

# Deliberative democracy and the resource curse: Experimental evidence from Tanzania

Jennifer Richmond  
jrichmond@cgdev.org

Center for Global Development

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Context

Motivation

Research Design

Results

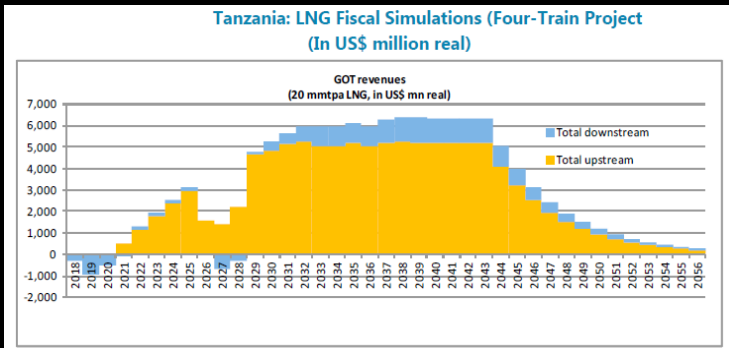
Lessons learned

## Research team

- **Nancy Birdsall**, PI, Center for Global Development
- **Justin Sandefur**, PI, Center for Global Development
- **Mujobu Moyo**, PI, Center for Global Development (now Aspen Institute)
- **Faraz Haqqi**, RA, Center for Global Development (now Ideas42)
- **James Fishkin**, PI, Stanford University
- **Sam Wangwe**, Collaborator, Policy Research for Development (REPOA)
- **Abel Kinyondo**, Collaborator, Policy Research for Development (REPOA - retired)
- **Matt Wiseman**, Survey company, Economic Development Initiatives (EDI Global)
- *Study group of experts to oversee the project*

# Background

- Tanzania's discovered >50 tcf mostly offshore
- Gas could yield avg. of >\$2 bn per year (2-3% GDP)
- Policymakers passed in 2015: (1) Petroleum Act, (2) the Oil and Gas Revenues Management Act, & (3) the Tanzania Extractive Industries Act



## Tanzania's need for growth

- Like many low-income countries, TZ has urgent needs
- Basic needs poverty and extreme poverty fell 2006-'12, but still very high
  - Basic needs  $\longrightarrow$  34.4% to 28.2% (about 12 mn ppl)
  - Extreme  $\longrightarrow$  11.7% to 9.7% (about 4 mn ppl)

### Monthly median income & annual consumption (NBS)

Indicator	Group	1991	2000	2007
Median per capita income	Total		\$10.51	
	Rural		\$9.49	
	Urban		\$18.19	
Consumption % (b 20%)	Total	7	6.9	7.2

## Tackling resource management & mitigating the curse

- Developing countries with poor institutions & capacity exhibit higher propensity to squander new resource wealth (*Sachs & Warner 1995*) and tend to perform worse economically than resource-poor countries (*Ross 1999*), making the resource curse an “urgent puzzle”
- More recent work rejects the curse as a forgone conclusion (*van der Ploeg 2011*)
- Transparency & accountability a major pathway to prevent corruption and reduce clientelism (*Fujiwara & Wantchekon*)
- But experts doubt citizens’ ability to understand complex technical and policy issues to hold leaders accountable
- There needs to be deep public understanding before elites will respond (*Collier and Venables 2009*)

# Research question

What would the Tanzanian public want to do with its newfound resource wealth if it was well-informed about the gas discovery and policy options, and took time to discuss policy options?

## Research sub-questions

- (1) Is it feasible to facilitate a democratic deliberation on complex national policy issues in a low-income country when a majority of the population is poorly-educated and ill-informed?
- (2) As participatory engagement and public consultation are increasingly part of achieving development goals, is it possible to apply a democratic deliberative model - which is more representative - to developing country policy processes?

