1. Why undertake a mapping exercise?
Geographic information systems (GIS) (commonly known as digital maps) capture, store, analyze, manage, and present geographic data. County and national governments are increasingly using GIS in project planning to provide information on the status, cost and location of projects. However, many GIS systems are difficult for citizens to use. Participatory budgeting (PB) decision making also demands up to date detailed information. Digital maps can provide information that is useful in projects and expenditure monitoring and informs decision making of both public officials and citizens on which development projects should be implemented, and where, in order to enhance equitable services delivery.

2. Why OpenStreetMaps?
OpenStreetMaps (OSM) is freely available and accessible for anyone to update and use. The Map Kibera Trust used OSM and citizen volunteers to map Kibera informal settlement. Previously Kibera was not covered by other national online maps, including Nairobi City or Google maps in any detail. After the mapping of Kibera, many people, including policy makers and public officials, refer to the maps as they provide new details on services, social amenities and security. Citizens also use them to access services or information.

When Map Kibera started the mapping of Makueni County, except for a single point indicating Wote Town, none of the key features such as hills, roads, rivers and social amenities were on OpenStreetMaps.

Since the PB mapping initiative carried out in March 2018, Makueni County is now available on the most accessible digital map platform (OSM). This has created considerable relevant new information, specifically covering Wote and Mbooni Wards. Companies that provide mapping or spatial plans for commercial purposes often do not engage citizens in the mapping process.
3. What were the tools and the process?
In collaboration with Makueni County Government, young people were trained by Map Kibera Trust in using the ODK mobile phone application to collect GPS coordinates of development projects, important features and points of interest. They posted and edited this new data onto a base map taken from the previously empty OpenStreetMap. The involvement of citizens in collecting information on projects facilitated public validation of the implementation status of the projects and the information they gathered is able to provide direct evidence of the county’s performance. Using community members to verify or provide GPS coordinates provides a participatory process by which the county can regularly update its own GIS maps.

4. What Products are expected from the mapping?
There are three main products. i) Enhanced map coverage of Makueni, specifically covering Wote and Mbooni Wards; ii) A Website for hosting Makueni County’s digital maps that is accessible to the public, but under the control of the County and which is also easily expanded and updated. The website can be hosted on County servers; iii) Printed maps that will be useful during the PB meetings or can be translated into murals easily visible by the public at the Ward headquarters.

5. How do you handle issues of security features?
After the mapping is completed the data will be owned, managed and updated by the County Government. The County can choose to make the online maps public or private or make some details available to the public and reserve some only for internal use. The county will have the authority over essential security features when the web maps are handed over and, importantly, it can host the digital maps on its own servers.
6. What was the cost of mapping the two Wards?

Approximately 45,000USD was spent for mapping the first two wards. The costs for piloting are usually higher but subsequent scaling up costs would be significantly lower. The remaining wards will require lower investment, especially if the participatory component is well explored and editing of data into the website is done internally. The intention of piloting the 2 wards was to enhance internal capacity in Makueni County in digital mapping and to provide a low cost means of updating information on a regular basis.

7. What is the benefit of using participatory mapping process?

The process demystified mapping and showed that the county can have relevant up to date digital maps that can be developed and updated locally by the county officials in partnership with citizens. Investment in training and capacity means subsequent updating and maintenance will be at a minimum cost.

8. How can non-physical projects be covered in the digital maps?

Other development interventions such as training and skills development, community organising, or civic education can also be included either by adding additional information on these types of projects or providing links within the web maps to information found elsewhere on the county website.
9. What other benefits have been realised or are possible?

GIS maps developed with citizens can enhance development planning, equitable sharing of resources as well as communication and public relations. Traditionally Counties limited their use of GIS mapping to spatial plans prepared by their Lands, Physical Planning and Urban Development departments. Information on projects that seek to build the capacity of Wananchi to improve their lives and to determine their development paths and cut across more departments and sectors was considered in PB GIS projects mapping initiative.

When GIS technology is expanded through involving citizens, it can enhance information sharing and coordination across departments which has the potential to bring greater efficiency often in innovative and unexpected ways.