Proceedings

Information and Communication Technologies for Evaluation (ICT4Eval) International Conference

Using Innovative Approaches to Development Evaluation

6 and 7 June 2017
IFAD headquarters, Rome, Italy

Contents

Appendices

Abbreviations and acronyms

3ie	International Initiative for Impact Evaluation
ECG	Evaluation Cooperation Group (of multilateral development banks)
FAO	Food and Agriculture Organization of the United Nations
FNS	food and nutrition security
ICCO	Interchurch Organisation for Development Cooperation
IATI	International Aid Transparency Initiative
IFAD	International Fund for Agricultural Development
IOE	Independent Office of Evaluation of IFAD
ICT	information and communication technologies
ICT4Eval	information and communication technologies for evaluation
M&E	monitoring and evaluation
MEAL	monitoring, evaluation, accountability and learning
NGO	non-governmental organization
SDG	Sustainable Development Goal
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WFP	World Food Programme

Summary

Background

The Independent Office of Evaluation of the International Fund for Agricultural Development (IFAD) organized an international conference on Information and Communication Technologies for Evaluation (ICT4Eval), which took place on 6 and 7 June 2017 at IFAD headquarters, in Rome. The purpose was to discuss the latest innovative approaches to the use of information and communication technologies (ICTs) for enhanced effectiveness of evaluation, highlighting their current and potential use while showcasing best practices that have emerged from the experiences of development organizations and the private sector across the world. Against the back drop of the Agenda 2030 and the Sustainable Development Goals (SDGs), it is more important than ever to be able to properly measure impact and share knowledge and evidence among development partners.

The conference was a great success, gathering a select group of presenters and 200 participants from across the development field, including United Nations organizations, the Evaluation Cooperation Group (ECG) of the multilateral development banks, bilateral and multilateral development and humanitarian organizations, the private sector, academic institutions, non-governmental organizations (NGOs), foundations, think tanks, and national-level counterparts from evaluation and policy institutions.

Objective and approach

By acting as a forum where the latest knowledge on ICTs for evaluation could be shared, the conference aimed to provide evaluators, development practitioners and policy-makers with a better understanding of the ICT tools that can be used for better pro-poor policies and to achieve the SDGs.

It was also an opportunity to reflect upon the limitations and risks of using ICTs in evaluation, including methodological and ethical considerations.

Specific questions addressed during the conference were: (i) Are ICTs increasing the effectiveness and efficiency of evaluations? (ii) How can ICT tools contribute to enhance evaluation rigour, now and in the future? (iii) How can innovative approaches to dissemination enhance learning and strengthen impact?

During its two days, the ICT4Eval conference organized 4 panel sessions and 15 breakout sessions, with the participation of 36 speakers and presenters. It also hosted a Tech Fair on 7 June, which included 12 vendors who provided the opportunity for interaction and networking while also enabling participants to concretely anchor the discussions in a hands-on manner, seeing what the latest tools look like, how they are used, and their implications.

In his opening remarks, IFAD's President Gilbert F. Houngbo, talked about the need to bridge the divide between evaluators and technology developers, always bearing in mind how technology needs to serve the interests of people and not the other way around.

This was followed by welcome remarks by Oscar A. Garcia, Director of IOE and Chair of the ECG. He highlighted how the holistic vision of development provided by Agenda 2030 puts new demands on evidence to enhance decision-making. In order to make this happen there is a need for further collaboration and knowledge sharing in order to achieve the SDGs. The conference's first plenary address was given by Haishan Fu, Director of the World Bank's Development Data Group, who pointed out how every data point

tells a human story. She explained how limited human resources and institutional infrastructure limit the use of technology that is often already available. She emphasized the importance of improving the ability of people to use the data once the data are available.

Adding to Ms Fu's speech was Mr Jyrki Pulkkinen, Director of Development Evaluation of the Ministry for Foreign Affairs of Finland. Key points from his speech included a call for how ICTs should be factored in during the planning phase of an intervention, not as an ad hoc measure when the evaluation commences. He also reminded participants of how data availability can be geographically limited to certain regions of the world.

Professor Dave Snowden, Director, Cynefin Centre for Applied Complexity, Bangor University, Wales, opened the plenary session on: Technology - a facilitator of development or an additional barrier? He touched upon a multitude of subjects but they were all connected by the overarching theme of complex systems and how ICTs, if not used properly, can lead to confusing correlations with causation and weaken the sensitivity to context-sensitive knowledge and non-written forms of communication. He urged evaluators to rethink what they measure and move away from single target-based outcomes. "If a system is complex, you do small, parallel, safe-to-fail experiments as a portfolio, which means you can abandon things that don't work and amplify things that do. Of course you can measure the impact of the portfolio, but not the individual experiment."

Theme 1: Data collection and Big data

Finishing this first block of the conference were five breakout sessions that explained (i) the methods for collecting data from simulated field visits in conflict environments, by Save the Children; (ii) using geospatial tools for remote sensing, by the Global Environment

Facility and the German Institute for Development Evaluation; (iii) using earth observation to support evaluation, by World Food Proframme (WFP) and IFAD; (iv) Collect Earth as an innovative and free land monitoring tool, by the Food and Agriculture Organization of the United Nations (FAO); and (v) different perspectives on the potential of mobile-based data collection tools, by Open-It, WFP and IFAD.

During the sessions, participants learned how ICTs can provide real-time data for remote monitoring and evaluation (M&E) in restricted areas, maintaining integrity and quality of evidence. Extensive discussions took place on how remote sensing can complement existing methods of data collection and potentially open up newer avenues as well. The tools and capacities required to use remote sensing and earth observation were also discussed. Mobile-based data collection tools were found to be time-savers, but challenges relating to selection methods, training, infrastructure and acceptance need to be addressed.

A panel discussion then took place concerning the role of Big data, featuring Michael Bamberger, independent consultant and author of the UN Global Pulse report on "Integrating Big Data into Monitoring and Evaluation of Development Programmes", Paula Hidalgo-Sanchis, Manager, UN Global Pulse Lab-Kampala, Edoardo Masset, Deputy Director, Syntheses and Review Office, International Initiative for Impact Evaluation, and Thomas Bousios, Director, Information and Communications Technology Division, IFAD. The panel discussed how Big data can be used in a variety of ways and contexts and offers opportunities for real-time monitoring. At the same time there are privacy issues surrounding the use of Big data and potential inequalities it may create regarding access. The need for bridge-building between data development centres and evaluation departments to learn from and appreciate each other's strengths will be a key issue moving forward.

Theme 2: Data analysis

Breakout sessions under this topic revolved primarily around applying machine learning to enhance the rigour of various evaluation methods and products such as text analytics, systematic reviews, remote sensing and impact evaluations, with the participation of the International Initiative for Impact Evaluation (3ie), Stanford University, Oxford Policy Management, Texifter LLC and IFAD. One of the breakout sessions also discussed the use of self-signification frameworks to conduct participatory analysis with beneficiaries.

One overarching issue discussed was how data mining and predictive analytics may allow for more effective ways to model complex relationships. Evaluators need to be aware of the trade-off between access to much larger data sets and the internal validity of the data. In the end, it was agreed that evaluators, rather than becoming data scientists, need to develop a functional understanding of what ICT tools are available in order to best decide when and how to incorporate them into their work.

Theme 3: Data dissemination and cross-cutting issues

The way to visualize data was also discussed in a panel featuring Jan Willem Tulp, Data Experience Designer, TULP Interactive; Elisabetta Carfagna, Full Professor of Statistics; University of Bologna; and Benoit Thierry, Country Programme Manager, Asia and the Pacific Division, IFAD. Key points that were raised included the potential of ICTs to help explore people's stories and obtain more participatory inputs and explanations for the data collected, as well as the risk of widening a potential power gap between beneficiaries and development practitioners if used from a prominently top-down position.

The conference was rounded up by five additional breakout sessions dealing with issues around ethics and inclusivity in using ICTs for evaluation, as well as dealing with social media and knowledge exchange. Representing these topics were Simone Lombardini and Emily Tomkys from Oxfam GB; Michael Bamberger and Linda Ratree, independent consultants; Alberto Souviron, Digital Media Specialist; Stefan Kraus and Charlotte Soedjak from Akvo Foundation; Marijke de Graaf from Interchuch Organisation for Development Cooperation (ICCO) and Rupert Simons from Publish What You Fund. One of the take-away messages was the understanding that lessons and results need to be transmitted out from the evaluation exercise into the real world.

Main conclusions and the way forward

From such a wide variety of topics and lessons, a number of themes emerged frequently that point the way forward:

(i) **A variety of tools are now available** for evaluators that enable more data to be collected, often remotely, and to be processed faster. Examples of these include:

- remote sensing tools like satellite imagery and GIS-tools for geospatial analysis, plus wireless technology like mobile phones and related applications which allows more cost and time efficient surveying and data collection;

- data processing tools which use machine learning to recognize words and images as well as creating prediction models that can go through large quantities of data and look for patterns or specific information;

- dissemination tools like social media and open data formats that allow for increased knowledge sharing and learning.

In practical terms, this means **more opportunities for prediction and analysis as well as more real-time feedback**. Combined with the open-data revolution, this implies that an unprecedented number of options exist for evaluators to access data and more efficiently gather information related to the progress of the different targets for the SDGs. The ability for faster feedback loops can help speed up reaction time in terms of disaster relief like food shortages or decease outbreak, while digital survey tools can enhance beneficiary participation and has the potential to make their voices heard, linking back to the overall goal of making sure no one is left behind.

(ii) **ICTs are not a panacea**, but only a means to an end. Technology will **only be as good as the evaluators who use it**, and evaluations of development programmes will still need to be grounded in robust theory. What technology enables us to do is go further in exploring the theory of change regarding development programmes, and to do so with greater rigour. It is important to note however that ICTs can also risk increasing biases, where assumptions included into the computing models can lead to a false sense of objectivity regarding the results. This makes it vital for development practitioners to continue making careful considerations of what to study and why, while also keeping a critical mind for the validity of the data. Related to the previous conclusion, the trade-off for faster response time and data analysis can be sorting out irregularities or deviant information, which in reality could be indicators of more complex dimensions of the project.

(iii) Development projects exist in complex adaptive systems where certainty of intended outcomes and their measurement is not assured. Thus, **humans will remain instrumental in navigating and understanding the complexity inherent in projects** in a way that machines cannot. Illustrating this point is the case of Artificial Intelligence, i.e. the ability of machine software to enhance the effectiveness of its analytical tools by for example continuous reiteration or predictive modelling. On the one hand, this has the potential to discover patterns and analyse large data sets faster. On the other hand, the linear nature of the logical process limits the possibility to make unexpected leaps and connections, i.e. "outside the box" thinking that humans possess, and it also risks replicating false assumptions as described above.

(iv) **Evaluations will need to remain people-centric**, especially to the target groups, rather than become technology-centric. After all, "behind every data point there is a human story." This means that **evaluators should not use technology solely for the sake of innovation**.

(v) Following the previous point, issues revolving around data privacy, ethics and inclusiveness relating to the use of ICTs for evaluation will need to be taken into consideration. **ICTs should serve the task of including vulnerable and marginalized populations from the evaluation process, and not excluding them from it.** The issue of power discrepancy between those who produce the data and those who use it is vital in this context. There are several areas where this can be true:

- gender exclusion, related to who in the household has access to technology;

- protecting privacy and following ethical guidelines in how information is collected and shared to make sure beneficiaries are not put at risk;

- the risk of distorting or misinterpreting data, when sharing it

or limiting the dissemination to forms not accessible to the people who provided it.

(vi) We are evaluators first and foremost, not technology wizards. **Incorporating increasingly complex ICT tools into our work will involve sharing capacities** with a wide variety of partners.

(vii) **Evaluators should be in a position to shape the use of ICTs** and the potential they offer for improved evidence-based decision-making. At present there is a divide between the Big data community and the evaluation community, and the conference made an appeal to bridge this gap and support the Big data community with more evaluative thinking and support the evaluation community to open themselves to the use of ICT4Eval to improve the efficiency and effectiveness of evaluation.

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1. Context

Introduction

A decade ago, a large segment of the world's population lived beyond the reach of ICTs. Today, these technologies are everywhere, from urban metropolitan centres to rural villages, and cover a wide range of forms and purposes.

