

Social investments of mining companies and citizen engagement in local governance

Pre-Analysis Plan

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1. Introduction

This project explores how social investments by mining companies affects citizens' perception of local governments and their willingness to participate in local governance issues in rural Burkina Faso. Burkina Faso has experienced an impressive mining boom over the last decade. In addition to their core business operations, multinational mining companies have started to contribute selectively to the improvement of local public infrastructures and social services for local communities. Over the same period, Burkina Faso has taken significant steps towards decentralizing welfare service provision, by increasing the role and financial capacity of locally elected municipal governments. How do these simultaneous processes affect local communities' perceptions about the quality and legitimacy of their own municipal governments? Do social investments by mining companies improve or worsen citizens' perception of the quality, performance and legitimacy of their municipal government? And do mining companies' social investments increase or decrease citizens' engagement in debates on local governance?

2. Theory

Ex ante, it is plausible that social investments could either increase or decrease government legitimacy and citizen engagement in local governance. Social investment by mining companies may be considered as partial "substitutes" for the investments citizens expect from and for which they see their local government as being responsible for. Seeing some of the government's core function being assumed by private companies could therefore undermine satisfaction, trust and approval of local governments in the eyes of its constituents. By attributing relatively less responsibility of welfare service provision to their local governments, citizens may expect to gain less from individual participation in their local governments' decision-making processes. These arguments are partly in line with the findings in Baldwin and Winters (2018), who show that providing information on externally implemented aid projects diminishes citizens' belief in the quality of their local government.

On the other hand, social investments by mining companies could be perceived as the result of successful government intervention in mining companies' own social investment strategies. Citizens might view their local government as having negotiated favourable conditions and successfully leveraged the resources provided by a mining project for local development. Companies' investments could therefore demonstrate government capacity, strengthen government legitimacy beliefs and increase citizens' expected gains from participation in local governance. This argument is in line with results in Sacks (2012) and Dietrich and Winters

(2015), that suggest that citizens' perceptions of their own government improve when they learn that more foreign development assistance is involved in the provision of services in their municipalities.

3. Survey Experiment

We will conduct a survey-based, field experiment in two mining areas in Burkina Faso to test whether priming citizens' to think more about social investments made by mining companies, as opposed to think more about welfare investments by municipal governments affects government legitimating beliefs, citizens' interest to participate in local decision-making processes, and actual participation in a town hall debate on local governance.

Concretely, we will test these arguments by means of a conceptual priming technique. Psychological priming consists of exposing citizens' mind to a stimulus, situational cue or discourse that is likely to activate certain values, mental representations or constructs without conscious realization. Conceptual priming has become a popular tool in social psychology and recently also in development economics, including in interventions in the field (Bernard et al. 2014; Bilali and Vollhardt 2013; Vogt and Fehr 2016).

We will prime respondents by means of an audio podcast that will be developed together with storytellers from Burkina Faso. Storytelling has a long tradition in Burkina Faso. The audio podcast will narrate an entertaining short story (a "conte") about a fictive but comparable resource-rich village that has benefitted from contributions to local infrastructure, that are either made by the mining company operating nearby or the municipal government.

By exposing respondents randomly to different versions of the same conte, the confounding influence of past experiences and individual perceptions are kept constant. Differences in outcomes across respondents reveal the effect of the conte on subjects' stated preferences, perceptions and actual behaviour.

4. Research project and preliminary research activities

This survey-experiment is part of the larger research project "Measuring the local development outcomes of resource extraction" (2016-2019) funded by the r4d-programme of the Swiss Development Cooperation (SDC) and the Swiss National Science Foundation (SNSF). Under this larger project, a first wave of household survey has been conducted by ETH Zurich and the partner research institute IFSRA, in collaboration with the national institute for social science in Burkina Faso in two mining regions in Burkina Faso in February

and March 2018. A second wave of household survey is planned in February and March 2019. It is in the context of this second wave of household survey that the present survey-experiment will be embedded in.

