

Grand Challenges in Management Research:

Creating knowledge that solves real organizational and societal problems

Gerry George

Dean and Lee Kong Chian Chair Professor
Presentation for ANZAM 2017

Visualize your own career five years from now

Consider the types of research you are doing now
and how that might change over the next five
years...

Does the future you visualize consider this question:

HOW AM I HAVING IMPACT?

Broadening Out for Impact

From “Papers” to **Programmes**

From “ Theoretical Agenda” to **Organizational Problems**

From “Contribution” to **Outcomes**



Energy for Development

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Welcome to the Energy for Development Network

The Energy for Development Network aims to enable a step-change in collaborative research and project development addressing the energy needs of rural communities in developing countries. The work is being lead and coordinated by the **Sustainable Energy Research Group** at the University of Southampton.

Implementation Sites



Kitonyoni, Kenya



Oloika, Kenya



Bambouti, Cameroon

Most Recent News



September 2013: Community Progress within the First Year Operation of the Solar Rural Electrification Project in Kenya

This month, the E4D team celebrates the first year of operation of the Kitonyoni project which has undoubtedly transformed the trading centre, the lives of the villagers and has provided the research team a full year of data to appraise system performance, energy demand and relate to overall project replication. The project is now a beacon in Africa having many local and international visitors such as from Japan, Germany, UK, Zambia, the World Bank and other funding agencies. [Read more about the first year of the project.](#)

July 2013: Prof Bahaj gives Lecture on Energy for Development at the Islamic Development Bank, Jeddah Saudi Arabia
Prof. AbuBakr Bahaj, Head of Sustainable

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John Mullins, London Business School; author, The Customer-Funded Business and The New Business Road Test

'This may well turn out to be your scrapbook for business models.

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Shane Corstorphine, VP Regional Growth (Global Regions) and General Manager (Americas), Skyscanner


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BOOK

ADAM J. BOCK
GERARD GEORGE

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BUSINESS

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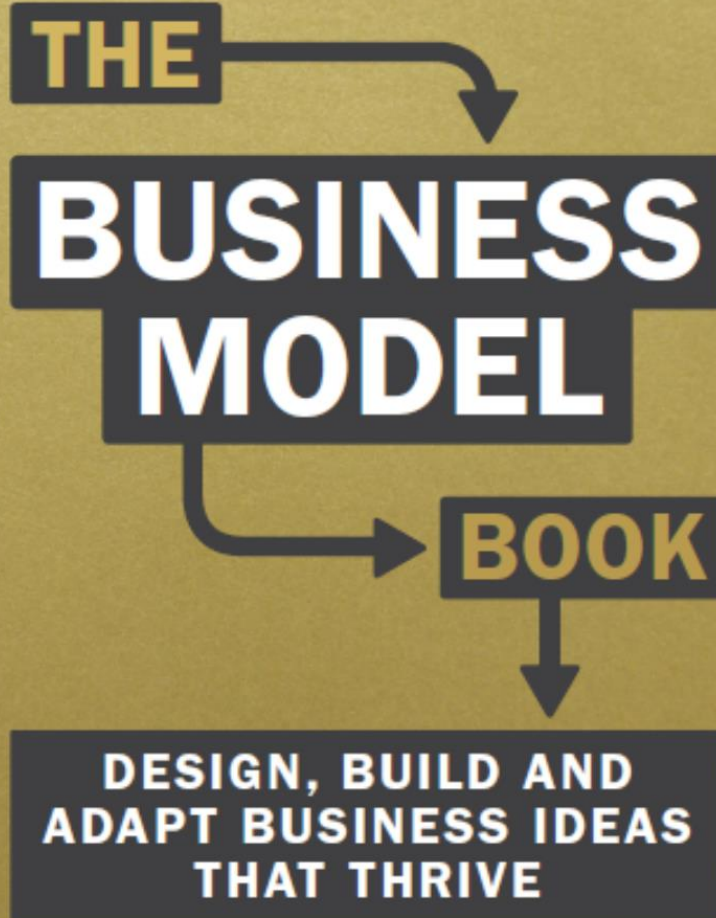
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ADAM J. BOCK AND GERARD GEORGE



FROM THE EDITORS

PUBLISHING IN *AMJ*—PART 1: TOPIC CHOICE

Editor's Note:

This editorial kicks off a seven-part series, "Publishing in AMJ," in which the editors give suggestions and advice for improving the quality of submissions to the Journal. The series offers "bumper-to-bumper" coverage, with installments ranging from topic choice to crafting a Discussion section. The series will continue in August with "Part 2: Research Design." -J. A. C.

At the moment of this writing, there are 64 submissions in the hands of *AMJ* reviewers, who have been asked to critically evaluate the merits of those submissions relative to the mission and goals of the *Journal*. Although those reviewers will read their assigned manuscripts carefully and thoughtfully, their recommendations to the action editor will depend, in part, on a choice made years earlier: the topic of the study. The seeds for many rejections are planted at the inception of a project, in the form of topics that—no matter how well executed—will not sufficiently appeal to *AMJ*'s reviewers and readers. Likewise, many manuscripts ultimately earn revise-and-resubmits as a result of topic choices that gave them clear momentum, right out of the gate. What is the anatomy of a topic that, in our opinion, creates that sort of momentum at *AMJ*? Our editorial will focus on five distinct criteria of effective topics: significance, novelty, curiosity, scope, and actionability.

Significance: Taking on "Grand Challenges"

A starting point to consider when selecting a topic is whether the study confronts or contributes to a grand challenge. The term "grand challenge" is credited to a mathematician, David Hilbert, whose list of important unsolved problems has encouraged innovation in mathematics research since the turn of the 20th century. Grand challenges have been applied to diverse fields in the natural sciences, engineering, and medicine. Examples of grand challenges used by the United States National Academy of Engineering include engineering better medicines and making solar energy economical. The grandest of these challenges are reflected in the United Nations Millennium Development Goals to eradicate global poverty, disease, and hunger. The fundamental principles underlying a grand challenge are the pursuit of bold ideas and

the adoption of less conventional approaches to tackling large, unresolved problems.