Whether visible or not, the reach of satellite signals, mobile telecommunications antennas, and TV and radio frequencies covers the globe. More than 85 per cent of the world's population lives in areas covered by 2G mobile networks that allow the transfer of data, and 70 per cent of the world's population is covered by 3G or better, allowing fast access to the World Wide Web from mobile phones or other wireless networked devices. From remote sensing technologies, to digital survey applications and data analysis powered by machine learning and artificial intelligence, evaluators now have at their disposal an incredible set of tools that can be deployed in almost any setting.

However, even though the capacity of computer hard- and software has increased, leading to an increasing level of automation and integration of data collection and analysis, experience confirms that evaluators are still facing recurring challenges related to data gathering and analysis in the field. These include lack of reliable (M&E) data and limited resources.

Since these challenges are old, and many development actors have been using data collection tools for years, it is vital that we ask ourselves what can we learn from our collective experiences, and whether we are using ICT tools to their full capacity to increase the effectiveness and efficiency of our evaluations.

ICTs show great potential in contributing to the quality of the work that evaluators perform, and are critical to strengthening evidence-based policy-making that relies on the evaluation of impacts, outcomes and shortcomings of development initiatives at all levels of activity. Evaluators therefore need to keep abreast of important developments in the field of ICTs to stay at the cutting edge of innovation and to continue shaping the future of development evaluation.

In order to achieve the SDGs and Agenda 2030 – which seek a world free of poverty, hunger and disease, where all life can thrive in peace and prosperity – information and knowledge will be critical to establish a baseline, and to better monitor future progress. ICTs are a fundamental part of this transformative change. They are critical to strengthening the quality of the work that evaluators perform.

In this new era, IFAD intends to be at the forefront of using ICTs in innovative ways to improve its work to combat rural poverty, and this conference was a step in that direction.

Conference objectives

The conference sought to establish whether recent innovations in ICTs have demonstrable benefits to the intersecting fields of development evaluation and rural transformation. This was to be achieved by providing a forum for discussing the latest innovative approaches to the use of ICTs in evaluation, where experts could showcase and share best practices that have emerged from the experiences of development organizations and the private sector across the world.

In order to accomplish this, 200 participants from across the development field were present, including United Nations organizations, members of the ECG,

bilateral and multilateral development and humanitarian organizations, the private sector, academic institutions, NGOs, foundations, think tanks and national-level counterparts from evaluation and policy institutions.

IFAD's President Gilbert F. Houngbo opened by emphasizing the importance of the conference, the relevance of the agenda topics and how the wide range of expertise present would be sure to lead to fruitful discussions. Another key topic raised was the weight placed by IFAD on evaluations and the crucial part that ICTs can have in helping IFAD operations contribute to inclusive rural transformation, for example by enabling smallholder farmers to maximize the use of their resources.

Oscar A. Garcia, Director of IOE and Chair of the ECG, followed up with welcoming remarks, putting the conference in the context of Agenda 2030 and the SDGs, reminding the audience of the larger goal of leaving no one behind. This includes availability of data, about which Mr Garcia commented on how some regions are better covered than others and how further collaboration is required to further capture, monitor and share findings. He ended by explaining how ICTs, while providing many advantages that were not available to evaluators a few decades ago, must remain people- centred and that ICTs are "just a tool to make our work better".

How can ICTs promote innovations in development evaluation to benefit a more inclusive and sustainable rural transformation?

Presenters:

Ms Haishan Fu, Director, World Bank's Development Data Group

Mr Jyrki Pulkkinen, Director of Development Evaluation, Ministry for Foreign Affairs of Finland

Ms Fu began her presentation by explaining how, although ICTs are often already available in many places, they are not evenly distributed. Limits to making them more widespread include lack of human capacity as well as the technological and institutional infrastructure to take advantage of them. She gave examples of how this can take the form of lack of plans, policies and standards as well as the resources and expertise needed to produce and disseminate data. Ms Fu urged for increased investment to improve this state of affairs, but also the partnerships needed to make it happen.

"We can't stop at producing data. We've got to put data to use for development." Ms Fu ended by talking about the barriers to accessing data and the World Bank's Open Data initiative to help remedy this situation. She also emphasized the importance of improving the ability of people to use the data once available, which can take a range of forms from literacy programmes to e-learning; the last step in getting the data used includes presenting them to people on their own terms, and at a time and a place that's right for them.

Mr Pulkkinen opened by using an anecdote illustrating how ICT use in evaluation is sometimes broad enough to include such activities as using a computer to fill in the role of a typewriter or a calculator. He emphasized how this is not the way of proper integration and instead argued that ICT integration should be defined as an innovative way to conduct and disseminate evaluations and how it should already be factored in during the planning phase of the intervention and not only when the evaluation commences. Like Ms Fu, he explained that the data available tend to be geographically limited to certain regions of the world.

By way of ending his presentation, Mr Pulkkinen asserted that any evaluation is useless if it is not used to increase learning and improve impact. In order to

make this happen, he argued that proper dissemination of evaluation products is key. He went on to describe a number of ways this can be done, including video conferences, webinars and social media, and that searchable and open databases with contextual meta-data could really expand the possibilities for future evaluations.

2. ICTs applied to data collection

Evaluations have historically depended on document reviews, observations and interviews during field visits. In some cases, surveys are also conducted to collect quantitative data. However, newer tools and sources for data collection have emerged in recent years and stem from two main elements: (i) advancements in the availability of remote sensing systems, and (ii) the widespread availability and use of wireless technology.

These advances are leading to an increasing level of automation and integration of data collection and analysis, thus making them more accurate, faster, and less expensive. Many organizations such as the specialized agencies of the United Nations, multilateral development banks and international aid foundations, as well as academics and the private sector, have been using such data collection tools for years. What can we learn from their experiences?

Breakout sessions 1 to 5

Breakout session 1. Simulated field visits in fragile and conflict environments: The case of Save the Children in Somalia

Presenters:

Ms Monica Zikusooka, Regional Monitoring, Evaluation, Accountability and Learning Manager, Save the Children-East and Southern Africa Region

Mr Hassan Ileli, Information Technology Manager, Save the Children-Somalia

Rapporteur:

Ms Xiaozhe Zhang, Evaluation Research Analyst, IOE, IFAD

South and Central Somalia is characterized by a precarious security environment and is inaccessible for non-Somali staff; in some cases even Somali staff from other locations do not have access to certain locations. In 2013, Save the Children needed to undertake a review of its nutrition programme in Puntland and Hiran. However it was not possible to undertake field visits in Hiran due to security limitations.

During the session Ms Zikusooka presented the experience of Save the Children in undertaking a Stimulated Field Visit by using GPS-enabled cameras, mobile phones, scanned documents and Skype to remotely collect data. Participants in the session widely recognized the value added by ICTs in providing real-time data for remote M&E, particularly in restricted areas. They also identified ensuring the integrity of photographic evidence and the quality of other documentation provided remotely as two of the main challenges. Solutions discussed to improve the integrity and quality of data were capacity-building of project staff and promoting a culture of "learning from failure/reality".

Breakout session 2. Using geospatial analysis for impact evaluations

Presenters:

Mr Juha Ilari Uitto, Director, Independent Evaluation Office, Global Environment Facility

Mr Malte Lech, Evaluator, German Institute for Development Evaluation

Rapporteur:

Mr Sven Harten, Head of Competence Centre for Evaluation Methodology/ Deputy Director, German Institute for Development Evaluation

Impact evaluations have become increasingly prevalent in development evaluation. However, with their proliferation they are being undertaken in increasingly complex environments and are expected to measure increasingly complex development impacts. In such a context, newer means, such as geospatial analysis, are being employed to assist in impact evaluations.

Arguably, no other field in development cooperation is more suitable for the use of new technologies and Big data as environmental protection and climate change mitigation/adaptation. For almost 30 years, the field has witnessed the application of technological innovations from new tools for mapping to data from weather stations. However, even a relatively advanced field such as environmental protection is benefitting tremendously from the more recent opportunities brought about by the exponential growth of both available data and the computing power necessary to analyse terabytes of information.

This breakout session was divided into two parts, the first focusing on using ICTs to evaluate environmental impact, and the other on how to leverage Big data and interdisciplinary skills to overcome the "too big to evaluate" challenge of complex development.

It was shown how, through geocoding of interventions and time-series of geospatial information, it is possible to accurately monitor progress and measure results of interventions that combat illegal deforestation, land or water degradation, and environmental hazard protection, among others.

What is truly innovative, however, is that both presentations illuminated how these techniques and types of Big data were integrated into larger mixed-method evaluations. In the era of the SDGs, it is no longer sufficient to consider environmental protection in isolation, whatever advanced research techniques may be applied. Instead, the presenters agreed that these

interventions should be evaluated within a framework of strategic theory-based impact evaluations using quantitative and qualitative methods in addition to Big data and machine-learning approaches. In this context the panellists shared how, for instance, geospatial data can be used to determine suitable control areas in order to set up a rigorous counter-factual analysis of the impacts of interventions.

With all their enthusiasm for new technologies, the panellist also pointed out that the use of these geospatial tools would be incremental and complementary to the more conventional evaluation methods of collecting data on the ground and speaking with beneficiaries – a common theme that emerged throughout the conference. Another conclusion was that for true integration of methods in the spirit of the SDGs, there is a need for even more in-depth interdisciplinary collaboration. The cases from the Global Environment Facility and German Institute for Development Evaluation were excellent examples of the integration of geographers into impact evaluation teams.

Breakout session 3. Using earth observation to support the evaluation of an income enhancement project in Georgia

Presenters:

Mr Hansdeep Khaira, Evaluation Officer, IOE, IFAD

Mr Giancarlo Pini, independent consultant, WFP - Vulnerability Analysis Mapping (IFAD-WFP Joint Climate Analysis Partnership)

Rapporteur:

Ms Rima Alcadi, Grant Portfolio Adviser, Quality Assurance Group, IFAD

Conducting ex-post impact evaluations based on recall data gathered from household surveys always heightens concerns about data quality. In addition, measuring agricultural productivity faces challenges stemming from measurable errors due to self-reported data quality

and different measurement units in rural settings. This session highlighted a pilot study in which IOE, in collaboration with IFAD's Environment and Climate Division, triangulated findings from the household survey in Georgia by using Landsat remote sensing data.

Participants learned about the possibilities of using a comparative method that analyses the temporal variations of vegetation before and after the project, a method which can also take relevant geographic factors into consideration and be applied relatively quickly and inexpensively.

Key takeaways from the session included how preparation is key for using Earth Observation in evaluation and the need to have geo-referenced coordinates at baseline. Overall, it was argued that there are great potentialities to these new technologies due to global coverage and their ability to help determine the control areas. However, it was pointed out how while using Earth Observation in evaluation, there is still a need to consider resolution and time-series data, sharing the results with target groups in order to provide greater insight. Another conclusion was that in order to improve the performance of the methodology, ground-truthing is always necessary to verify the data obtained from satellite images.

Breakout session 4. Collect Earth: innovative and free multi-purpose land monitoring through remote sensing data

Presenters:

Mr Danilo Mollicone, Forestry Officer and Project Lead Technical Officer, Forestry Department, FAO

Mr Giulio Marchi, Geospatial Forestry Officer, Forestry Department, FAO

Rapporteur:

Mr Hansdeep Khaira, Evaluation Officer, IOE, IFAD

Collect Earth is an innovative, free and open-source software that was developed by the Forestry Department of FAO for land assessment and monitoring, integrating Google technologies and freely available satellite images. Collect Earth offers a visual augmented interpretation of historical land changes which can be assessed without prior remote sensing experience. The free and open-source approach to the software development and the reliance on open data strongly foster the sustainability of project activities and their replicability in different contexts. Mainly developed for the assessment of land use change and forestry, the system has been applied to different scenarios, country assessments, international initiatives and project evaluations.

The availability of free software such as Collect Earth that can be customized to user needs is an example of how the adoption rate of technology can be quickly increased. Participants learned how technological advances need not impose limits on the capacity of the user and the power of the computer. In other words, more advances need not mean a more complex application. On the other hand, there are applications such as Collect Earth that help bring advanced technology closer to the user by serving as a bridge between the two, matching the potential of the technology with the capacities of the user.

Looking ahead, it was argued that the more frequent availability of images (i.e. with a lesser time lag) is going to further help improve the quality of geospatial analysis.