In addition to the quantitative data collection, a number of expert interviews and semi-structured interviews with local government representatives, NGOs, mining representatives and staff from the mining, environment, health, education and statistics ministries have been conducted in 2018. Moreover, we have conducted several focus group discussions with citizens and municipal government representatives in mining and non-mining regions in Burkina Faso to inform the present experimental design, to identify measurable outcomes, and to test and improve the audio podcast.

5. Setting

5.1. Mining in Burkina Faso

Starting with the first “modern” industrial mine in 2007, Burkina Faso has undergone significant changes towards an export-led economy and currently ranks as the fifth largest gold exporter on the continent (after South Africa, Ghana, Tanzania and Mali), while it is still the fastest growing gold producer in Africa (Werthmann and Ayeh 2017). Today, 65 percent of the export earnings and 16 percent of tax revenue come from gold extraction. The extractive industries contribute to 9% of the country’s GDP in 2016. By the end of 2016, 9 industrial mines were active and producing (8 gold and one zinc mine) and about another 10 mines under construction and soon to be opened (EITI Burkina Faso 2017).

In terms of taxes and royalties that accrue to local governments where the mines operate, only the surface tax is being transferred from central government (who collects all mining taxes) back to local governments. In relation to total government income from mining, the sum being transferred to municipalities (90%) and regions (10%) accounts for only 0.54% (EITI Burkina Faso 2017). In June 2015, the transitional government passed a reform of the mining law that stipulates an additional levy on mining companies to be paid into a communal development fund, to which companies should pay 1 percent of their monthly turnover, in addition to the existing royalties and taxes. Moreover, 20 percent of the revenue from the surface tax is supposed to be added to the fund. The fund will be collected at the national level and redistributed to the municipalities: 50 percent is to be paid to the municipalities in the immediate vicinity of mining areas, 25 percent is to be distributed among all municipalities and the regions in the mining area, and a further 25 percent is to be distributed to all

municipalities in the country. The fund is not yet operational, mainly because mining companies resist paying higher taxes but rather prefer to engage directly in social service provision (Engels 2018; L'Economiste du Faso 2017).

The latest EITI report shows that 6 out of the 9 mining companies operating in Burkina Faso have made voluntary social contributions in the areas they operate. In those cases, the value of the social payments by mining companies is much more important than the amount of mining rents transferred to municipal governments in their area of influence (from double to 10 times higher, own calculations based on EITI BF 2017). Yet, in relation to the total taxes paid by a mine to the government, the amount invested in local development only accounts to for about 1-3% (authors own calculations based on EITI BF 2017).

Our own results from the explorative baseline household survey conducted in the two mining regions around Perkoa zinc mine and Karma gold mine in February 2018 suggest that only 2.5%, (of surveyed household heads in Perkoa area) and 4.8% (of surveyed household heads in Karma area) have ever heard about the amount of taxes paid by the mining company to the government. However, up to 23% in Perkoa area, and 37% in Karma area, affirm to be aware about (have heard or seen) the activities and social investments made by the mining company for local development projects. About the same share of respondents' state that they have heard or seen the activities of the municipal government for local development.

5.2. Local governance in Burkina Faso

Since the first nationwide municipal elections in 2006, elected municipal governments play an increasingly important role in the provision of local-level public services in Burkina Faso. They provide inputs and services that are critical for the ability of primary schools and health centres to serve the population. Additionally, they are responsible for the maintenance of water points, which are one of the most important local infrastructures in Burkina Faso's hot and semi-arid climate. Municipal governments also provide important administrative services, such as the civil registry (Lierl 2017).

Municipal governments can levy several taxes, such as residency taxes, business license contributions, firearms contributions, entertainment taxes, and advertising taxes. Yet, as the tax bases are generally insufficient to fulfil the expenditure obligations of municipalities, communal funding relies on financial transfers from the central government to support the decentralization process and the production of delegated local goods and services (Mahieu and Yilmaz 2010). Estimates show that fiscal transfers from central government account for about 80% of a local government's budget, while own taxes collected locally for about 20%

(own estimation based on Laboratoire Citoyennetés 2012). In 2015, the share of the central government budget transferred to the local government authorities accounted for 4.65% (PNDES 2016).