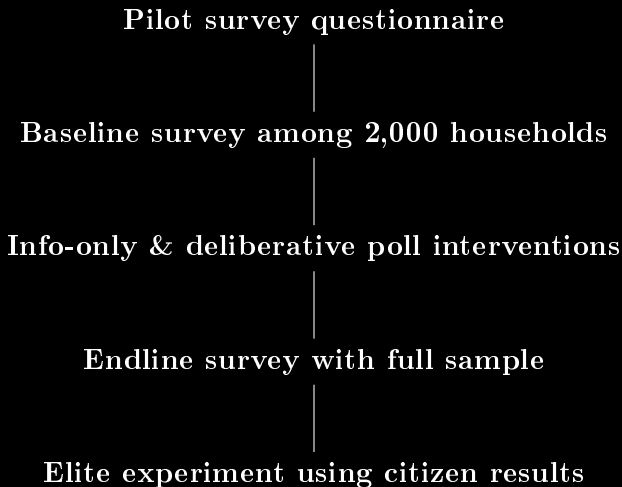
*“...processes must entail open dialogue and broadly active civic engagement, and it requires that individuals have a voice in the decisions that affect them” (Stiglitz 2002)*



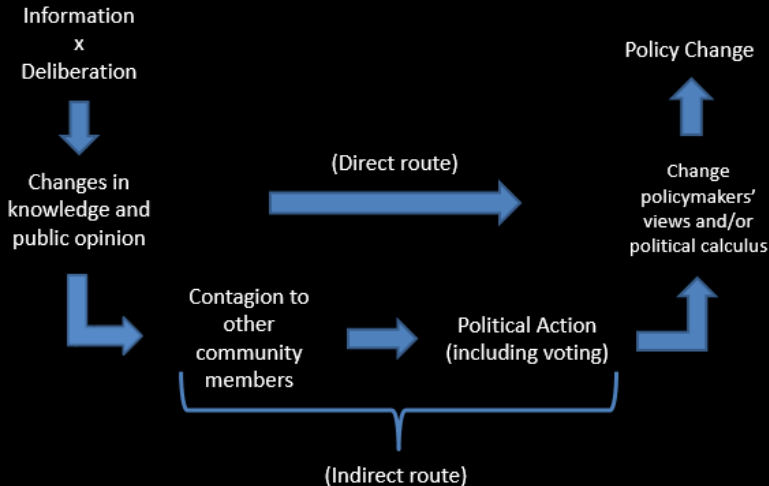
## With a string of discoveries, potential external validity?

- **Uganda:** 6.5 bn barrels; 2 bn commercially viable (Uganda Energy Ministry)
  - **Mozambique:** 75 trillion tcf gas (Anadarko)
  - **Kenya:** >800 mn barrels (Africa Oil Corp)
  - **Ghana:** 1.5 tcf and >550 mn barrels (Commerce Ghana)
- Municipal deliberative polling in Uganda & Ghana
- Controlled experiment = ability to detect stronger relationships between respondents and treatment effects

# Evaluation approach



# Theory of Change



Tested to reject the  $H_0$  for, "Deliberation increases":

H1. Support for extracting & exporting gas

H2. Support for saving over spending

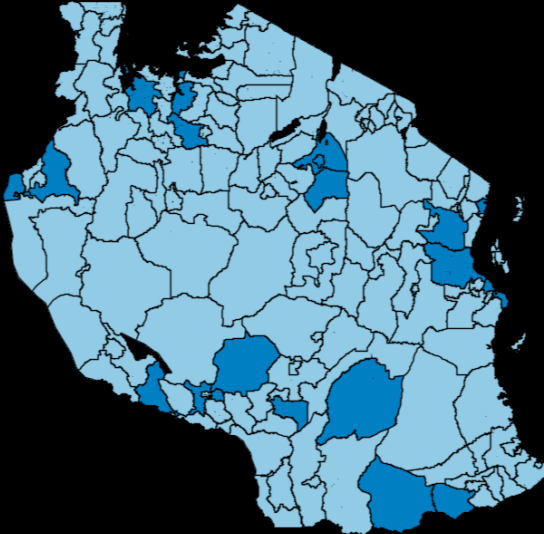
H3. Support for cash transfers over govt. spending

