Cities and Culture in Sub-Saharan Africa*

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1 Introduction

Around the world, city dwellers appear to differ from rural populations in their moral values. They are often more likely to embrace individualism over collectivism, and universalism over parochialism. However, past work on the urban-rural gap in moral values cannot easily distinguish selection from causal effects of cities. This project seeks to provide causal evidence about the impacts of access to cities in rural Africa on individuals' preferences and values.

We study the randomized rollout of a program promoting urban access in rural villages in the Democratic Republic of the Congo (DRC). Implemented by a local NGO called Congo Helping Hands (CHH), this 'City Access Program' (CAP) provides regular weekly transportation by motorbike taxi to the city of Kananga to individuals living in rural villages surrounding the city. CHH's City Access Program has two different components, which form the treatment arms of our study. In a first 'market' arm, CHH provides weekly transportation directly to Kananga's central market, allowing villagers to sell produce and buy goods there as they please. In a second 'social' treatment arm, CHH provides villagers weekly transportation to the city along with an invitation to attend a church group. Churches are the main hub of social networks in Kananga and many African cities. Our project studies the effects of CHH's programs on individuals' preferences and values.

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2 Background and Setting

The study takes place in the city of Kananga, in the Kasaï Central Province of the Democratic Republic of Congo (DRC). Kananga, a city of roughly 1.6 million (the fourth largest in Congo), is the seat of the Provincial Government of Kasai Central. Transport infrastructure in Kasaï Central is in severe disrepair, due to heavy rain and a lack of maintenance. As a result, transportation in rural areas is difficult even for 4x4 vehicles. Traveling 50 kilometers out of the city can take up to 4 hours on a motorbike. But most villages are unable to afford motorbikes or other forms of transport, and so they spend days walking to reach the city, or they simply remain in their villages. Congo Helping Hands' City Access Program was designed to help solve this problem.

3 Data

3.1 Research Design

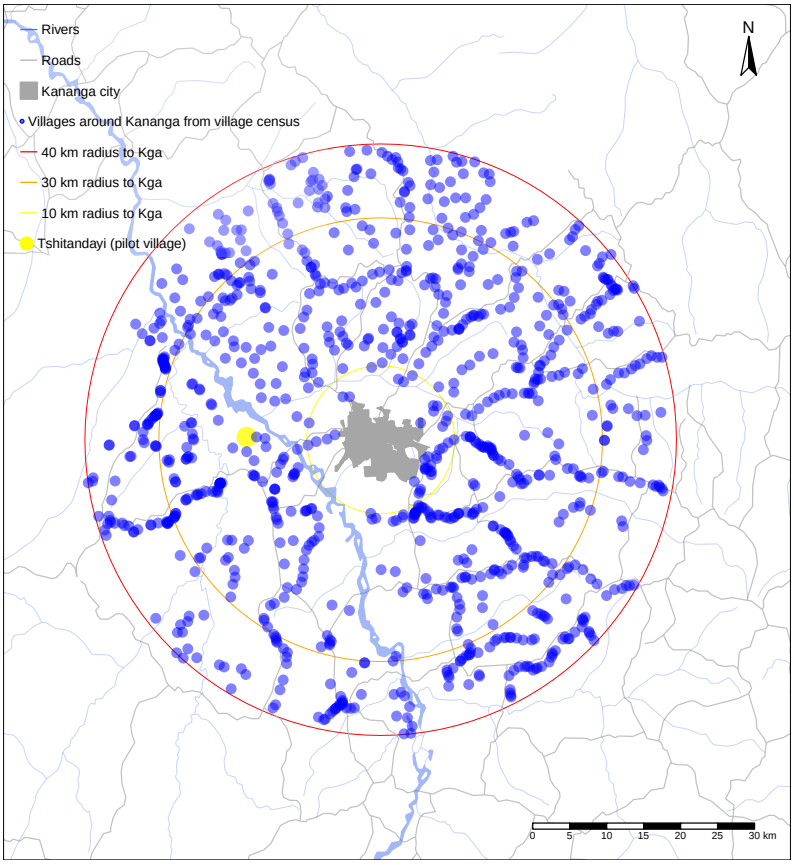
We study Congo Helping Hands' City Access Program, which aims to increase access of rural villages to Kananga. The program provides personalized round-trip transportation to and from Kananga for individuals living in rural villages around the city.[1] The City Access Program has both 'market' and 'social' components. Individuals in the market arm receive transportation directly to Kananga's central market and are invited to transport goods if they like, or to buy products they could resell in the village. Individuals in the social arm receive transportation along with an invitation to join an urban church congregation.