In terms of participation in local governance, our baseline survey suggests that 34% (in Perkoa), or 39% (in Karma) have attended an official community meeting in the past year. 15%, or 11% respectively have joined others in their community to request government action in the same period. Lastly, 6.3%, or 3% respectively, have participated in a protest march in the past year, while only 6.8%, or 0% respectively, have contacted a government official to make a complaint. Data further show that 62%, or 67% have not completed primary school and a slightly higher share of respondents is unable to read and write the official language French. Information seems to flow through the radio, as 86%, or 84% respectively, state that they get news from the radio more than a few times a week, and more than 70% seem to trust the news from radio somewhat or a lot.

6. Hypotheses

Welfare service investments by municipal governments are assumed to signal the availability of resources, the capacity and the willingness to provide for local populations.

- H1. Respondents perceive municipal governments as **more legitimate** when a local community benefits from more welfare services provided by municipal governments.

Social investments by mining companies in local communities might either signal that the municipal government is lacking own resources, capacity or willingness to do so itself (and therefore perceived as less legitimate) or else that the local government has successfully negotiated and “imposed” the company to invest in welfare services (and therefore perceived as more legitimate).

- H2a. Respondents perceive municipal governments as **more legitimate** when a local community benefits from more social investments by mining companies.
- H2b. Respondents perceive municipal governments as **less legitimate** when a local community benefits from more social investments by mining companies.

When social investments by mining companies are perceived as something that occurs independently from local governments’ actions and decision-making, local governments may become less important for citizens and they presume to gain relatively less from personal

engagement. Alternatively, when social investments by companies are seen as something that the local government can influence and impose on, personal gains from citizen engagement in local governance increase.

- H3a. Respondents **are less willing to participate** in local governance meetings when a local community benefits from more social investments by mining companies.
- H3b. Respondents **are more willing to participate** in local governance meetings when a local community benefits from more social investments by mining companies.

7. Treatment groups

Before exposing respondents to the treatment, we will ask basic demographic and socio-economic questions. We will also ask about their experience, knowledge and satisfaction with the amount and quality of social investments by the mining company operating nearby, as well as with the welfare investments made by their own municipal government in the past.

Surveyors will then randomly invite respondents to listen to a one version of the audio podcast developed for this study, each lasting approximately 4 to 5 minutes. The different versions of the podcast will be identical, except for the following parts:

- In group 1, respondents will learn that the mining company operating near the village has invested in a satisfying way in water infrastructure (identified as the most important investment area citizens in the study area expect from both, their local government and the company, based on exploratory baseline study).
- In group 2, the actor that has invested will not be the mining company, but the municipal government, with money it has received from tax payments of the mining company.
- In group 3, the same village and infrastructure investment will be presented but no information will be given on the structure that has made the investment. A follow-up question will serve to measure who respondents believe is responsible for the investment.
- Respondents in group 4 will receive neither information on the infrastructure, nor on the investment.

8. Outcome measures

We are interested in the effects of priming citizens to think about social investments by mining companies versus to think about social investments by municipal governments.

Based on the government legitimacy framework introduced in Levi et al. (2009) and Sacks (2012) and the local participation framework developed in Krawczyk and Sweet-Cushman (2017) and Bratton (2012), we focus on the following two broad outcomes of interest:

- Government legitimacy beliefs: stated satisfaction, trust and approval of government performance, effectiveness and integrity of budget use;
- Citizen engagement: perceived importance to engage in local politics, stated interest to engage in local politics; actual engagement in a town-hall debate on local governance.

We have multiple measures of each outcome, and also questions designed to assess whether the effect of the podcast on perceptions of governance is driven by prior experiences, perceptions and satisfaction with government, mining company and presumed negotiation power between the two actors:

1. Directly after hearing the podcast, respondents will be asked a battery of questions about their **legitimizing beliefs of the municipal government in the audio podcasts**: We will ask them whether they perceive the fictive municipal government in the conte as the most capable and the most legitimate to help in case the infrastructure is damaged, whether they expect the municipal government to be responsive to citizens' request for government contributions as well as whether citizen engagement in communal debates can actually make a difference to local living conditions. Further, we ask whether in their view, the villagers in the fictive conte are satisfied with their municipal government, and whether they trust their local elected leaders.
2. A second group of questions will assess respondents' level of satisfaction, trust and approval of their own municipal government. We will ask whether they feel supported by their municipal government, whether the municipal governments' activities has a noticeable effect on their lives; whether the municipal government has the technical capacity and an interest to invest in local development; and whether the municipal government is the most effective institution to invest in local development.