Of course, few *AMJ* submissions will deal with topics as globally significant as reducing poverty or combating hunger. What *AMJ* submissions can do is deal with large, unresolved problems in a particular literature or area of inquiry and tackle those problems in a bold and unconventional way that leaps beyond existing explanations. Often that leap will engender new paradigms or open new pastures for scholarly discourse. For example, Ferlie, Fitzgerald, Wood, and Hawkins (2005) took on a grand challenge in asking why evidence-based innovations failed to spread in the health care industry. Innovation diffusion is an issue of vital importance in a number of literatures, and the focus on health care innovations lent additional weight to the topic. Ferlie et al. (2005) then confronted the topic in a bold and unconventional way by going beyond linear models of diffusion and arguing that factors that could seemingly aid diffusion—such as professionalization—could instead create "nonspread."

This conceptualization of grand challenges provides a crucible for melding discussions of theoretical usefulness and the broader perspective that individual and societal benefit can accrue from economic and entrepreneurial activity (Brief & Dukerich, 1991; Ghoshal, Bartlett, & Moran, 1999; Schumpeter, 1942; Sen, 1999). Understandably, every topic choice cannot introduce a new paradigm; the cumulativeness of scholarship and the progress of social sciences require us to build on prior work. Moreover, the "grandness" of unresolved problems will vary from literature to literature over time. Nonetheless, posing each topic within a grand challenge framework provides voice to a study's *raison d'être*; it allows the author to articulate how the study solves a piece of a larger puzzle, and in so doing, moves the field forward with rigor and relevance (Gulati, 2007).

Novelty: Changing the Conversation

Like many other top journals, *AMJ* also emphasizes novelty in topic choice. Given that scientific work can be viewed as a conversation among scholars (Huff, 1998), one simple way to check the novelty of a topic is to consider whether a study ad-

There are enough “management” problems to solve in this world



UNDERSTANDING AND TACKLING SOCIETAL GRAND CHALLENGES THROUGH MANAGEMENT RESEARCH

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“Grand challenges” are formulations of global problems that can be plausibly addressed through coordinated and collaborative effort. In this Special Research Forum, we showcase management research that examines societal problems that individuals, organizations, communities, and nations face around the world. We develop a framework to guide future research to provide systematic empirical evidence on the formulation, articulation, and implementation of grand challenges. We highlight several factors that likely enhance or suppress the attainment of collective goals, and identify representative research questions for future empirical work. In so doing, we aspire to encourage management scholars to engage in tackling broader societal challenges through their collaborative research and collective insight.

The world is besieged by challenges. Discourses in public media suggest that this decade is characterized by political instability, economic volatility, and societal upheaval. Whether it is war in Syria, migrant crises in Asia and Europe, climate change-induced natural disasters, poverty, water scarcity, or famine, global challenges remain stubbornly persistent despite technological, economic, and social progress. Whether it is elections to government office or discussions on trade

GRAND CHALLENGES: WHAT ARE THEY AND WHY SHOULD WE CARE?

The *Academy of Management Journal*'s 20th editorial team has defined its three-year term with a thematic emphasis on “grand challenges” (hereafter, GCs), and called for research through editorials on a wide array of topics that explored global problems including climate change (Howard-Grenville, Buckle, Hoskins, & George, 2014), ageing societies

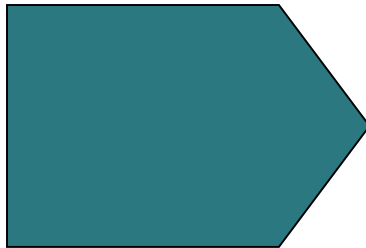
Picking 'Grand Challenge' Ideas

Project 1 -- Lessons from Kenya rural electrification

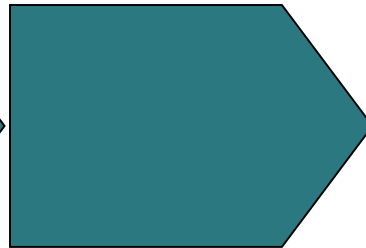
In rural East Africa,
less than **5%** of
dwellings have
access to
electricity.



Many previous rural electrification projects using renewable energy have followed this pattern:



