

**Case-based methods for aid evaluation:  
an argument for adding approaches informed by  
complexity social science**

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# Outline of today's talk

- Types of aid evaluation considered in the two seminars
- Some case-based methods
- Evaluation 1: Using case-based statistics for education policy – a possibility analysis
- Complexity social science: reminder of some points from my Seminar 1 presentation
- Evaluation 2: Multi-perspective case-based multi-methods - longer-term perspectives on development impacts in rural Ethiopia (WIDE3)
- In what ways can variable and case-based approaches to aid evaluation be complementary?
- Recognising the complexity of development: what case-based methodologies can bring to aid evaluation

## Types of aid evaluation considered in these seminars

- ‘Black box’ impact evaluations using a variable-based approach – e.g. impact evaluation of Zambia Education Sector (Jan-Willem Gunning - IOB)
- Multi-methods – a political economy perspective complementary variable and case-based approach (Antonie de Kemp - IOB)
- Theory-based using a comparative small-N case approach – e.g. evaluations of GBS, SBS, FTI (Mokoro+)
- Long-term evaluations of Danida aid programmes using a single case approach (some involving Mokoro)
- Longitudinal M & E for poverty monitoring at community level using a comparative case approach (Irish Aid - Mokoro)

## Types of aid evaluation considered in these seminars (2)

In this presentation

- Case-based statistical analysis using a large-N case-based approach
  - example from UK education policy – David Byrne
- Longer-term perspectives on development impacts at community level using a multi-level case-based approach
  - large-N, small-N, and single case approaches combined
  - research in Ethiopia funded by a donor group – Mokoro

# Some case-based methods (1)

- Byrne and Ragin – the Sage Handbook of Case-Based Methods
- Thinking about cases and variables
  - Charles Ragin – what is a case?
  - Charles Ragin and David Byrne – cases as complex systems  
coherent bundles of aspects and attributes
  - David Byrne – death to the ‘variable’  
long live variate traces and attributes
- Thinking about causality - causal heterogeneity
  - multi-finality
    - e.g. similar interventions in different contexts can lead to different outcomes
  - equi-finality
    - e.g. different paths or combinations of aspects can lead to the same outcome

## Some case-based methods (2)

- Case-based statistical methods
  - Andrew Abbott – pattern-based approaches
    - Clusters of cases that have roughly the same values on many variables
  - David Byrne – numerical taxonomy techniques
    - Descriptive statistics, correspondence analysis, cluster analysis, neural net approaches
  - Charles Ragin – diversity-oriented statistics
    - Exploring causal heterogeneity
    - Configurational methods – e.g. Qualitative Comparative Analysis (QCA)
- Integrating quantitative and qualitative methods
  - **JQ** rather than **Q2** (Ravi Kanbur et al)

# Evaluation 1: Using case-based statistics for education policy - a possibility analysis\*

- 126 State secondary schools in the North East of England
- Data on school attributes from administrative returns for 2006
- Used cluster analysis on GCSE results data to split the schools into two sets: 'adequately performing' and 'inadequate'
- Did a crisp-set QCA using the cluster membership as outcome and seven attributes of the school to generate a 'truth table' ([Table 14.2](#))

\*David Byrne 2009 'Using Cluster Analysis, Qualitative Comparative Analysis and NVivo in Relation to the Establishment of Causal Configurations with Pre-Existing Large-N Datasets: Machining Hermeneutics' in Byrne and Ragin (eds) *The Sage Handbook of Case-Based Methods*.

## Using case-based statistics for education policy: a possibility analysis (2)

- Identified a configuration of twelve schools where all but one (School A) were in the 'inadequate attainment' cluster
- These schools were the most deprived in the population- they had no sixth form, and had relatively high scores on special needs, deprivation and absenteeism
- 'I wouldn't start from here if you want to get there.' Such schools can't hope to emulate the excellent and good schools in the sample.
- They can imitate School A 'because this is the same sort of entity that they are' (p265)



## Using case-based statistics for education policy: a possibility analysis (3)

- So what was different about School A?
- The administrative data did not suggest an answer ([Table 14.3](#))
- So they 'went qualitative' and downloaded OFSTED inspection reports for the 12 schools and put them into NVivo (qualitative software package)
  - (some quantitative information plus a good deal of text-based qualitative commentary)
- [With permission they could have followed-up with interviews and observation in the schools]
- They used the software to do some thematic coding of the texts and construct new attributes to help refine the QCA analysis

