

# Bribery Experience in the Water and Sanitation Sector in Africa

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## 1 Introduction

This paper investigates experience of bribery in the water and sanitation sector in Africa. The analysis is broken down into two sections. Section 2 describes the data and the empirical strategy used in the analysis. Section 3 presents results of the analysis. Key findings include:

- Experience of having to pay bribe is more likely in urban areas than in rural areas
- The poorer population have more chances of the experience of having to pay bribes to obtain water and sanitation services compared to the richer population

## 2 Data and Methodology

### 2.1 Data and Sample Size

The empirical investigation draws on data from the seventh round of Afrobarometer's public attitude survey. The seventh survey round contains individual-level data from 34 African countries.<sup>1</sup> A stratified sampling procedure is used to produce sample sizes for each country and country samples ranges from 1194 to 2400 respondents.

To obtain the sample size for the analysis, the data is restricted to respondents who reported having made contact with the government to obtain water and sanitation services in the last year.<sup>2</sup> Invalid responses and observations with missing responses are also omitted from the sample. These restrictions produce a final sample size of 7457 respondents.

### 2.2 Measurements

The dependent variable in this investigation is bribery experience. This variable is derived from the question that asked how frequently respondents, in the past year, had to pay a bribe, give a gift, or do a favour for a government official in order to get the services they needed. Possible responses include *Never*, *Once or twice*, *A few times*, *Often*. The first category is coded 0 (No experience), while the remaining categories are combined and coded 1 (Experience).

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<sup>1</sup>More about Afrobarometer is available from: <https://www.afrobarometer.org/>

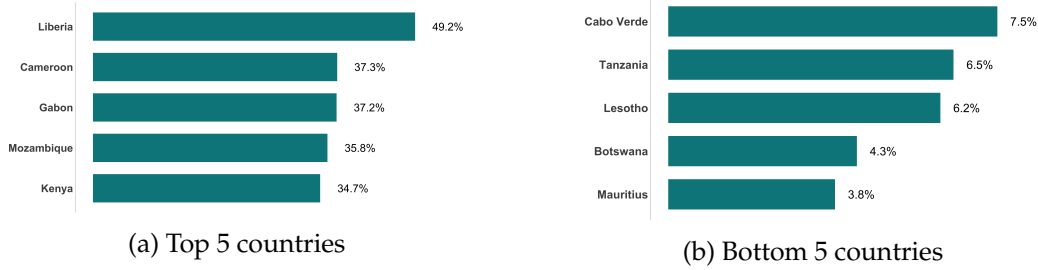
<sup>2</sup>Question asked was: In the past 12 months have you tried to get water, sanitation or electric services from government?

Table 1: Bribery Experience

	Size	Percentage
Bribery Experience		
No experience	5962	80.0
Experience	1495	20.0

Source: Afrobarometer 2019. Own Calculations

Figure 1: Bribery Experience by Country

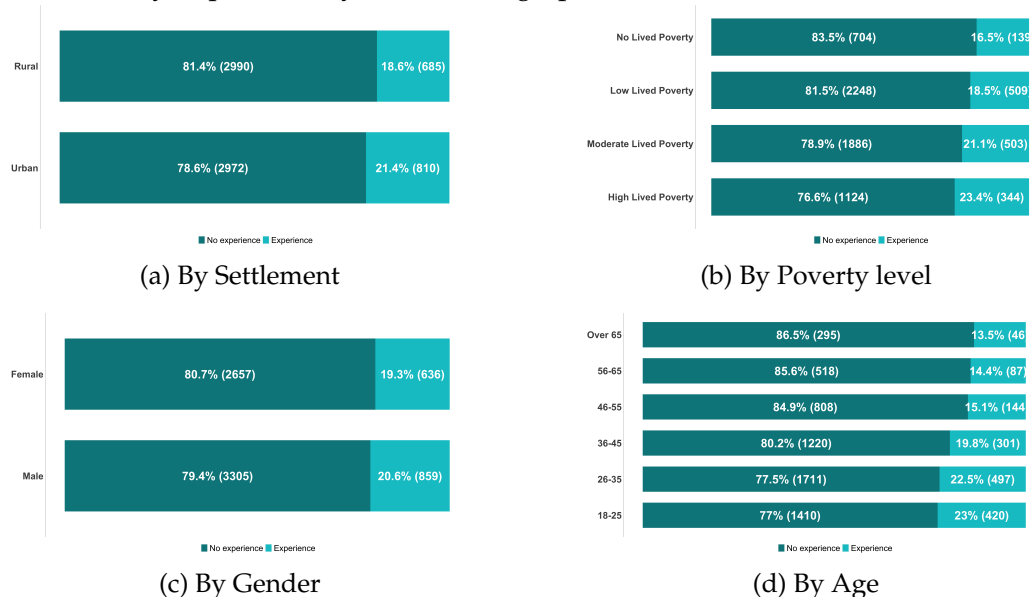


As seen in Table 1, 80% of the respondents report having no experience paying bribes to obtain water and sanitation services while 20% reported having a bribery experience. A separate country analysis reveals that bribery experience was widespread in countries such as Liberia, Cameroon, Gabon, Mozambique, Kenya (see Figure 1a), while countries with the least degree of bribery experience include Cape Verde, Tanzania, Lesotho, Botswana (see Figure 1b).

