

# Digital Slums.

Alberto Cendoya  
Navarra Center for International Development  
Spain

Combining the physical and digital connectivity in order to improve the lives of slum dwellers in Africa.

61.7% of urbanites in Africa are slum dwellers, and as the urban population of the continent increases at unprecedented rates, this percentage may increase if robust and innovative measures are not taken by local authorities. The Digital Slums project is a research initiative to better comprehend the transience and possibilities of the digital technologies for the urban poorest. If handled appropriately, these new technologies may be one of the keys to face and solve the huge challenges African cities will face in the upcoming years.

## DIGITAL connectivity

"Smart cities" is a concept usually related to developed and rich cities, used in the context of smart cities, to improve how schedule information, healthcare systems or CO2 emission information. These utilities are tremendously important, but in many developing cities, such as in Africa, there is no public bus transportation systems, no efficient healthcare and no factories capable of emitting greenhouse gases, but what many of them do possess are cellphones, access to computers, or internet.

This is a tremendous potential to improve the lives of people. After all, the rate of urbanization in Africa is expected to be so high because of access to these new technologies. However, they need to also be used to deal with the huge problems cities of the region will face in order to improve the socio-economic inclusion of slum dwellers. There is some strong evidence that digital technologies have helped people overcome the most recent traditional infrastructure systems, such as the use of mobile phones for money transfers in Kenya with M-PESA, or initiatives such as Digital Jobs Africa by the Rockefeller Foundation, jobs that can be done anywhere with a computer and access to internet.

What is interesting about both examples is the combination between the physical and digital connectivity: both systems are based on the use of digital technologies in order to create a banking system or a job market; however, they rely on the physical connectivity in order to do so. In the case of M-PESA, the cellphones need to be charged with money in villages such as supermarkets, and there need to be physical antennas that give them signal. With Digital Jobs Africa, people need to have access to a computer with internet in order to be able to work, and that means having the physical network necessary for it, from personal devices to small public centers with computers.

M-PESA, internet.org by facebook, Digital Jobs Africa

## PHYSICAL connectivity

African cities are not the only ones that have faced enormous challenges, many before them have seen how abrupt immigration has generated overcrowded slums, shortage of basic needs and serious economic difficulties. Solving these issues is not simple, but there have been some examples throughout the second half of the 20th century that show dealing with slums and obtaining a positive outcome is possible.

### Curitiba

Rapido Transit (BRT) systems have become increasingly popular in many developing cities, especially in Latin America. Their origin is precisely in the Brazilian city of Curitiba, which not so long ago was facing a strong communication deficit, housing shortages, and overcrowding. Through the transportation system as a cheap alternative to the metro that proved to be very effective and other public initiatives such as the food for man program, social housing or the ambitious park system, the city has managed to be one of the leading metropolitan areas of Latin America. It currently stands as a model for all over the world, being considered as one of the best cities to invest in Latin America and the notable presence of international companies has made it one of the richest in the continent.

### Medellin

Medellin, in Colombia, faced similar issues back in the 1980-90s. The population had tripled in 20 years, habitants could not afford a house, and crime rates had skyrocketed to \$340 killings in 1991 (18 per day). The solution came from a series of mayors and the public enterprise Empresa Pública de Medellin, which invested in education and culture in the center of the city. The MetroCable was built right afterwards, a cheap public transportation system made up of cable cars that connected the area with the slums in the slopes. Medellin is currently one of the safest cities of Latin America. It was named the "most innovative city in the world" in the year 2013 by The Great Journal and Citigroup, and has a very high human development index of 0.864. The municipality is currently having the culture and education inside the slums, investing in modern infrastructures like the Biblioteca España, connected to the city center through the MetroCable.

### Singapore

Singapore is a modern wonder that has possibly experienced the most notable urban transformation. When it achieved independence from Malaysia, the small island of 680 km<sup>2</sup>, with a population of 1.6 million in the year 1965, had tremendous unemployment rates, and 50% of the population were living in slums. Through the strong leadership of its Prime Minister Lee Kuan Yew, the city started the Housing Development Board, which was able to supply housing to 85% of the population. The city understood that promoting the economic development was the key that would make them progress. Making use of their port and cheap labor, Singapore started to become what it is today, a global hub where 121 foreign banks and 7300 multinational companies have their headquarters, a Human Development Index of 0.912, and a GDP per capita of \$62,712.

Birthplace: Chaptoun, Kenya      Date: 4 January 1969      Profession: Javelin Throw Athlete



## who is Julius Yego?

Kenyan professional athlete that competes in the javelin throw

## why is he in this poster?

he learned to throw javelin watching YouTube videos, and he is the current world champion and olympic silver medalist

## what does this have to do with slums?

YouTube gave him the skills, but in order to become a world champion, he needed access to internet, gyms, people, and many more facilities. Cities gave him that.

The power of digital technologies alone is not enough if it is not complemented with physical tools.

Although slums generally lack proper physical connectivity networks to the rest of the city, they do have some minimum access to the advantages a city gives. Digital technologies in this context could dramatically improve these advantages.

where physical meets digital

Julius  
Yego



Digital + Physical (connectivity) =  
Development for African Slums