

Is country-system-based aid really better than project-based aid? Evidence from rural water supply management in Uganda

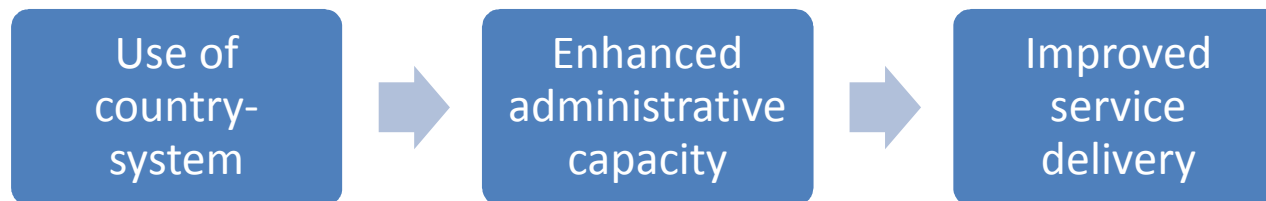
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Purpose

- Empirically test whether the financial management through the recipient's country-system, compared to donor's parallel system, results in better front-line service delivery



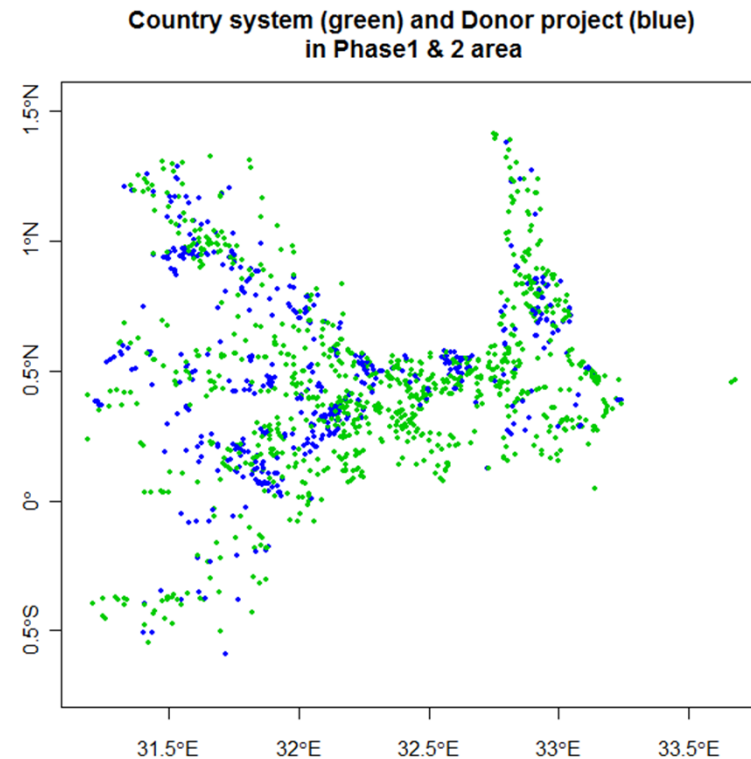
“Country system”: usage of recipient government’s procurement and financial management system

“Parallel system”: usage of donor’s procurement and financial management system

✂ both projects are aligned with recipient government policy

Method

- Compare sustainability of water supply systems (facility and its user organization) constructed through country-system and those through parallel-system
 - Country: Uganda
 - Sector: Water and Sanitation
 - Area: Rural area in Central Region
 - Facility: Deep borehole
 - User organization: Water and Sanitation Committee



Why Uganda?