CHH agreed to randomize villages into the 'market' or 'social' arms of their program or to a control group of otherwise similar villages. We collaborated with CHH to achieve a randomization that will enable an impact evaluation of the program. Sampling of respondents and random assignment of villages into the treatment arms occurs in several steps. First, using satellite data and driving time data, we identified all villages that are less than a 3-hour drive from the city's limits. We conducted a village census to collect basic information such as village size and accessibility (Figure 1). We then worked with CHH to identify a set of 300 villages that would be eligible for their program according to the following criteria: (*i*) accessibility by motorbike, (*ii*) a population of fewer than 300 families (where access to services found in cities is especially limited), and (*iii*) continual settlement all year round (rather than only during harvest season, e.g.). We selected the 300 villages that are closest to Kananga by straight line distance, but further than 10 km from the city centre, that fulfilled these criteria.

Second, in all eligible villages, our enumerators randomly sample households and invite

[1] The treatments are similar to the transport subsidy analyzed by Abebe et al. (2021), with the key difference that we study rural-to-urban transport rather than transport within cities.

Figure 1: Map of village census around Kananga



This map shows the 988 villages mapped in our village census.

them to participate in a baseline survey. Enumerators follow a village-specific house skip pattern to conduct a screening survey. Based on the screening survey, we randomly select main respondents for the baseline survey. Since the CHH program works with couples, we randomly select three couples, i.e. six main respondents per village.[2]

To enable estimation of spillovers, our enumerators also conduct a shorter baseline survey with additional individuals with and without connections to the main respondents. They interview (*i*) one close friend of the main respondents, as revealed in a social network module, and (*ii*) two additional randomly sampled individuals without connections to the main respondents in each village.[3] The survey will enable us to estimate spillover effects on non-participating individuals connected through social networks to participating individuals as well as more generalized spillover effects on individuals sampled randomly in the village.

[2] Note that this sampling approach generates random variation in the share of the population that is treated. We will use this random variation to explore if treatment and spillover effects are more pronounced if a larger share of the village is treated.

[3] All of these surveys occur before villages are assigned to treatment or control, allaying concerns that enumerators' sampling or respondents' availability could be endogenous to treatment.

Third, we randomly assign villages to the two treatments or to control. We stratify the randomization on (*i*) distance from Kananga, and (*ii*) village size.[4] Once the treatments are randomly assigned at the village level, CHH staff invite the main respondents to participate in their program. Table 1 summarizes the numbers of participants across all treatment arms. There are 100 villages in the each of the three treatment groups (including control). In each village, there are six main respondents, or 600 total participants. With six main respondents, up to six network respondents, and two pure control respondents in each village, we expect a full sample size of around 4,200.

To shed light on the mechanisms of the market arm, we randomize the location of selling at the market within the market arm at the village level. The 'retail' and 'wholesale' sub-treatment arms should introduce further variation in wholesale and retail selling, the number of interactions with customers, and the probability of having repeat customers. The villages in the 'social' arm are randomly assigned to one of 30 churches that CHH works with, which are broadly representative of the landscape of churches throughout Kananga.[5] CHH works with the largest churches in Kananga of different denominations, such as Pentecostal, Protestant, Neo-Apostolic, and Kimbangu. We see this natural heterogeneity of denominations, doctrines, and practices as an asset to our investigation of the program. We plan to examine heterogeneous treatment effects of this treatment as we describe in more detail below (see Section 3.2).

