



# Collecting national data using mobile phones

## 1. Introduction

*Sauti za Wananchi* (Voices of Citizens) is a new initiative that uses mobile phones to regularly collect information from a broad cross-section of Kenyan citizens. The initiative will allow survey data to be gathered quickly and efficiently, at low cost.

Policy makers regularly make decisions for the whole country, but with poor access to the experiences and realities of a large majority of citizens. It is also difficult for them to know whether policies are properly implemented or actually working.

Policy makers typically use administrative data – information collected by government bodies at lower levels and compiled at district, regional and national levels – to inform their work. But there can be issues with the integrity of administrative data, due to inadequate technical, logistical and quality assurance arrangements. Alternatively, policy makers resort to using survey data, which can have more robust technical design, sampling, and quality assurance procedures. But traditional surveys based on face-to-face interviews tend to be costly and time-consuming. Surveys can cost millions of dollars each and often take more than two years from concept to the data becoming available.

This state of affairs has meant policy makers have to either deal with poor or delayed and expensive data. It has been virtually impossible to obtain a nationally representative, reliable picture in a quick and affordable manner.

Media outlets have national mandates but typically are under-resourced and under-staffed. As a result, news tends to be focused on capital cities, government statements or immediate events. Citizens too do not have an easy way to know what is going on around the country, and to compare their situation with others.

*Sauti za Wananchi* offers a solution that overcomes these limitations. It provides access to frequently updated statistics on a range of topics, with a focus on quality of public services and citizens' realities. *Sauti za Wananchi* embodies the rigour and quality of traditional survey methodology but uses mobile phones to lower costs and speed up the process of data collection. Through the infrastructure created, policy makers, analysts, media, other organisations and the public can access national data that are collected frequently on a range of issues.

*Sauti za Wananchi* builds on careful design, testing and rigour; the program has been in operation in Tanzania for three years, and has now expanded to Kenya. The initiative has two phases; the first phase is a baseline face to face survey at the household level, conducted between 12 November and 24 December 2015. The baseline is designed according to a traditional survey model with statistical rigour at its core. A representative sample of 2000 respondents from all 47 counties of Kenya is randomly selected to participate, with a further 400 citizens selected as reserve respondents in case any of the main respondents drop out completely. This means that, in

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Sauti za Wananchi



each enumeration area (EA), there are 10 households in the main sample with a further 2 reserve households. The margin of error for baseline data collection is +/- 2 at a 95% confidence interval.

During the household visits that make up the first phase, mobile phones and solar chargers are distributed to those who agree to become *Sauti za Wananchi* respondents. Phones are distributed to ensure representativeness of the sample, particularly when it comes to lower income households which are less likely to have access to phones. Chargers further ensure that the sample is representative by not excluding those who do not have access to electricity, again often the poorer households.

In the second phase of the *Sauti za Wananchi* initiative, these respondents are contacted monthly through a call centre to provide feedback on a variety of issues.

*Sauti za Wananchi* offers a unique opportunity, particularly to policymakers, to access data that provide insight into the real-time experiences and views of citizens. Additionally journalists and the public will have the chance to access the views, voices and realities of people from across the country.

Who are the respondents in the *Sauti za Wananchi* setup? Do they reflect the diversity of the country in terms of gender, age and geography? Do they have access to mobile phones and network coverage? How are phones used? This brief presents six key sets of findings from the *Sauti za Wananchi* baseline survey.

## 2. Six facts from the *Sauti za Wananchi* baseline survey

### Fact 1: Respondents total 2,399 adults of all ages

The *Sauti za Wananchi* sample covers less than 0.01% of the population of Kenya. However, the design uses random sampling in all stages. This means that the findings obtained are good (statisticians say

“unbiased”) representations of the average situation in households or the average views held by adults across (areas with network coverage in) Kenya. The number of 2000 households was chosen to provide findings with generally accepted and used levels of statistical confidence. Within each household, one adult (18+) member is chosen to be the respondent. 400 reserve households and respondents are also identified in case any main respondents choose to drop out. Out of these respondents:

Out of the 2,399 respondents:

- 51% are female and 49% are male
- Ages run from 18 to 99 years old
- Standard 8 level of education is reported by 19% while 20% report Form 4 as their highest level of schooling
- The main occupation is reported as farming or keeping livestock by 47%

In order to demonstrate that the *Sauti za Wananchi* sample is representative, the demographic characteristics of the sample can be compared to those used for the 2014 Demographic and Health Survey and the 2009 Census.