Breakout session 5. Mobile-based data collection tools for programme monitoring and evaluation

Presenters:

Mr Dieffi Tchifou Miltiade, CEO, Open-IT and Information Systems Designer

Mr Wael Attia, Lead Information and Knowledge Management Officer, Analysis and Trends Service, Programme and Policy Division, WFP

Mr Richard Pelrine, Regional Economist, West and Central Africa Division, IFAD

Rapporteur:

Mr Qais Aljoan, Technical Adviser to the Vice President for Arab Funds, Partnership and Resource Mobilization Office, IFAD

Mobile- and tablet-based data collection tools have been gaining increased momentum for the collection of M&E data; paper-based data collection is fast becoming a thing of the past. These tools have significantly improved the efficiency, and accuracy of data collection. The focus of this session was to discuss and compare the experiences of different organizations on how mobile- and tablet-based data collection tools can be used in the context of development evaluation, their advantages compared to older paper-based data collection, and principles for designing effective Open Data Kit-based surveys in developing countries.

Participants learned how, due to the new advances in ICTs and the extensive use of mobile networks and communication devices worldwide, mobile-based data collection tools for programme M&E are in most cases a time saver and a powerful tool for gathering and transmitting information from the field.

Worth keeping in mind is that the migration from traditional data collection systems to mobile-based data collection faces considerable challenges such as: selecting the most appropriate technical solution; ensuring the availability of the necessary infrastructure; training the users in the field; acceptance of the tools by the users and government; and engaging with the beneficiaries.

To enhance future learning, Mr Attia suggested establishing a working group hosted jointly by IFAD and WFP on "information management" which would include United Nations bodies as well as the private sector, to facilitate

knowledge-sharing of solutions and best practices on data collection, management and dissemination.

Big data and their applications for governance, development and evaluation

Moderator:

Ms Roxanna Samii, Chief Digital Strategy, United Nations Environment Programme (UNEP)

Panellists:

Mr Michael Bamberger, independent consultant and author of UN Global Pulse report on "Integrating Big Data into Monitoring and Evaluation of Development Programmes"

Ms Paula Hidalgo-Sanchis, Manager, UN Global Pulse Lab-Kampala

Mr Edoardo Masset, Deputy Director, Syntheses and Review Office, 3ie

Mr Thomas Bousios, Director, Information and Communications Technology Division, IFAD

Big data is a term that can be used to describe a plethora of things, from specific, large quantities of data sets to the actual analysis and models which are needed to handle their size and complexity. This processing of information often involves the use of what is referred to as machine learning and/or artificial intelligence, ways in which machine software can establish predictive models, increase processing power and detect patterns. Mr Bousios emphasized this point in particular, saying that while there might exist 20 definitions of what Big data is, the real challenge is to understand if we want to build the capacity in-house or to buy it externally.

Ms Hidalgo elaborated on the theme of the digital divide in the context of those who can afford Big data analytics and those who

cannot. She also discussed how UN Global Pulse Kampala is developing applications for tapping into Big data to monitor development goals, information which can later be used to improve official national statistics. She gave examples of the wide range of uses for Big data, from detecting and monitoring disease outbreaks and pest infestations to identifying social behaviours. She argued that in the latter case it is important to ensure privacy by ensuring that re-identification is not possible and all data are anonymous.

The panel further discussed how Big data can be used in a variety of ways and contexts and the opportunities for real-time monitoring that it offers; there was consensus about privacy issues surrounding the use of Big data and potential inequalities it may create in access. The need for bridge-building between data development centres and evaluation departments in order for them to learn from and appreciate each other's strengths was a key issue raised for the future.

Mr Bamberger highlighted that evaluators need to better understand Big data, the tools and data available and the context in which to use them, while the Big data community should strive to better understand the realities of evaluations and the field work which lays the foundation for them. He concluded that Big data cannot replace knowledge since they do not provide insights into causality, thus creating a need for mixed evaluation methods.

Mr Masset brought up this issue of knowledge or lack thereof within the context of the SDGs, reflecting on the lack of Big data available that evaluators need for proper monitoring, especially for very remote and poor rural areas. He agreed with Mr Bamberger that Big data do not address causalities, which is why evaluations are still needed in order to measure the causal impact of projects. He also stressed that methodologies need

to be sharpened before Big data can be incorporated in evaluations.

The panel agreed that we do not want to miss the opportunity that Big data offer, but at the same time data need to be collected in a way that is ethical, thus making the case for a United Nations code of conduct to address Big data collection, usage and storage.

3. ICTs applied to data analysis

Moving up the knowledge value chain, the second theme of the conference was how ICT tools can contribute to enhance evaluation rigour and their potential for the future.

Computer-assisted data analysis has been around for a long time. "Data-crunching" is a term that illustrates well the task of quantitative data analysis. In the realm of qualitative data analysis, the initial set of tools to have emerged focused on the word count (text analysis), then relationships between concepts, and finally understanding grammar. In recent years, computer-assisted data analysis has seen a surge in efficacy and potential.

Powered by supercomputers and complex algorithms, applications that incorporate machine learning, natural language processing, and what is now commonly accepted as artificial intelligence are able to interpret vast amounts of data from unlimited sources and data formats. Software applications are now able to understand text, images, audio recordings, video files, spreadsheets and databases at incredibly rapid speeds. Cloud-based computing and mobile applications are changing the way researchers interact with their data; artificial intelligence interfaces will change the way researchers interact with the world. How are these tools impacting the tasks of evaluators and what potential do they hold for their work in the future?

Breakout sessions 6 to 10

Breakout session 6. Improving systematic reviews and evidence gap maps by text mining and machine learning

Presenter:

Mr Edoardo Masset, Deputy Director, Syntheses and Review Office, 3ie

Rapporteur:

Ms Constanza Di Nucci, Technical Specialist, Global Engagement, Knowledge and Strategy Division, IFAD

Systematic reviews of evidence and evidence gap maps are popular tools that summarize the available evidence on a particular topic or area of work with the goal of informing policies. They rely on an extensive search of all available evidence from databases, libraries and other repositories. While searching and screening scientific literature is time-consuming and normally takes several months, thus severely delaying the completion of systematic reviews, recent developments in computer power and the application of machine learning methods are opening up new possibilities to conduct them more rapidly.

One of Mr Masset's main points was that the use of technologies for this type of ICT use in systematic reviews requires active learning between humans and machine. In fact, the use of machine learning methods requires humans to make the first screening, then machines suggest studies with high probability of inclusion. The process goes on with humans making further screening, and with machines further refining the probabilities.

During the session, participants discussed the pros and cons of using this type of technology. While everyone agreed on the benefits associated with shortening the time required to conduct a systematic review, there was common agreement that there is a risk of bias in the assessment of literature by computers. In fact, Mr Masset highlighted that in order to use these technologies, we need to agree on sacrificing a bit of certainty in the studies that could be included. Therefore,

while computers may significantly contribute, conducting these type of reviews and evidence gaps in the field of international development still requires human judgement.

In the future, growing innovations in tools and platforms will allow the transition from paper-based journal systematic reviews to living documents that are continuously updated by machines and users as evidence becomes available. Thus, systematic reviews could become more useful for decision- and policy-makers as they could be available by the time decisions need to be made.

Breakout session 7. Mapping poverty with satellite imagery and machine learning

Presenter:

Mr Neal Jean, Researcher, Stanford University

Rapporteur:

Mr Rogerio Bonifacio, Senior Earth Observation and Climate Analyst, Analysis and Trends Service, Programme and Policy Division, WFP

Timely and accurate measurements of socio-economic indicators are fundamental requirements for both sound research and effective policy. However, reliable data on these outcomes remain scarce in much of the developing world, slowing efforts to understand the drivers of growth and to implement policies that will improve human livelihoods. The purpose of this session was to show accurate, inexpensive and scalable methods for predicting granular measures of poverty and wealth from high-resolution satellite imagery. Using survey and satellite data, machine learning models are trained to identify informative image features that can then be used to predict localized wealth measures such as consumption, expenditures and assets.

The method illustrated by Mr Jean of combining high-resolution Earth Observation and complex neural networks

holds great potential to extract new information from existing household survey archives in a fast and efficient way. Also, since the method is not tied to a particular data stream or supplier, it shows flexibility and could, for example, use future data sets from the European Space Agency. Furthermore, as the method uses only publicly available data, it could dramatically improve efforts to track and target poverty in developing countries.

On the other hand, there are important questions that should be addressed and that require in-depth dialogue between the various practitioners, mainly data scientists and socio-economists. In particular, caution was raised by several attendees of the need for an interpretative framework by which to evaluate the results, in particular regarding the temporal dynamics of poverty indicators at finer spatial scales.

One issue that requires clarification is whether the availability of these new methods will lead to new or different ways to carry out surveys and whether there is potential for other classes of indicators, such as nutrition and food security.

Breakout session 8. Machine learning and causal inference - How machine learning methods might help to improve the rigour of quantitative impact evaluations

Presenter:

Mr Paul Jasper, consultant, M&E Portfolio, and Deputy Portfolio Leader, Cross-Cutting Portfolio, Oxford Policy Management

Rapporteur:

Alessandra Garbero, Senior Econometrician, Research and Impact Assessment Division, IFAD

Machine learning has advanced quickly and is now used by major international organizations – from the World Health Organization, which is testing it to predict outbreaks of epidemics, to financial institutions, which analyse the uptake of mobile money services using similar

approaches. But what about evaluations in international development? This session sets out to explore what machine learning techniques and methods exist, how they might improve the way in which we conduct quantitative impact evaluations, and what the potential risks are.

Mr Jasper began the session by speaking about how Big data and machine learning, while being available in some form or another, have just recently begun to make their way into changing how social sciences and economics approach data. He then explained the concept of statistical learning, which can be used to structure datasets of variables and then provide models to try and explain why a given outcome occurred. Mr Jasper emphasized that this kind of model is entirely empirical and creates high reliability and few personal assumptions skewing the data. In combination with Big data sets, it can be very a powerful tool for evaluators.

However, the question of causal inference is still relevant since, as he explained, the computer can provide different prediction models that work equally well while using very different variables. He then presented some emerging literature which suggests that although the issue of correlation and causation remains, there are ways in which machine learning can still be of use in providing, for example, predicting counterfactuals using longer time series, data mining to find heterogeneous treatment effects, or regularization to prevent model misspecification.

During the question-and-answer session, there were some concerns about casual inference. Issues that were brought up included: how the algorithms used are still reliant on the quality of the data sets fed into them, which in turn are biased from current interpretations of past events; and the limited capacity of many organizations to fully take advantages of this method.

Mr Jasper concluded by pointing out how machine learning methods cannot in themselves help solve the issue of casual

inference; instead their best use is to help evaluators with methods already known and make them better and more robust rather than inventing new ones.

Breakout session 9. Advances in qualitative data analysis - Humans and machines learning together

Presenter:

Mr Stuart Shulman, Founder and CEO, Texifter LLC

Rapporteur:

Ms Kelly Feenan, Change Management Team Administrator, Information and Communications Technology Division, IFAD

For decades, traditional qualitative methods were the primary means for researchers to engage deeply with text. Over time, the scope and nature of unstructured data evolved dramatically; the internet unleashes massive amounts of user-generated content on a daily basis, where blogs, YouTube and Twitter are among the top generators of new forms of publically available data. Instead of 6-14 interviews, or 4-6 focus groups, researchers now have access to millions of public comments.

The internet and new technologies for machine learning have been gaining momentum for application to the analysis of M&E data. Although new technologies may contribute greatly to simplify data modelling, collection and acquisition, Dr Schulman argued that we need to keep humans in the loop when it comes to data interpretation and analysis.

As data have become available in unprecedented quantities, evaluators should be aware of the trade-off between access to much larger data sets and internal validity of the data. Dr Schulman presented a cautionary tale maintaining that using technology uncritically can lead evaluators down an unintended path. Evaluators should be aware of inherent biases that may be built into the data collection and coding processes and/or the software used to analyse the data.

In the end, he maintained that rigorous, time-tested theories and methods for data collection and analysis remain relevant even in this automated, new world of Big data and should serve as a guide during the design and implementation of data collection approaches.

Breakout session 10. Analysing stories of change - Engaging beneficiaries to make sense of data

Presenters:

Mr Michael Carbon, Senior Evaluation Officer, IOE, IFAD

Mr Hamdi Ahmedou, Evaluation Research Analyst, IOE, IFAD

Rapporteur:

Ms Tala Talaee, Evaluation Analyst, Office of Evaluation, FAO

Normally data collection and analysis are dictated by the evaluator's own perception and understanding of the situation. Getting feedback from direct beneficiaries of a project about their own perception of the project's impact can be challenging given the large number and geographical dispersion of the beneficiaries, and the limited time and resources available for evaluators.