Table 1: Allocation of units across treatment groups

	Urban social treatment	**Urban market treatment**	**Pure control**
Main Respondents	600	600	600
Network Respondents	600	600	600
Non-Network Respondents	200	200	200
Total Respondents	1,400	1,400	1,400
Villages (clusters)	100	100	100

Finally, we plan to collect an endline survey in all villages with the same set of 4,200 respondents sampled at baseline. These surveys will be conducted roughly six months after the conclusion of the CHH programs (in treatment villages and nearby control villages).

[4] Note that this generates geographical variation in distance to other treated and control villages. We will use this random variation to explore spillover effects across villages.

[5] The one exception is that CHH does not work with the Catholic Church because of logistical problems: there are only Catholic services in Tshiluba—the only language understood by most rural residents—at 7 am on Sundays, which is too early for the villagers to arrive on time. Later services are conducted in French without Tshiluba translation.

3.2 Other Data

We collect additional data to study mechanisms and alternative hypotheses:

1. Administrative data on the City Access Program collected by Congo Helping Hands staff in both the market and social arms. These include weekly data on attendance and other details on participation (e.g., the goods bought and sold).
2. Village census around Kananga. Collected by our enumerators, these data provide information about the location and amenities in villages around Kananga.
3. Chief village survey. Collected by our enumerators, these surveys ask the chief about the village and its history.
4. Church census in Kananga. Collected by our enumerators, these data provide basic information about the size and denomination of all houses of worship in the city.
5. Pastor surveys. Collected by our enumerators at a subset of the largest churches in the city and in all villages, this survey focuses on doctrine and congregant details.
6. Church service recordings and surveys. We also collect audio recordings of church services to enable text analysis of their content. Enumerators also record the elements and proceedings of services.

4 Analysis

The project's goal is to study the causal effects of access to cities — their social and commercial networks — on rural individuals' beliefs, values, and economic behaviors. The City Access Program of Congo Helping Hands provides a rare opportunity to provide causal evidence on well-established about how cities shape moral values and culture.

Around the world, city dwellers appear to differ from rural populations in their moral values. They are often more likely to embrace individualism over collectivism, and universalism over parochialism. For instance, urban populations in the U.S. are less likely to condition altruism, cooperation, or good will on being in the same identity group as others; they are more likely to treat everyone the same (Enke, 2020). During focus group discussions we conducted in Kananga, participants often asserted that city dwellers have a vastly different *mentalité* from those in rural areas. Urban residents are thought to place greater importance on education, hard work, and individual achievement; they privilege the nuclear family over the extended lineage, clan, and ethnic group. All of these characteristics have been argued to promote long-term economic growth (Gorodnichenko and Roland, 2017; Schulz et al., 2019).

However, past work on the urban-rural gap in moral values cannot easily distinguish selection from causal effects of cities. Because it is difficult to find exogenous variation in exposure to urban areas, the observed differences noted in the previous paragraph could simply arise from the sorting of different types of people into different areas. The random assignment of

Congo Helping Hands' City Access Program will help fill this gap. By comparing participants in treated and control villages, we can bring experimental evidence to bear on these claims about the impacts of cities on individuals' values and the scope of morality.

Specifically, we will examine a range of outcomes relating to moral values, largely following the literature in psychology and economics in our measurement approach. We measure prosociality, tolerance, individualism, parochialism, and universalism through standard survey modules and behavioral games, including dictator games and a cheating game. We also elicit respondents' networks as well as ask about the composition of other social groups they belong to.

The aforementioned literature predicts that exposure to cities would extend the scope of morality beyond the kin group toward more universal morals, increase tolerance of other ethnic groups and strangers, and promote individualism.