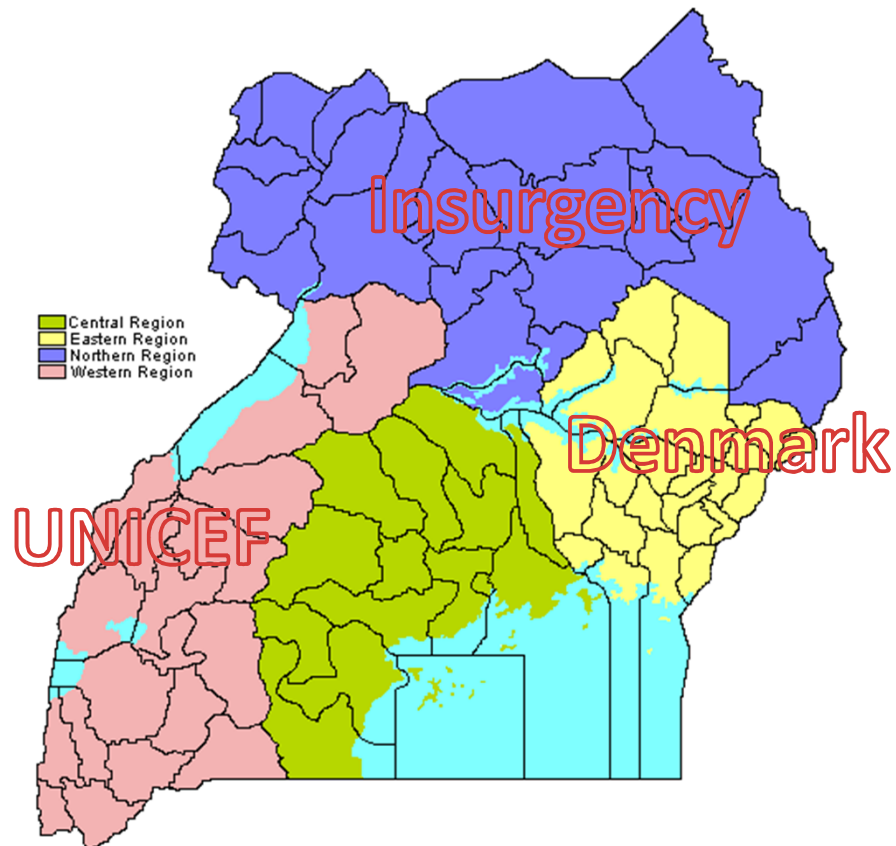
- Success case of development co-ordination
- Ownership:
 - Poverty Eradication Action Plan since 1997
- Alignment:
 - General Budget Support since 1998
- Harmonization:
 - Uganda Joint Assistance Strategy since 2005

Why Water and Sanitation Sector?

- Success case of sector coordination
- Ownership:
 - Uganda's request in June 2000: (1) direct transfer of funds to districts; (2) package approach; (3) sector coordination
- Harmonization:
 - Quarterly Water and Sanitation Sector Working Group
 - Annual Joint Water and Sanitation Sector Review since 2001
- Alignment:
 - Joint Partnership Fund, 2003-2007
 - Joint Water and Sanitation Sector Programme Support, 2008–2012
- Division of labor:
 - Large cities: support by Germany
 - Small towns: support by Austria, EU, AfDB,
 - Remaining rural areas: support by Sweden (-2010) and Denmark

Why deep boreholes in central region?

- Data availability
 - WATSUP <http://www.watsup.ug/>
- Identifiability
 - Limited number of donors:
 - Eastern Region: Project type support (Rural Water and Sanitation East Uganda Project, RUWASA1&2,) by Denmark (1991-2002)
 - Western Region: Project type support (South-West Integrated Health and Water Programme, SWIP) by UNICEF (funded by Sweden) (1990s)
 - Northern Region: Insurgency
 - Remaining area: district-based programme funded mainly by Sweden
 - late 1980s -1995: National Water and Environmental Sanitation Programme, WATSAN
 - 1995– 2000: Water and Sanitation Programme, WES
 - 2001-2002: bilateral budget support to districts by Sweden
 - Sector budget support:
 - 2003-2007: Joint Partnership Fund
 - 2008–2012: Joint Water and Sanitation Sector Programme Support
 - JICA Project (phase1: 1998–2002; phase2: 2004–2006) in the part of central region
 - cost and technology: beyond the control of NGOs