H4. Preference for \$ to social services over industry

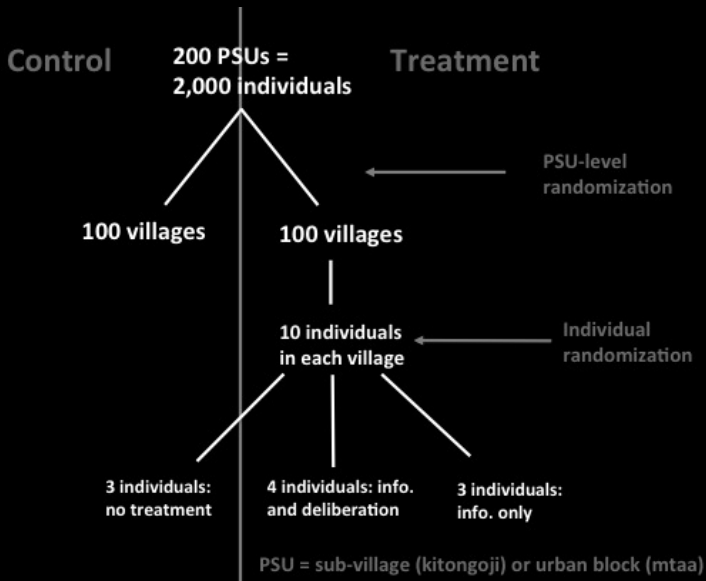
H5. Support for transparency & oversight

H6. Knowledge of natural gas

# Sampled districts



# Sampling



# Balance of sample

Balance test at baseline across six outcome indices

	(1) Sell	(2) Save	(3) Cash	(4) Services	(5) Transparency	(6) Knowledge
Effect of info. + deliberation	-0.0171 (0.0772)	0.0332 (0.0832)	-0.0272 (0.0949)	-0.149 (0.153)	-0.0445 (0.0775)	0.170* (0.101)
Effect of information	-0.0618 (0.0819)	0.00997 (0.0853)	-0.0485 (0.105)	-0.0984 (0.102)	-0.00194 (0.0880)	0.0541 (0.103)
Spillover effects	-0.00729 (0.0834)	-0.00441 (0.0844)	-0.0318 (0.102)	-0.223 (0.193)	-0.0291 (0.0874)	0.0432 (0.108)
Obs.	2001	2001	2001	2001	2001	2001

Each column reports a separate regression. Dependent variables are listed in the top row. Each dependent variable is the pre-treatment value of a mean effect index combining multiple survey responses, with mean zero and standard deviation of one at baseline. Standard errors are clustered at the level of the primary sampling unit (i.e., a village or urban block).

# Deliberative poll intervention





## Deliberative poll cont'd

### Deliberative discussion groups

Session 1	Should Tanzania extract and sell its natural gas in international markets or use it exclusively for domestic consumption?
Session 2	If Tanzania earns revenue from selling natural gas, should that money be saved for the future or spent now?
Session 3	Should the government spend natural gas money on social goods or give it to Tanzanians to spend?
Session 4	If the government spends the money, what should be the priority areas for spending?

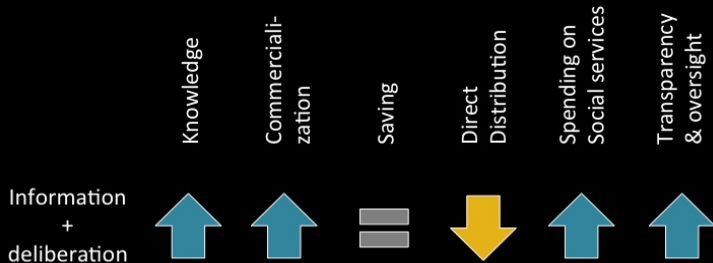
# Info-only and info + deliberation ITT effects