External donor installs equipment



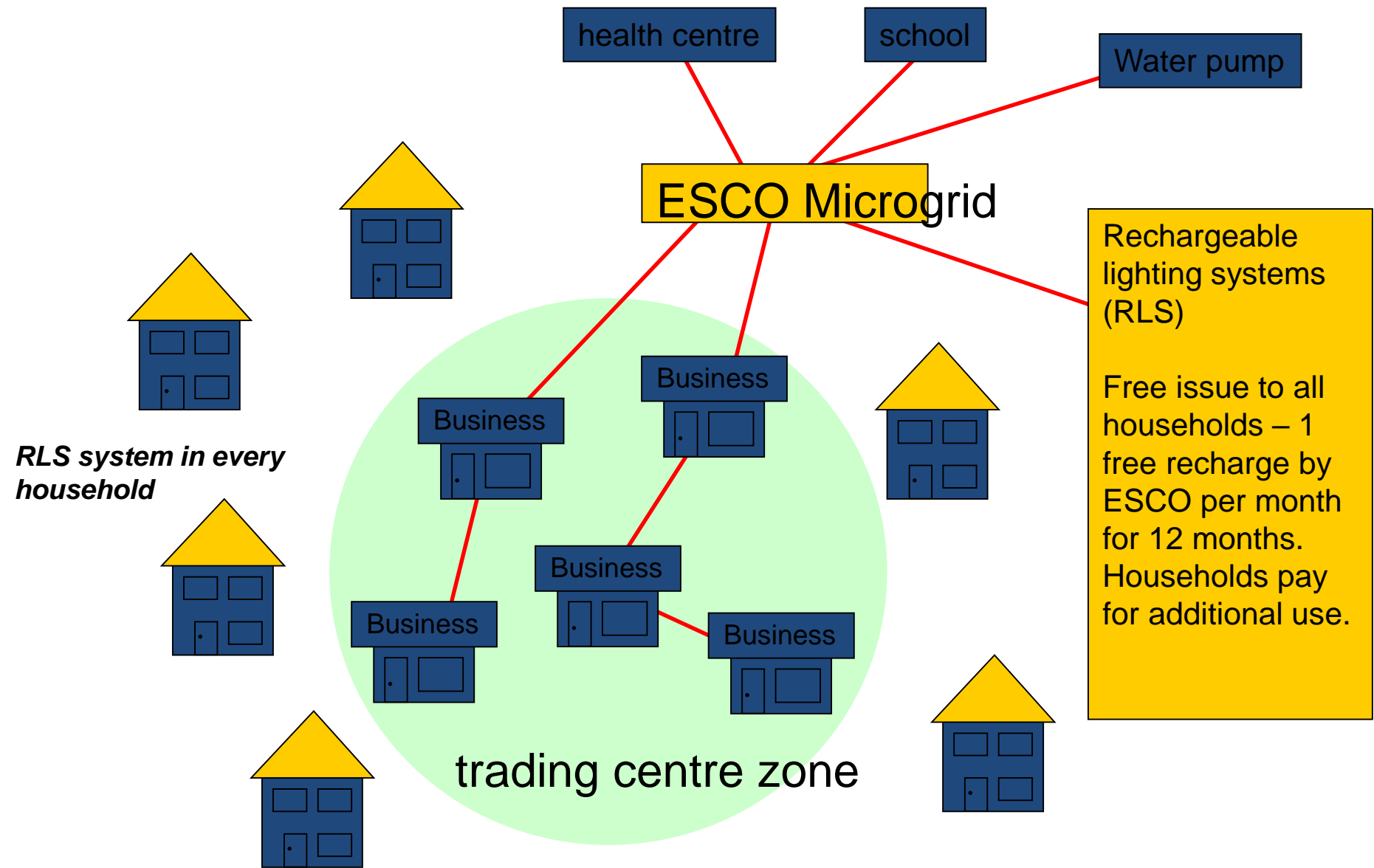
No training.
No revenue generation.



After some time, system fails and is not repaired

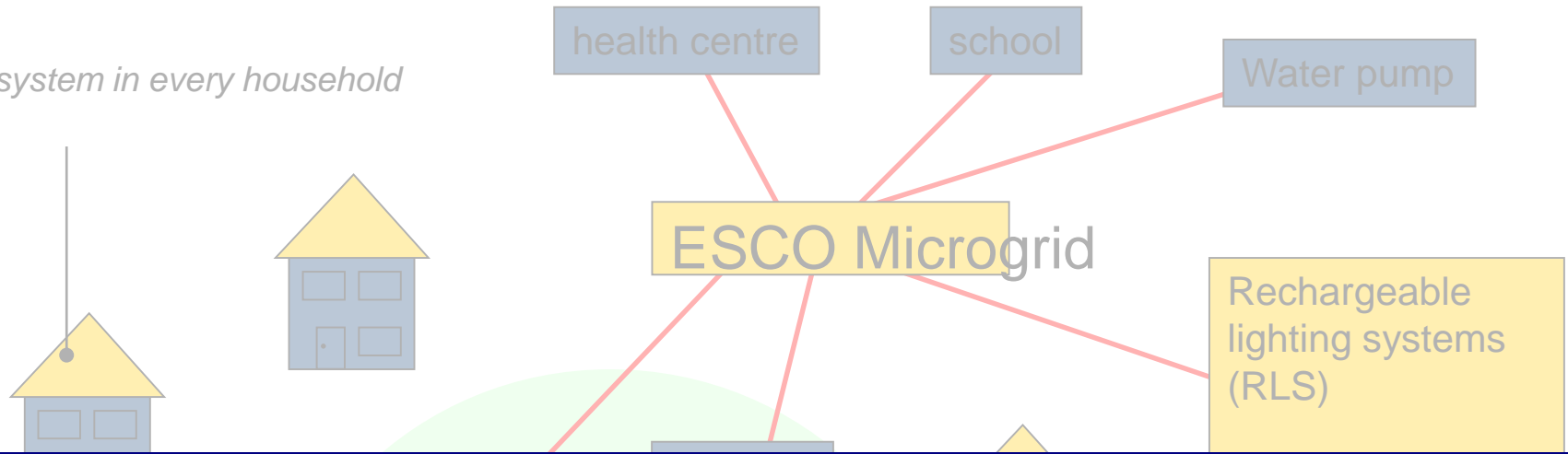
Energy4Development Project

- What?
 - Implement **sustainable, decentralized** electricity generation which promotes development and improves wellbeing
- Where?
 - To start with, in two rural communities in East Africa
- How?
 - Using business models that can be easily replicated throughout Africa and the developing world.
- When?
 - 2010-2015



Micro-grid – connecting businesses, health centre and school only. Residential housing have free issue rechargeable lighting systems.

RLS system in every household



Can we create a blueprint for a business model to offer to entrepreneurs?

Electrification of businesses and health and education services.
Exchange electricity option for households.



Micro-grid – connecting businesses, health centre and school only. Residential housing have free issue rechargeable lighting systems.

Rural entrepreneurship

- KIOSK OWNER
- CHARCOAL SELLING
- GROCERY TRADER
- BICYCLE REPAIR
- SELLING CLOTHES
- HOTEL BUSINESS
- TRADER IN HIDES / SKINS



The Baseline Survey

Objective

Assess baseline:

- household economic status
- health of women and children
- appropriateness of the health facilities and schools
- business activities
- Identify electricity priorities
- Identify contextual factors likely to impact E4D
- Establish management & maintenance strategies



why, and under what conditions, endemic wealth-depleting shocks would lead to greater entrepreneurial intentions in the context of extreme poverty?