As part of the Country Strategy and Programme Evaluation in the Republic of Cameroon, IOE sought to assess the relevance, effectiveness and gender- and age-specific impact of support provided to farmer organizations in two IFAD-funded value chain projects. To this end, it tested a SenseMaker® approach, complementing other data collection and analysis tools. SenseMaker combines elements of quantitative and qualitative methods. Based on the theory of change of the projects, a large number of short stories about meaningful change collected from project beneficiaries, and a common signification framework, the approach allows for strong involvement of project beneficiaries in giving sense to the data.

Once data collection is complete, evaluation often excludes beneficiaries from the analysis and interpretation phase of the evaluation process. Recent advances in software, presented by the experience using SenseMaker® to evaluate two agricultural value chain programmes in Cameroon, have made headway into a more inclusive evaluation process which, while not statistically representative, allows for project beneficiaries to give their own meaning to evaluative findings.

Using software, especially software that allows the user to manipulate large sets of qualitative data, comes with a caveat: initial training of users is necessary. Although this process is time- and resource-intensive at the outset, the investment pays dividends in the long run, as access to the software package is inexpensive to maintain. Thus, investing in increased technological capacities of evaluators has the potential to provide a significant return on investment and requires little financial investment once the capacity is in-house.

Messrs. Ahmedou and Carbon made the case for inclusive evaluation processes that complement the industry's current focus on credible and useful evaluations.

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4. Data dissemination and cross-cutting issues

Ending the conference was a series of sessions dedicated to innovative approaches to dissemination and the issue of whether such approaches can be used to enhance learning and strengthen impact.

From websites to media relations, dissemination of evaluation findings and recommendations is consistently managed through ICTs. Sharing our data is a key step in finalizing the evaluation process and a prerequisite for the proper use of evaluation findings and recommendations by stakeholders. Generally speaking, there are two common formats that have been used to release data to the public: open and proprietary.

Organizations and individuals select the preferred format based on multiple criteria, such as the nature of the data, the level of confidentiality, and the quality of the sources. Whether open or closed, many technologies exist to ensure the prompt dissemination of evaluation findings and recommendation, making it easy for the users and target audience to gain access to valuable lessons learned. Evaluations are learning exercises, and dissemination is the final step to enhancing learning and strengthening impact. Are we doing everything we can to share these results?

Technology – a facilitator of development or an additional barrier?

Moderator:

Ms Roxanna Samii, Chief Digital Strategy, UNEP

Presenter:

Mr Dave Snowden, Director, Cynefin Centre for Applied Complexity, Bangor University, Wales

Professor Snowden began his presentation by discussing the confusion between knowledge and information and how knowledge reflects how humans store information. In his view, the assumption of causality, that there is a reason for things, is what often leads to many of the shortcomings of evaluations built on neoclassical economic thinking. With ICT tools and algorithms being increasingly available to process information, he emphasized how this problem of confusing causation with correlation can become more common and that there are severe limitations to what can be understood with data analytics: computers fail to deal with things that only human beings can interpret.

Professor Snowden proceeded to speak more concretely on the topic of evaluation, stating that we learn from failures, not from successes. A major point was that in a complex adaptive system you cannot use outcome-based targets, because you cannot predict them. Consequently, he urged the audience to rethink what can be measured and remember that any intervention in a complex adaptive system will produce unintended consequences. Therefore, if a system is complex, you have to work in a way that allows you to amplify things that are working and abandon things that are not.

The second topic of his presentation concerned the power of interpretation. He argued that since this is stronger than the power of the story, we need to transfer power to the story-teller since many tools like questionnaires or focus groups are biased by facilitators; this also includes practices such as forcing people to speak another language, which can reduce the authenticity of what they say. Instead he advocated empowering beneficiaries to self-interpret their own anecdotal data, and not leave this to an algorithm, since

the one who owns the interpretation owns the power.

Professor Snowden explained that one way to go about this is to listen to how things are said and to focus on context rather than details, since in context-free evaluations people tend to give you the answer they think you want. To prevent bias in this regard, he advised asking people to interpret context-driven stories rather than evaluate them.

He ended his presentation by recommending that evaluations be based on the way projects or programmes change day-to-day narratives, not the way they adapt to a narrative, because the latter approach risks making evaluations follow change rather than lead it.

Breakout sessions 11 to 13

Breakout session 11. Enabling community participation and validation of digitally collected data through real-time feedback

Presenters:

Mr Simone Lombardini, Iobal Impact Evaluation Adviser, Oxfam GB

Ms Emily Tomkys, ICT Programme Officer, Oxfam GB

Rapporteur:

Ms Maya Vijayaraghavan, Senior Evaluation Specialist, Asian Development Bank

Since 2011, Oxfam GB has been conducting rigorous impact evaluations – Effectiveness Reviews – to help understand and provide evidence of whether its work is resulting in positive change in the lives of the women and men with and for whom it works. Where previously Oxfam relied on a paper-based survey data collection process, in 2015 it piloted digital surveying using Computer Assisted Personal Interview. This has enabled the team of Impact Evaluator Advisers to increase data quality, improve knowledge on questionnaire design, and increase participation and accountability.

Ms Tomkys and Mr Lombardini shared Oxfam's experience in Thailand and Zambia and described the digital collection and real-time analysis of responses to survey questions at the individual, household, and community levels. The use of Computer Assisted Personal Interview to record responses to survey questions was piloted in the Philippines and Thailand in 2015, and subsequently scaled up in other countries where Oxfam projects were implemented.

As digital data collection does not require data entry and allows real-time data analysis, it is possible to incorporate community feedback during the household survey. Sharing summary data collected during the survey has a number of potential advantages. First, it shares useful information with communities, which can then be used for learning; second, it enables greater engagement and reduces the feeling of household surveys being an extractive process; and finally, it allows findings coming from the data to be validated and better understood.

The advantages and value added of using digital data collection tools was highlighted in the areas of accuracy, timing, costs, accountability, participation and data security, using examples from the field. The community participation was enhanced by sharing real-time summary survey data and relevant information with communities, which made the evaluation process more focused on learning rather than just extracting information from the beneficiaries.

Breakout session 12. Exploring the soft side - Ethics, protection and inclusion in ICT4Eval

Presenters:

Mr Michael Bamberger, independent consultant and author of UN Global Pulse report on "Integrating Big Data into Monitoring and Evaluation of Development Programmes"

Ms Linda Raftree, independent consultant

Rapporteur:

Ms Deidre Walker, Senior Audit Officer, Office of Audit and Oversight, IFAD

While ICTs can bring many benefits to evaluation, there is also a need to address the new "soft side" challenges that arise from the use of these new tools – in other words, the software is just as important as the hardware. These soft-side issues include ethical, cultural, operational, behavioural and methodological challenges, and the development sector is working to resolve them. This participatory session was a venue for raising some precautions and sharing recommendations on addressing core challenges and ensuring inclusiveness and ethical integration of new types of data and new tools in the evaluation process.

The central message of the session was that although there has been extensive discussion of the technical aspects of these new information technologies, much less attention has been given to potential benefits of these technologies for promoting social development objectives, as well as a number of important challenges. None of the benefits are automatic, and carefully designed strategies are required to ensure that the technologies promote inclusion and social justice. If these issues are not rigorously addressed, there is a danger that the technologies will be used in an "extractive", top-down way that sees the poor as objects rather than as subjects of development.

The presenters identified a number of benefits of using ICTs in evaluation such as empowerment, human rights and gender equality, and for achieving the SDG goal that no one is left behind. However, the presentation also laid out many of the challenges of using ICTs that go beyond the technical aspects. Operational, methodological, ethical (privacy, security, fraud), behavioural, and contextual issues were shared which can pose challenges and need to be considered before selecting which ICTs should be used, or determining

whether ICTs are the best approach. Break-out groups acknowledged that these issues resonated with them, and additional aspects were also noted, such as malicious allegations, unforeseen abuses of the data, and data protection, which highlighted the need for a proper legal framework for using ICTs. There is also the need to be aware of potential unintended consequences that using these technologies can create, such as increased domestic violence by male partners who resent the increased freedom of communication that mobile phones provide to women, or the dangers of cyber-stalking.

Breakout session 13. How to use social media to positively impact development projects

Presenter:

Mr Alberto Souviron, Digital Media Specialist

Rapporteur:

Ms Clare O'Farrell, Communication and Knowledge Management Officer, Investment Centre, FAO

Since its emergence in the first decade of the 21st century, social media has completely changed the way we communicate. Journalists have lost the monopoly on information; businesses now have to listen to their clients or risk losing their reputation in a matter of seconds; and the political world trembles at the power of social networks. The disruption is total, and the capability of social media to mobilize is massive. The balance is definitely on the side of the individual. New challenges have emerged: loss of privacy, fake news, cyber-bullying and virtual tribalism are some of the negative impacts.

However, there are also enormous opportunities. Social media has proved its influence to mobilize people for good causes, to improve education, and to increase collaboration at all levels. Some technologies are having a massive impact on society, transforming all types of

industries, from pharmacy to energy. From a development perspective, they offer huge opportunities to measure the real impact of projects, with real insights from the communities they are trying to help. With a well-planned social media strategy, development evaluators can provide a more efficient assessment, with the individual at the centre.

Mr Souviron shared his experience in mining social media content to gather customer preferences in order to improve a company's performance. Contrary to popular perceptions, he argued, among the more than 1.1 billion users of social media there is a growing female and older segment, particularly on popular sites such as Facebook. Users regularly express their preferences and opinions on these online public spaces, and increasingly in local languages as well as English. This information offers evaluators a platform for engaging in conversations directly with project beneficiaries over the longer term. Evaluators should consider a social media strategy as part of their existing toolbox and, with the help of their communications team, locate these conversations. One way to begin can be to scan social platforms to identify communities, find the right platforms, seek opportunities to engage in conversations, build trust and take advantage of direct access to people, virtually anywhere, anytime.

Impact visualization or data distortion?

Moderator:

Ms Roxanna Samii, Chief Digital Strategy, UNEP

Panellists:

Mr Jan Willem Tulp, Data Experience Designer, TULP Interactive

Ms Elisabetta Carfagna, Full Professor of Statistics, University of Bologna

Mr Benoit Thierry, Country Programme Manager, Asia and the Pacific Division, IFAD

When it comes to disseminating the data and knowledge collected through evaluations, the format is vital since it directly affects impact. Hence, the discussion centred on two topics: the way that the data are transmitted; and how easy it is to understand and digest the data.

Mr Tulp pointed out that there are two kinds of data visualization: explanatory and exploratory. The first is meant to create awareness of existing insights, the second to discover insights. Regardless of the type, he emphasized how every visualization is based on design decisions, that there are many ways to represent a dataset, and how some visualizations such as maps offer unique advantages compared to simple texts.

There was a consensus among the panellists about the importance of combining different visualization methods. Mr Thierry spoke of the importance of using different kinds of media (videos, Facebook groups, websites) to link the various layers of a project. Ms Carfagna added how, for the sake of communication, it is a good practice to mix graphs with storytelling. Going further down the dissemination chain, she explained how the same data can lead to two different trends depending on how the graph is prepared, even if both trends shown in the visualization are correct. Giving a graphical representation is fundamental for retention, she argued, which means that we need to understand the audience. She also raised the contradictory relationship that sometimes exists where the nicer a graph is to look at, the more difficult it can be to understand what's behind.

Rounding off with the perspective of IFAD, Mr Thierry talked about three challenges: (i) how to represent social-economic development; (ii) how to build a culture of not just entering information into systems but also doing data analysis; and (iii) how to link all the various layers of reality – from

farmer to government. In this regard, he argued that maps are a powerful tool, especially when dealing with policy-makers. To facilitate this culture of ICT integration, he explained how his division encourages teams to collect field data using various tablet apps installed on their tablets to, for example, monitor market trading, which then provides them with a full database that is a common tool to every project partner involved.

Breakout sessions 14 and 15

Breakout session 14. From data to decision - How to collect, analyse and use high-quality data to increase impact

Presenters:

Mr Stefan Kraus, Programme Manager, Akvo South East Asia

Ms Charlotte Soedjak, Project Manager, Akvo Foundation

Ms Marijke de Graaf, Food Security Strategy and Policy Advisor, ICCO

Rapporteur:

Mr Tomoo Ueda, Principal Evaluation Specialist, Asian Development Bank

The SDGs are driving the demand for high-quality, disaggregated monitoring data. Yet, many organizations lack the tools, capacity or processes to transform diverse data into actionable information for decision-making. The increasing number of tools means data are often collected inconsistently and located in fragmented sources. While new technologies have simplified data collection, analysis and use often remain a bottleneck and shared learning has not reached its full potential. This session provided two examples of how data can help organizations increase their impact and examined how innovative web and mobile tools and processes can support "data to decision".