3. A third group of questions refers to **financial capacity and correct use of the municipal budget**. We will ask about whether they think their municipal government has resources available for investments and contributions to the well-being of the municipality, whether these financial resources are large enough, whether the elected authorities actually invest in welfare services and whether they use revenues from mining companies in the best interest of the local mining communities.
4. A fourth group of questions assesses respondents' **willingness to engage** in local governance. We will ask whether respondents think citizens should more actively engage in local debates and demand more accountability; whether and why (not) they would participate in a town hall meeting and elections next month if there was one; as well as whether, after having received the invitation letter to the town hall meeting the week after, they have the intention to attend the meeting.

Finally, we will measure **actual participation in the town hall-meeting on local governance** issues. An invitation letter to participate at the meeting will be handed over to respondents individually towards the end of each survey. The meeting will take place on average one week after the survey, in the town hall of each of the 8 municipalities. It is organized by the municipality ("commune") in collaboration with a national NGO (Laboratoire Citoyennetés) that has a wide and known expertise in supporting local governance processes, capacity building of local authorities and strengthening of citizen engagement initiatives throughout the country. It is a proven and long-lasting executing partner of the Swiss Development Cooperation (SDC) in Burkina Faso. The invitation letter specifies that experts from the Laboratoire Citoyennetés will provide information on how a municipality and its administration work in Burkina Faso and what the roles and rights of citizens are to participate in local governance. It further specifies that participants will have the opportunity to directly address claims and preoccupations to representatives of their municipality (mayor and municipal councillor), that will also be present during the meeting. The letter also specifies that no remuneration is provided for participants.

9. Randomization and sample size

We will select a random sample of household heads living within a 20 kilometre radius from two purposely selected large-scale mining companies that have both engaged in social infrastructure investments in the past. The study area covers 8 municipalities in total.

Within each municipality, between one to four villages will be selected, depending on the population size of each municipality and the share of its surface that overlaps with the 20 kilometre radius surrounding the mine. Each participant will have an equal chance to be allocated to one of the four treatment arms of this experiment. Randomization occurs at the individual level and is stratified at the village-level.

A minimum of 1,000 households will be sampled, allowing us to assign at the individual-level 250 participants to each treatment group. We will select 500 households in the four municipalities around the Perkoa zinc mine (municipalities: Réo, Kyon, Dassa and Didyr) and 500 household heads in the four municipalities around the Karma gold mine (Ouahigouya, Namissiguima, Oula and Barga).

10. Analysis and Tests

We will test hypotheses 1 by comparing outcomes in Group 2 to outcomes in Group 4. To test hypotheses 2 and 3, we will compare outcomes in Group 1 to outcomes in Group 2, Group 3 and Group 4.

Our baseline analysis will be an OLS regression that includes dummy variables for each municipality and mining area. In addition, we will run an OLS regression that also includes basic socio-demographic characteristics (age, education, occupation and standard measures of household well-being).

11. Policy Implications

The results of this research can have relevant policy implications. The landlocked West African country Burkina Faso has recently revised its mining law and introduced an additional 1 percent tax on mining companies' turnover to be paid into a communal development fund accruing to local governments. The fund is not yet fully operational, mainly because mining companies resist paying higher taxes but rather prefer to engage directly in social service provision (Engels 2018; L'Economiste du Faso 2017). In addition, mining companies threaten that they would have to reduce their own social investments if they have to pay the tax to the government. Evidence on whether benefitting more from private welfare provision vs. from government spending changes citizens' legitimacy beliefs in their own local government and citizens' for local demand for good governance is lacking but important. Our research can inform policy-makers on whether the new mining law in Burkina Faso can affect citizen engagement and how its directives should best be framed in order to strengthen demands for good local governance.

