

## **The potential of technology and integrated information management for Social Protection**

Symposium “Tying the Digital Knots: Social Protection in Practice”

**14. September 2018, Universitätsclub Bonn**

*Intro*

Esteemed guests and participants,

A warm welcome to all of you on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) here in Bonn today. I have the pleasure of introducing this second session on ***Technology Frontiers: Newest applications and their use for integrated information management***, including its implications for social protection.

Given the wealth of innovation and useful applications in this field, I will aim to provide you with a virtual map you can use to locate and navigate the examples in this session as well as snapshots of interesting new applications that I will briefly present.

## **This virtual map has three dimensions:**

1. There are **new means of and for collecting information**;
2. There are **new means for analyzing data and information** – block chain and machine learning are on our agenda today;
3. And there are the **practical implications for the use of such new information and analyses** – which, of course, also should include data security and protection concerns.

*Part I: How to collect information*

So what ***newest applications are there to better collect information?***

Examples for new means of gathering information – or using old tools in new ways – include, just to name a few:

- **satellite imagery** can be used to identify those in need, for example by spotting thatched roofs as an indication of poverty (as opposed to those with metal roofs), most prominently used by GiveDirectly; but also for geographic targeting following a natural disaster or

documentation of refugees' routes and destruction in conflict-ridden areas (as done by Amnesty international).

- **Similarly, GPS tracking** can be used to track moving populations, such as Nomads, as used by the World Bank in Somalia.
- Today, **smartphone ownership is on the rise worldwide**, with over 50% of the population in Asia-Pacific and Latin America as well as more than 30% in sub-Saharan Africa. This offers new ways of collecting information directly from users as opposed to otherwise expensive and time-consuming household surveys, for example on poverty incidence in hard-to-access areas. New insights could be derived from the amount and regularity of top-ups or preferred calling times and how they relate to working times.
- **Fintech platforms and mobile applications** such as *firstaccess* help collect customer data to enable lenders in low- and middle income countries to identify excluded population groups for financial inclusion.

- **Drones** can be used for monitoring and mapping of coastlines and mangroves as in a German supported project in Viet Nam, which helps assess the risk for people living in and depending on those areas.

*Part II: How to analyze information*

### ***How can information be better accessed and analyzed?***

- One new way of better analyzing and using collected information is block chain, one of the examples presented later on in this session! Tracking and storing data on transactions in real time is used to follow the delivery processes, even transactions across borders. In healthcare, it is already used, to track the supply chain of medication.
- **Artificial intelligence or machine learning** have become buzzwords in the international development community in recent years, and is already being applied in low- and middle- income countries. In the health sector, Artificial Intelligence technology is integrated into wristbands to measure the nutritional status of children. An app in Tunisia, supported by GDC, is using image recognition

technology based on machine learning to assist farmers in recognizing plant diseases.

- Tech giants have long been experimenting with using big data for the social good: **Google Flu and Google Dengue Trends** analyzed users' search queries to track regional occurrences of disease. Their discontinuation in 2015, however, highlights quite well the **shortcomings of such tools and new challenges for implementation** – such as reliability of information, and transparency vs. data protection. Algorithms applied by Google were not foolproof; issues around methods and data made it dangerous to rely on Google Flu Trends for decision-making; and a lack of transparency stressed the importance of balancing private interests with public needs.

*Part III: Challenges and concerns*

***How can such collected and analyzed information be applied responsibly?***

- We need to take seriously 1) challenges that come with these technologies and 2) concerns regarding the way we handle sensitive data.
- **The reliability of data is an important basis for responsible use:** artificial intelligence has shown in some instances to replicate human bias and discrimination with regards to ethnicity, gender and income when collecting and analyzing data. Now machine learning models are audited for discrimination and bias to make more equitable decisions around deploying predictive risk-assessment tools.
- **Another significant factor is trust in institutions:** Big data is often stored in public institutions predominantly located in the Global North. **Stricter data protection laws** in these countries have created more willingness among citizens and companies to give their data to public entities. Similarly, strict data regulation for the private sector is required to ensure trust.
- **The rights to consent, privacy, security and ownership and practices of transparency and openness** are supported by some development partners who are members of the “Responsible Data” Forum. In the same vein, the UN are entertaining the “Global Partnership for Sustainable

Development Data” to promote “**responsible data practices**”.

It is on us to join and ensure responsible data practices.

*Closing*

- All of these three dimensions – new ways of collecting, analyzing and using information responsibly – **open new doors for the design, delivery and monitoring of social protection:**
- **Firstly, only through access to reliable information on people’s needs can the goal of universal social protection (USP) be reached.** We thus consider an (integrated) social register a key element of USP.
- **Secondly, new ways of analyzing information can make processes of social protection design, delivery and monitoring both more effective and efficient.** This supports us in promoting USP.
- **And thirdly,** information regarding health, income or assets and personal data is extremely sensitive. As development partners, we need to act responsible and in line with peoples’ and countries’ concerns, priorities and customs – even and even more so considering **the**

## **potential of technology and integrated information management.**

- And now, I open the floor to a variety of exciting speakers and examples, and wish us all fruitful discussions and new food for thought!

### *Session II: Technology Frontiers: Newest applications and their use for integrated data management*

- Using GIS in integrated information management – the case of MGNREGA/India: Rajeev Ahal, GIZ India
- With open source towards integrated information management - the example of openIMIS: Dr. Madan Kumar Health Insurance Board Nepal; Saurav Bhattarai, GIZ Nepal
- The potential of block chain in social protection: Kate Dodgson, HumanityX, TU Delft HumTech Lab
- Linking machine learning and forecast-based financing: The Togo Red Cross experience: Pablo Suarez, Red Cross Red Crescent Climate Centre