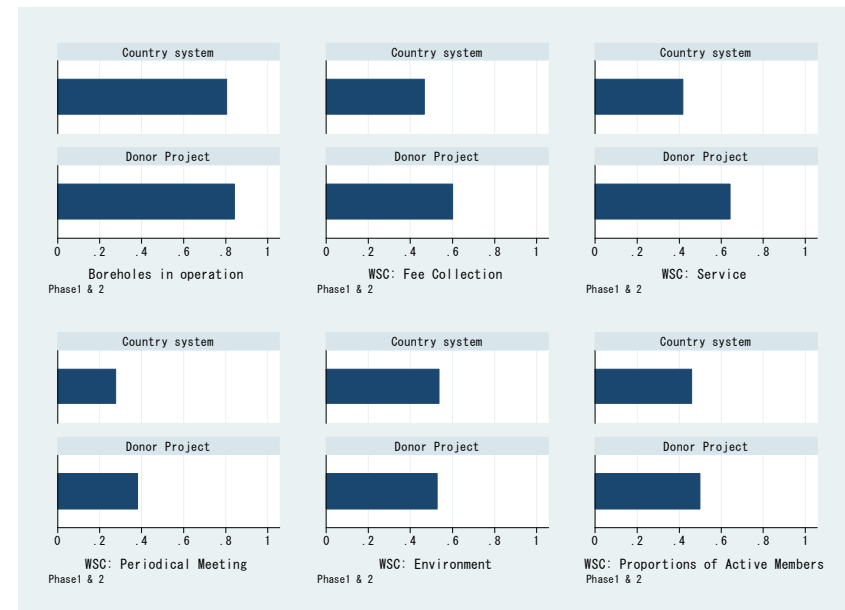
		Central region	Other regions
Large cities		Germany, NGOs	Germany, NGOs
Small towns		AfDB, NGOs	Austria, EU, AfDB,
Rural areas	Deep borehole	Government of Uganda (DANIDA, Sida/UNICEF), JICA	Government of Uganda (DANIDA, Sida/UNICEF)
	Shallow well, Protected spring, etc.	Government of Uganda (DANIDA, Sida/UNICEF), NGOs	Government of Uganda (DANIDA, Sida/UNICEF), NGOs

Framework of Comparison

	Sector Budget Support (n= 1001)	JICA (n=625)
region	Central Region	Central Region
Urban/rural	Rural	Rural
facility	Deep borehole	Deep borehole
Construction year	after1998	after1998
initiative	Demand-base	Demand-base
contents	Hard & soft components	Hard & soft components
implementation	Local contractor	Local contractor
Financial management	Country system	Parallel system
outcome	?	?

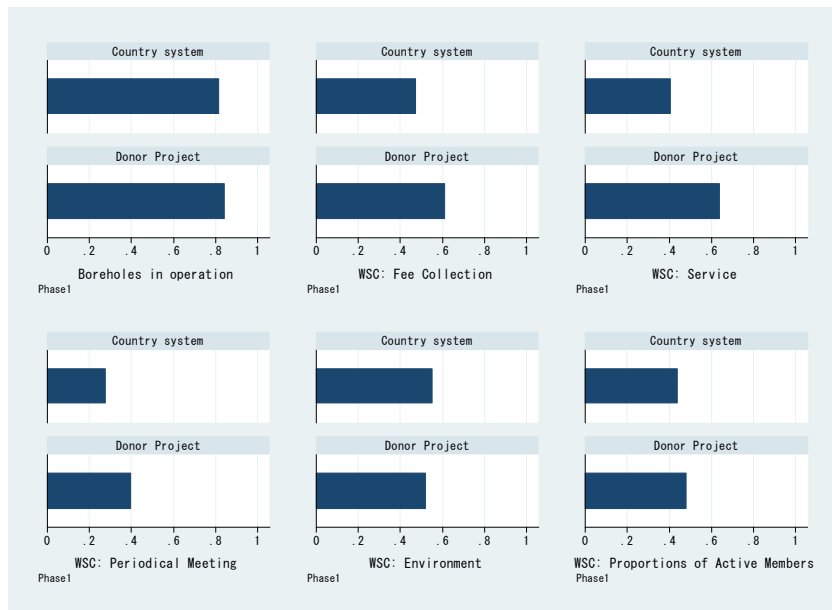
Result1: bivariate analysis

- 84.3 percent of project-based boreholes are in operation as against 80.7 percent of country-system-based ones ($p = .09$);
- 60.2 percent of WSCs of project-based boreholes collect user fees as against 46.7 percent of country-system-based WSCs ($p < .00$);
- 64.5 percent of WSCs of project-based boreholes offer services as against 42 percent of country-system-based WSCs ($p < .00$);
- 38 percent of WSCs of project-based boreholes hold meetings as against 26.7 percent of country-system-based WSCs ($p < .00$);
- On average, the proportion for active membership of WSCs of project-based boreholes is 3.5 points higher than that for country-system-based boreholes ($p = .06$);
- Only in terms of environmental maintenance do we find no difference between project-based and country-system-based WSCs (52.6 vs. 53.6 percent; $p = .38$).

