- Qualitative
- Quantitative

# Fundamental issues in social science

- 3: Alternative underlying philosophies
- Preferences for quant / qual data etc. can reflect differences in underlying beliefs
- Ontology: What is the nature of reality?
  - Realism: There is one true external reality
  - Relativism: Realities are mental constructions
- Epistemology: How do we create knowledge?
  - Objectivism: Meaning exists within an object independent of the researcher
  - Constructivism: Meaning created from interplay between object and researcher
  - Subjectivism: Meaning only exists within the researcher



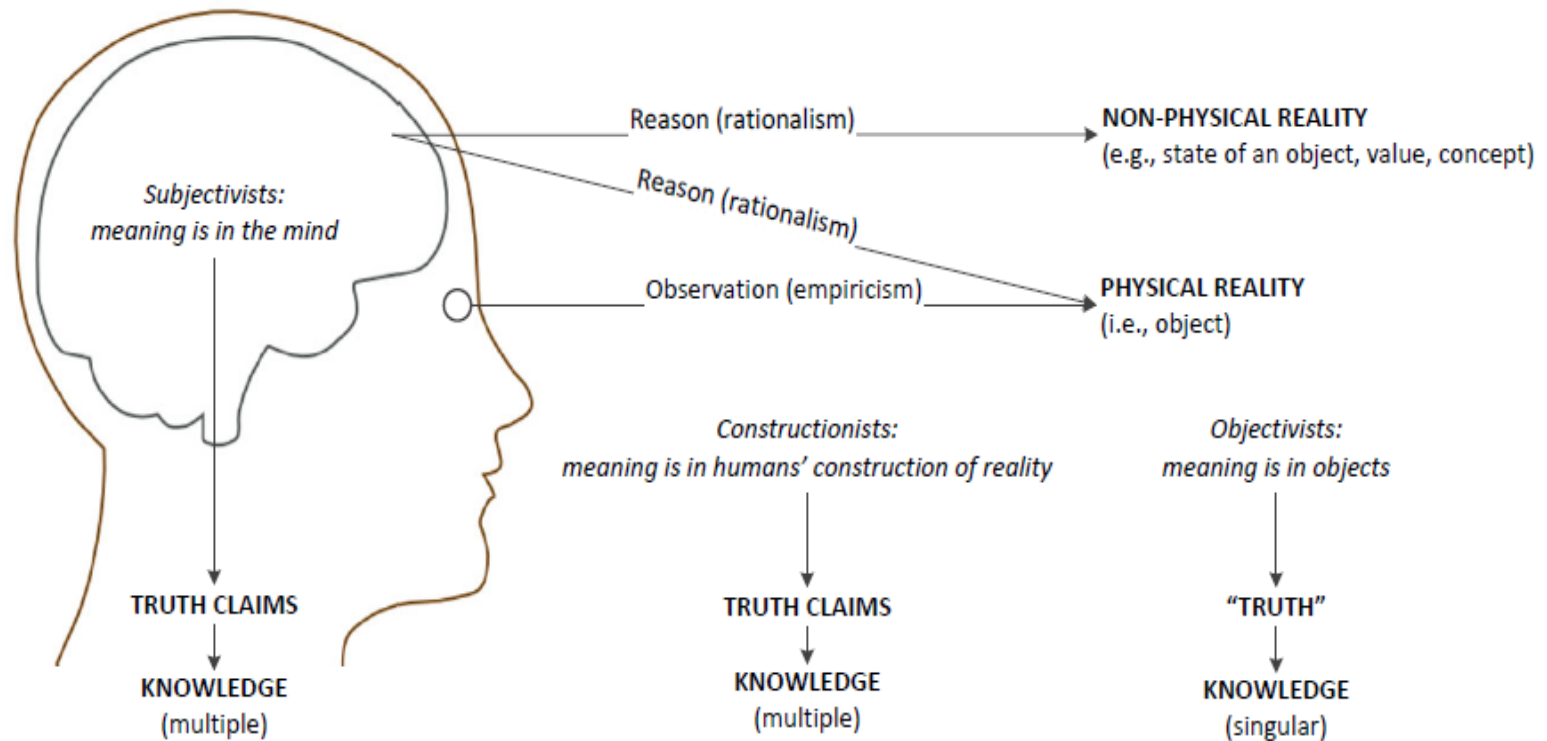


Figure 2. The relationship between reality and meaning and how they correspond with truth claims and knowledge according to subjectivist, constructionist, and objectivist epistemologies.