Data collected

- A total of 1069 households surveyed:
 - 479 in Kitonyoni
 - 590 in Mwanja
 - 998 women and 856 children
- Followed by an intervention
- A second wave of data collection of 900 households

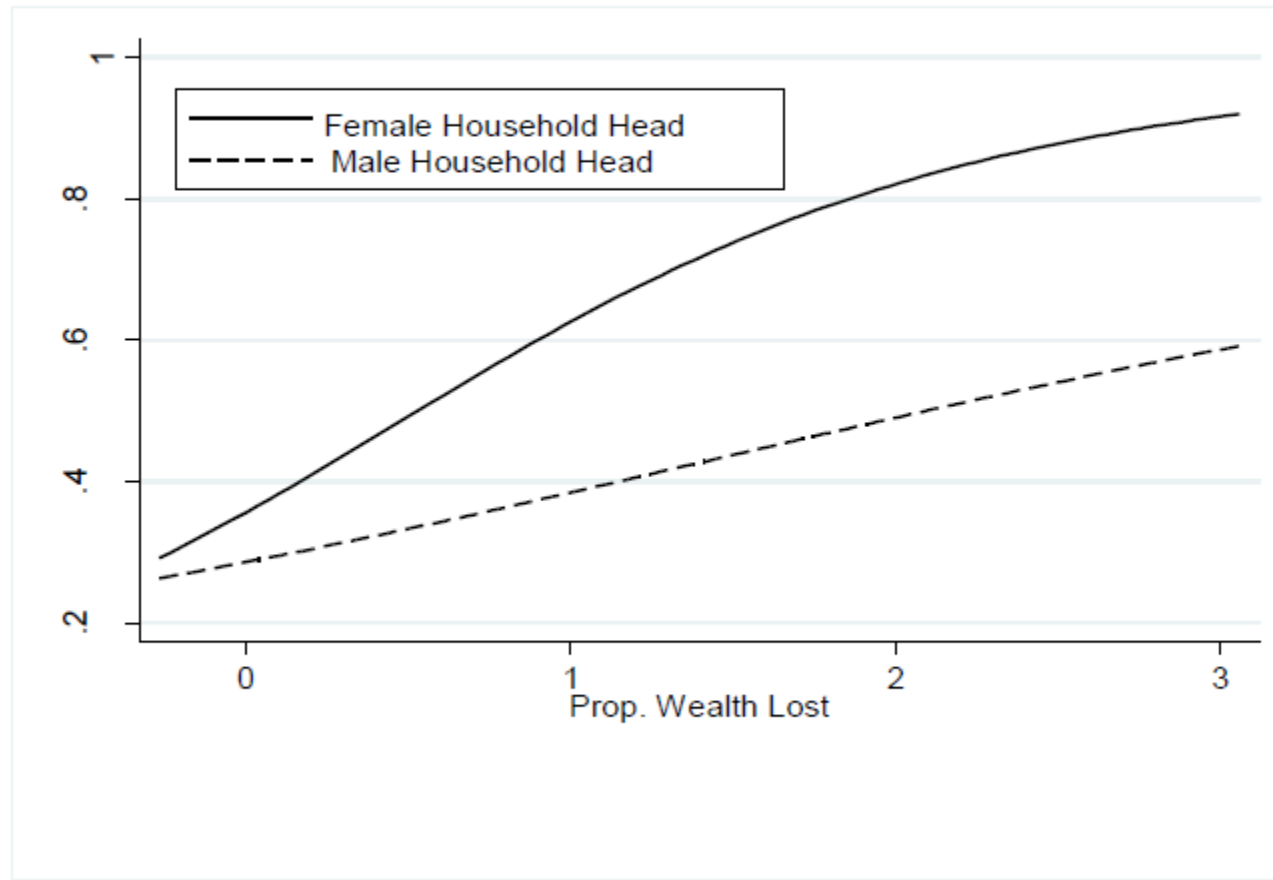
- Dependent Variables :
 - Intend to start a business
 - You already have business idea
- Explanatory
 - Wealth lost past three years
 - Gender of household head
 - Family structure break-up
- Controls
 - Occupation, income, age, family size, capital assets, property rights to assets

Table 2: Logit and Ordered Logit Estimations of Intention, Intention coupled with Idea; Intention, Idea and Started Business

