Advice for our interdisciplinary papers

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Common pitfalls and best practices

- Overstating the simplicity of the social world
  - Mismatch between available (or possible) data and desired data
  - Ignoring messiness, incompleteness or complexities of the data
- Prioritizing questions about impact
- Making problems, challenges or confusions into research topics and insights
- Back and forth, iterative construction of research questions and insights between the different disciplines

Different types of social scientific data suited to different scientific claims

- Generalizable versus non-generalizable is **not** really the difference
- Make claims about the social world in ways that are falsifiable differently
  - Outcomes and trends across a population – better with quantitative data
  - Processes, mechanisms and concept formation – better with qualitative data
    - Material or action
    - Immaterial or subjective understandings, discourses, frames, accounts

Using qualitative data

Data from field note:

As the kebele chair talked, he got more and more rattled, frowning, talking louder and louder until he was nearly shouting. "Not paying at all is not an option, it is being out of the government system. We are here because we have to do government work, we are not here because we like nagging you. Did not people like [former kebele chair] Priest Arega used to send young people to war during the [earlier political regime] Derg because the government told them to do so?'" [...]

A farmer stepped in with conciliatory words saying that they should not trouble the chair so much as he is not the government, but only a farmer like them, only elected by them to serve.

Interpreting & writing up qualitative data

He framed the kebele officer as "only a farmer like them," a social position that he situates as "not the government." In this framing, the kebele chair is not appointed to carry out the government's orders, but instead, "elected by them to serve"—an explicitly democratic framing of the complex, contradictory position of kebele chair, which is not really a reliably democratic position.

Data from field note:

Another farmer stepped in with conciliatory words saying that they should not trouble the chair so much as <u>he is not the government, but only a farmer like them</u>, only elected by them to serve.

Using qualitative data: validating with additional observations

'We called you because there are several problems in the Koga command area. There is a lot of illegal land use and the dam in under threat of drying. In 2011, we tried to stop illegal land use but we did not push through, we failed. Farmers are building houses on irrigated land, even a church was built in Teleta kebele. Canals are breaking down. Farmers are planting eucalyptus. There are becoming buyers of food, consumers instead of producers. There are a lot of non-farmers in this woreda. If farmers too become buyers of food, there will be food shortage. We want your feedback on this. What happened to <u>you</u> when <u>you</u> started planting trees? (emphasis added)'

Validating with additional observations

The woreda administrator's introduction conflated a number of different concerns to construct the problem of illegal land use by farmers. But the subtext to Administrator Gizachew's words, reveals the dominant frame for the relationship between farmers and government: farmers are troublesome rule-violators who need to be stopped by government from ruining both collective resources and their own well-being. Importantly, he frames his audience of *kebele government officials* as those farmers: "What happened to <u>you</u> when <u>you</u> started planting trees?" he says: *you* not *them.*

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Concept formation from qualitative research

Local officials occupied *multiple contradictory roles* within the state: farmer-politician, technocrat-politician, insider-outsider. While all of us feel torn between conflicting roles at times, the experiences of local officials shared analytical meaningful characteristics that distinguished them, reminiscent of Erik Olin Wright's (1985) observations on the contradictory locations in class relations. Wright made a significant contribution to research on class when he observed that some positions like a manager embody characteristics of more than one class. In this article, we conceptualized, and then explore the consequences of what we call the **contradictory political locations** of local officials in transitional settings. In the Ethiopian case, we see the local kebele chair who is a farmer made governmental enforcer; the extension expert, a technical expert who is likewise made governmental enforcer, but also and perhaps more significantly, an outsider who is made "like family." This basic insight contributes to research on transitional or procedural democracies more broadly, a conceptual tool that allows researchers to more effectively capture the constrained power of the people who make up the local state.

Quantitative research

- Choosing from among **very different** statistical models based on the relationships between the dependent and explanatory variables
  - Composite variables or a single dependent variable?
  - How many independent or explanatory variables? Composite or individual?
  - What type of independent or dependent variables (binary, ordinal, etc.)?
  - What type of relationship between variables?

- Logistic regression makes predictions for a dependent variable (use of scientific forecasts) based on single or multiple independent variables (education, wealth index, access to extension experts).

- ANOVA finds **mean** between variables of different groups (the percentage of farmers in Gayta, Kudmi, Reem and Dangishta that use scientific forecasts)

Quantitative data

b) Fair Treatment

	d07_1	d07_2	d07_4	d07_5	d07_7
c17_6	0.02	0.12	0.22	X	X
c17_7	-0.02	0.18	X	X	X
c19_1_6	-0.09	0.15	X	X	0.34
c19_1_7	-0.03	0.14	X	X	0.24
c19_2_6	-0.1	0.12	0.08	-0.14	X
c19_2_7	-0.08	0.16	X	X	X

Chi-squared tests: evaluate how likely the observed frequencies would be assuming the null hypothesis is true
-violates the rules of the model: has a dependent variable with too many variables—cells that have too few observations in violation of the rules of chi-squared
-violates the logic of the social world: sometime needs to combine different questions into a single composite variable to reflect that social world. Fairness from religious leaders, fairness from kebele officials, fairness from irrigation leaders...needs to be combined into a broader vision of fairness

Quantitative data

	Freq.	Percent	Cum.
Not enough & not fair	46	18.62	18.62
Not enough but fair	29	11.74	30.36
Enough but not fair	23	9.31	39.68
Enough & fair	149	60.32	100.00
Total	247	100.00	

Creating a composite indicator to make a dependent variable for subsequent logistic variable

Brainstorming potential papers based on **existing** data

Available data

Forecast communication data: field notes, informational interviews

Science collaboration data: emails, field notes, self-reflection or journaling, interviews, field notes

Farming practices including water use, soil, seed, sharecropping practices

Irrigation practices

Other technology adoption: semi-structured interviewed on zero till, grainbag (picsbag), tractor, water pumps

Socio-political life (extension experts, kebele leadership, model farmers, development groups, irrigation leadership)

NMA organizational culture

Forecast adoption data and data on economic outcomes data is very limited

Possible papers

- Genevieve: analyzing sustainability/capacity issues—email communications
  - Identify the challenges to sustainability within the current institutions (Koga, NMA, BDU)
- Liang: Rainfed versus irrigation communities and how they processed our forecasts during forecast communications
  - Rainfed communities more likely to care because not insulated from weather shocks [cat/cow metaphor from Ezana]
  - Irrigated communities more likely to be acted on because smaller group of people (water managers rather than regular farmers)
    - Regimented water and agriculture to begin with
      - Versus sharecroppers and "with God"—can irrigation make even poor farmers feel like they can intervene (Liz)
    - Manos and Zoi working on the dry season forecast large paper