Summary of intent-to-treat (ITT) effects across six outcome indices

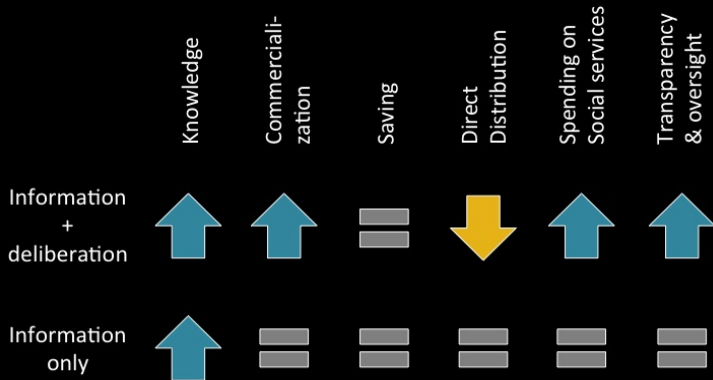
	(1) Sell	(2) Save	(3) Cash	(4) Services	(5) Transparency	(6) Knowledge
Effect of info. + deliberation	0.216** (0.103)	-0.105 (0.0762)	-0.286*** (0.0674)	0.101 (0.0703)	0.157** (0.0648)	0.467*** (0.0572)
Effect of information	-0.0875 (0.110)	-0.0652 (0.0795)	-0.0486 (0.0666)	-0.0252 (0.0756)	-0.0327 (0.0661)	0.141** (0.0688)
Spillover effects	-0.189* (0.104)	-0.146* (0.0872)	-0.0418 (0.0722)	0.0311 (0.0738)	-0.0555 (0.0767)	-0.0448 (0.0617)
Baseline outcome	0.357 (0.397)	0.0818*** (0.0278)	0.153*** (0.0233)	0.0133 (0.0255)	0.0847*** (0.0225)	0.236*** (0.0239)
Obs.	1857	1858	1857	1857	1858	1858
Add'l stats for info + delib.:						
BKY (2006) q-value	0.032	0.059	0.001	0.059	0.021	0.001
Horowitz-Manski-Lee bounds						
Lower	0.10	-0.38	-0.45	0.10	0.12	0.44
Upper	0.36	-0.04	-0.22	0.18	0.24	0.57

Each column reports a separate regression. Dependent variables are listed in the top row. Each dependent variable is the post-treatment value of a mean effect index combining multiple survey responses, with mean zero and standard deviation of one at baseline. Standard errors are clustered at the level of the primary sampling unit (i.e., a village or urban block).

# ITT effects cont'd

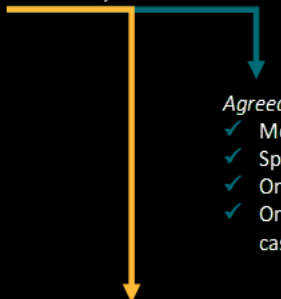


# ITT effects cont'd



# Comparing citizen and elite baseline results

*At baseline, voters and elites...*



*Agreed:*

- ✓ Most of the gas should be exported and sold
- ✓ Spending should be prioritized for public services
- ✓ On using expected gas revenue as collateral to borrow
- ✓ On using revenue for government spending rather than cash transfers