	(1) Intention		(2) Intention		(3) Intention		(4) Intention & Idea	
	Coeff.	s.e.	Coeff.	s.e.	Coeff.	s.e.	Coeff.	s.e.
Satisfied	-0.22**	(0.08)	-0.24**	(0.08)	-0.25**	(0.08)	-0.23**	(0.08)
Respected	0.51***	(0.14)	0.50***	(0.14)	0.50***	(0.14)	0.45**	(0.15)
Food concern	-0.13	(0.10)	-0.17+	(0.10)	-0.19+	(0.10)	-0.26*	(0.11)
Income more than double	1.03+	(0.59)	1.21*	(0.61)	1.19+	(0.61)	0.47	(0.61)
Income less than current	-0.32*	(0.15)	-0.064	(0.21)	-0.033	(0.21)	-0.048	(0.22)
Family size	-0.039	(0.05)	-0.0027	(0.05)	-0.0091	(0.05)	0.011	(0.05)
Experienced starvation	0.019	(0.01)	0.024+	(0.01)	0.023+	(0.01)	0.012	(0.01)
Education	0.19	(0.12)	0.20+	(0.12)	0.18	(0.12)	0.17	(0.13)
Age	-0.0072	(0.01)	-0.0091	(0.01)	-0.0083	(0.01)	-0.013	(0.01)
Age squared	0.000044	(0.00)	0.000063	(0.00)	0.000059	(0.00)	0.00011	(0.00)
Economic shocks	0.13	(0.64)	0.40	(0.81)	0.20	(0.81)	-0.12	(0.85)
Natural shocks	-0.34	(0.67)	0.16	(0.82)	0.14	(0.83)	0.38	(0.86)
Village	0.82***	(0.16)	0.87***	(0.16)	0.88***	(0.16)	0.83***	(0.17)
Title	-0.51**	(0.16)	-0.53***	(0.16)	-0.54***	(0.16)	-0.44**	(0.17)
Wealth concentration	0.52*	(0.26)	0.52+	(0.27)	0.55*	(0.27)	0.58*	(0.28)
Wealth	0.0000013	(0.00)	0.0000022	(0.00)	0.0000025	(0.00)	0.00000043	(0.00)
Income	0.000013	(0.00)	0.0000092	(0.00)	0.0000086	(0.00)	0.000019	(0.00)
Own business	-0.57*	(0.27)	-0.51+	(0.27)	-0.54*	(0.27)	-0.37	(0.28)
Proportion wealth lost			0.34*	(0.17)	1.13**	(0.38)	0.87*	(0.38)
Social disintegration			0.40	(0.90)	0.28	(0.90)	0.83	(0.93)
Female			0.34*	(0.16)	0.33*	(0.16)	0.29+	(0.17)
Income Optimism			0.41*	(0.21)	0.45*	(0.21)	0.55*	(0.22)
Wealth*Social disint.					-3.40*	(1.64)	-2.89+	(1.59)
Wealth* Female					0.70+	(0.37)	0.40	(0.37)
Wealth* Income Optimism					0.23	(0.36)	0.20	(0.36)
pseudo r2	.09		.10		.11		.10	

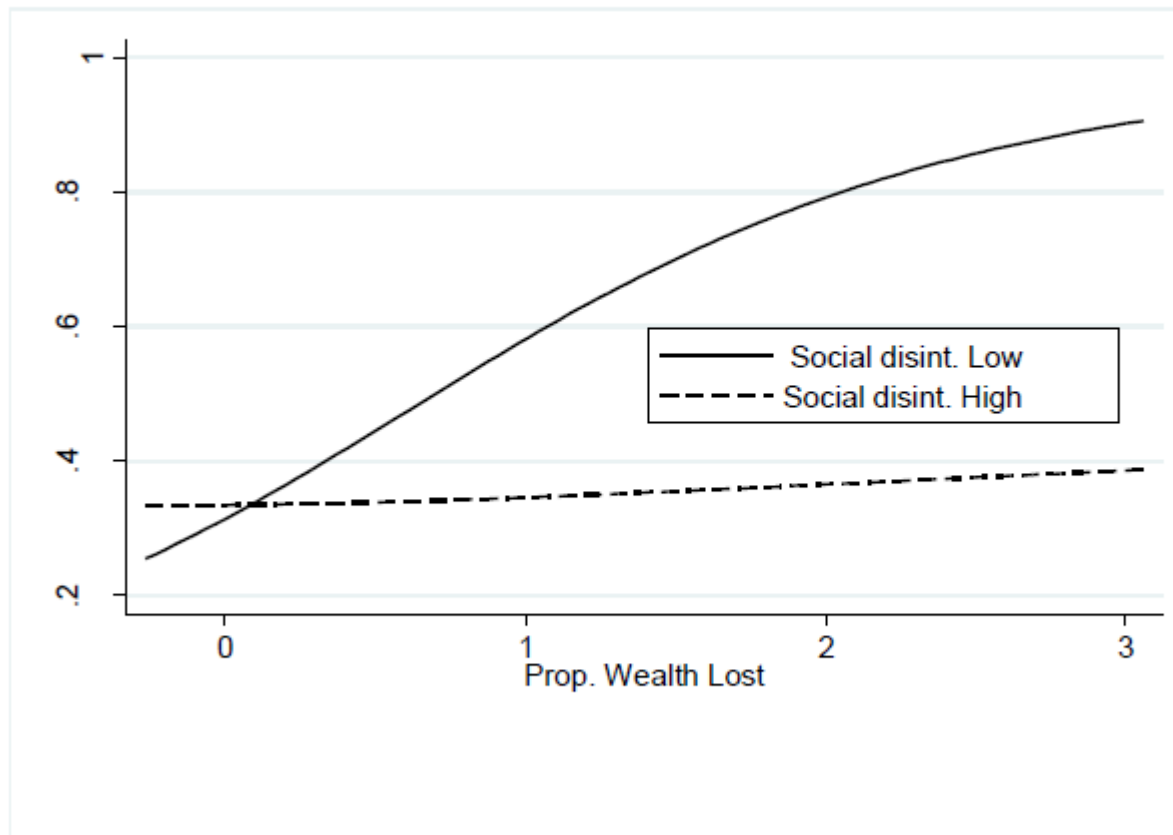
Results: Gender

Figure 1: Gender, Wealth Lost and Entrepreneurial Intentions



Results: Family Structure

Figure 3: Social Structure Disintegration, Wealth Lost and Entrepreneurial Intentions



Effect sizes

- A one standard deviation increase in the wealth loss from the mean level leads to the probability of entrepreneurial intentions increasing from .31 to .50, an increase of nearly 66%
- The average effect is 25% higher in intention formation for female household heads (.35 vs. .28)
- One s.d in wealth lost leads to a female household head's intentions from .35 to .55 (57%). For male household heads, the intentions increase from .28 to .34, an increase of 24% in the same range of wealth lost