12. References

- Baldwin, Kate, and Matthew S. Winters. 2018. "Bypass Aid and Perceptions of Local Government Performance and Legitimacy." *AidData WORKING PAPER 56*.
- Bernard, Tanguy, Stefan Dercon, Kate Orkin, and Alemayehu Seyoum Taffesse. 2014. "The Future in Mind: Aspirations and Forward-Looking Behaviour in Rural Ethiopia." *CEPR Discussion Paper No. DP10224*.
- Bilali, Rezarta, and Johanna Ray Vollhardt. 2013. "Priming Effects of a Reconciliation Radio Drama on Historical Perspective-Taking in the Aftermath of Mass Violence in Rwanda." *Journal of Experimental Social Psychology* 49(1): 144–51.
- Bratton, Michael. 2012. "Citizen Perceptions of Local Government Responsiveness in Sub-Saharan Africa." *World Development* 40(3): 516–27.
- Dietrich, Simone, and Matthew S. Winters. 2015. "Foreign Aid and Government Legitimacy." *Journal of Experimental Political Science* 2(2): 164–71.
- EITI Burkina Faso. 2017. "Rapport 2015." *EITI*.
- Engels, Bettina. 2018. "Nothing Will Be as before: Shifting Political Opportunity Structures in Protests against Gold Mining in Burkina Faso." *Extractive Industries and Society* (June 2017): 1–9.
- Krawczyk, Kelly Ann, and Jennie Sweet-Cushman. 2017. "Understanding Political Participation in West Africa: The Relationship between Good Governance and Local Citizen Engagement." *International Review of Administrative Sciences* 83(1_suppl): 136–55.
- L'Economiste du Faso. 2017. "Fonds Minier de Développement Local : Quel Risque Pour Le Budget de La RSE ?" *May 11, 2017*. <https://www.leconomistedufaso.bf/2017/05/29/fonds-minier-de-developpement-local-risque-budget-de-rse/>.
- Laboratoire Citoyennetés. 2012. "Rapport Diagnostic Sur La Gestion Des Flux Financiers Dans La Région Du Centre Ouest et La Commune de Koudougou." http://base.afrique-gouvernance.net/fr/corpus_bipint/fiche-bipint-1287.html.
- Levi, Margaret, Audrey Sacks, and Tom Tyler. 2009. "Conceptualizing Legitimacy, Measuring Legitimizing Beliefs." *American Behavioral Scientist* 53(3): 354–75.
- Lierl, Malte M. 2017. "Elections and Embezzlement: Experimental Evidence from Burkina Faso." *Policy Research Working Paper. The World Bank Group* 8067.
- Mahieu, Sylvie, and Serdar Yilmaz. 2010. "Local Government Discretion and Accountability in Burkina Faso." *Public Administration and Development* 30: 329–44.
- PNDES. 2016. "National Plan for Economic and Social Development (PNDES) 2016." *Ministry of the Economy, Finance and Development*.
- Sacks, Audrey. 2012. "Can Donors and Non-State Actors Undermine Citizens' Legitimizing Beliefs?" *World Bank Policy Research Working Paper 6158* (August).
- Sacks, Audrey, and Marco Larizza. 2012. "Why Quality Matters: Rebuilding Trustworthy Local Government in Post-Conflict Sierra Leone." *World Bank Policy Research Working Paper Series* (6021).
- Vogt, Sonja, and Ernst Fehr. 2016. "Changing Cultural Attitudes towards Female Genital Cutting." *Nature* 538.
- Werthmann, Katja, and Diana Ayeh. 2017. "Processes of Enclaving under the Global Condition: The Case of Burkina Faso." *Working paper series des SFB 1199 an der Universität Leipzig* 14.