**Table 14.4 School data (page 267)**

School	General overall view inspectors took of the school	Management assessment	Presence of disruptive minority	High staff turnover	Specific mention of staff-led mentoring scheme
C	+ve	+ve	Yes	No	No
D	+ve	+ve	Yes	No	No
E	-ve	-ve	Yes	Yes	No
F	-ve	+ve	Yes	No	No
H	+ve	+ve	No	No	No
<b>A</b>	<b>+ve</b>	<b>+ve</b>	<b>No</b>	<b>No</b>	<b>Yes</b>
B	+ve	+ve	No	No	No
I	+ve	+ve	No	No	No
J	-ve	+ve	No	No	No
L	+ve	+ve	Yes	No	No <sup>10</sup>

## Using case-based statistics for education policy: a possibility analysis (4)

- Only for School A was specific mention made of a very effective targeted staff-led mentoring programme
- Possibility analysis – established something that makes a difference and about which something can be done
- ‘Introducing mentoring schemes based on School A’s style can be done very quickly’ (Byrne, 2009: 267)
- They used the same variable set in a binary logistic regression.
  - Exploring for high residuals School A as a deviant or misclassified case
  - But logistic regression provided none of the details discovered using the configurational method

# Complexity social science:

reminder of some points from my Seminar 1 presentation

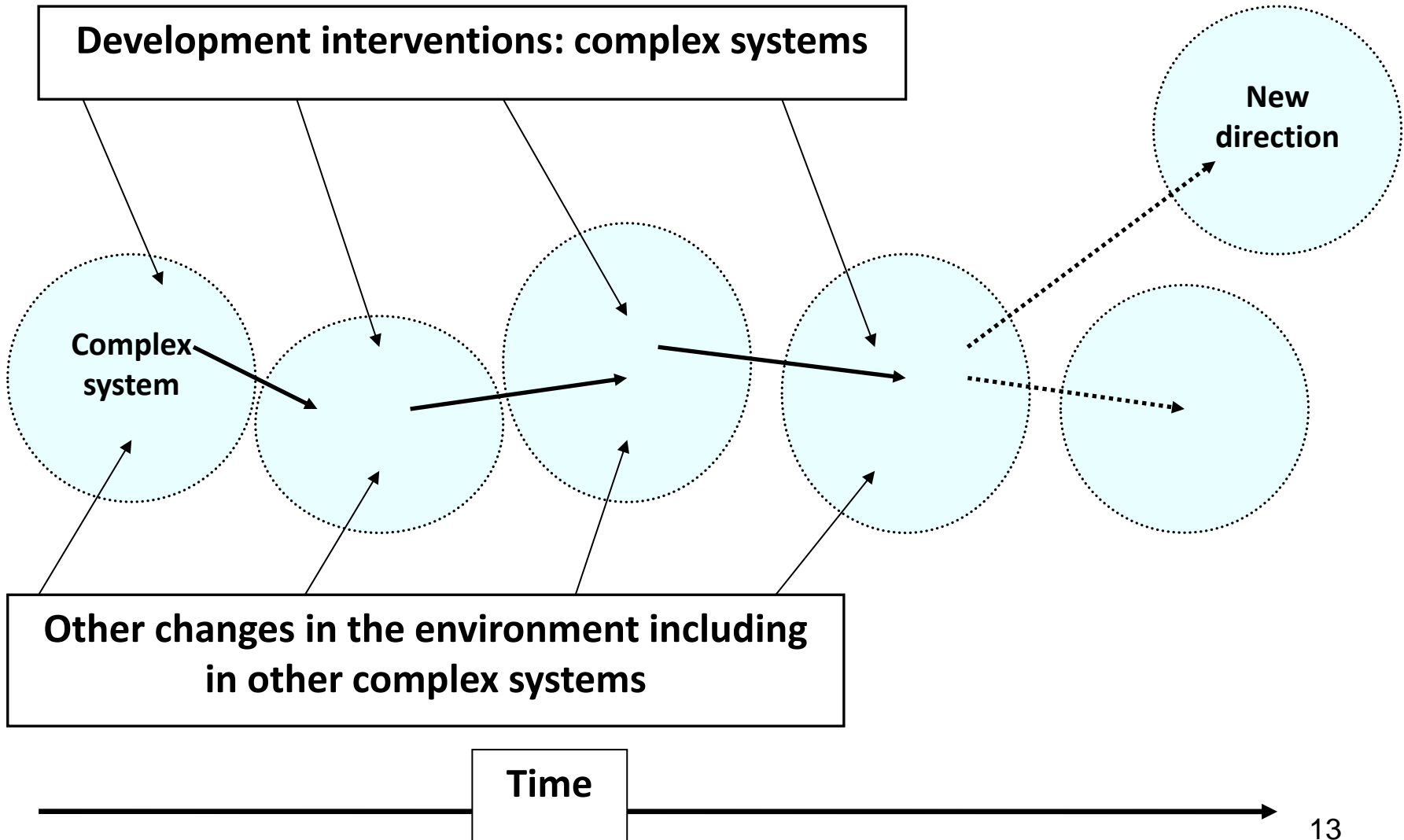
- Development interventions – complex systems entering complex systems (Pawson)