The session explored two field case examples: (i) ICCO's standardized survey methodologies to collect food security data, which are combined with other datasets to find patterns and trends, informing programme design and resource allocation; and (ii) Akvo's lessons learned from the introduction of innovative data collection, analysis and mapping tools to support its rice suppliers in Asia.

The key points made were how data collection should be preceded by careful preparation of data sets and the need to analyse whether they are aligned with publicly available data, and the importance of quick-sharing results with beneficiaries. In the end, the presenters pointed out how data tools do not matter as much as human feedback loops and elements are crucial. Rather than over-emphasizing the data features/functioning, the presenters urged the audience to look at the following data elements: 1) scale; 2) sustainability; 3) security; 4) design principles for open source; 5) user capacity; 6) ownership; and 7) local cultural sensitivity.

Other key takeaway messages were to: maximize the benefits of photos/geo-tagging; be aware of political sensitivity (e.g. delicate land boundaries); disaggregate by gender, age and ethnicity; and maintain the quality of enumerators and pilot testing.

Breakout session 15. Open data and dissemination - Has the time come for common reporting standards on evaluations?

Presenter:

Mr Rupert Simons, CEO, Publish What You Fund

Rapporteur:

Alena Lappo, Evaluation Analyst, Office of Evaluation, FAO

In the past six years, a growing number of development organizations have begun sharing data in open formats. Many donors publish project and financial information

using open-data standards such as the International Aid Transparency Initiative (IATI). Many organizations also maintain repositories of evaluations. However, it is difficult to join up data on aid projects with structured data on results. The consequence is that donors are not doing enough to learn from each other, and valuable evaluations are not receiving the attention they deserve.

It was argued that a standard for collecting and sharing results would be useful but that it would also be difficult to implement, as the costs would probably outweigh the benefits at this stage in time. An alternative could be for standards bodies and data users to work together to agree on a common set of metadata for describing evaluations and results in aid and development finance settings, and then use them to tag evaluations in other data sets such as IATI or Open Contracting

Another key point was that major organizations that fund and commission evaluations should also insist that all the work they support be published in open, searchable formats, including metadata, plain text as well as downloadable PDF, and including papers that do not show significant results.

During the question-and-answer session, discussion continued on how publishing transparent data on evaluation results might require a change of governance of the evaluation function for some organizations; only a truly independent evaluation function can publish information on projects that did not reach significant results. Another related topic raised was how openness of data applies to private financial data, which can have legal limitations, and whether commercial confidentiality could sometimes be a hindrance to data sharing and mutual learning.

6. Reflections and concluding remarks

Reflections

Before the conference was concluded, summarizing thoughts and reflections for the future were provided by Ms Caroline Heider, Director General and Senior Vice President, Independent Evaluation Group, World Bank Group and Mr Marco Segone, Director, Independent Evaluation Office, UN Women. Ms Roxanna Samii moderated this panel session.

Ms Heider began by expressing her wish that the future will not repeat past mistakes by continuing to dichotomize quantitative and qualitative data. Instead, like other panellists during the conference, she expressed the hope of increased use of mixed methods, always aiming to seek out the right tool for the right question. Ms Heider reiterated that technology in itself is not the solution: humans are needed to teach the machine to learn, and humans are then needed to interpret the data once the data have been processed. To do this, however, she reminded the participants that humans need to be open to new forms of knowledge and change too.

She elaborated on the concept of holistic evaluations by stating that the vision should be to build more integrated data systems and to expand the ICT capacities of partners, empowering them to make much better sense of their own contextual data and development.

Mr Segone explored the topic of Big data and the opportunities for providing real-time evaluations. Like Ms Heider, he made it clear that "we should always put social justice and human rights at the centre of what we do," including ownership and interpretation of data. He argued that otherwise, we risk increasing inequalities by not capturing those left behind or excluding stakeholders by simply extracting data.

Mr Segone elaborated on the topic of data usage and gave the example of the possibilities that ICTs bring to monitoring migrant flows through mobile signals, and how this can be used positively by humanitarian organizations, but also in a very different way by the parties that are in conflict. He emphasized how this risk of unintended and problematic uses are all risks that we need to take into consideration.

He ended by expressing how ICTs are a train that has already left the station and will accelerate with or without us. Therefore, he proposed that the evaluation community should neither resist nor embrace ICTs in evaluation, but should shape so that it can influence not only how evaluators use ICTs but create a culture of ICT usage that can be shared and influence partners as well.

The overall conclusion by both panellists was that ICTs are not a panacea and that Big data does not always mean better data. In the end, evaluators should familiarize themselves with the application of ICTs so that they are able to determine when to apply them, and to ask for external specialization when needed. Moreover, requests for expertise often results in increased partnerships with young evaluators, since they are the ones who were born into the new technology era.

Concluding remarks

Mr Oscar A. Garcia closed the conference by mirroring what Haishan Fu had said during the opening - behind every data point there is a human story. He reminded the participants that in the end, technology is only a tool to improve the effectiveness and efficiency of evaluations and that ICTs

are only as good as the evaluator who uses them.

On a practical note, he argued that "we are evaluators first and not technology wizards," enforcing the message that although more resources and capacities should be geared towards mainstreaming technology into evaluation work, the key lies in tapping into complementary and shared capacities with partners. For IFAD, this means expanding collaboration with the Rome-based agencies (e.g. FAO and WFP), but also new collaborations with the private sector, NGOs, academia, and others.

He concluded by stating the need to overcome "organization inertia" and the need to learn, innovate and grow. Moving into the future, it will be vital to have an open mind and recognize that this is just the beginning of a long iterative journey about how to keep improving our evidence-based work.

6. Tech Fair

A Tech Fair was held on 7 June to allow participants to explore some of the technologies discussed throughout the conference.

The Tech Fair served as an opportunity for interaction and networking among development evaluators and service providers of IT tools. The Fair featured 12 vendors, listed below, who demonstrated their products and services.

For more information on the products and services displayed, see the conference's Programme booklet available online at: www.ifad.org/evaluation, under the "events" web page.

Akvo Foundation

Representatives: Stefan Kraus, Programme Manager, Akvo South East Asia; Charlotte Soedjak Project Manager, Akvo Foundation; Marijke de Graaf, Food Security Strategy and Policy Advisor, ICCO Cooperation

Aptivate

Representatives: Ian Hallworth and Alan McNeil Jackson

Development Gateway

Representative: Taryn Davis, Senior Associate

Dobility (SurveyCTO)

Representative: Alexis Ditkowsky, Business and Community Strategy

Echo Mobile

Representative: Boris Maguire, Head of Deployment

Energypedia Consult GmbH

Representative: Robert Heine, Managing Director

Food and Agriculture Organization of the United Nations

Representative: Giulio Marchi, Geospatial Forestry Officer, Forestry Department, and Marcelo Rezende, Land Use and Forestry Specialist, FAO

Gnucoop Soc. Coop

Representatives: Giuditta Caimi, Social Media Manager and Andrea M. Bertolazzi, Sysadmin and Trainer

Relief Applications/Tropical Health

Representatives: Federica Basadonne, Business Development; Raphael Bonnaud, CEO; and Arturo Garcia Fernandez, Co-founder and Chief Technical Officer

TechnoServe, Inc.

Representatives: David Galaty, Director, Research and Innovation-East Africa and Paul Ngugi, Regional Analyst, Innovations in Outcome Measurement, TechnoServe East Africa

Texifter

Representative: Dr Stuart Shulman, Founder and CEO

VECO International

Representative: Steff Deprez, independent consultant

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Appendix 1. Agenda

DAY 1   Tuesday, 6 June 2017

8:00-9:00	Registration and coffee
9:00-9:30 **Italian Room**	Opening address by **Gilbert F. Houngbo**, President of the International Fund for Agricultural Development (IFAD) Welcome remarks by **Oscar A. Garcia**, Director, Independent Office of Evaluation of IFAD (IOE) and Chair of the Evaluation Cooperation Group of multilateral development banks
9:30-10:30 **Italian Room**	**PLENARY ADDRESSES: How can ICTs promote innovations in development evaluation to benefit a more inclusive and sustainable rural transformation?** Moderator: **Roxanna Samii**, Chief Digital Strategy, United Nations Environment Programme (UNEP) • **Haishan Fu**, Director, World Bank's Development Data Group • **Jyrki Pulkkinen**, Director of Development Evaluation, Ministry for Foreign Affairs of Finland **Q&A session**
10:30-11:00	Coffee break and photo
11:00-12:00	**ICTs APPLIED TO DATA COLLECTION: Are they increasing the effectiveness and efficiency of evaluations?** **Oval Room Breakout session 1.** Simulated field visits in fragile and conflict environments: A case of Save the Children in Somalia **Italian Room Breakout session 2.** Using geospatial analysis for impact evaluations **Qatar Room Breakout session 3.** Using earth observation to support the evaluation of an income enhancement project in Georgia
12:00-13:00	**ICTs APPLIED TO DATA COLLECTION** (Sessions continued) **Oval Room Breakout Session 4.** Collect Earth: Innovative and free multi-purpose land monitoring through remote sensing data **Italian Room Breakout Session 5.** Mobile-based data collection tools for programme monitoring and evaluation
13:00-14:30	Lunch
14:30-15:30 **Italian Room**	**PLENARY PANEL DISCUSSION: Big data and their applications for governance, development and evaluation** Moderator: **Roxanna Samii** • **Michael Bamberger**, independent consultant and author of UN Global Pulse report on "Integrating Big Data into Monitoring and Evaluation of Development Programmes" • **Paula Hidalgo-Sanchis**, Manager, UN Global Pulse Lab-Kampala • **Edoardo Masset**, Deputy Director, Syntheses and Review Office, International Initiative for Impact Evaluation (3ie) • **Thomas Bousios**, Director, Information and Communications Technology Division, IFAD
15:30-15:45	Coffee break
15:45-16:45	**ICTs APPLIED TO DATA ANALYSIS: How can ICT tools contribute to enhance evaluation rigour and what potential do they hold for the future?** **Executive Dining Room Breakout session 6.** Improving systematic reviews and evidence gap maps by text mining and machine learning **Italian Room Breakout session 7.** Mapping poverty with satellite imagery and machine learning **Oval Room Breakout session 8.** Machine learning and causal inference: How machine learning methods might help to improve the rigour of quantitative impact evaluations

16:45-17:45	**ICTs APPLIED TO DATA ANALYSIS** (Sessions continued)
	Italian Room Breakout session 9. Advances in qualitative data analysis: Humans and machines learning together **Oval Room Breakout session 10.** Analysing stories of change: Engaging beneficiaries to make sense of data
17:45-18:15 **Italian Room**	**PLENARY POPCORN SESSION: Day One Takeaways**
18:15	**Reception for all participants, hosted by IOE - Executive Dining Room**

DAY 2   Wednesday, 7 June 2017

8:30	Coffee break
9:00-10:30 **Italian Room**	**PLENARY ADDRESS: Technology – a facilitator of development or an additional barrier?**
	Moderator: **Roxanna Samii**
	• **Dave Snowden**, Director, Cynefin Centre for Applied Complexity, Bangor University, Wales
	Q&A session
10:30-11:30	**TECH FAIR OPENING**
11:30-12:30	**DISSEMINATION AND CROSS-CUTTING ISSUES: How can innovative approaches to dissemination enhance learning and strengthen impact?**
	Oval Room Breakout session 11. Enabling community participation and validation of digitally collected data through real-time feedback **Italian Room Breakout session 12.** Exploring the soft side: Ethics, protection and inclusion in ICT4Eval **Executive Dining Room Breakout session 13.** How to use social media to positively impact development projects
12:30-14:00	Lunch
14:00-15:00 **Italian Room**	**PANEL DISCUSSION: Impactful visualization or data distortion?**
	Moderator: **Roxanna Samii**
	• **Jan Willem Tulp**, Data Experience Designer, TULP interactive
	• **Elisabetta Carfagna**, Full Professor of Statistics, University of Bologna
	• **Benoit Thierry**, Country Programme Manager, Asia and the Pacific Division, IFAD
15:00-16:00	**DISSEMINATION AND CROSS-CUTTING ISSUES** (Sessions continued)
	Italian Room Breakout session 14. From data to decision: How to collect, analyse and use high-quality data to increase impact **Oval Room Breakout session 15.** Open data and dissemination: Has the time come for common reporting standards for evaluations?
16:00-16:30	Coffee break
16:30-17:30 **Italian Room**	**PLENARY CLOSING SESSION**
	Moderator: **Roxanna Samii**
	• Popcorn with breakout session leaders and rapporteurs
	• Reflections for the future by **Caroline Heider**, Director General and Senior Vice President, Independent Evaluation Group, World Bank Group; and **Marco Segone**, Director, Independent Evaluation Office, UN Women
	• Concluding remarks by **Oscar A. Garcia**

Appendix 2. Moderator, speakers and presenters

Moderator

Roxanna SAMII

Chief Digital Strategy, UNEP

Ms Samii is a communication professional with more than 30 years of experience in developing and implementing strategic communication plans using traditional and new media. She joined UNEP from IFAD, where she led the design and implementation of IFAD's digital presence, providing policy and strategic direction in the areas of web management, social media, knowledge management, and communication for development. Ms Samii also led the development of IFAD's knowledge management strategy, providing guidance on how and when to use and apply knowledge management methods and tools to address rural development challenges, influence policy and bring about change and transformation. With a degree in social sciences and an interest in media studies, she is also an Information and Communication Technologies for Development scholar-practitioner, and spent the 2015 spring semester at University of California Berkeley's School of Information as a Visiting Scholar.