Our experiment also affords opportunities to investigate two specific mechanisms of interest in the African context that could explain such causal effects. First, a growing literature in anthropology and psychology suggests that world religions with 'moral high gods' cultivate universal morality among their adherents.[6] The key idea is that 'small gods' present in most traditional religions are capricious and so create few spiritual incentives to trust strangers or treat them fairly. By contrast, religions with a single high god who is omniscient, cares about the comportment of humans — especially if their thoughts, faith, and action determine one's place among the saved — and even intervenes in human life by punishing and rewarding behavior do create such incentives. For example, since the high god is omniscient, believers have to act morally no matter where and with whom they are interacting. Moreover, such 'big god' religions create the idea of a community of believers that extends beyond the geographic region where an individual lives — and thus create a natural foundation for having dealings with and trust in strangers. Examples of 'big god' religions include Christianity, Islam, and Buddhism.

Our field experiment provides a chance to test this theory. Although many villagers self-report being Christian when asked, by all accounts traditional religion is much more important in rural areas than urban areas. Churches in villages typically practice a syncretic hybrid between Christian and traditional religion. Exposure to urban churches should therefore generate an exogenous wedge in the extent to which people attend services espousing beliefs consistent with 'big gods' or 'small gods.' We can compare prosociality among participants in the social treatment and in control to test the hypotheses noted above. Importantly, it is possible that an observed shift in morality simply shifts the locus of moral concern from kin and ethnic categories to religious ones — that is, the 'in-group' changes. We therefore measure prosociality toward Christians, members of the denomination, and members of the

[6]Examples of recent work in this literature include Henrich et al. (2010); Norenzayan (2013); Norenzayan et al. (2016); Purzycki et al. (2016); Lang et al. (2018).

specific church as a way to provide evidence on exactly where the moral line is drawn.

Finally, a growing ethnographic literature in anthropology argues that urban pentecostal churches in Africa are having a series of impacts on cultural and moral values.[7] This literature argues that urban pentecostal churches have promoted ethnic tolerance, honesty, generosity, individualism, and the importance of the nuclear family (over the kin group), peacefulness, and the perceived unacceptability of violence. Given that the modal participating church in CHH's program is pentecostal — and many non-pentecostal churches have responded to the popularity of pentecostal preachers by emulating aspects of their doctrine and practices — the field experiment offers a unique opportunity to bring causally identified evidence to bear on this hypothesis.[8]

The second key mechanism concerns the impact of markets on morality. Going back to Baron de Montesquieu, Adam Smith, and David Hume, a long intellectual tradition in western social theory — sometimes known as the *doux commerce* thesis — posits that markets and trade fundamentally change people's dispositions and morals, rendering them more trusting and trustworthy, more open to people who are different, and more punctual and polite (Hirschman, 1982).[9] Today, scholars continue to argue that markets contribute to prosociality and trust around the world by creating opportunities for contact, exchange, and reputation building among strangers and otherwise distinct social groups (e.g., Henrich et al., 2001, 2010; Rustagi, 2021). For instance, Henrich et al. (2001) show that a series of small-scale societies around the world, market integration — the number of calories participants consume that were purchased on the market rather than grown — is a strong predictor of prosociality. By comparing the moral values and prosociality of participants in our market treatment arm to those in control, we can provide experimental evidence on the *doux commerce* thesis.

5 Heterogeneity

We plan to investigate the following as sources of heterogeneity in the impact of the CAP on outcomes:

[7] Some of the key citations in this literature include Smith (2001); Martin (2002); Meyer (2004); Ranger and Ranger (2008); Marshall (2009); Van Dijk (2012); Freeman (2012); McCain (2013); Swidler (2013); Ojo (2015).

[8] However, as we note below, we plan to explore heterogeneous treatment effects of the social arm according to the specific doctrines and practices that our data collection reveals to characterize the participating churches in CHH's program. One would expect the predictions of this ethnographic literature to be more pronounced among churches that espouse doctrine more closely aligned with these general emphases of pentecostalism in Africa.

