

## **REPORT ON OPEN DATA KIT AND OPEN DATA POLICY OF INDIA**

### **ISSUES OF DATA COLLECTION IN LOCAL GOVERNMENTS**

Citizens depend on their local government to use resources effectively in order to improve quality of life for the community. Despite their best efforts, many local governments fail to collect accurate information about the resources available. Some of the most common challenges faced by the organisations in data collection are:

1. Missing essential data for future budget requests
2. Relying heavily on paper notes, white boards and various communications to keep track of tasks throughout organization
3. Entering the same data multiple times in multiple systems
4. Poor record-keeping leading to audits
5. Creating data silos with multiple spreadsheets across departments
6. Losing vital information contained in paper work orders
7. Technology cost and unavailability
8. Govt. policies and regulations

Many of these challenges tie back into ineffective data collection procedures and application.

### **NATIONAL DATA SHARING AND ACCESSIBILITY POLICY (NDSAP)**

Govt. of India has implemented the National Data Sharing and Accessibility Policy (NDSAP) to enable Open Government Data and Open Data Policy. As per the policy any non-sensitive data collected by Govt. Bodies/Departments Central/State can be shared /accessible on the principles of Openness, Flexibility, Transparency, Quality, Security and Machine-readable. "A dataset is said to be open if anyone is free to use, reuse, and redistribute it –Open Data shall be machine readable and it should also be easily accessible."

NDSAP recommends that data has to be published in open format. It should be machine readable. Though there are many formats suitable to different category of data. Based on current analysis of data formats prevalent in Government it is proposed that data should be published in any of the following formats:

CSV (Comma separated Values)

XLS (spread sheet- Excel)

ODS (Open Document Formats for Spreadsheet)

XML (Extensive Markup Language)

RDF (Resources Description Framework)

KML (Keyhole Markup Language used for Maps)

GML (Geography Markup Language)

RSS/ATOM (Fast changing data e.g. hourly/daily)

It has to be noted that Govt. of Kerala, IT Cell Circular 2/701/2015 ITD dated: 21/07/2016- orders to use open source software in Govt. Offices. Based on the above circumstances we propose to implement the Open Data Kit platform of tools for data collection through Android Phones in the Department.

### **OPEN DATA KIT (ODK) -<https://opendatakit.org/>**

Open Data Kit (ODK) is an open-source suite of tools that helps organizations author, field, and manage mobile data collection solutions. It's an open-source and standards-based tools which are easy to try, easy to use, easy to modify and easy to scale. ODK has been funded by a Google Focused Research Award and through donations from users. ODK is supported by a growing community of developers, implementers and users. ODK is being implemented in many countries worldwide and projects including Government bodies, International Space Station, UNICEF, UN AIDS, and Institute of Development Studies etc. In India IKP Centre for

Technologies in Public Health enrolled 3,000 households (12,500 individuals) for a comprehensive primary healthcare delivery model in Tamil, Nadu. PATH is piloting ODK for use as a digital birthing assistant with clinical decision support, management of patient information, and as a tool for communication and education. ODK is being used in UC Berkeley's Health in Hands project in Mumbai and Karnataka. UNICEF and the children of Kolkata are mapping their community with ODK.

### **Cost Benefit Analysis of Using ODK**

1. Adhering to International Standards in terms of implementation and security
2. Open Source and easy to implement
3. Server Instance can be hosted in own data centre or in Google cloud service
4. Various Governments worldwide already using the facility for past many years
5. Mobile data collection and GPS based GIS implemented free of cost.
6. User level and data level security can be incorporated.
7. A project of same manner if need to be implemented privately will involve huge financial liability along with prolonged time duration for the completion.
8. Existing human resource can be utilised for implementation of the project.
9. Android Handheld devices with GPS facility and Camera are a must.

### **Pilot In DDP Office Thrissur**

A pilot project has been completed successfully in DDP Office, Thrissur district by mapping the spatial information of all 86 Gram Panchayats along with other preliminary details. The project server was hosted in Google Cloud Platform and the necessary data collection forms were developed in-house using the form development utility from ODK. The assigned forms were downloaded in by the Gram Panchayats in respective Android devices using the ODK Collect utility and the data was submitted back to the Cloud Server. The submitted data was exported as csv/kml format and has been used to visualise a GIS Map of the above Gram Panchayats. The entire process of Hosting the Server to the Training, Data Collection and Visualisation was completed in a week's time free of cost. A project of same magnitude if done professionally would have cost somewhere around 5-10 lakh with a time period of 6-8 months.

This facility / tool can be utilised by the Department or Gram Panchayats for various field level mobile data collection and consolidation purposes free of cost and in less time in adherence to the Govt. of India-NDSAP/Open Data Implementation Guidelines (<https://data.gov.in/>).

### **What Needs To Be Done**

To use ODK, we need to do three things -- setup a server, design a form and connect the device to that server. Once those three things are done, you'll be ready to start data collection. The ODK Server (Aggregate) can be hosted either as a standalone server in our Data Center or in Google Cloud. Mobile Data Collection forms can be designed using XML, XLSForm or any online/desktop tool supporting ODK Aggregate. ODK Client called ODK Collect need to be downloaded and installed in all Android devices and to be configured for submitting data online.