GovTech Case Studies: Solutions that Work

Nigeria: Participatory Governance to Strengthen the Social Contract in Kaduna State
Citizen-Centric Public Services that are Universally Accessible

Supported by the GovTech Global Partnership - www.worldbank.org/govtech
Nigeria’s Kaduna State has created a GovTech-enabled citizen engagement program designed to make government investment more responsive to citizens. This program provides a homegrown mobile phone app, and low-tech strategies such as town hall meetings and radio shows, to crowdsource some aspects of project monitoring. Early results suggest that mainstreaming this citizen engagement in government operations, rather than engaging citizens in an *ad hoc* manner, may be key to improving project outcomes.

Kaduna State contains the former administrative capital of Northern Nigeria, was once a thriving industrial region, and is strategically located on the Lagos-Kano corridor. The state government believes that Kaduna can be a driver of growth in the region and have a demonstration effect for other states in Northern Nigeria. But to do this, it must significantly improve service delivery quality and access. To this end, the government undertook steps to improve public investment management through an effort that:

- Enables local accountability to citizens through a citizen-generated data stream as part of “Eyes and Ears” initiative to inform decision making.
- Increases the effectiveness of public spending.
- Links citizen engagement with official government monitoring activities to create a more holistic picture of project status and results.
The current Kaduna administration inherited a governance environment marked by limited public access to information, minimal involvement of citizens in the governance process, weak execution of the capital budget, and pervasive corruption. Of firms participating in the 2014 Enterprise Survey for Nigeria, 55 percent said that corruption was a serious problem in Kaduna, compared to 45 percent for Nigeria as a whole. Moreover, a 2015 audit indicated that delivery of public infrastructure projects was seriously off track, which prompted the government to seek a way to collect accurate data on project implementation.

The government signaled that making Kaduna more accountable and responsive to citizens, in part through technology and innovation, was central to its development vision. In the Kaduna State Development Plan 2016-2020,1 the government pledged to “set the standard for transparent decision making, citizen engagement and a competent and responsive public service.” In 2018, Kaduna became the first Nigerian state to join the global Open Government Partnership (OGP) as a subnational government, and its OGP Action Plan includes developing a “Permanent Dialogue Mechanism through technology-based citizen feedback on all projects and programs.” With these commitments in mind, Kaduna developed a GovTech strategy that:

- Puts citizen engagement and transparency at the core of the state’s development plans.
- Uses digital tools in combination with low-tech methods to enable broad participation.
- Aims to build mutual trust and confidence between government and citizens.
- Promotes inclusiveness and accountability.

Solutions and Approaches

To strengthen the social contract and bolster government performance, Kaduna undertook a World Bank-supported GovTech transformation built on the principles of transparency, accountability, and civic engagement. An early step was to create a mobile app intended as a government-to-government project monitoring tool. The Planning and Budget Commission would send procurement-level details to field officers, who would verify the current status of capital projects such as schools, roads, and health clinics. Soon it became clear that it was logistically impossible for the small number of government field staff to track the roughly 3,000 projects underway. In response, a new mobile app, CitiFeed, was extended to citizens as part of what became known as the Eyes and Ears\(^2\) public expenditure tracking system (Figure 1). CitiFeed allows users to identify a nearby public infrastructure project via GPS coordinates, and upload photos and comments related to the project's rollout. With their smartphones, users can provide feedback on service availability – project status; service quality – for example, feedback on hospitals, schools, and community services; and perceptions – citizens' views on investment priorities. Citizens do not need to pay to download or use the app, but normal data rates apply. Other participatory mechanisms, such as town halls, radio talk shows, and a toll free call center, were later adopted to complement the app and maximize participation through addressing the lack of mobile internet coverage (Figure 2). All these methods were what the Chief of Staff to the Governor called an “ecosystem of engagement.”\(^3\)

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2. [https://kadunaeyesandears.org/](https://kadunaeyesandears.org/)
FIGURE 1 - Eyes and Ears Public Expenditure System

E&E PETS
The Eyes and Ears Public Expenditure Tracking System (PETS) provides tracking capabilities for MoBP, GDU to be able to know the performance level of projects vs. amount released under the 2016 Annual Budget.