- Making things work better

‘Complexity is essentially a frame of reference - a way of understanding what things are like, how they work, and how they might be made to work.’ Byrne, 2002

- Phase space – the space of the possible

# Development interventions: complex systems entering complex systems



# Complexity social science: reminder of some points from my Seminar 1 presentation (2)

- Multiple perspectives
- Against 'one size fits all'

The best course of action will be context-dependent

'More than one description of a complex system is possible.

Different descriptions will decompose the system in different ways'

Cilliers, 2005

- Integrating qualitative and quantitative work

'The approach has as much relevance in qualitative and historical work as it has in quantitative modelling, although one of the things it pushes us towards is the collapsing of the false boundaries between quantitative and qualitative work.' Byrne, 2002

## Evaluation 2: Longer-term perspectives on development impacts in rural Ethiopia (WIDE3)\*

- On-going Mokoro research assignment
  - fieldwork completed in late February
  - final report due early June
- Focus on rural communities as complex systems/cases
- Planned in two stages –
  - Stage 1 – this assignment - six communities
  - Stage 2 – 14 communities
- Used existing data to construct societal and policy baselines for the communities in 2003 (WIDE2) and trajectories from 1995 (WIDE1)
- New fieldwork January/February 2010
- Tracing the impacts of the (interacting) development interventions which entered rural communities of different types between mid-2003 and early-2010

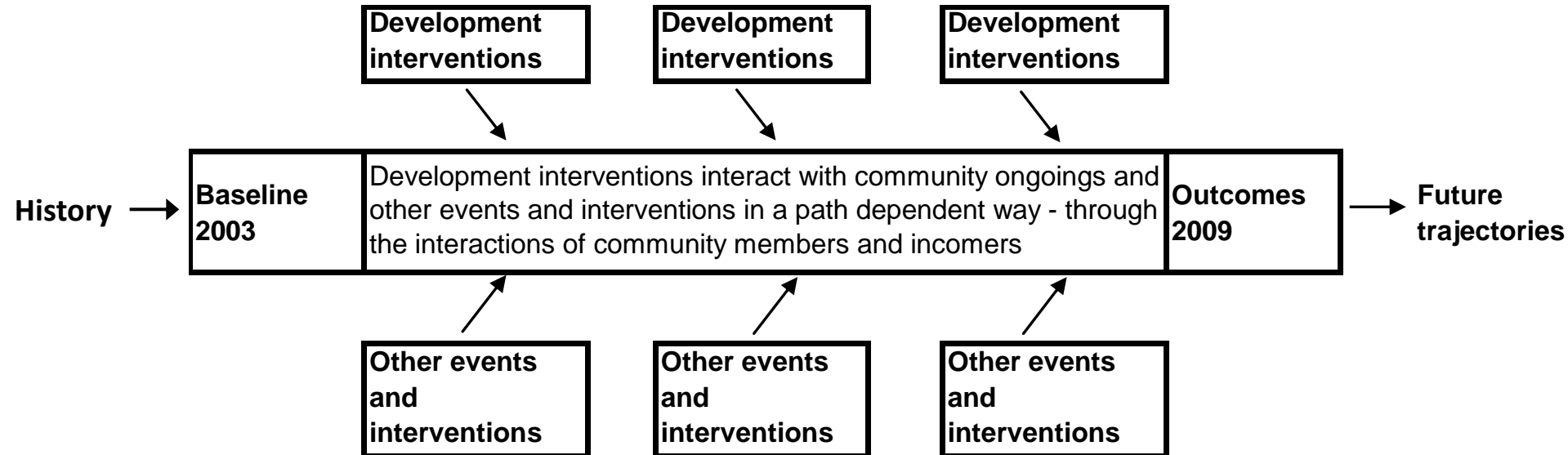
\* See website [www.wed-ethiopia.org](http://www.wed-ethiopia.org)