Moon & Blackman (2014) *Conservation Biology* 28:1167-1177



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# Fundamental issues in social science

- Most natural science research is realist and objectivist – assumes there is an external reality that can be studied directly by scientific methods
- Some social science disciplines follow this model – e.g. psychology, economics
- Others take a different view – e.g. anthropology
- Argue that studying humans is different from studying anything else:
  - The researcher is part of the social system they are studying and cannot observe it ‘objectively’
  - People have their own ideas and interpretations which are part of the social world being studied – e.g. ‘wilderness’



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# Meet our two researchers

- *Jane*
  - Believes that there is a single reality that is external to the human mind
  - Believes that she can measure this truth using her research methods
  - Seeks to keep herself separate from the study system as far as possible to maintain objectivity and avoid influencing her respondents
- *John*
  - Believes that there is no reality external to the human mind. 'Reality is in the eye of the beholder'
  - Believes that meaning emerges from the interplay between himself as the researcher and the human and non-human entities he is studying
  - Sees himself as part of the study system – he cannot separate himself from it. Seeks to be reflexive about his influence and how he is perceived

What kind of research philosophies do they hold?

- Realism or relativism?
- Objectivism, constructivism or subjectivism?

# Fundamental issues in social science

- 4: Methodology and methods
- Methodology “*provides a rationale and overarching framework for undertaking a programme of research*”
  - E.g. experimental, ethnographic, action research
- Methods are “*tools of data collection and analysis*”
  - E.g. interviews, surveys, participant observation
- Methodology shapes research design – methods are the doing phase
- There are many methodologies and methods – this training course will only cover a few key examples



# Meet our two researchers

- *Jane*

- Using an experimental methodology to understand the influence of a specific intervention
- Collecting data using household surveys, tourist surveys and biophysical measurements of resource use behaviour
- Trying to manipulate the study system from outside in order to see how it responds

- *John*

- Using an ethnographic methodology to gain a detailed understanding of the complex interplay between various actors and processes
- Collecting data using participant observation, open ended interviews, archival and document analysis
- Trying to become part of the study system in order to fully understand it

# The value, and challenge, of interdisciplinarity

- Many issues in conservation and development are highly complex
- It can be valuable to use more than one disciplinary perspective
- Interdisciplinarity: “the quality or fact of involving or drawing on two or more branches of knowledge” (OED)
- This comes in various forms:
  - Multidisciplinary: two or more disciplines used in parallel
  - Interdisciplinarity: more integrated – perspectives inform one another
  - Transdisciplinarity: transformative merging of approaches to create new ones



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# The value, and challenge, of interdisciplinarity

- Interdisciplinarity sounds great but is hard to do well!
- Getting good at multiple disciplines is very time consuming and challenging
- So easier to work in teams with various skills?
- But: people from different disciplines can find it difficult to understand each other
- Basic requirement is that people respect those in other disciplines and know enough to understand where they are coming from
  - This is one of the main aims of this training course!



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# Meet our two researchers

- Jane and John meet in a bar early in their fieldwork
- They realise that they are working on very similar topics that could be complementary
- Jane can find out something about the specific impact of an important change in the study system (her educational intervention)
- John can set this into the wider context of the social-ecological system
- Jane identifies a quantitative pattern but can't necessarily explain it
- John's research doesn't reveal the pattern but can explain the causal relationships
- They decide to conduct a *mixed methods* study together

What kind of research are they doing?

- Multidisciplinary
- Interdisciplinary
- Transdisciplinary

# A final exercise

- Working in groups, come up with a research topic relevant to your own work and interests
  - Think about the appropriate approach for researching your topic:
    - Instrumental? Descriptive? Reflexive? Generative?
    - Inductive or deductive?
    - Qualitative or quantitative?
    - Philosophical approach (if you have time)
  - Why would you make these choices?
  - Don't worry about choosing methods – we will look at these later in the training
  - Be prepared to share your ideas with the group

# Conclusions

- Social science has a crucial role to play in conservation and development research and practice
- Can work well in combination with natural science disciplines through interdisciplinary research
- Social science can differ from other forms of research in several ways
  - Inductive as well as deductive
  - Qualitative as well as quantitative
  - Different underpinning philosophies
- These can act as a barrier to understanding and collaboration



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