Getting single view on capital budget implementation and analyzing performance data across various ratios

Field management system

Automating the capital budget for virtual tracking and release management

Project site mapping and imaging

Providing real-time performance data from the field

Citizen feedback system

Eyewitness report on project status by citizens

Project site mapping and imaging

Data analysis, evaluation, and storage

BMIS
Budget Management Information System

Source: Kaduna State Planning and Budget Commission.
Data from the field are sent to an operations room in the State Planning and Budget Commission, where all data feeds are collated, triangulated, and assessed for quality and accuracy. A business intelligence dashboard (Figure 3) was developed to provide predictive analytics on project execution and aggregate performance information. A data bank captures implementation status, contractor performance, time trend analysis, and department performance ratings. Other tools include geospatial information systems and a central reporting platform that allows all ministries, departments, and agencies to review their own reports. An online dashboard was created to make aggregated information available to the public.

Source: Kaduna State Planning and Budget Commission.
DIGITAL SOLUTIONS

The Eyes and Ears Performance Management System was developed as custom software that includes a centralized web-based application, mobile app and cloud-based solution by a private solution provider, so the source code belongs to the developer. The software was developed in 24 months, with the cost of $300,000 financed from the government budget and World Bank grant funding (recipient-executed).

A data pipeline platform was implemented for sentiment analysis of citizen feedback, given its qualitative nature, through the Azure Data Lake Strategy, integrating data factoring and annotating voice via Google Voice API Library. The system’s Front and Back End implementations used MEAN stack and other open-source platforms like Apache Nginx Server, Free-tier MongoDB platforms, and MySQL DB.

Also, the Google Cloud and Microsoft Azure Cloud Service were deployed across several cycles of implementation, with a full transition to Google Cloud underway to engage with the rich Artificial Intelligence and Machine Learning library. The type of cloud service is SaaS and the cost is expected to run an average of $800 to $1,200 per month based on a pay per use model with a biannual subscription.
Results

Thanks to the CitiFeed app and the other methods of engagement—along with the work of field staff—the government now has more comprehensive information on the status and quality of capital projects. Since the launch of Eyes and Ears, the completion rate of public infrastructure projects has improved, with more than 500 schools and 200 hospitals completed on schedule. The government has also blacklisted more than 16 contractors for poor performance based on the citizen feedback. Eyes and Ears has given the government greater insight into citizen perceptions of public investment, and the government generated a citizen perceptions index to respond to the question, “are we targeting the highest investment priorities for communities?” to bring citizens’ views into the public investment planning stage.

Anecdotally, there are also indications that the program has prompted an increase in government responsiveness. For instance, one citizen reported, “six months after I complained about there being no hospital in my area, the government called me to show me the site of a new hospital to be constructed.” Another said, “I was shocked when the government called me and asked to visit the site I had complained about.”

Table 1 shows a snapshot of one month’s citizen feedback by method – in order: Twitter, quarterly media chat, toll free call center, town hall meetings – and indicates that 64 percent of the reported issues were resolved. The World Bank’s $350 million Kaduna State Economic Transformation Program-for-Results (PforR) included a disbursement-linked indicator (DLI) on “improved government responsiveness to citizens’ feedback on fiscal performance,” as evidenced by the percentage of capital projects improved in response to citizens’ feedback captured by Eyes and Ears; this indicator was evaluated as successful.

The project has also begun to generate excitement beyond Kaduna. Prompted by the example of the Eyes and Ears program, the Government of Jordan has decided to leverage crowdsourcing as a way to strengthen project monitoring. The idea has been incorporated into the World Bank’s Inclusive, Transparent, and Climate Responsive Investments PforR in Jordan.

