

New data methods are helping the Government of Ghana fight COVID-19

Accra, Ghana - 03 April 2020 [FOR IMMEDIATE RELEASE]

Ghana Statistical Services (GSS), Vodafone Ghana, and the Flowminder Foundation are using innovative data science techniques to support the government's response against COVID-19.

The long-standing Data For Good partnership between Ghana Statistical Services, Vodafone Ghana, and the Flowminder Foundation has enabled the production of rapid mobility estimates using anonymised and aggregated mobile phone data to support the government's interventions against COVID-19.

The analysis aims to identify the extent to which mobility restrictions put in place by the government are being adhered to within districts, regions, and nationally. These new mobility estimates will help the government understand how effective its restrictions have been and enable it to plan its next move in the fight against the virus.

Flowminder and the GSS have utilised anonymised, aggregated telecommunications data, provided by Vodafone Ghana, to provide the government with analysis comparing changes in Vodafone subscribers' mobility patterns since travel restrictions started.

The data, collected by Vodafone Ghana, is anonymised before it is analysed, removing any personal information to protect individuals' identities. The data are then looked at as a whole to see the big picture of how lots of people are moving, rather than individuals' activities.

Prof. Samuel Kobina Annim, GSS's Government Statistician adds:

"Understanding changes in mobility patterns is important for the government in order to establish whether the current restrictions are likely to contain the spread of the disease, and whether more, or different, interventions should be put in place in the coming days or weeks. This work shows the power of data and is a good example of how it can benefit everyone."

Patricia Obo-Nai, Chief Executive Officer (CEO) of Vodafone Ghana remarks:

"This milestone puts Ghana in a unique position as a trailblazer across Africa and offers an undeniable proof why data from mobile networks can become a force for the good of society. Our commitment remains to positively impact the lives of people, businesses and communities through innovation and technology during this pandemic. I am extremely happy that this data will help the country to better analyse and make predictions for the benefit of everyone at this crucial time. "

Tracey Li, Data Scientist at Flowminder, explains:

"The government of Ghana needs to understand how and when people are moving. From mobile data, we are analysing, for example, the number of Vodafone subscribers in each district or region, the number of subscribers travelling between districts and between regions, and the increase in movements out of Accra and Kumasi over the weekend. By comparing these data pre- and post- travel restrictions, we can assess how the regulations have affected people's behaviour."

Various analyses have been produced, including a focus on understanding movements out of Greater Accra and Ashanti over the last few days. Outputs have been shared with GHS to inform their approach to planning interventions.

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Aggregated and anonymised mobile phone data can support interventions against COVID-19 by radically improving the government of Ghana's understanding of population movements and the effect of mobility interventions at both national and local levels. The data can be produced in a timely manner through methods which fully preserve the privacy of all mobile subscribers.

As of 02 April 2020, there were 204 confirmed COVID-19 cases in Ghana. Authorities have imposed lockdown on the Greater Accra and the Greater Kumasi Metropolitan Areas. All individuals have been advised to stay at home and limit their movements as much as possible, while Ghana's borders have been closed since Sunday 22 March.

Alongside this analysis, the GSS has developed a COVID-19 monitoring dashboard which will show data on the number of confirmed cases, the towns affected and the regions of the country with the most vulnerable people. The intuitive interface allows users to interact with the data and tailor it to better understand the picture in specific areas. The dashboard was developed by the GSS with support from the ESRI, Fraym and the Global Partnership for Sustainable Development Data (GPSDD). The data provided in this dashboard will support the country's interventions by providing disaggregated information to the public. To view this dashboard on a smartphone, visit <https://arcg.is/191zLT00> or on a computer, click: <https://arcg.is/1bj4H4>

The analysis produced by GSS, Flowminder and Vodafone Ghana can be found at www.statsghana.gov.gh.

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-Notes for Editors-

About the GSS - Vodafone Ghana - Flowminder partnership

At the start of 2018, Ghana Statistical Services, Vodafone Ghana, and the Flowminder Foundation embarked on a unique partnership to produce official statistics using de-identified telecommunications data, to strengthen humanitarian and development decision-making in the country. The project is funded by the Vodafone Foundation and the William and Flora Hewlett Foundation, and has the potential to save lives by providing accurate and relevant insights to the government of Ghana.

About Ghana Statistical Services

Ghana Statistical Service produces some of the nation's most important numbers – on the economy and business, people, population and communities. Operating impartially and free of political control, we are mobilising the power of data to help Ghana make better decisions, improve lives and continue building a successful economy. Follow our latest news and get an insight into the work behind the numbers by following [@StatsGhana](https://twitter.com/StatsGhana) on Twitter, [Ghana Statistical Service](https://www.facebook.com/GhanaStatisticalService) on Facebook or [Ghana Statistical Service](https://www.youtube.com/channel/UCv1L10U10U10U10U10U10U10U) on YouTube.

About Vodafone Ghana

Vodafone Ghana is an operating company of Vodafone Group Plc - the world's leading mobile telecommunications company. In Ghana, Vodafone is a leading total communications solutions provider, delivering services such as mobile data and voice; fixed voice and broadband, mobile financial services and a fibre backbone service for the West Africa sub-region. It is the second ranked operator in the country and the best in voice clarity and data speed. Vodafone Ghana has close to 10 million customers with a deep sense of responsibility and commitment to social development in Ghana. This it achieves by

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conducting all operations in a responsible manner with a relentless dedication to regulatory compliance. For more information, please visit: www.vodafone.com.gh

About the Flowminder Foundation

Flowminder is a non-profit foundation that specialises in the analysis of anonymised mobile phone data, satellite imagery, and household survey data for humanitarian and international development purposes. Flowminder was the first organisation to respond to a large-scale infectious disease epidemic (the Haiti cholera outbreak in 2010) using mobile operator data, and Flowminder's researchers were the first to show that mobile operator data can predict the spatial spread of an infectious disease. The foundation provides information to governments, non-governmental organisations, inter-governmental organisations, and researchers, and has developed sustainable partnerships with numerous mobile network operators in low- and middle-income countries. Flowminder's multidisciplinary team of experts includes epidemiological researchers, data scientists, software developers, and humanitarian practitioners. Flowminder is one of the implementing partners of the GRID3 programme, currently active in Ghana.

www.flowminder.org | www.grid3.org