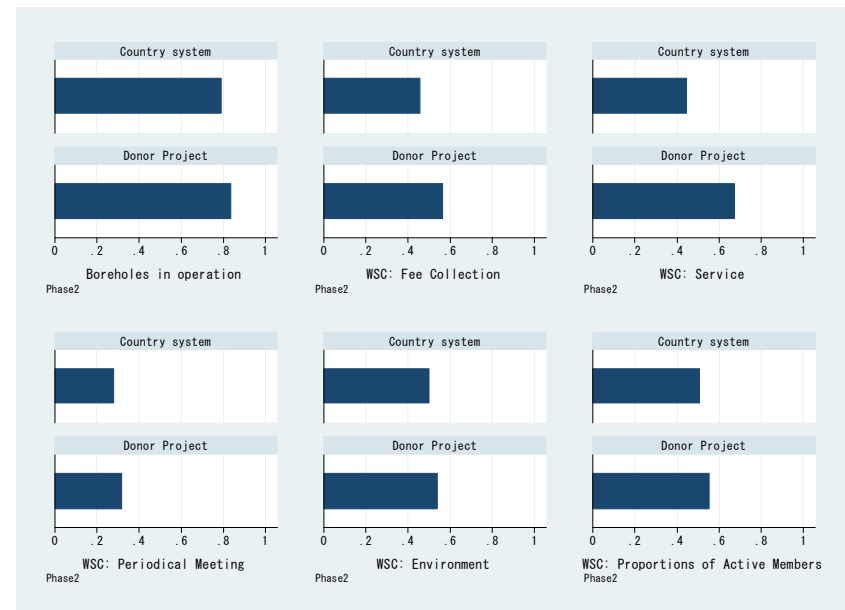


Result2: split sample by phase

Phase 1 areas



Phase 2 areas



Result3: Multivariate regression controlling for elapsed years, district, and phase

↓ partial coefficient of JICA dummy variable

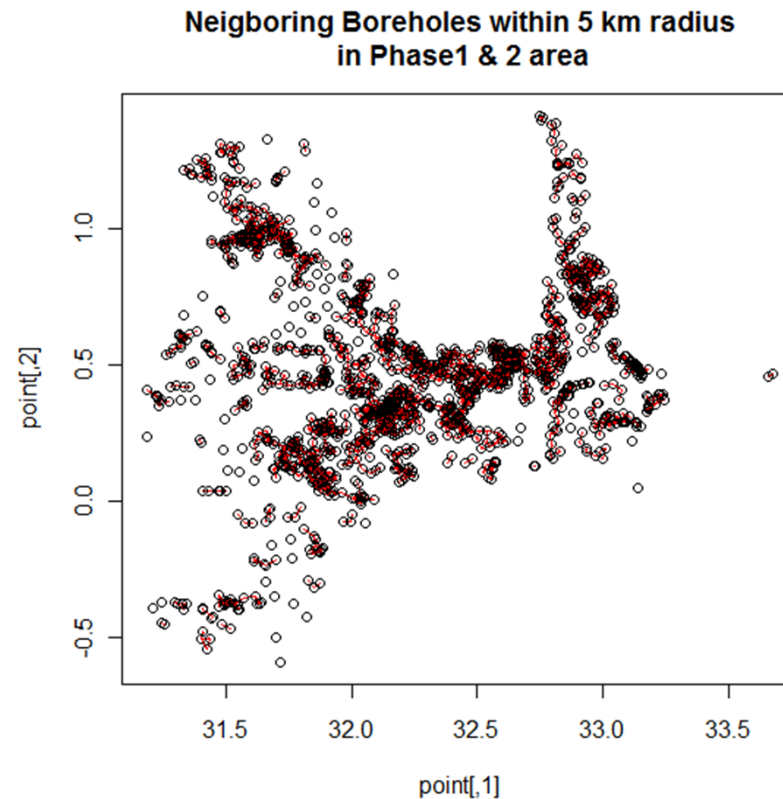
Dependent variables	Coef. (Std. Err.)	p-value
functionality	0.429 (0.113)	.000
fee collection	0.418 (0.097)	.000
service	0.516 (0.100)	.000
meeting	0.371 (0.101)	.000
environment	0.325 (0.099)	.001
activemember ratio	0.122 (0.029)	.000