Speakers

Michael BAMBERGER

Independent consultant and author of UN Global Pulse report on "Integrating Big Data into Monitoring and Evaluation of Development Programmes

Mr Bamberger has been involved in development evaluation for fifty years. Beginning in Latin America where he worked in urban community development and evaluation for over a decade, he became interested in the coping strategies of low-income communities, how they were affected by and how they influenced development efforts. During 20 years with the World Bank he worked as M&E advisor for the Urban Development Department, evaluation training coordinator with the Economic Development Department and Senior Sociologist in the Gender and Development Department. After retiring from the Bank in 2001 he has worked as a development evaluation consultant with more than 10 United Nations agencies as well as development banks, bilateral development agencies, NGOs and foundations. Since 2001 he has been on the faculty of the International Program for Development Evaluation Training.

Thomas BOUSIOS

Director, Information and Communications Technology Division, IFAD

Mr Bousios oversees all aspects of ICT, security management, communication systems, and data analytics platforms. He joined IFAD from the European Union and the European Defence Agency, where he led ICT activities and was responsible for ICT collaboration tools, classified systems and networks, information management platforms and extranets serving security analysts across Europe. Prior to these positions, he served as Group Leader ICT at Fusion for Energy, leading the European Union's ICT activities for the ITER nuclear fusion project.

Mr Bousios started his career in the private sector and at Citibank, followed by a strong track record in management consulting worldwide as Team Leader/Manager at Deloitte and at Ernst & Young Global Client Consulting. Mr Bousios holds an Master's in Business Administration and a Master's in Business Informatics from the Rotterdam School of Management and completed the Innovative Chief Information Officer Programme at Stanford University.

Elisabetta CARFAGNA

Full Professor of Statistics, University of Bologna

Full professor of statistics since 2005 and delegate of the Rector for EXPO 2015, she started her academic career after having reached a managerial position in the research and development department of a leading Italian company. Professor Carfagna has designed and started up the implementation of the Global Strategy to Improve Agricultural and Rural Statistics, the most relevant research and capacity development programme promoted by the African Development Bank, Asian Development Bank, FAO, IFAD, World Bank and others, which was funded by the Bill and Melinda Gates Foundation, the United Kingdom Deparment for International Development and the European Commission. Since 1993, she has led international research projects, in collaboration with several organizations, such as the Chinese Institute of Agricultural Resources and Regional Planning, Ethiopian Central Statistics Office, EUROSTAT, FAO, Istituto Nazionale di Statistica, Italian Ministry of Agriculture, Joint Research Centre of the European Commission, United Nations Economic Commission for Europe and the United States Department of Agriculture.

Haishan FU

Director, Development Data Group, World Bank

Ms Fu oversees the Group's development monitoring and open data initiatives, surveys and other technical services, and global statistical programs such as the International Comparison Program. She also leads and coordinates the development and implementation of the Bank's development data agenda. Ms Fu has been an active leader in the global statistical community, having served on the UN Secretary General's Independent Expert Advisory Group on Data Revolution for Sustainable Development. Previously she led the statistics program at the the United Nations Economic and Social Commission for Asia and the Pacific and United Nations Development Programme's (UNDP's) Human Development Report Office and worked as a senior researcher. Ms Fu holds a Ph.D. in Demography from Princeton University and a B.A. in Economics from Peking University.

Caroline HEIDER

Director General and Senior Vice President, Independent Evaluation Group, World Bank

Ms Heider has held her current position since 2011. She has dedicated the last 30 years of her career to evaluating the work of development and humanitarian organizations, transforming findings into lessons and promoting innovative ways for institutions to apply the knowledge derived from evaluations towards accelerating development effectiveness. As a senior leader, Ms Heider has a proven track record in leading change, strengthening institutions,

and building evaluation capacity through testing new methods to obtain better evidence and greater insights. She has first-hand experience evaluating policies and programmes in over 30 countries around the world.

Ms Heider is a leading voice in the international evaluation community. She is a life-time member of the International Development Evaluation Association and a member of the American Evaluation Association. She chaired the Global Evaluation Advisory Committee of UN Women for the first years of its existence. In the past, she has been a member of the Australasian Evaluation Society and served a two-year term as Vice-Chair of the United Nations Evaluation Group.

Before joining the World Bank's Independent Evaluation Group, Ms Heider headed the Office of Evaluation at WFP. She has also held leading positions in the evaluation offices of the Asian Development Bank and several United Nations agencies, including IFAD, UNDP and UN Industrial Development Organization.

Paula HIDALGO-SANCHIS

Manager, UN Global Pulse Lab-Kampala

Dr Hidalgo-Sanchis has worked as a humanitarian and development practitioner in more than 20 countries for over 16 years. She has served as manager on innovations initiatives, social policy advisor and M&E expert working for the United Nations and based in Central America, Africa and Asia. Before joining the United Nations, Dr Hidalgo-Sanchis worked with an NGO in the field. She has a strong technical background with specialized studies and professional expertise in evaluations of international assistance programmes. She holds a PhD in Geography and is the author of an awarded PhD thesis entitled "Vulnerability Analysis and International Assistance". An expert on geographical analysis, she is passionate about promoting the use of Big data and Big data analytics for human development.

Edoardo MASSET

Deputy Director, Syntheses and Review Office, 3ie

Mr Masset is an agriculture and development economist with more than ten years of senior management experience in international development and impact evaluation. Prior to joining 3ie, he was a research fellow at the Institute of Development Studies (IDS) of the University of Sussex, where he taught courses in development economics and impact evaluation. While at IDS, he also designed and implemented a number of experimental and quasi-experimental impact evaluations of complex development interventions and conducted several influential systematic reviews of evidence. Mr Masset has also worked at the Independent Evaluation Group of the World Bank, where he was involved in impact evaluations in the fields of education, nutrition, irrigation and poverty reduction. He has significant experience in methods of impact evaluation and evidence synthesis and has sector-specific knowledge in agricultural development, poverty, nutrition and education.

During the ICT4Eval international conference, Mr Masset will also be the presenter for breakout session number 6 on improving systematic reviews and evidence gap maps by text mining and machine learning.

Jyrki PULKKINEN

Director of Development Evaluation, Ministry for Foreign Affairs of Finland

Dr Pulkkinen is the Director of Development Evaluation at the Ministry for Foreign Affairs of Finland. Previously he was a senior adviser responsible for Information Society, Science, Technology and Innovations for Development. He was also the elected Chair of the United Nations Educational Scientific and Cultural Organization International Programme for Development and Communication Intergovernmental Council in 2012-2014 and the CEO of a World Summit on the Information Society/United Nations ICT Taskforce-initiated international organization GESCI (Global e-Schools and Communities Initiative) in 2008-2011, based in Dublin and Nairobi. Prior to joining the Ministry, Dr Pulkkinen worked as a research manager, an assistant professor and a lecturer for 15 years on behavioral sciences and educational technologies at the University of Oulu, Finland, were he also finished his PhD on e-learning. During the Oulu years he was seconded to the Department of Education of South Africa as an ICT in education expert in 2000-2001.

Marco SEGONE

Director, Independent Evaluation Office, UN Women

Mr Segone was responsible for the decentralized evaluation function as well as the national evaluation capacity development portfolios at the United Nations Children's Fund (UNICEF) Evaluation Office; Regional Chief, Monitoring and Evaluation in the UNICEF Regional Office for Europe and Central Asia; Regional Office for Latin America and the Caribbean; Brazil Country Office, and Niger Country Office. Mr Segone also worked in international NGOs in Albania, Pakistan, Bangladesh, Thailand and Uganda. He has authored numerous publications including Evaluation for Equitable Development Results and How to Design and Manage Equity-Focused Evaluations.

Dave SNOWDEN

Director, Cynefin Centre for Applied Complexity, Bangor University, Wales

Professor Snowden pioneered a natural science-based approach to organizations, drawing on anthropology, neuroscience and complex adaptive systems theory. He holds visiting Chairs at the Universities of Bangor, Hull and Stellenbosch. Professor Snowden previously worked for IBM (International Business Machines Corporation) where he was a Director of the Institution for Knowledge Management and founded the Cynefin Centre for Organizational Complexity; during that period he was selected by IBM as one of six "on-demand" thinkers for a worldwide advertising campaign. Prior to that he worked in a range of strategic and management roles in the service sector. He is the originator of SenseMaker®, the first example of a distributed ethnographic and decision support/evaluation system.

Benoit THIERRY

Country Programme Manager, Asia and the Pacific Division, IFAD

Mr Thierry is an agro-economist based in IFAD Rome. He graduated as an engineer in Tropical Agricultural Economy (School of International Agro-Development, France, 1987) and obtained a French *Diplôme d'études Approfondies* in Human Geography (Sorbonne University, 1988).

In the early 1990s, after being a project manager in Bolivia and Western Mali, he became regional representative of the *Groupe de Recherche et de Réalisation pour le Développement Rural dans le Tiers Monde*, specialized in remittances. From 1996, as UNDP Advisor in Cambodia, he was monitoring the Cambodia Resettlement and Reintegration Programme and developing its knowledge portal. In 2000, as Portfolio Manager with the United Nations Office for Project Services-Kenya he supervised IFAD-supported projects in East and Southern Africa. Mr Thierry joined IFAD in 2004. As IFAD Country Programme Manager, he was in charge of Comoros, Madagascar, Rwanda and Zimbabwe, managing country programmes and promoting online management systems. In 2011, he moved to the Asia and the Pacific Division (APR), taking charge successively of Bhutan, Nepal, Thailand, Philippines, Lao People's Democratic Republic and Cambodia, and supporting the farmers organization network in Asia and the Pacific. From 2014 to 2016, he established the first out-posted IFAD Hub covering southeast Asia. Presently, Mr Thierry is back in Rome as a Country Programme Manager for Bangladesh and Cambodia and serving the function of Knowledge Management Officer for APR (IFADAsia web platform).

Jan Willem TULP

Data Experience Designer, TULP interactive

Mr Tulp is an award-winning data experience designer from the Netherlands. With his one-man company, TULP interactive, he creates custom data visualizations. Mr Tulp has created visualizations for organizations such as European Space Agency, Google, Nature, Philips, Popular Science, Scientific American, United Nations Educational, Scientific and Cultural Organization, United Nations Children's Fund and World Economic Forum. He speaks regularly at international conferences, and teaches a workshop on data visualization design. His work has been published in books and magazines and has been exhibited internationally. He has been a judge on visualization contests, such as National Science Foundation vizzies (USA) and Malofiej (Spain).

Presenters

Hamdi AHMEDOU
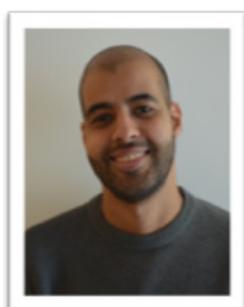
Evaluation Research Analyst, IOE, IFAD

Mr Ahmedou joined IOE in December 2015. He has been involved in various country-level evaluations in Cameroon, Democratic Republic of Congo and Egypt. He provides support in different phases of the evaluation process, from design to data collection and analysis. Mr Ahmedou is also a fourth-year PhD candidate in Development Studies at Paris I Pantheon-Sorbonne University. His doctoral research explores the links between land conflicts, citizenship and forced migration in Mauritania.