### Comparison of Respondents to 2014 Demographic and Health Survey and 2009 Census

#### Gender and Geographical Location

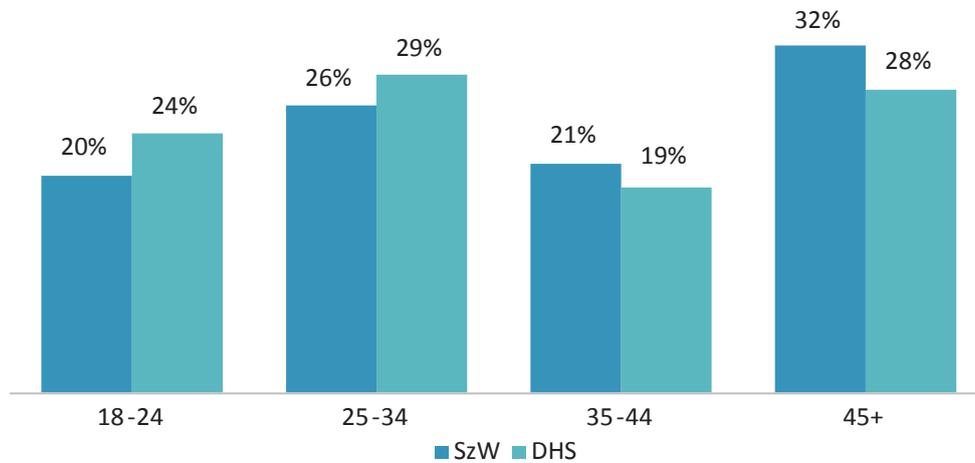
Gender	SzW	DHS	2009 Census
Male	49%**	48%*	50%
Female	51%**	52%*	50%
Setting	SzW	DHS	2009 Census
Urban	40%	38%*	38%
Rural	60%	62%*	62%

Source of data: *Sauti za Wananchi* Baseline Survey, 2015, Kenya DHS 2014, 2009 census data by KNBS