The real impact is NOT this paper

Strategic Management Journal

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SOCIAL STRUCTURE, REASONABLE GAIN, AND ENTREPRENEURSHIP IN AFRICA

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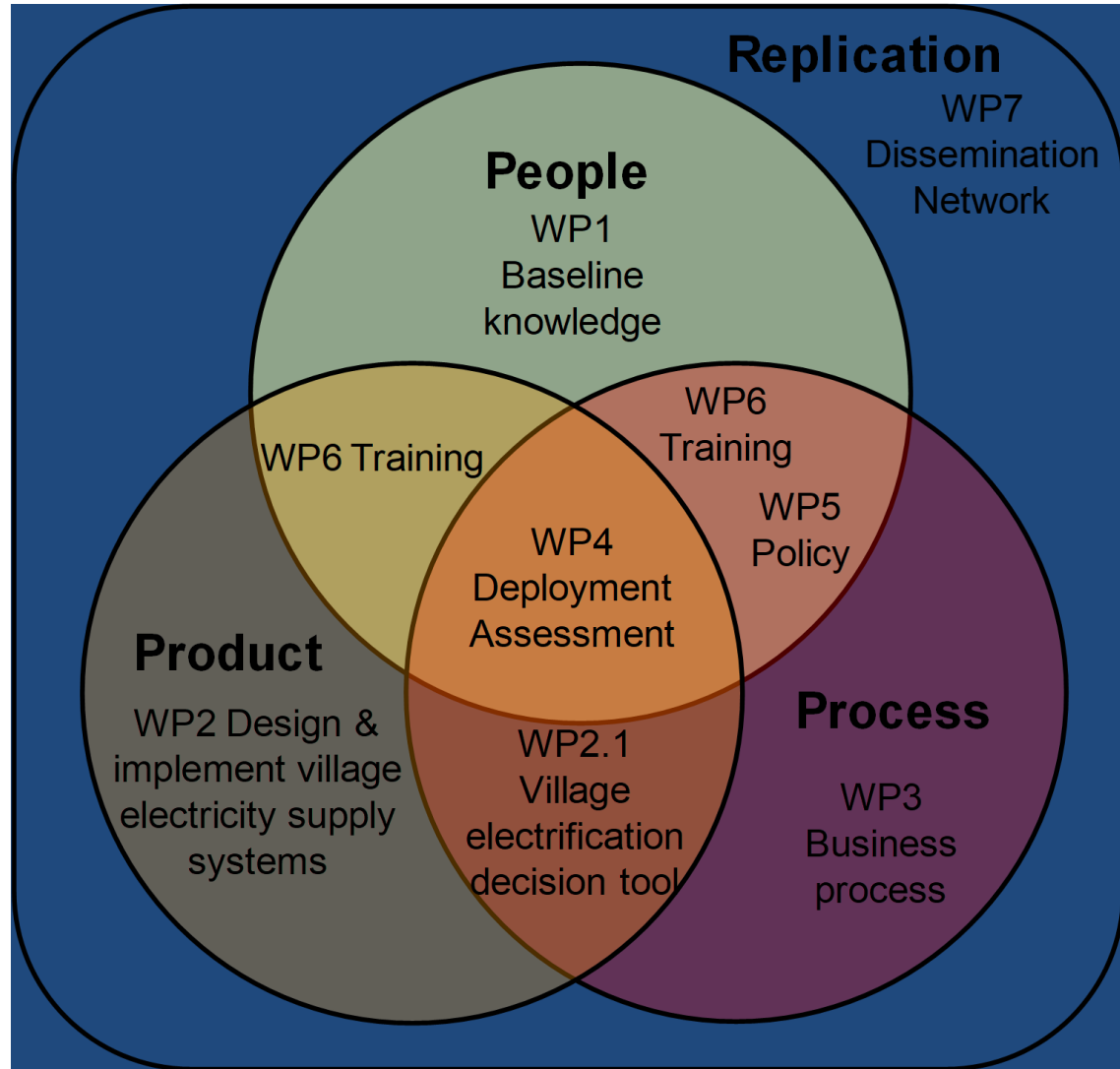
³ *Data Science and Innovation, Imperial College London, London, U.K.*

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In the context of desperate poverty, characterized by households at subsistence level that experience economic loss and social fracture, explanations for why individuals undertake entry into entrepreneurship are limited. We find that individuals rely on their social relationships to enable entrepreneurial activities that have the potential to create a reasonable income gain. In a sample of 1,049 households in rural Kenya, we test whether the disintegration of social

Energy4Development Project

- What?
 - Implement **sustainable, decentralized** electricity generation which promotes development and improves wellbeing
- Where?
 - To start with, in two rural communities in East Africa
- How?
 - Using business models that can be easily replicated throughout Africa and the developing world.
 - Lead Partner is University of Southampton
- When?
 - 2010-2015



Real impact is at the household level

- E4D now implemented in 10,000+ households
- Income increases
- Life satisfaction increases
- Household position in social ladder
- Financial situation over past 3 years improves
- Financial situation next year (Optimism in Mwanja)

What doesn't seem to change

- Net Income (income less expenses)