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TABLE 1 - Snippets of Citizen Engagement in September 2020

<table>
<thead>
<tr>
<th>Method</th>
<th># REPORTED</th>
<th># RESOLVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twitter</td>
<td>47</td>
<td>34</td>
</tr>
<tr>
<td>Media Chat</td>
<td>27</td>
<td>18</td>
</tr>
<tr>
<td>Toll Free Call Center</td>
<td>52</td>
<td>30</td>
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<tr>
<td>Town Hall Meetings</td>
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<td>8</td>
</tr>
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Lessons Learned

Kaduna’s GovTech efforts illustrate a way to expand the breadth, depth, and timeliness of information that the government can gather to inform program management and resource allocation. Several factors seem to have contributed to its success thus far:

- From the beginning, Eyes and Ears aimed to address a clearly defined imperative – the need to strengthen project monitoring – to which the state’s top leadership had committed politically.
- The rollout has taken an iterative, organic, and practical approach: what began as a government-to-government (G2G) effort turned into a government-to-citizen (G2C) initiative when the government realized the potential value of enlisting citizens.
- Kaduna’s OGP Action Plan, to which all of these efforts are related, was co-created by government and civil society, helping to develop a spirit of partnership, trust, and equity, and senior leadership in the government has continued to monitor success.
- Business process re-engineering to build Eyes and Ears and citizen engagement into the fabric of the government’s daily work, and to create incentives for its use – for example, incorporation as a DLI in the World Bank PforR – has helped to ensure its relevance.
- There was a deliberate effort to expand the Eyes and Ears project to all 23 local government areas to deepen engagement and prompt expeditious action on reported projects, driven by the idea that local governments are closer to the people; monitoring dashboards will therefore be situated at the Local Government Chairmen’s offices.

The experience suggests several early lessons:

- Core government systems can benefit from enhanced data collection enabled by GovTech tools, particularly when feedback is linked with data from other sources—for example, by matching citizen-provided feedback with official monitoring data for the same project.
- GovTech tools can help to make service delivery more citizen-centric by facilitating real-time feedback and sparking conversations with citizens about priorities and quality.
- Countries may be able to use GovTech to “leapfrog” ahead of countries with more ossified processes in the area of citizen engagement; this may provide significant scope for South-South experience sharing.

Next Steps

Government staff use the CitiFeed app regularly and citizen engagement has become a significant way for the government to improve public investment outcomes. Next steps include finetuning the dashboard and tools to support stronger analytics, and finding additional ways to embed the approach in operations. Also, continuous efforts to build staff capacity will go a long way in sustaining this initiative. The federal government also aspires to replicate the Eyes and Ears program in other states.

In terms of citizen engagement, uptake of the app by the public is still lower than desired; downloads are in the hundreds, indicating that there is room for significantly more engagement. Currently, the government receives more citizen feedback via other methods than via CitiFeed. As the program matures, efforts to increase citizen awareness, reduce technology access barriers, and make all methods for engagement easy to use, including by adding local languages to CitiFeed, will continue. Perhaps, even more critically, demonstrating that feedback matters—by continuing to respond directly to citizens and highlighting changes that have been made as a result of their input—may increase participation.

Contact Information

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NIGERIA: PARTICIPATORY GOVERNANCE TO STRENGTHEN THE SOCIAL CONTRACT IN KADUNA STATE
Annex: Full Stack Implementation of Eyes and Ears Project


WEB
- HTML
- CSS
- node
- Express
- Nginx
- MongoDB
- MySQL

PHONE
- Angular
- React
- Vue
- Stencil
- Ionic Framework
- HTML
- CSS
- JavaScript
- Capacitor
- Apache Cordova
- iOS
- Android
- PWA
- Desktop

CALL CENTER
- Google Voice
- Natural Language Analysis with Python NLTK

SENTIMENT ANALYSIS

FRONT-END

MIDDLEWARE/SERVER-SIDE

BACKEND
- Customized reporting
- Power BI embedded
- Leaflet GIS portal
- Citizen engagement platform
- Response ticketing platform