Since we investigate the extent to which the experience of paying bribes to obtain water service depends on certain socio-demographic characteristics, we include these characteristics as our independent variables. More particularly we include the age of the respondent, the gender, the poverty level, and whether the respondent lives in rural or urban settlement. To see how bribery experience differs by age groups, the *age* variable is classified into 6 categories: Age 18-25, Age 26-35, Age 36-45, Age 46-55, Age 56-65, Over 65. To identify the effect of one's poverty level on their bribery experience, the *Index of Lived Poverty* scale is applied. The *Index of Lived Poverty* scale has been used in previous works to measure individual level of poverty (Bratton, 2006; Bratton et al., 2005; Justesen and Bjørnskov, 2014). High values indicate poor and deprived living conditions (i.e. lack of basic necessities on a regular basis), while low values reflect very good socio-economic conditions. Based on this index, five groups of respondents are distinguished, namely: No Lived Poverty, Low Lived Poverty, High Lived Poverty, Moderate Lived Poverty, and High Lived Poverty.

Results of descriptive analyses are presented in Figure 2. Bribery experience is more widespread in urban than in rural areas. While 18.6% of respondents in rural settlements report having to pay bribes in return for WatSan services, compared to 21.4% for urban areas. It can also be observed that the level of one's experience with paying by poverty level, with bribery experience intensifying as one moves up the poverty index scale. Only 16.5% of respondents who have never lacked basic necessities report having to pay bribes

Figure 2: Bribery Experience by Socio-demographic factors



to obtain water and sanitation services. The corresponding proportion is 23.4% for those living in abject poverty. No substantial difference exists between women and men in terms of their experience with paying bribes to obtain water and sanitation services. 19.3% of women have had to pay bribes to obtain water services, while 20.6% of men report having a bribery experience. Additionally, Experience with paying bribes is more common among the younger population than among the older population.

## 2.3 Methodology

To assess the effect of our independent variables of interest on bribery experience, this paper uses binary logistic regression for its analysis. Since the analysis is based on cross-national data, it is necessary to control for country-level variation. To do this, country fixed effects is introduced. The reasoning here is that the independent variables of interest being considered in this paper may vary both within and between countries. Fixed effects allows us to completely ignore the between-country variation and focus on the within-country variation, thereby eliminating bias due to omitted variable bias at the country level Möhring, 2012.

As control variables, the respondent's level of education is included in the model. Additionally, following the reasoning about people's usage of public services increasing their propensity to pay bribes (i.e. those who do not frequently use public service are possibly a self-selected group who have opted out of using public services to avoid paying bribes), we include people's propensity to use public services as a control variable (Justesen and Bjørnskov, 2014). Similar to Justesen and Bjørnskov, 2014, an index based is constructed based on five questions that help to distinguish those who use public services (irrespective of whether they find it easy to access the services or not) from those who reported having never tried to obtain public services. The five services include medical care, household

services (water and sanitation included), identity documents or permits, assistance from the police, and public school services. For each of the five services (variables), those who reported making contact to obtain them are coded as 1 (public sector users), while those who never tried are coded as 0 (non-users). These variables are then aggregated to produce an index ranging from 0 to 5, with high values reflecting frequent experience with using government services. Finally, to control for the influence of respondents' membership of civil organizations on bribery experience, variables representing these characteristics are included. These variables are derived from questions asking about respondents' membership to a religious organization, as well as to a community development group. On the one hand, members may leverage their membership to such organizations to obtain specific government services, while on the other hand, they may be targeted by government officials to obtain bribes.

### **3 Empirical Results**

Table 2 present the regression results. The findings show that poorer respondents are more likely to experience having to pay bribes to obtain water and sanitation services than richer respondents. Those who lack basic necessities (high lived poverty) have 47.8% greater odds of bribery experience compared to those who have no-lived poverty (i.e. have never lacked any basic necessities). With respect to settlement, respondents in rural areas are significantly less likely (15.8% lower odds) to be involved in bribery incidences than their counterparts in urban areas. No significant difference exists between men and women in terms of chances of bribery experience, while respondents in the older age brackets have significantly lower odds of the experience of paying bribes compared to respondents in the age bracket 18-25.

Table 2: Binary Logistic Regression, Bribery experience: Experience, No experience(reference), Odds Ratios and Standard Errors

	Poverty
Poverty level ( <i>Ref</i> : No Lived Poverty)	
Low Lived Poverty	1.141 (0.112)
Moderate Lived Poverty	1.266** (0.117)
High Lived Poverty	1.478*** (0.128)
Settlement ( <i>Ref</i> : Urban)	
Rural	0.842** (0.067)
Settlement ( <i>Ref</i> : Male)	
Female	0.961 (0.064)
Age ( <i>Ref</i> : Age 18-25)	
Age 26-35	1.066 (0.081)
Age 36-45	0.960 (0.092)
Age 46-55	0.750** (0.114)
Age 56-65	0.734** (0.139)
Over 65	0.770 (0.180)
Age ( <i>Ref</i> : No formal education)	
Primary	1.168 (0.114)
Secondary	1.154 (0.110)
Post-secondary	1.117 (0.121)
Public sector user	1.194*** (0.028)
Constant	0.154*** (0.235)
Sample size	7457

\*\*\* p < .01; \*\* p < .05; \* p < .1

Model includes country dummy variables and variables for membership to civil organizations

Source: Afrobarometer, 2019. Own Calculations

## References

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