

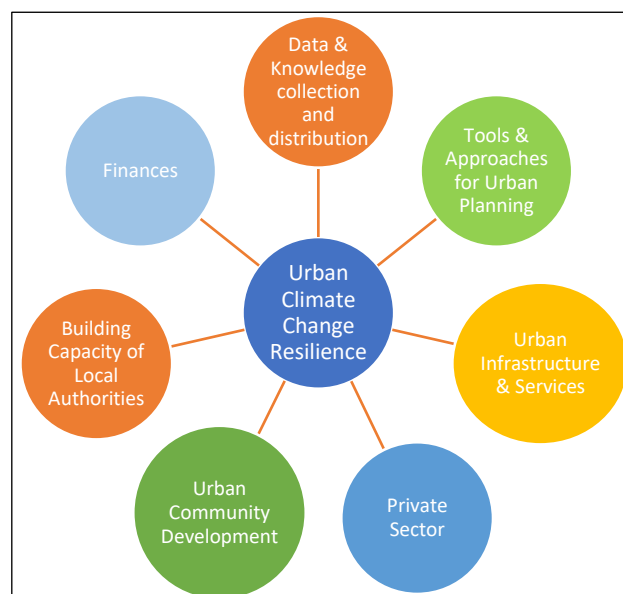
## 'Is There an App for That?' Mobile Technology for Urban Climate Change Resilience in Nairobi County

Every day, more and more people are using their mobile phones to help perform tasks, learn a skill, study, create connections and address challenges in their community. In Nairobi, technology is also being used across various sectors to support development and help make lives easier. Two major challenges face the city- the growing population and climate change. Together these two issues are making the residents of Nairobi, especially vulnerable groups- such as the poor, women and the disabled, face increasing challenges such as water scarcity, disease outbreaks, rising food prices and many others. This can make life even more difficult.

To help bring together Nairobi's development and climate change adaptation plans and the city's rising technology sector, I asked myself the question: *how can mobile technology be used to help Nairobi build urban climate change resilience?*

But what is **resilience**? It has many definitions but for this study it is the capability of individuals, communities or systems to cope with a destructive event or disturbance, respond in ways that maintain their functions and identities while being able to adapt, learn and transform in order to overcome future challenges. With this in mind what then is **urban climate change resilience**? It is the capacity of cities to function, so that the people living and working in them, especially the poor and vulnerable, survive and succeed in the face of stresses or shocks related to climate change. *Shocks* are sudden, unexpected events such as floods while *stresses* are events that begin slowly such as increasing food prices due to drought and failed harvests.

To understand how mobile technology could be used and where, I used seven entry points to urban climate change resilience as shown in the image below. Each entry point had several action points that guided the study in identifying the role of mobile technology.



I used literature and conducted interviews to obtain the necessary data. The literature reviewed focussed on resilience in Nairobi, the city's challenges, National and County laws, policies, briefs and bills as well as publications on various mobile based technologies being applied or developed within the city or country and the actors within the technology sector. The key informants interviewed were mobile application (app) developers and Information

Communication Technology (ICT) practitioners, an urban planner and a supporting institution working within the resilience field- the Resilient Africa Network (RAN). Other data sources came from YouTube videos and podcasts with information on various technologies in use or under development as well as other supporting institutions such as the Kenya Climate Information Centre.

### **What are the findings?**

- 1. There is a lot of potential for mobile apps and games to be used in various ways to help address numerous challenges related to urban climate change. For example, a game to educate children on climate change adaptation; an app to help collect and share climate data amongst researchers and the public; using games such as Minecraft to teach people about urban planning and many other applications*
- 2. There are many different organisations set-up to support app developers working on numerous innovations countrywide, this is very important!*
- 3. Using existing platforms or projects can be a good starting point to include more mobile technology into Nairobi's planning and development. For example: the 100 Resilient Cities Initiative, Kenya Vision 2030 etc*

Several things have to be considered to make this successful:

- a. A good strategy is to have a well-defined target group: Do you want to educate children or adults? What ages? What education and economic levels? This helps to design an app or even a game that will keep people interested, communicate the intended message and lead to a change in their lifestyle or actions
- b. Data out-Data in: To know if the community is benefiting from the app/game they also need to give feedback e.g. *How many trees have you planted? Did you reduce the amount of electricity in your household? How about a contribution to a community preparedness activity to unblock blocked drainage that could make flooding worse?* This means that there should be a communication channel between the user and developer.
- c. Participation by all: It is not only the app creators who need to be involved, but also the authorities (Senate and County representatives, staff and their collaborating partners) as well as the public, community based organisations and vulnerable groups. This will ensure everybody is working together to build a sustainable, resilient city.
- d. Development can be expensive: Investment should not only come from the private sector but also from the County. While Kenya has made great progress in ensuring technology is incorporated in all sectors, it is important to make the necessary investments to promote this also at the County level.

In conclusion, Nairobi's technology sector has great potential to influence the development of urban climate change resilience. Majority of the city's residents have access to mobile phones and smart phones through which they are connected to the broader community, making it easier to work together to address the city's challenges, and create a more resilient and sustainable city. With joint support and participation of Nairobi's authorities, the public and private sectors and all other stakeholders it could be possible to introduce effective mobile based applications to enable the city's overall success.