Wael ATTIA

Lead Information and Knowledge Management Officer, Analysis and Trends Service, Program and Policy Division, WFP

Mr Attia joined WFP, Rome, Italy, in 2004. He is in charge of the continued development of innovative, robust and secure information technology solutions. These include data governance, managing databases and delivering information technology products for humanitarian decision-making. He is also building open data platforms and automated data visualizations. He holds a Master's degree in Information Systems Management.

Michael CARBON

Senior Evaluation Officer, IOE, IFAD

Mr Carbon has worked in evaluation since 2005, first for IFAD, Rome and later for UNEP, Nairobi. He led a great variety of ex-post evaluations in Africa, Asia and Latin America, including evaluations of the UNEP disasters and conflicts, climate change and chemicals and waste sub-programmes, the UNEP Sudan Country Programme, the IFAD Democratic Republic of Congo Country Strategy and Programme Evaluation, and numerous evaluations of environmental and rural development projects and programmes. Before starting his evaluation career, Mr Carbon worked in northern Viet Nam as a technical assistant and later as a project coordinator in the field of rural extension and farmer organizations. He obtained an MSc in Bio-engineering, specializing in Forestry, Nature Conservation and Tropical Agriculture from *Katholieke Universiteit Leuven* (Leuven, Belgium), an Engineering Diploma in Tropical Agronomy from *Centre Natioal d'Etudes Agronomiques des Région Chaudes* (Montpellier, France) and a PhD Preparatory Studies Degree in Geography and Development Practice from *Institut National Agronomique Paris-Grignon* (Paris). He recently returned to the IFAD Independent Evaluation Office as a Senior Evaluation Officer.

Marijke de GRAAF

Food Security Strategy and Policy Advisor, ICCO Cooperation

Ms de Graaf counts with broad, hands-on experience with food and nutrition security (FNS) projects and programmes, gathered in a United Nations, NGO and consultancy firm setting. She provides advice on FNS related strategies and policies as well as guidance on design, fund mobilization, planning and implementation of specific FNS projects. In addition she has experience with mainstreaming FNS objectives into general development projects, making these food and nutrition sensitive.

Having been responsible for elaborating as well as reviewing project proposals she has hands-on experience with developing theories of change, project result frameworks and related impact, outcome and output indicators plus data collection grid. She is involved in project-level baseline surveys and development of monitoring systems including quantitative as well as qualitative methods of data collection and use (AKVO FLOW, focus groups discussions and SenseMaker®) in for example Kenya, Uganda and Bangladesh.

Hassan IIELI

Information Technology Manager, Save the Children-Somalia

Mr lleli is an accomplished professional with over ten years of experience in corporate and humanitarian sectors. He is responsible for implementing information systems strategies that enable the country office integration of technology in programme development and response in humanitarian aid. He specializes in digital technologies for social change, project management, data analysis and software development. He served as ICT supervisor for Chase Bank Limited Kenya, and Technical Associate at Computer Revolution Africa, where he was responsible for the smooth running of ICT systems as well as ensuring effective management of the IT portfolio through achievable business results and growth. Mr Lleli holds a Master's degree in Information Management from Nairobi University and a Bachelor's degree in Computer Science from Kabarak University, Kenya. He is certified in Information Technology Infrastructure Library and various Microsoft professional certifications.

Paul JASPER
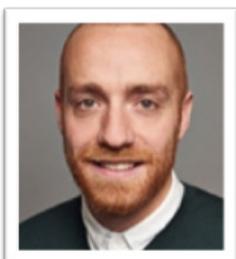
Consultant, M&E Portfolio, and Deputy Portfolio Leader, Cross-Cutting Portfolio, Oxford Policy Management

Mr Jasper is a development economist with extensive experience in survey work, quantitative research, experimental and quasi-experimental quantitative evaluation methodologies, and statistical analysis. His recent work includes analysis of large household surveys and designing and implementing quantitative impact evaluations in a variety of thematic areas. He has also been involved in designing M&E systems for large multi-year public programmes. He is particularly interested in methodological advances related to quantitative impact evaluations and applications of Big data analysis in public policy. Before joining the Oxford Policy Management, Mr Jasper worked for several research institutes, including the Grantham Research Institute on Climate Change and the Environment, the Africa Rice Centre in Benin, and the Kiel Institute for the World Economy. He holds a Masters of Public Administration/Public Policy dual degree from the London School of Economics and the Hertie School of Governance in Berlin, an MSc in Development Economics from the School of Oriental and African Studies, and a Bachelor's degree in International Relations from Dresden University.

Neal JEAN

School of Engineering, Stanford University

Mr Jean is a researcher at Stanford University, working with Professor Stefano Ermon in the Stanford Artificial Intelligence Laboratory. Before starting his PhD, Mr Jean studied math and economics at Duke University and electrical engineering at Georgia Tech. His research interests include computational sustainability and semi-supervised and unsupervised machine learning.

Hansdeep KHAIRA

Evaluation Officer, IOE, IFAD

Mr Khaira has been working in development since 2002. He started his career with FAO in Rome, where he worked in research, analysis, statistics and capacity-building related to agriculture and food security. For the past four years, he has been at IFAD, where he worked in the Programme Management Department on monitoring, evaluation and performance analysis of development projects. Before joining IOE, he worked on corporate results monitoring and strategic planning in the Strategy and Knowledge Department.

Mr Khaira has a Bachelor's degree in Commerce (accounting and auditing) and a Master's degree in Business Administration from the University of Bombay, and a Master's degree in Agricultural Economics from the School of Oriental and African Studies, University of London.

Stefan KRAUS

Programme Manager, Akvo South East Asia

Mr Kraus supports the management of Akvo's programmes in the region, overseeing existing partnerships and facilitating engagement with new partners. He is also responsible for helping build Akvo's operations in Australia and the Pacific. He has worked in roles across government, academia and NGOs in areas such as environmental policy, public health and sustainability. His most recent role prior to joining Akvo was as assistant manager focusing on international sustainability issues in the Australian Government Department of the Environment. Mr Kraus has a Bachelor of Arts/Bachelor of Economics degree from Australian National University, Canberra and completed the Fenner School of Environment and Society Honours Program. He has also spent time living and working in the Netherlands and Germany, and as an Australian Youth Ambassador for Development in Cambodia. He is based in Australia.

Malte LECH
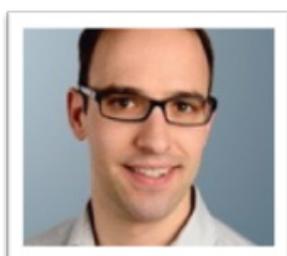
Evaluator, German Institute for Development Evaluation (DEval)

Mr Lech joined DEval as an evaluator in March 2016. From 2006 to 2011, he studied geography, sociology and urban and regional planning, majoring in Economic Geography at Leibniz University Hannover and Aalborg University, Denmark. Following his studies, Mr Lech worked as a research associate for the Institute of Economic and Cultural Geography at Leibniz University and in 2015 completed his PhD thesis on technological upgrading and regional economic change in the electronic industry of the Chinese Pearl River Delta. Before joining DEval, he worked as an interim study coordinator for geodesy and geoinformatics at Leibniz University Hannover as well as regional planner for a county planning administration in Lower Saxony (Germany).

Simone LOMBARDINI

Global Impact Evaluation Adviser, Oxfam GB

Mr Lombardini is a development economist and impact evaluator with eight years of experience in over 14 countries. He is managing a team of impact evaluation advisers in Oxfam GB, and conducting a range of impact evaluations of Oxfam's projects in order to capture the organization's effectiveness and to promote evidence-based learning. His area of expertise includes designing and conducting experimental and quasi-experimental impact evaluations. Mr Lombardini leads the measuring Women's Empowerment stream for Oxfam GB, developing new tools and methods for measuring this hard-to-measure outcome area. He also provides technical advice on evaluation design, sampling techniques, questionnaire design, data and econometric analysis. He graduated in economics from the University of Milan-Bicocca and holds an MSc in development economics from the University of Sussex.

Giulio MARCHI
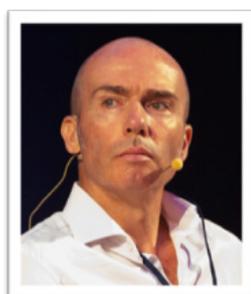
Geospatial Forestry Officer, Forestry Department, FAO

Mr Marchi's background is in remote sensing for natural resources evaluation. He has been working in FAO headquarters and field offices for around ten years in geospatial information management and publishing, with a parenthesis at the Joint Research Centre of the European Commission as spatial data analyst and experiences in the United States Geological Survey and Italian research institutions. He is a supporter of free and open source solutions.

Dieffi Tchifou MILTIADE

CEO, Open-IT and Information Systems Designer

Mr Miltiade is a computer science engineer specialized in networks and multimedia applications. He is working on the design and development of simplified tools for data collection and analysis, such as mobile and web-based data collection tools. He also has experience in network administration, database management, design of mobile data collection tools and data analysis design of communication tools such as websites and socials networks. Mr Miltiade is one of the two African winners of the best presentation at Evaluation Week organized by the Independent Development Evaluation of the African Development Bank. He graduated from the University of Yaoundé 1, Cameroon, with an MSc in Networks and Multimedia Applications.

Danilo MOLLICONE

Forestry Officer and Project Lead Technical Officer, Forestry Department, FAO

Dr Mollicone is a forest ecologist working in the Forestry Department of FAO. Prior to joining FAO, he was working as a scientist at the Max Planck Institute for Biogeochemistry and at the Joint Research Centre of the European Commission conducting research activities on boreal, temperate and tropical forests. At FAO he has coordinated several projects on land use and forest monitoring and various REDD+ (reducing emissions from deforestation and

forest degradation)-related activities. In the context of the Open Foris Initiative, he is inspiring the development of new open-source applications to support forest monitoring and management.

Richard PELRINE

Regional Economist, West and Central Africa Division, IFAD

Mr Pelrine is responsible for the analysis of economic trends and strategic planning for IFAD's investments, oversight of policy dialogue, and management of strategic partnerships. He also supports the division and the organization on issues pertinent to rural finance and private sector engagement. Before joining IFAD, Mr Pelrine was a senior rural finance consultant, fund manager and banking professional. He worked for over 20 years directly in the financial sector or as a consultant to financiers and donors across Africa, with long-term engagements in Ethiopia, Ghana, Kenya, Rwanda, Tanzania and Uganda. He specialized in analysis of agribusiness markets for value chain investments, agribusiness finance, risk management, training of financiers, product development and start-up institutions.

Giancarlo PINI

Independent consultant, WFP

Mr Pini joined the Food Security Analysis and Trends Service at WFP in 2013 as remote sensing and climate analysis expert. He is operating the IFAD-WFP Joint Climate Analysis Partnership aimed at i) producing country climate analysis and ii) supporting IFAD in the integration of remote sensing and spatial analysis in project phases.

Previous experiences with the Monitoring Agricultural Resources Unit of the European Union-Joint Research Center, IBIMeT (Italian National Research Council) and Italian Development Cooperation. He holds a MSc in Tropical Agronomy and a Master in Remote Sensing and Natural Resources.

Linda RAFTREE

Independent consultant

Ms Raftree supports digital strategy, programme design, policy, and research for international development initiatives. She currently consults with Girl Effect Mobile on digital safety, security, privacy, strategy, and learning, and advises the Rockefeller Foundation's Evaluation Office on the use of ICTs in M&E. Ms Raftree organizes Monitoring, Evaluation, Resolution and Learning Tech and other discussion and learning events through Kurante, a company she co-founded. She is also a co-founder of Regarding Humanity, which encourages debate and dialogue around the portrayal of the poor in the media, social impact work, and non-profit marketing. Ms Raftree runs Technology Salons in New York City and advocates for ethical approaches to using ICTs and digital data in the humanitarian and development spaces. Prior to becoming an independent consultant, she worked for 16 years with Plan International. Ms Raftree blogs about technology and development at "Wait… What?"

Stuart SHULMAN

Founder and CEO, Texifter LLC

Dr Shulman is the sole inventor of the Coding Analysis Toolkit, an open source, web-based collaborative text analysis software project, as well as the commercial analytic network known as DiscoverText and the historical Twitter tool Sifter. He is currently the founder & CEO of Texifter. He was a Research Associate Professor of Political Science at the University of Massachusetts Amherst and the founding Director of the Qualitative Data Analysis Program at the University of Pittsburgh and at the University of Massachusetts Amherst. Dr Shulman is Editor Emeritus of the Journal of Information Technology and Politics, the official journal of the Information Technology and Politics section of the American Political Science Association. He was the Principal Investigator and Project Director for ten US National Science Foundation-funded research projects focusing on electronic rulemaking, human language technologies, manual annotation, digital citizenship, and service-learning efforts.