\*Unweighted data

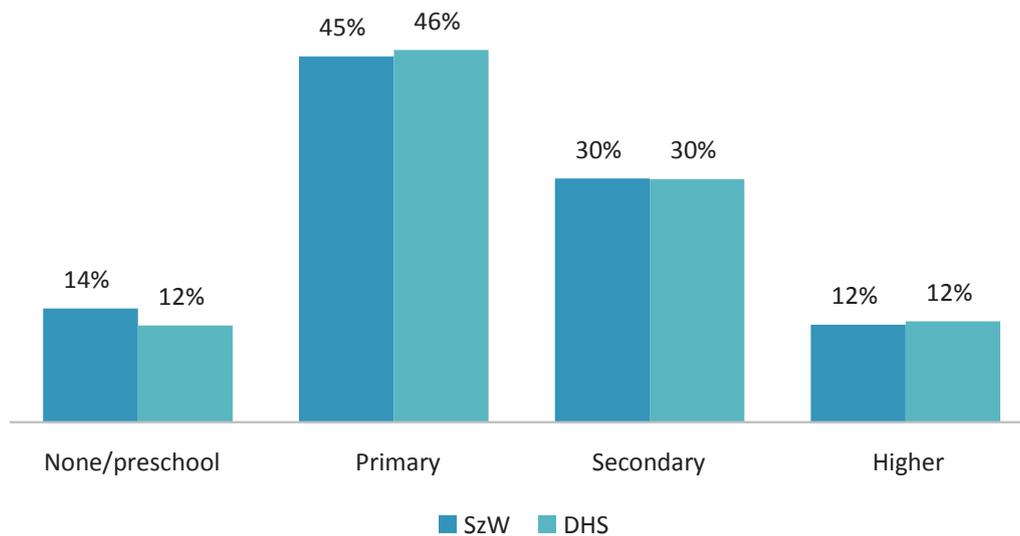
\*\*Weighted data

**Figure 1a: Age of respondents: Sauti za Wananchi sample and Demographic and Health Survey**



Source of data: *Sauti za Wananchi* Baseline Survey, 2015, Kenya DHS 2014

**Figure 1b: Education levels of respondents: Sauti za Wananchi and Demographic and Health Survey**



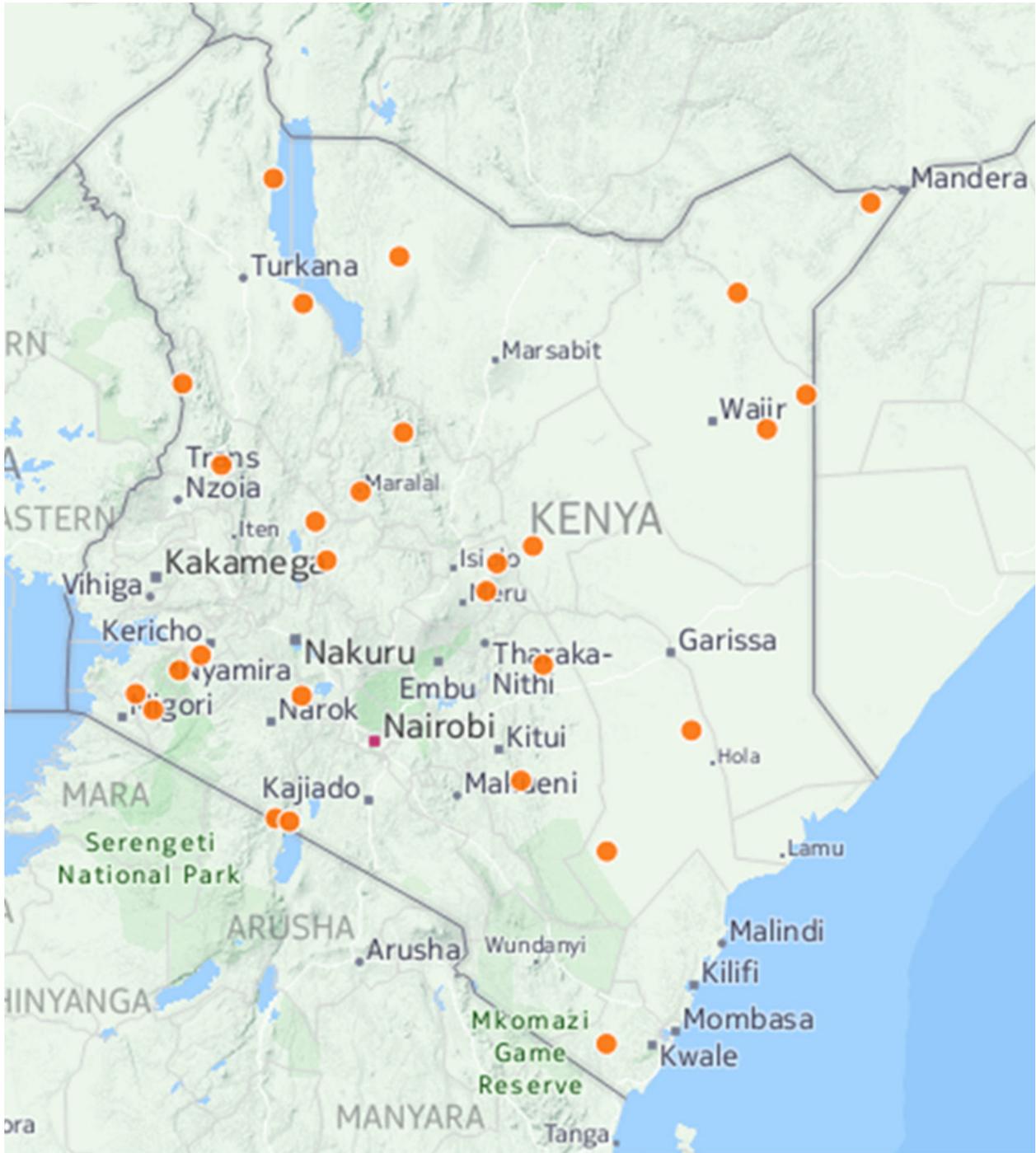
Source of data: *Sauti za Wananchi* Baseline Survey, 2015, Kenya DHS 2014