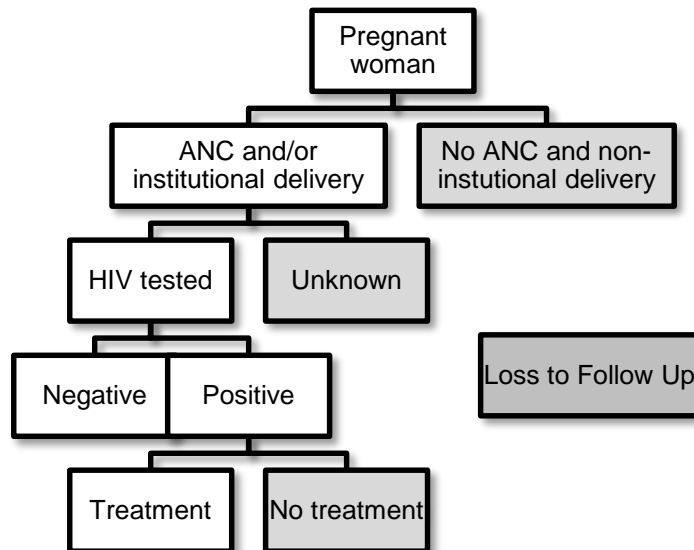
Picking 'Grand Challenge' Ideas

Project 2 – HIV among mothers in India

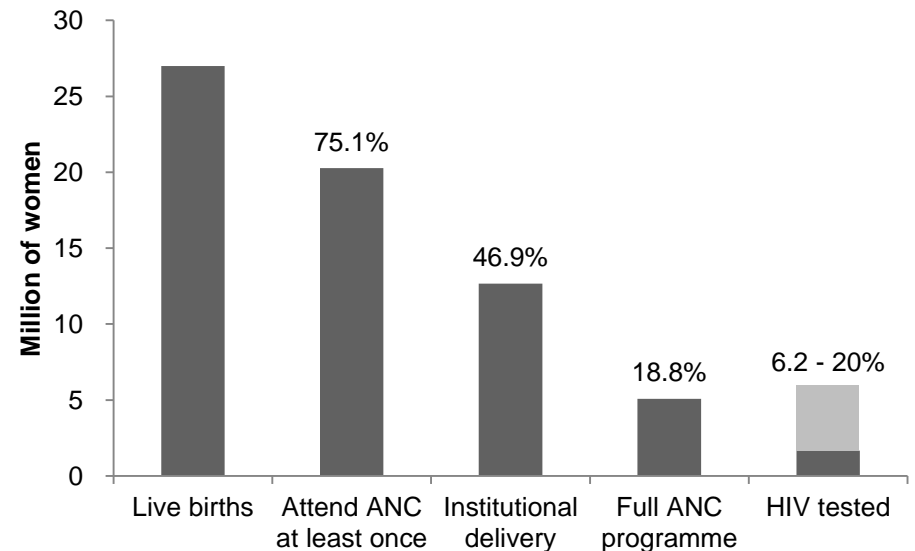
Prevention of mother to child transmission (PMTCT)

We focussed on programs targeted at pregnant mothers and infants. The World Health Organization outlines an ideal PMTCT process for national coordinating agents to follow (left). There are several points where pregnant women drop out of the healthcare system, referred to as loss to follow ups (LFUs).

PMTCT Process (WHO, 2011)



Percentage of women tested at each stage

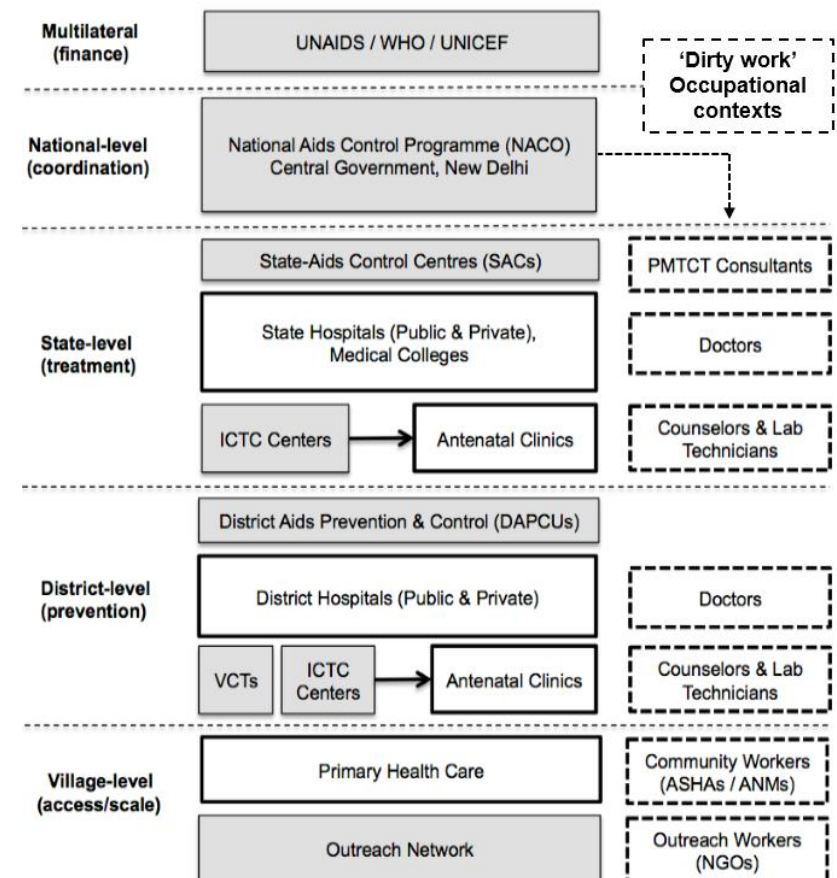


(NACO, 2010; DLHS-3, 2008)

Research setting: NACO

- The **National AIDS Control Organization** (NACO) of India was established in 1992 as the coordinating agent for the Central government in New Delhi.
- It is responsible for formulation of policy and the implementation of national programs for **prevention and control of HIV/AIDS**
- Delivery of public healthcare in India is the responsibility of 28 individual states and requires NACO to work alongside healthcare distributors at multiple levels.

NACO's Organizational Structure



Dirty work as a coordination problem

- Our main contention is that characteristics associated with dirty work present a coordination challenge both at an organizational level and amongst individuals carrying out the ‘tainted’ work.
- We argue that employees engage in additional compensatory behavior that mitigate organization design failures prevalent in dirty work contexts.