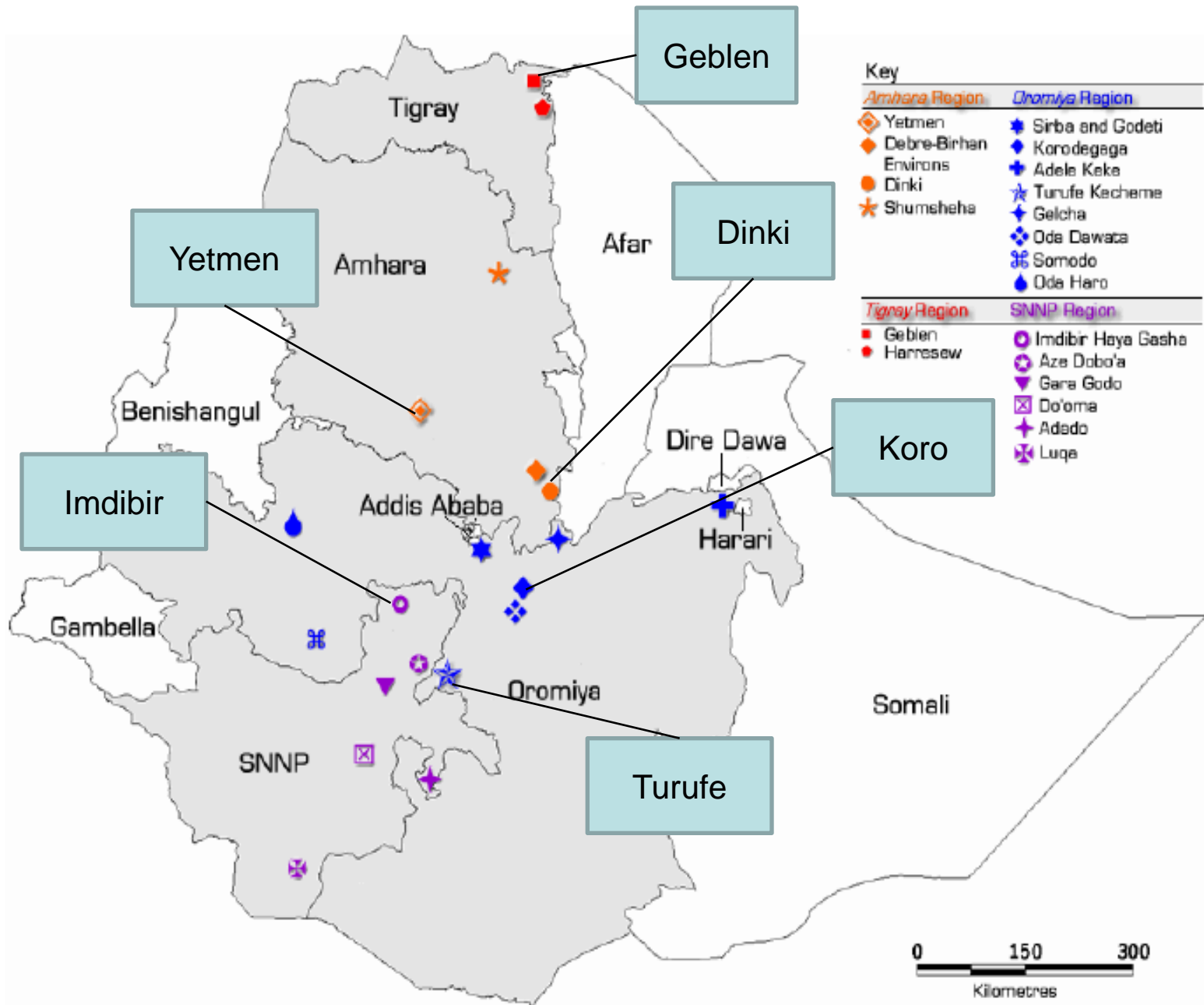
## WIDE3 – conceptual framework

- How the development interventions entered the communities
  - through time
  - through space
- Interventions designed to produce change in one or more of five interacting fields of action which are also domains of power:
  - Livelihoods e.g. agricultural extension, micro-credit, PSNP
  - Human re/production e.g. education, preventive health, PSNP
  - Social re/production e.g. gender laws, death ceremonies
  - Community management e.g. good governance package
  - Ideas e.g. education,
  - Cross-cutting e.g. watershed management, infrastructure