**Fact 2: 14% of the randomly selected Enumeration Areas did not have mobile network coverage**

Sauti za Wananchi uses a standard three stage survey sampling design: in stage one, so-called Enumeration Areas (EAs) are sampled. EAs are survey areas in rural and urban settings defined by the Kenya National Bureau of Statistics. Then, all households in the sampled EAs are listed and 10 are selected

randomly (stage two). And finally, in the third stage, one respondent is randomly chosen from all adult household members in each selected household. One aspect is non-standard: Sauti za Wananchi respondents have to live in EAs with mobile phone network coverage. From a random sample of 200 EAs, 28 EAs or 14% had to be replaced because of non-existent or insufficient network coverage. Figure 2 shows the location of the EAs that had to be replaced.

Figure 2: Location of EAs with no network



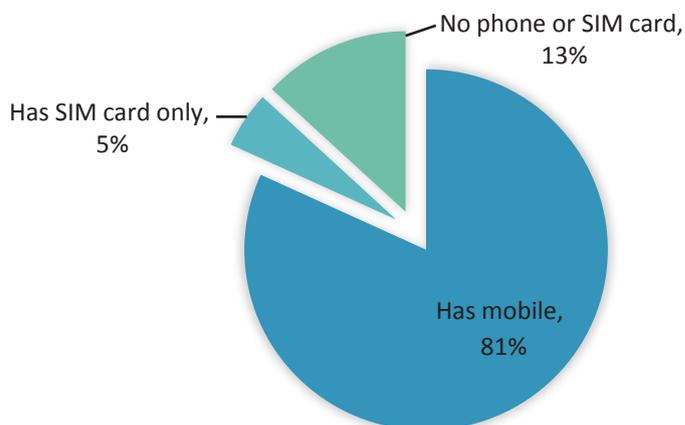
Source of data: *Sauti za Wananchi* Kenya Baseline Survey, 2015

### Fact 3: 81% of Kenyans own a mobile phone

A majority of citizens (81%) own a mobile phone. A further 5% have a SIM card only which they insert into

other peoples' phones to make calls. A total of 13% of citizens have no phone and no SIM card.

Figure 3: Mobile phone ownership by individuals



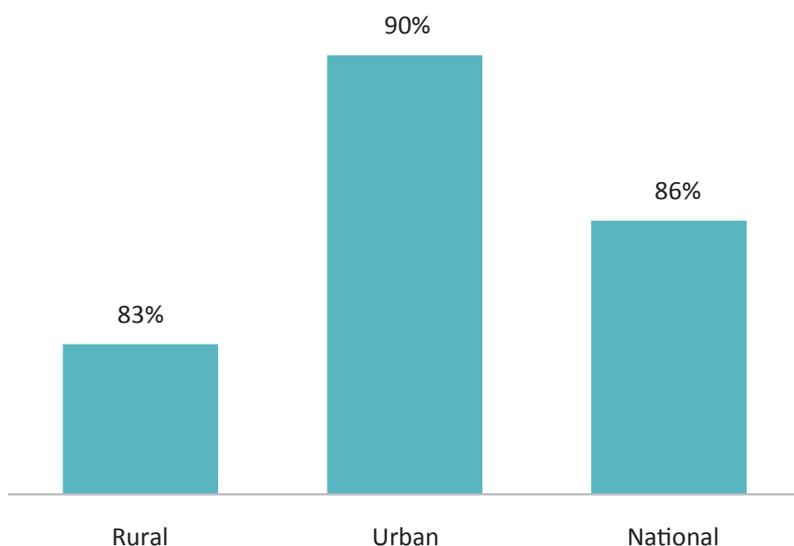
Source of data: Sauti za Wananchi Baseline Survey, 2015.