[9] By way of illustration, Montesquieu wrote "Commerce ... polishes and softens barbaric ways as we can see every day," quoted in Hirschman (1982). Similarly, Thomas Paine, in The Rights of Man (1792), wrote "[Commerce] is a pacific system, operating to cordialise mankind, by rendering Nations, as well as individuals, useful to each other... The invention of commerce ... is the greatest approach towards universal civilization that has yet been made by any means not immediately flowing from moral principles," also quoted in Hirschman (1982).

1. *Distance to Kananga.* The City Access Program is more of a shock to villagers' access to Kananga in more remote villages. We therefore anticipate larger treatment effects farther from Kananga.

2. *Market landscape in the village.* Participants vary in their baseline access to markets. We expect more pronounced treatment effects of the market arm where participants had less access to markets before the CAP. We will use data from our initial village census as well as baseline surveys to measure market access.

3. *Religious landscape in the village.* Participants vary in their baseline access to churches and religiosity. We expect more pronounced treatment effects in villages with less prior exposure to Christian churches, especially Pentecostal churches (which remain predominantly an urban phenomenon). We will use baseline data on participants' religiosity as well as data from the village census and chief survey to estimate access to churches, including mission stations. We will also explore how treatment effects vary by specific types of religious beliefs held by participants. Generally, there may be two countervailing forces at play: those with prior beliefs more concordant with those espoused at the urban church might be more inclined to participate every week, which would magnify effects; but, at the same time, the treatment would also be less novel for this subgroup and likely have a smaller effect. Which of these effects dominates is an empirical question we hope to explore using program administrative data on attendance and a combination of baseline and endline data on beliefs.

4. *Urban church doctrine and practices.* The 30 churches participating in the CAP are heterogeneous in their doctrines, practices, and social networks. As noted throughout, we therefore anticipate studying heterogeneity by different types of beliefs, practices, and other church characteristics. We will use detailed data from surveys with pastors as well as recordings of sermons and church service proceedings to characterize this variation and study its heterogeneous impacts on outcomes.

5. *Agricultural productivity.* Among the villages participating in the CAP, there are different climatic zones with variable suitability for different crops that can be sold in Kananga. We have natural variation in these crop suitabilities and the seasons during which the CAP was running. We can use this variation to study whether villages in zones with suitabilities for more lucrative crops conditional on the season exhibit more pronounced treatment effects.

6. *Exposure to Kamuina Nsapu.* A recent violent conflict, known as the Kamuina Nsapu insurgency, triggered large-scale displacement and claimed thousands of lives. We expect impacts of the program on welfare to be more pronounced in areas that were more affected by this violent conflict.

7. *Time gap before endline survey.* Because of the staggered rollout of the intervention and endline survey, there will be natural variation in the time gap between the two. We will use this variation to study whether treatment effects decay or persist over time.

8. *Duration and frequency of attendance.* We expect stronger effects where participation was exogenously higher. Although participation may often be endogenous, we will explore exogenous shocks like weather, pregnancy, and family deaths as exogenous shifters of participation to obtain variation in treatment intensity.

9. *Village size.* We have natural variation in the size of villages and thus the share of the village that is treated by the CAP. We can use this variation to study spillovers to non-participants in the treatment village. For instance, we can assess whether such spillovers are larger when a larger share of the village is treated, and whether we find evidence for tipping-point effects.

10. *Age.* Research often finds that children and young adults are more plastic in their beliefs than the elderly. Although we do not have children or young adults in our sample, we will examine whether younger participants are similarly more responsive when examining belief outcomes.

11. *Gender.* Women and men often have distinct economic roles. For instance, in focus groups, we learned that some agricultural products are typically sold by women, while others are typically sold by men. This means that the market arm might have differential effects by gender — if for instance the type of customers with whom men and women interact in the city different because of the products they sell (or for some other reason). Similarly, churches often discuss gender and family issues extensively in sermons, and these discussions might impact the sexes differently. Some churches have gender segregated seating or activities. We will therefore explore gender heterogeneity.

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