DATA TALKS APRIL 2018: *MOBILE DATA*

Data from mobile devices and mobile networks has enormous potential for better understanding the world in which we live, able to detect the distribution and movement of populations and their behaviour. Yet, despite a number of successful case studies, the use of mobile data for development and humanitarian action is still largely in its operational infancy. How can international organisations sustainably engage with, and benefit from, mobile data, and what is holding them back from seizing this opportunity?

Mobile data to development and humanitarian affairs

Linus Bengtsson (Executive Director and Co-founder, Flowminder) provided a number of examples of the potential of mobile data, based on the organisation's experience in working with data providers, inter-governmental organisations and non-governmental organisations (NGOs) to collect, aggregate, integrate and analyse anonymous mobile operator, satellite, and household survey data. He explained that mobile data is able to measure the distribution, characteristics, and dynamics of populations, which can be used for a wide range of applications, from identifying the need for healthcare facilities in different areas, to creating poverty maps and analysing the mobility of populations after earthquakes or epidemics. Yet, it is important to keep in mind that data is not a panacea or an end in itself. Mobile data is just one of many sources and cannot replace ground-truth and survey data. In addition, he noted that there have been very few studies on the biases of mobile data, particularly related to its representativeness. The collection and analysis of mobile network data needs a strong scientific approach, as the benefits of real-time mobile data cannot be captured without their proper validation.

Ferran Pérez (International Affairs Officer, World Bank (WB)), presented the WB's new partnership with the GSMA on the use of mobile data for development. He explained that this partnership is part of the WB's ongoing efforts to support client countries harness disruptive technologies for development. The partnership aims to use big data from the Internet of Things (IoT) to help end extreme poverty and unlock new drivers of economic growth. As part of the partnership, the WB joined the 'Big Data for Social Good' initiative launched by the GSMA, which aims to harness mobile data to help governments and NGOs tackle epidemics, natural disasters, and environmental pollution. In addition, the WB and the GSMA will work together on combining mobile data with big data generated by IoT. Finally, the WB and the GSMA will conduct analyses and regulatory capacity building on mobile data for developing countries.

Using mobile devices for field data collection

Miki Tsukamoto (Coordinator, Monitoring and Evaluation, Policy, Strategy, and Knowledge Department, International Federation of Red Cross and Red Crescent Societies (IFRC), explored the potential of mobile devices for monitoring and evaluation efforts. With the rapid uptake of mobile devices and the rise in mobile phone users, the IFRC is developing phone-based surveys (e.g. the Rapid Mobile Phone-based (RAMP) survey). Compared to paper-based surveys, the use of mobile devices could make surveys cheaper and more efficient, and have the possibility to include additional information such as photos, GPS location and videos. Moreover, such systems allow for real time data analytics. However, being able to conduct surveys faster does not mean that they are better; a sound scientific methodology remains essential, as well as a commitment to a people-centred approach to data collection and doing no harm. In addition, there are a number of technological obstacles to consider, such as the potential lack of Internet connection, power backups, capacity, and phone security, which could mean that a paper-based survey may still be more advantageous in certain contexts.

The analysis and use of mobile data

During the discussion, it was emphasised that mobile data is particularly insightful when combined with other forms of information, such as surveys or geospatial data, and the potential of combining mobile data with social media data to triangulate information was mentioned. Triangulation might be particularly relevant as mobile data shows where, but not why, people move.

Yet, while social media provide new opportunities – especially related to textual analysis – it is important to consider the representativeness of this data, as users of particular platforms might constitute a particular segment of the population. Considering this, social media data might be particularly relevant to catch events (e.g. detecting emergencies or capturing misconceptions) rather than general trends.

In addition, it can be difficult to analyse mobile data across borders. Mobile operators from which the data derives are often confined to national borders, and when people move outside of their country, they often stop using their SIM cards. This can provide an obstacle

to tracking cross-border population movements, for example in the context of migration flows or epidemics. Challenges related to global-scale measurements were also identified in the case of field data collection. Certain phone-survey applications could be based on services that are not available in certain countries, for example due to Internet blockages and restrictions.

Mobile data and data protection

The EU's upcoming General Data Protection Regulation (GDPR) provides a new legal framework for the analysis of mobile data, and Flowminder indicated that it complies with its provisions by only using anonymised data and only publishing aggregated data, collected in accordance with the contracts signed by the SIM card holders. However, the question was raised as to whether mobile data can ever be fully anonymised, as a certain level of personal identifiability may remain. That said, due to the sensitivity of the data, mobile operators are unlikely to share their data without ensuring the proper protection of the data in the hands of those who analyse the data for humanitarian or development purposes.

Data protection concerns are particularly relevant in conflict areas, and there was a general understanding that the collection of mobile data in humanitarian emergencies needs to be governed by very clear policies due to the sensitivity of such data. In this context, some mentioned the need of some sort of 'policy checklist' or 'risk assessment toolkit' for humanitarian organisations that collect and analyse data.

In addition, there was a discussion related to the dual use of such data. While it can be used 'for good', to benefit humanitarian and development work, such data could be interfered with and misused when not properly protected or shared with malicious parties. As many people still feel shocked or surprised when data breaches occur, this may indicate a bias in our thinking and a lack of realism about the risk of such interferences.

Key takeaways
- Mobile data can provide unprecedented insights in population movements and distributions, with many applications for humanitarian and development purposes.
- Mobile devices offer new opportunities for field data collection, potentially making it more cost-efficient and providing possibilities of combining it with other variables.
- New opportunities of mobile data and devices do not negate the continued importance of sound and scientific methodologies, and such data needs to be seen as augmenting, rather than replacing, traditional methods.
- The use of mobile data and devices always needs to be accompanied by data protection assessments, and extra care needs to be taken when using such data in emergency contexts.
- The proper analysis of mobile data, to ensure its scientific validity as well as its protection, requires capacity building, as well as the creation of guidelines and policies.

Data Talks is an initiative of the Geneva Internet Platform to bring international organisations together in an effort to share knowledge on data-related opportunities and challenges across silos. For more information, visit **www.giplatform.org/data**