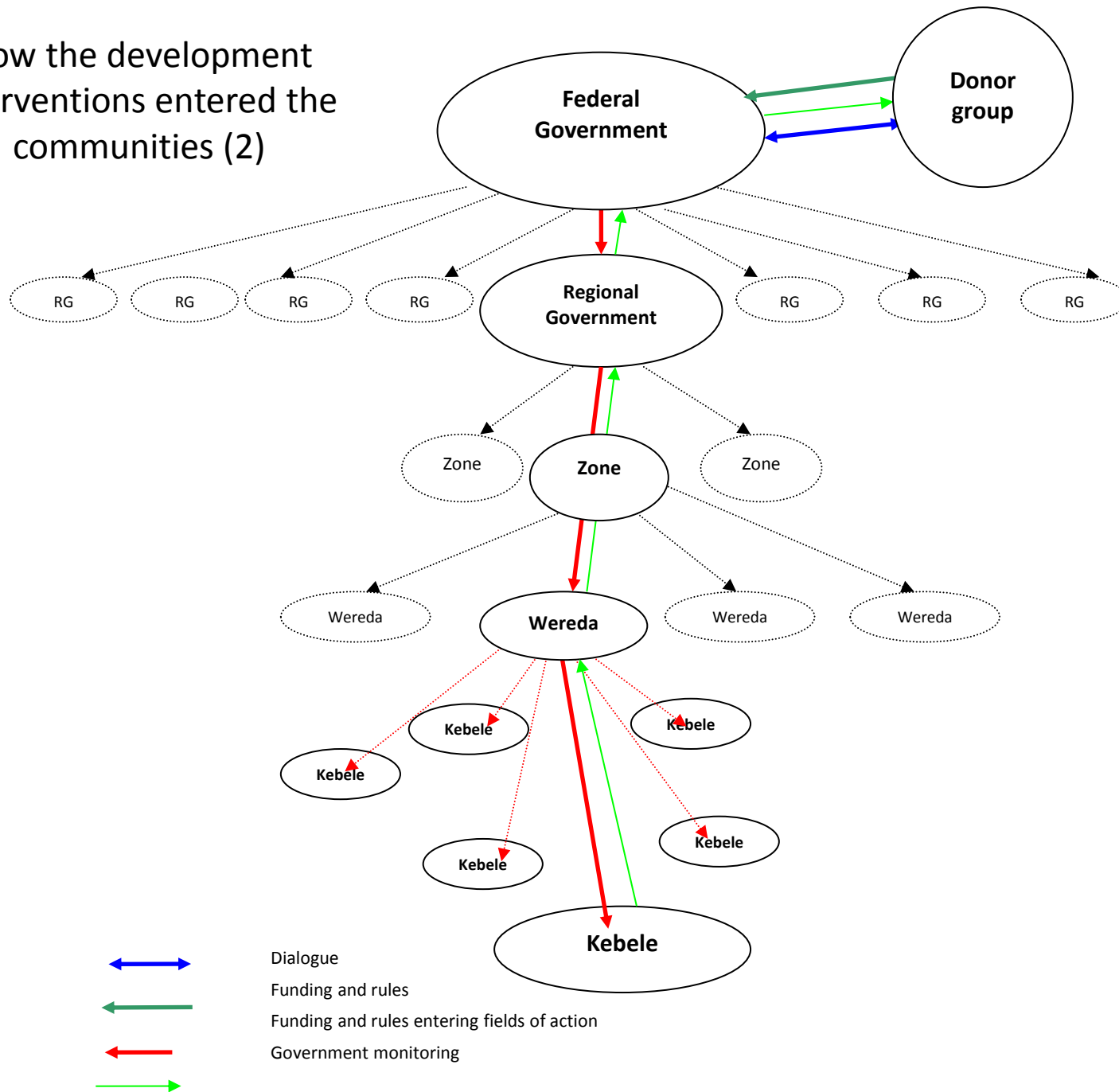


# How the development interventions entered the communities (1)





# How the development interventions entered the communities (2)



## WIDE3 – conceptual framework (2)

- Multiple perspectives on the communities:
  - The community as a whole
  - The community in the broader Ethiopian context
  - The structures of inequality – class, status and power
  - Sub-structures – particularly households
  - Intermediate social organisation – livelihoods, human re/production, social re/production; community management, and the field of ideas
  - Social actors with different genderages and life histories located in different community roles
  - Social interactions

## WIDE3 – research questions

- Research questions:
  - Taken together what have been the impacts on
    - (1) rural communities and
    - (2) their different kinds of memberof the various development interventions implemented since 2003?
  - What explains the similarities and differences of these impacts among communities and people of different types
  - What were the key mechanisms and processes involved?
  - How do they fit with government and donor theories of how development happens?