*Disagreed:*

- ✗ On spending vs. saving
- ✗ On international oversight

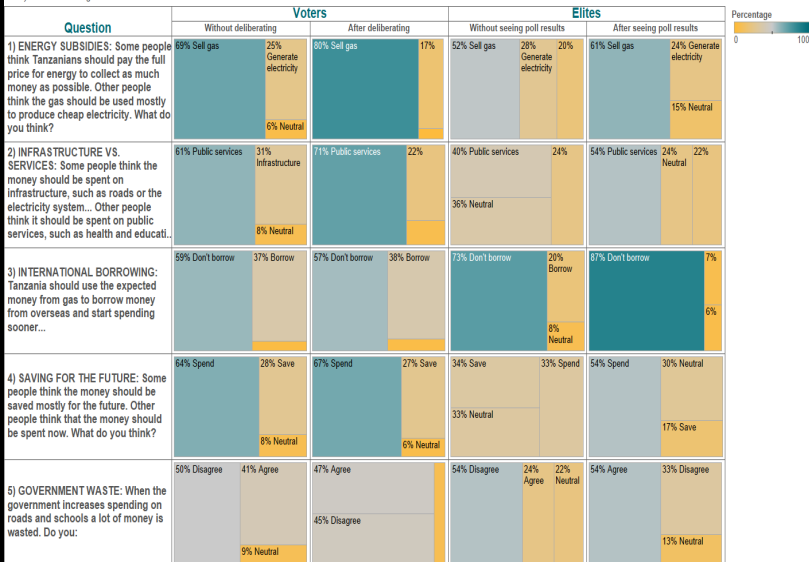
# Final results

Citizen vs. elite opinion

	Average for control			Treatment effects		
	(1) Citizens	(2) Elites	(3) Gap	(4) Citizens	(5) Elites	(6) Gap
Sell gas (1.1)	0.198*** (0.014)	0.090* (0.047)	-0.109** (0.055)	0.101*** (0.026)	0.100 (0.072)	-0.002 (0.082)
Save for the future (2.5)	-0.242*** (0.013)	0.007 (0.041)	0.249*** (0.050)	0.026 (0.025)	-0.187*** (0.061)	-0.213*** (0.078)
Don't borrow overseas (2.6)	0.081*** (0.014)	0.201*** (0.034)	0.120** (0.053)	-0.013 (0.026)	0.153*** (0.051)	0.166** (0.080)
Cash transfers (3.6)	-0.249*** (0.013)	-0.323*** (0.031)	-0.074 (0.051)	-0.063*** (0.024)	-0.044 (0.046)	0.019 (0.074)
Personal savings accounts (3.7)	0.231*** (0.012)	-0.088* (0.046)	-0.319*** (0.047)	-0.041* (0.023)	-0.027 (0.068)	0.014 (0.072)
Spend on services (not infra.) (4.6)	0.119*** (0.015)	0.051 (0.044)	-0.068 (0.058)	0.101*** (0.027)	0.115* (0.066)	0.014 (0.086)
Contract transparency (5.1)	0.349*** (0.011)	0.409*** (0.031)	0.060 (0.041)	0.016 (0.020)	-0.072 (0.048)	-0.089 (0.065)
International oversight (5.2)	0.057*** (0.015)	-0.082* (0.049)	-0.139** (0.059)	0.075*** (0.028)	0.089 (0.076)	0.014 (0.092)

Outcome variables are listed in the left column, and are defined such that they have a range of one (from -0.5 to 0.5) and zero signifies indifference. Columns (1) and (2) show the mean for the control group in each sample, and the gap between the two control samples (citizen and elites) is shown in column (3). Columns (4) and (5) show the effect of each treatment, respectively, and column (6) reports the net effect of the treatments on the gap between citizens and elites. (To see the level of disagreement between citizens and elites after treatment, sum columns (3) and (6).) Asterisks denote statistics that are significantly different from zero (i.e. from indifference, or from a null effect of treatment, depending on the column).

Survey Outcomes Among Elites and Voters



# Attrition

- **Baseline** survey —> **2,000** individuals
- **Endline** survey —> **1,669** individuals
- **Attrition** rate —> **16.5%**
  - Survey company made 3 follow-up attempts
  - Intervention participants 8.7% more likely to respond



# Lessons learned

## (1) Sampling issues

- Acquiring a complete, nationwide listing of households/villages/urban blocks was difficult and hard to work with in pdf form...
- Come up with a backup sampling protocol beforehand; not everyone will be where listed, so devise a strategy, e.g. random walk technique
- Sampling policy elites is tricky - need personal contact info., busy schedules, and who counts as “elite” exactly?
  - Offered incentives
  - Online survey alternative to event

# Lessons learned cont'd

## (2) Attrition

- Even with mobile money incentive, very difficult to get about 25% of our 2,000-person sample to respond
    - Could be due to length of survey, loss of phone, or phone sharing between family & friends
    - Another explanation could be lack of investment in the project; participants were 8.7% more likely to respond if they'd participated in deliberative poll
- Helpful to reduce lag time between events

## Lessons learned cont'd

### (3) Budget (!)

- Extensive field work = whatever you budgeted, it will cost more!
- Additional in-person contacts due to attrition, weather, calculations incorrect, paying participants extra fees to participate, additional transportation, additional events and meetings, additional personnel, media, etc, etc, etc.
- Survey costs add quickly; check in with your team regularly to make sure you're within budget
- Diversify your funding
  - Funding from four major donors: (1) 3ie, (2) Gates Foundation, (3) IDRC, (4) IGC

## Lessons learned cont'd

### (4) Information provision

- Important to consider cultural and socioeconomic context in constructing information materials
- We worked with our study group, a film company in Tanzania, our REPOA colleagues, and other survey design/engagement experts to carefully design video, audio, and written information materials that everyone could understand
- Policing bias is also key and requires external review of materials

Thanks!

[jrichmond@cgdev.org](mailto:jrichmond@cgdev.org)

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