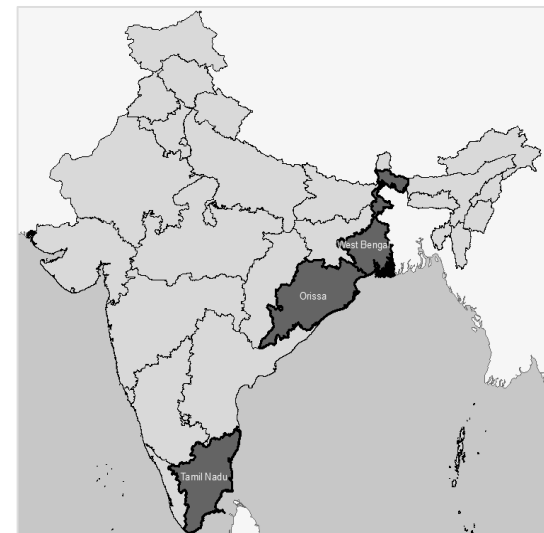
When formal coordination mechanisms designed to integrate employee activities are ineffective, how do emergent responses at an individual level effect compensatory behaviors that mitigate coordination failures?

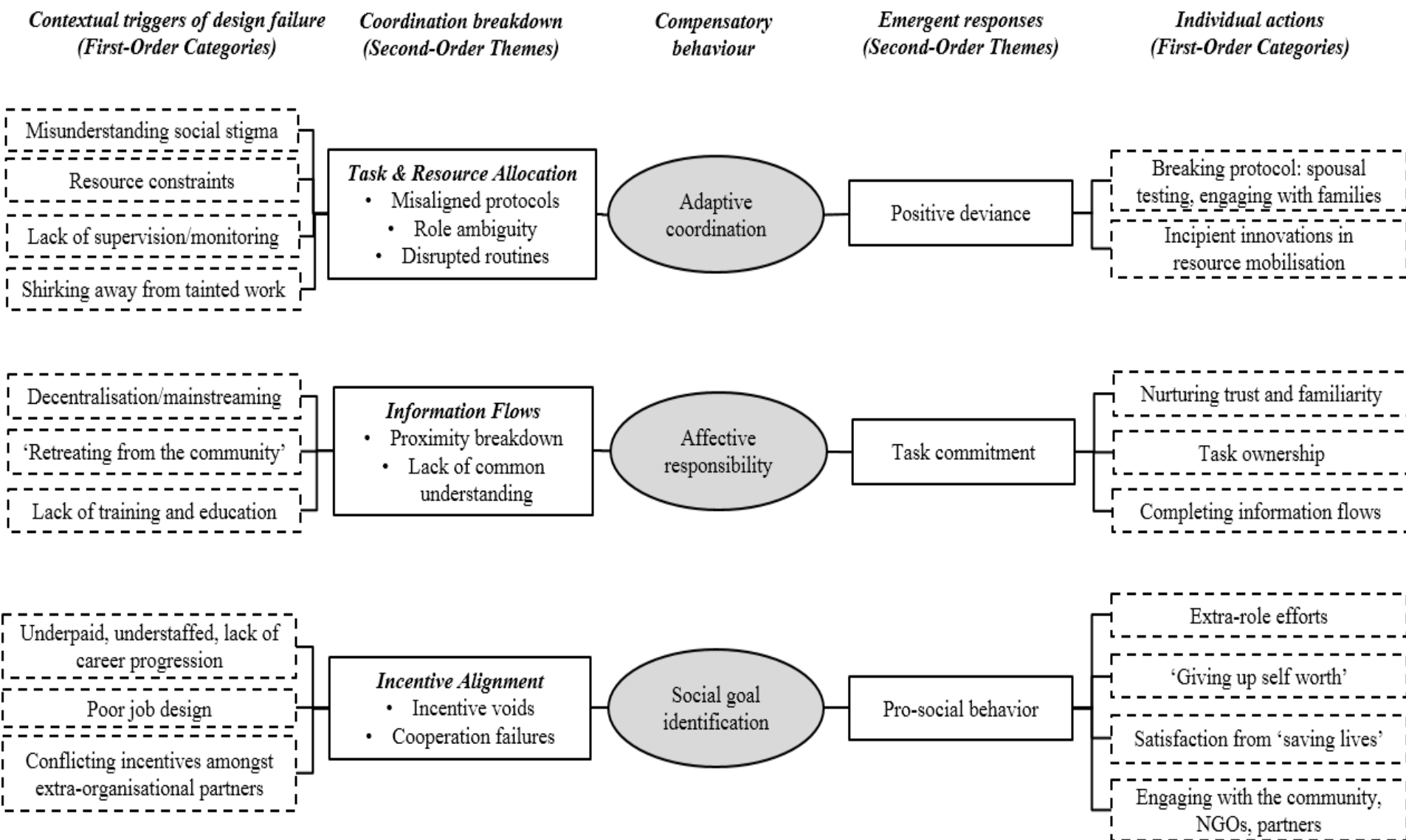
Data collection

- In 2011/12, fieldwork was conducted at NACO and other UNAIDS, WHO offices in Geneva. A range of field methods were used to avoid potential bias from a single source
- Primary data was drawn from three states: Orissa, Tamil Nadu and West Bengal (based on comparable HIV prevalence) and 129 interviews were conducted with employees at multiple levels of the organization.

Breakdown of Interviewees (by state and occupation)

	Orissa	Tamil Nadu	West Bengal	Total
Counsellors and lab technicians	12	20	26	58
Outreach workers		6		6
Medical officers	6	2	4	12
District/State-level officers	4	10	2	16
Total	22	38	32	92





Contextual triggers of design failure (left) and emergent responses determined by individual actions (right) are aligned with aggregate theoretical dimension understood as 'compensatory behaviours' to mitigate organization design failure

The real impact

- Is children born free of HIV
- Are health workers (and mothers) who have organisational support for stigma of treating HIV
- It will also be nice to have a paper (which is under revision)

Keep Grand Challenges as your North Star

Pick 1 or 2 SDGs to establish domain knowledge

Visualize the impact that you want to have
(impact on firms, society, policy, students, people)

Build research programmes (not papers)

Be creative in resourcing

Invest the marginal hour