### Fact 4: 86% of households own at least one mobile phone

The Sauti za Wananchi baseline data show that phone ownership is slightly higher in urban than rural areas. Nevertheless, a majority of citizens in rural households (83%) are living in a household in which at least one

member owns a mobile phone. When designing the Sauti za Wananchi baseline, the decision was made to provide all respondents with a mobile phone to ensure fair representation by socio-economic status and geography.

Figure 4a: Mobile phone ownership at the household level (at least one mobile phone)



Source of data: Sauti za Wananchi Baseline Survey, 2015.

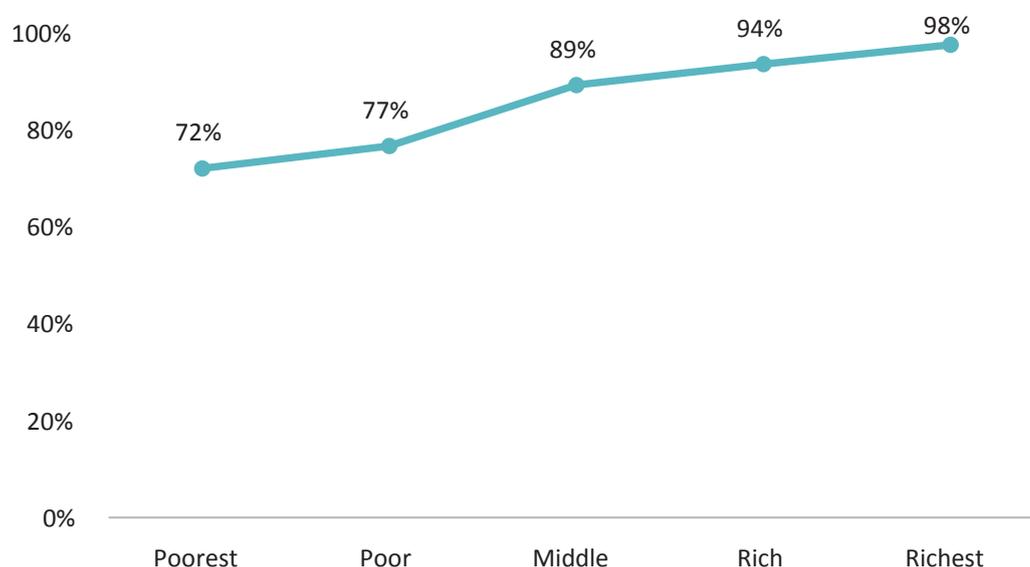
Facts 3 and 4a show that it would have been impossible to contact all individuals in a random sample without distributing phones. As shown in Figure 4b, the poorest

households are least likely to be reachable over the phone. In other words, the distribution of phones done by Sauti za Wananchi allows some citizens to speak

out who in a “standard” phone survey would not have been represented. In particular, poor households (as

measured by household assets) are included through this approach.

**Figure 4b: Mobile Phone ownership at the household across wealth quintiles**



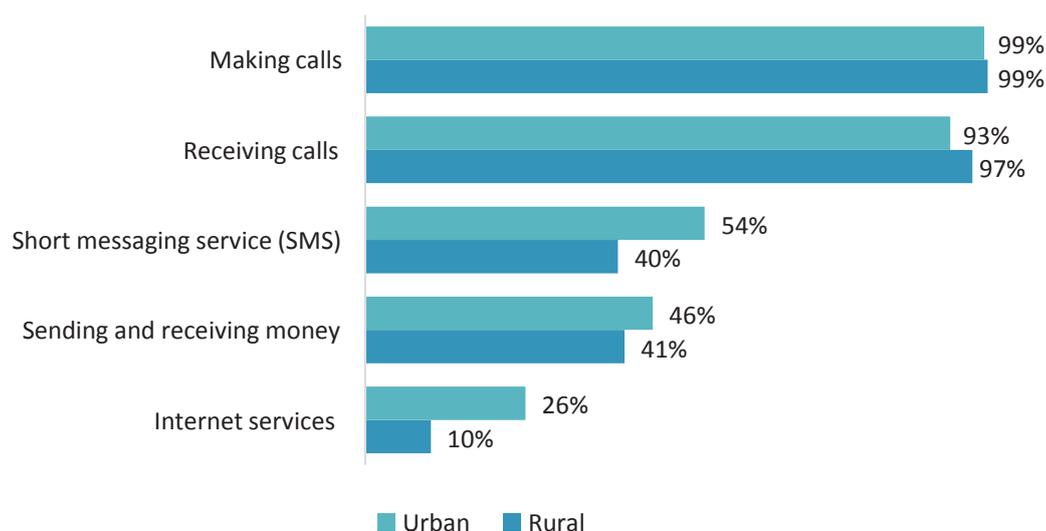
Source of data: *Sauti za Wananchi* Baseline Survey, 2015.