13. Appendix: Detailed outcome measures

Legitimizing beliefs of the municipal government in the audio podcasts:

1. Imagine that the water well in the village of the conte breaks down and the population decides to ask for help: In your opinion, who is the most LEGITIMATE actor to whom the population can ask for help? [% of respondents answering “municipal government”]
2. Imagine that the water well in the village of the conte breaks down and the population decides to ask for help: In your opinion, who is the most CAPABLE actor to provide help fix the infrastructure? [% of respondents answering “municipal government”]
3. Imagine that the villagers were asking for help from the municipal government. In your opinion, can they EXPECT a favourable response to their request to help?
4. Do you think that the villagers in the conte are SATISFIED with the activities of their municipal government for the well-being of the village?
5. Do you think that in the conte, the villagers TRUST their municipal government?
6. Do you approve of the first or second statement describing the villagers in the conte? A. The participation of citizens in communal debates can IMPROVE their living conditions. Vs. B. Citizens DO NOT have much to gain from participating in communal debates. [% of respondents answering “A”]

Satisfaction, trust and approval of own municipal government

1. Index based on the following sub-questions: How well or badly would you say the municipal government is handling the following matters in this town/village?
 - A. Addressing educational needs
 - B. Improving basic health services
 - C. Providing water and sanitation services
 - D. Protecting the environment
 - E. Protecting cultural/traditional/religious sites
 - F. Creating jobs
 - G. Reducing crime
 - H. Resolving conflicts
2. Do you approve the performance of your municipal government in the last 12 months?

3. How much do you trust each of the following: Local elected authorities/municipal government?
4. Have basic social services in your community improved or deteriorated in the past 12 months? [& if improved:] This improvement is mostly thanks to whom? [% of respondents answering “municipal government”]
5. In general, do you feel supported by your municipal government?
6. Do the activities of your municipal government have a noticeable effect on life in your community?
7. Let us suppose, a defined amount of money from mining revenues is set aside to support community development projects every year. In your view: who is the MOST effective organization to manage and execute community development projects with this money? [% of respondents answering “municipal government”]
8. Does your municipal government have the TECHNICAL CAPACITY to make investments in your locality?
9. Do the elected officials have an INTEREST to invest in your locality?
10. Which of the following statements describes you better? If the communal elections were to be organized next month, [% of respondents answering “A”]
 - A. ... I would vote to keep the current elected officials in power.
 - B. ... I would vote for other elected officials/another party/neutral candidates.
 - C. ... I would not go to vote.

Financial capacity and correct use of the municipal budget

1. Does your municipal government have resources available for investments and contributions to the well-being of the municipality?
2. Are the financial resources of the municipality large enough to make investments in your locality?
3. What statement best describes your opinion about the municipal government's budget use? [% of respondents answering “A” or “B”]
 - A. ... spend the entire budget for the welfare of the municipality.
 - B. ... spend a lot for the commune and use a little for personal purposes or outside the municipality.
 - C. ... spend as much for the commune as they use for personal purposes.

- D. ... use a lot for personal purposes and spend a little for the commune.
 - E. ... use the entire budget for personal purposes.
4. Based on your experience, to which extent DO YOU AGREE with the following statements? The municipal government uses the revenues from mining companies in the best interest of the LOCAL MINING COMMUNITIES.

Willingness to engage in local governance

1. Do you agree more with the first or second statement? A. The citizens of this locality should be more ACTIVE in the demand for accountability of the municipal government. Vs. B. The citizens of this locality should have more TRUST in their municipal government. [% of respondents answering “A”]
2. If a communal session was held next month, would you personally participate? [% of respondents answering “B”]
 - A. No, I would NOT participate.
 - B. Yes, I would participate.
 - C. I would participate under conditions.
3. Which of the following statements describes you better? If the communal elections were to be organized next month, [% of respondents answering “A” OR “B”]
 - A. ... I would vote to keep the current elected officials in power.
 - B. ... I would vote for other elected officials / another party / neutral candidates.
 - C. ... I would not go to vote.
4. We would like to invite you to a debate in your townhall organized by the Laboratoire Citoyenneté and your municipal government (present the letter). Participating at the meeting will give you the opportunity to learn about the challenges of local governance and exchange directly with members of your municipal government. Do you intend to participate? [% of respondents stating their intention to attend the meeting]

Actual participation in the town hall-meeting on local governance

1. [% of respondents actually attending the meeting]