# WIDE 3 – protocol design

- Thirteen Modules

- Fieldwork 1 (1 male and 1 female Research Officer in each site - 15 days)
  1. Wereda perspectives on the kebele and their development interventions
  2. Kebele perspectives on the kebele and incoming development interventions
  3. Community trajectories 2003-10
  4. Perspectives from different kinds of community member on development interventions
  5. Wereda perspectives revisited
- Fieldwork 2 (1 male and 1 female RO in each site – 20 days)
  6. Impact of development interventions on different kinds of household
  7. Impact of development interventions on dependent adults and young people
  8. Organisations involved in or affected by development interventions
  9. Key development actors
  10. Two common issues: (1) Gender relations; (2) HIV/AIDS
  11. Follow-up of community-specific issues
  12. Research Officer topic
- Fieldwork 3 (Catherine Dom – Amhara Region)
  13. Regional perspectives on development interventions (pilot)

# In what ways can variable and case-based approaches to aid evaluation be complementary?

- What do we mean by variable based approaches?
  - Variables/variates/attributes are fundamental to social science – they reflect aspects of social structures
  - Here we are focusing on standard variable-based methods associated with regression techniques
  - Remembering that they are only one way of exploring structural relationships
- Leading aid evaluation questions
  1. What difference did it make?
  2. What should we do now?

# In what ways can variable and case-based approaches to aid evaluation be complementary?

- The answer depends on what 'it' it was that potentially made a difference
  - a sector programme in one country
    - IOB approach – integrate the conclusions from the variable-based approach (with schools as the cases) into a case narrative with the country as the case
    - school data generally: could use the Gunning and Byrne methods simultaneously
  - budget support in a number of countries (GBS, SeBSiP, FTI)
    - potential for integrating using the IOB approach? Would it be useful?
  - longer-term evaluations of impacts of development interventions on communities (WIDE3)
    - incompatible philosophical assumptions about how the world works
  - 20 or so years of one donor's aid in one country (DANIDA)
    - potential for integrating using the IOB approach? Would it be useful?
  - future monitoring of processes at local level over the longer-term (Tigray)
    - no survey data



# Recognising the complexity of development: what case-based methodologies can bring to aid evaluation

- Enriching answers to the question ‘What difference did it make?’
  - Intended and unintended differences
  - Differences to structures and institutions?
  - Differences to people - who?
  - Differences when?
  - Knock-on effects
- A realistic and multi-level understanding of causality
- Enriching answers to the questions ‘What should we do now?’
  - Investigating motivations, relations and interactions among the different cases of ‘we’ involved in designing and implementing future interventions
  - ‘Eat 30% less fat’ - informing smart interventions that suit local circumstances

# References and other reading

Abbott A 2001 *Time Matters* Chicago: Chicago University Press

Abbott A 2001 *Chaos of Disciplines* Chicago: Chicago University Press

Abbot, A 1999 *Department and Discipline* Chicago: Chicago University Press

Byrne D 2009 'Using Cluster Analysis, Qualitative Comparative Analysis and NVivo in Relation to the Establishment of Causal Configurations with Pre-Existing Large-N Datasets: Machining Hermeneutics' in Byrne and Ragin (eds) *The Sage Handbook of Case-Based Methods*.

Byrne D 2002 *Interpreting Quantitative Data* London: Sage

Byrne D 1998 *Complexity Theory and the Social Sciences* London: Routledge

Byrne D and C C Ragin 2009 (eds) *The Sage Handbook of Case-Based Methods* London@ Sage

Cilliers P 2005 'Complexity, Deconstruction and Relativism' *Theory, Culture and Society* 22: p255.

Ragin C C 2000 *Fuzzy-set Social Science* Chicago: Chicago University Press

Ragin C C and H S Becker (eds) *What is a Case? Exploring the Foundations of Social Inquiry* Cambridge: CUP

Tilly C 2008 *Explaining Social Processes* ondon: Paradigm Publishers