**Fact 5: Most people use their mobile phone to receive and make calls**

Nationally, almost all citizens who own a mobile phone use it for making (99%) and receiving (96%) calls, and close to half also use it for text messaging (46%). 4

out of 10 citizens nationally use their mobile phones for sending and receiving money (43%). Using mobile phones for internet services is more common in urban areas (26%), with the national average at 18%.

**Figure 5: Mobile phone usage in rural and urban Kenya**



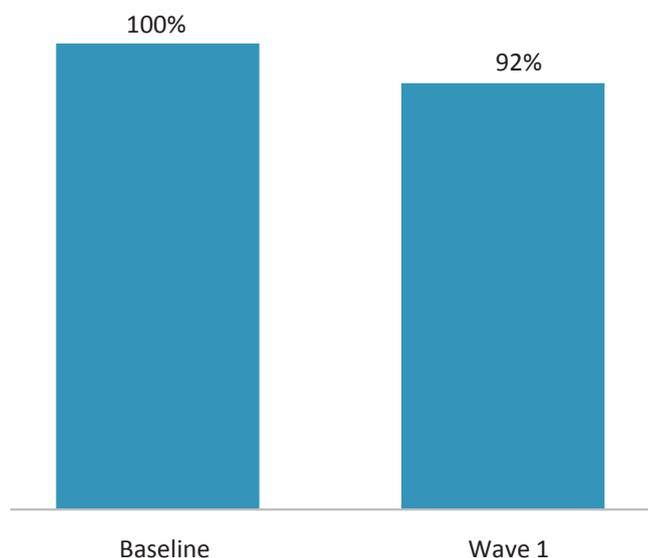
Source of data: *Sauti za Wananchi* Baseline Survey, 2015.

### Fact 6: Large majority of the respondents can be reached over the phone

An important indicator of the feasibility of any mobile phone survey is the ability to reach respondents after

the baseline. Immediately after the baseline phase, the Sauti za Wananchi call agents started calling respondents. Figure 6 shows that response rate for the first wave was 92 percent.

Figure 6: Response rates in Sauti za Wananchi



## Conclusion

This brief shows how the *Sauti za Wananchi* initiative is using mobile phone technology to establish an innovative data collection infrastructure. The first phase involves a rigorous multi-stage random sampling procedure – enlisting individual respondents from across Kenya who provide baseline data and receive mobile phones and solar chargers. The launch of *Sauti za Wananchi* marks the start of the second phase of the project during which respondents will be contacted regularly.

Data will be put in the public domain and findings will be published and launched regularly. Each month, *Sauti za Wananchi* respondents will provide feedback on a

different topic, with a focus on public service delivery, citizen engagement and public affairs. The data will be made public through the *Sauti za Wananchi* website ([www.twaweza.org/sauti](http://www.twaweza.org/sauti); baseline data will be available on the website in March 2016). Policymakers, MPs, analysts, journalists, donors and the public at large will be able to make use of the data and statistics on the website.

Twaweza hopes that the rigorous and high frequency nature of *Sauti za Wananchi* will provide a powerful new way for citizens to inspire public imagination and inform policy decisions in Kenya.