	functionality	fee collection	service	meeting	environment	active member ratio
Total	0.819	0.511	0.493	0.310	0.532	0.473
phase1 area	0.826	0.523	0.492	0.321	0.542	0.453
phase2 area	0.802	0.483	0.496	0.287	0.511	0.517
BUIKWE	0.791	0.374	0.352	0.308	0.440	0.414
BUKOMANSIMBI	0.833	0.417	0.583	0.250	0.333	0.396
BUTAMBALA	0.698	0.488	0.442	0.349	0.535	0.587
GOMBA	0.806	0.391	0.682	0.291	0.645	0.559
KALUNGU	0.500	0.182	0.227	0.182	0.136	0.183
KAYUNGA	0.858	0.697	0.748	0.387	0.761	0.758
KIBOGA	0.839	0.586	0.402	0.345	0.299	0.537
district KYANKWANZI	0.956	0.699	0.529	0.338	0.456	0.532
LWENGO	0.816	0.316	0.395	0.263	0.342	0.339
MASAKA	0.286	0.143	0.286	0.286	0.286	0.490
MITYANA	0.761	0.413	0.222	0.209	0.461	0.492
MPIGI	0.700	0.296	0.282	0.296	0.563	0.402
MUBENDE	0.917	0.659	0.712	0.371	0.492	0.357
MUKONO	0.815	0.430	0.378	0.185	0.407	0.421
WAKISO	0.830	0.571	0.639	0.406	0.749	0.315
elapsed years 0	0.949	0.608	0.430	0.481	0.696	0.631
1	0.965	0.616	0.453	0.395	0.628	0.636
2	0.915	0.581	0.316	0.239	0.735	0.608
3	0.791	0.408	0.392	0.254	0.577	0.477
4	0.809	0.489	0.436	0.266	0.500	0.514
5	0.769	0.442	0.452	0.221	0.481	0.362
6	0.798	0.482	0.518	0.307	0.500	0.484
7	0.786	0.439	0.508	0.250	0.470	0.455
8	0.705	0.318	0.372	0.209	0.380	0.328
9	0.786	0.517	0.621	0.379	0.586	0.400
10	0.694	0.486	0.405	0.189	0.514	0.446
11	0.817	0.615	0.673	0.317	0.394	0.438
12	0.860	0.699	0.625	0.471	0.441	0.437
13	0.798	0.445	0.630	0.311	0.630	0.479
14	0.808	0.603	0.615	0.436	0.577	0.369

Result4: Multivariate regression controlling for elapsed years, district, phase and spatial autocorrelations

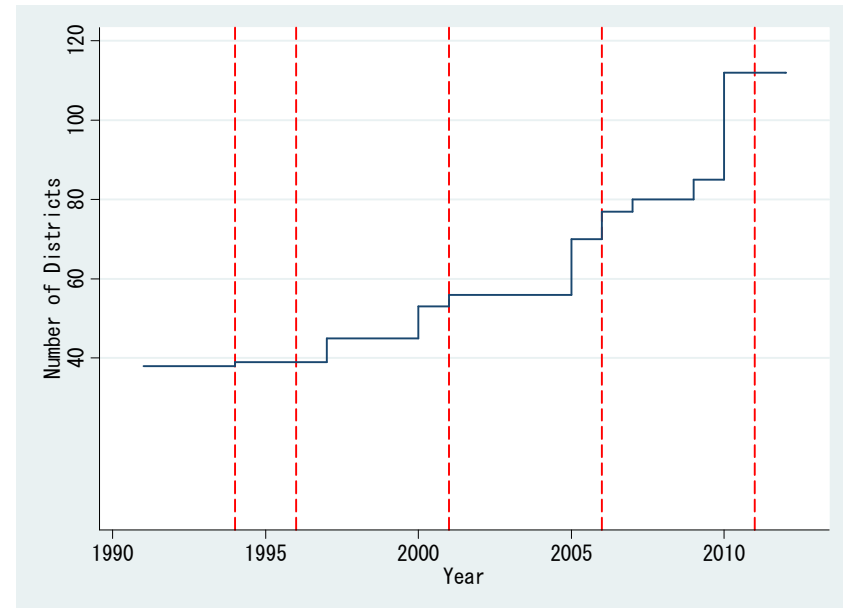
↓ partial coefficient of JICA dummy variable

Dependent variables	Coef. (Std. Err.)	p-value
functionality	0.733 (0.202)	.000
fee collection	0.733 (0.166)	.000
service	0.926 (0.175)	.000
meeting	0.632 (0.176)	.000
environment	0.538 (0.167)	.001
activemember ratio	0.120 (0.029)	.000



Why counter-intuitive result?

- Methodological limitations
 - Non-randomness of assignment
 - Insufficient control variables
 - Measurement errors in monitoring data
- Real problems in implementation
 - Proliferation of districts and resulting lack of human resources
 - Partial pocketing of fund at lower level (←unobservable) and resulting low-quality construction (←observable)





Thank you