Rupert SIMONS

CEO, Publish What You Fund

Publish What You Fund is a global campaign for aid transparency that works towards transparency and availability of information for aid and development in order to create effective decision-making, public accountability and lasting change. Before joining Publish What You Fund in 2015, Mr Simons worked for the Tony Blair Africa Governance Initiative as country head. He started his career in the private sector and spent five years as a consultant for McKinsey & Company, where he worked on projects in a range of areas, including agriculture, climate change and development. He holds a Bachelor's degree in Politics and Economics from the University of Oxford and a Master of Public Administration in International Development from Harvard's Kennedy School.

Charlotte SOEDJAK

Project Manager, Akvo Foundation

Ms Soedjak is a project manager for Akvo in Amsterdam since 2012, and in this role is responsible for managing a range of existing partnerships and programmes, as well as engaging with new partners. In addition, she supports partners with implementing Akvo tools and services, and she facilitates training workshops on the use of Akvo tools around data collection, monitoring and results reporting (including IATI). Charlotte has an MSc in Sustainable Tourism and Environment from Wageningen University. Prior to working for Akvo she finalized a research project for World Wildlife Fund for Nature Indonesia, focusing on participatory tourism development in the Wakatobi Marine National Park in Sulawesi. Charlotte has spent time living and working in Australia, New Zealand and Indonesia.

Alberto SOUVIRON

Digital Media Specialist

Mr Souviron has a strong background in leading, guiding and supporting multimedia and multicultural organizations in the implementation of social media, online journalism, digital marketing and corporate communications at regional and global levels.
He focuses on developing digital and social media strategies for corporations, publishers and small businesses, as well as on training multimedia teams.

Emily TOMKYS

ICT in Programme Officer, Oxfam GB

Ms Tomkys specializes in mobile data collection and mobile case management, and coordinates Oxfam's work on how ICTs can be used in monitoring, evaluation, accountability and learning (MEAL). She is also exploring how to improve applying MEAL to projects that use ICTs to maximize organizational learning and programme quality. Before this role, she worked as a research analyst, first in the Insights Team and later the Protection Team.

Juha Ilari UITTO

Director, Independent Evaluation Office, Global Environment Facility

Dr Uitto came to his current position in September 2014 after being the Deputy Director of the Independent Evaluation Office of UNDP from 2009 to 2014. He has conducted and managed a large number of programmatic and thematic evaluations of international cooperation at the global, regional and country levels, in particular related to environmental management and poverty-environment linkages.
Dr Uitto has extensive experience within academia and international development, including the United Nations University, the Nordic Africa Institute, and IFAD. He has authored/edited several books and published more than 40 peer-reviewed articles and book chapters on topics related to the environment and evaluation.

Monica ZIKUSOOKA

Regional Monitoring, Evaluation, Accountability and Learning Manager, Save the Children-East and Southern Africa Region

Ms Zikusooka's work profile focuses on MEAL systems-building, results monitoring and evidence generation, capacity-building, cross-country learning, and linking the region to Save the Children's global MEAL strategy and work streams. She has over 12 years of experience in programme development, monitoring, evaluation, accountability and learning, strategy leadership, programme design and performance measurement, remote monitoring, staff capacity-building and programme-related research. She also has a keen interest in evaluation research and other research based on large-scale secondary data.

Appendix 3. List of participants

Name	Title	Agency
Charlotte Soedjak	Project Manager	Akvo Foundation
Stefan Kraus	Programme manager	Akvo Foundation, South East Asia
Ian Hallworth	Organization does not use titles	Aptivate
Alan McNeil Jackson	Organization does not use titles	Aptivate
Tomoo Ueda	Principal Evaluation Specialist, Independent Evaluation Dept.	Asian Development Bank (ADB)
Maya Vijayaraghavan	Senior Evaluation Specialist, Independent Evaluation Dept.	ADB
Dave Snowden	Director, Cynefin Centre for Applied Complexity	Bangor University, Wales
Nicola Hobby	Director of Service Delivery	BAO Systems
Todor Dimitrov	Head of Evaluation Office	Black Sea Trade and Development Bank
James Melanson	Head of Evaluation	Caribbean Development Bank
Guillermo Funes	Director (El Salvador)	Central American Bank for Economic Integration (BCIE)
Alberto Cortés	Director (Costa Rica)	BCIE
José Efraín Deras	Head, Office of Evaluation	BCIE
James Fotheringham	Principal, Evaluation and Research	Coffey International Development Ltd.
Joseph Vila Codina	Evaluation Officer	Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)
Edwin Dindi Ndubi	Chief, Quality Management and Perfirnabce Monitoring Section	Comprehensive Nuclear-Test-Ban Treaty Organization
Simona Cristiano	Researchers - Evaluation Manager	Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria
Danielle Dunne	Senior Evaluation Adviser	Department for International Development, United Kingdom
Elaine Kennedy	Economist, Evaluation and Audit Unit	Department of Foreign Affairs and Trade, Ireland
Janet Wieser	Chief, Evaluation and Communications Research Unit	Department of Public Information, United Nations
Taryn Davis	Senior Associate	Development Gateway
Alexis Ditkowsky	Business and Community Strategy	Dobility (SurveyCTO)
Boris Maguire	Head of Deployment	Echo Mobile
Nii Quaye-Kumah	Minister, Alternate Permanent Representative of the Republic of Ghana to IFAD	Embassy of the Republic of Ghana
Robert Heine	Managing Director	Energypedia Consult GmbH
Karin Becker	Communications Analyst	European Bank for Reconstruction and Development
Ernani Cerasaro	Giovanni Buttarelli's Assistant	European Data Protection Supervisor
Dawit Demetri	Evaluator	European Investment Bank
Jan Willem Van der Kaaij	Inspector General	European Investment Bank
Ivory Lorena Yong-Prötzel	Head of Operations, Evaluation Division	European Investment Bank
Michelle Weston	Secretariat	Evaluation Cooperation Group
Luisa Belli	Evaluation Officer	Food and Agriculture Organization of the United Nations (FAO)

Name	Title	Agency
Anne Beutling	Associate Professional Officer-CODEX Alimentarius	FAO
Verdiana Biagioni Gazzoli	Rural poverty reduction consultant	FAO
Federica Bottamedi	Communications Associate/ Evaluation Analyst, Office of Evaluation	FAO
Maame Duah	Evaluation Analyst, Office of Evaluation	FAO
Yuen Ching Ho	Evaluation Officer, Office of Evaluation	FAO
Sara Holst	Evaluation Analyst, Office of Evaluation	FAO
Masahiro Igarashi	Director, Office of Evaluation	FAO
Alena Lappo	Evaluation Analyst, Office of Evaluation	FAO
Veridiana Mansour Mendes	Evaluation Officer, Office of Evaluation	FAO
Giulio Marchi	Geospatial Forestry Officer, Forestry Departmet	FAO
Danilo Mollicone	Forestry Officer and Project Lead Technical Officer, Forestry Department	FAO
Fabrizio Moscatelli	Consultant	FAO
Maria Alice Moz Christofoletti	Evaluation Analyst, Office of Evaluation	FAO
Clare O'Farrell	Communication and Knowledge Management Officer, Investment Centre	FAO
Tala Talaee	Evaluation Analyst, Office of Evaluation	FAO
Carlos Tarazona	Senior Evaluation Officer, Office of Evaluation	FAO
Michael Euler	Evaluator	German Institute for Development Evaluation (DEval)
Sven Harten	Head of Competence Centre for Evaluation Methodology/Deputy Director	DEval
Malte Lech	Evaluator	DEval
Gerald Leppert	Senior Evaluator	DEval
Judith Müller-Gerold	Evaluation Specialist, Corporate Unit Evaluation	German Society for International Cooperation
Miriam Nikitka	Consultant, M&E	GFA Consulting Group GmbH
Juha Ilari Uitto	Director, Independent Evaluation Office	Global Environment Facility
Andrea Maria Bertolazzi	Sysadmin and trainer	Gnucoop Soc. Coop.
Giuditta Caimi	Social Media Manager	Gnucoop Soc. Coop.
Cheryl Gray	Director, Office of Evaluation and Oversight	Inter-American Development Bank
Monika Huppi	Principal Advisor, Office of Evaluation and Oversight	Inter-American Development Bank
Marijke de Graaf	Food Security Strategy and Policy Advisor	Interchurch Organisation for Development Cooperation

Name	Title	Agency
Thomas McMahon	Officer, Office of Internal Oversight Services	International Atomic Energy Agency
Carsten Meyer	Director, Office of Internal Oversight Services	International Atomic Energy Agency
Hamdi Ahmedou	Evaluation Research Analyst, Independent Office of Evaluation (IOE)	International Fund for Agricultural Develoment (IFAD)
Rima Alcadi	Grant Portfolio Adviser, Quality Assurance Group	IFAD
Qais Aljoan	Technical Adviser to the Vice President for Arab Funds, Partnership and Resource Mobilization Office	IFAD
Melba Alvarez-Pagella	Evaluation Communication Officer, IOE	IFAD
Miron Arljung	Communication Intern, IOE	IFAD
Aslihan Arslan	Senior Economist, Research and Impact Assessment Division (RIA)	IFAD
Anna Benassi	Administrative Associate, IOE	IFAD
Soraya Binetti	Intern, Communications Division	IFAD
Robert Bourguignon	Evaluation Research Analyst, IOE	IFAD
Thomas Bousios	Director, Information and Communications Technology Division	IFAD
Adolfo Brizzi	Director, Policy and Technical Advisory Division	IFAD
Delphine Bureau	Evaluation Assistant, IOE	IFAD
Bernardo Caldarola	Intern, IOE	IFAD
Jorge Carballo Gutierrez	Evaluation Research Analyst, IOE	IFAD
Michael Carbon	Senior Evaluation Officer, IOE	IFAD
Romina Cavatassi	Senior Economist, RIA	IFAD
Rosa Valeria Cerza	Monitoring and Evaluation Specialist, East and Southern Africa Division	IFAD
Chitra Deshpande	Senior Evaluation Officer, IOE	IFAD
Constanza Di Nucci	Technical Specialist, Global Engagement, Knowledge and Strategy Division	IFAD
Kelly Feenan	Change Management Team Administrator, Information and Communications Technology Division	IFAD
Fabrizio Felloni	Deputy Director, IOE	IFAD
Alessandra Garbero	Senior Econometrician, RIA	IFAD
Oscar A. Garcia	Director, IOE	IFAD
Maria Hartl	Technical Advisory Division	IFAD
Daniel Higgins	Consultant, RIA	IFAD
Martina Improta	Consultant, RIA	IFAD

Name	Title	Agency
Kafle Kashi	Consultant, RIA	IFAD
Mark Keating	Evaluation Officer, IOE	IFAD
Anita Kelles-Viitanen	Senior consultant, Policy and Technical Advisory Division	IFAD
Hansdeep Khaira	Evaluation Officer, IOE	IFAD
Balema Kossivi	Intern, IOE	IFAD
Prashanth Kotturi	Evaluation Analyst, IOE	IFAD
Boaz Liesdek	Intern, IOE	IFAD
Federica Lomiri	Evaluation Research Analyst, IOE	IFAD
Malik Mahnoor	Intern, Communications Division	IFAD
Paola Mallia	Consultant, RIA	IFAD
Julia Marin	Finance Analyst, Accounting and Controller's Division	IFAD
Pierre Marion	Consultant, RIA	IFAD
Laura Morgia	Administrative Associate to the Deputy Director, IOE	IFAD
Fumiko Nakai	Senior Evaluation Officer, IOE	IFAD
Neha Paliwal	Consultant, RIA	IFAD
Richard Pelrine	Regional Economist, West and Central Africa Division	IFAD
Johanna Pennarz	Lead Evaluation Officer, IOE	IFAD
Antonella Piccolella	Evaluation Research Analyst, IOE	IFAD
Renate Roels	Evaluation Research Analyst, IOE	IFAD
Shaun Ryan	Evaluation Assistant, IOE	IFAD
Paolo Silveri	Country Programme Manager, Latin America and the Caribbean Division	IFAD
Simona Somma	Evaluation Officer, IOE	IFAD
Tisorn Songsermsawas	Consultant, RIA	IFAD
Jaqueline Souza	Evaluation Communication Specialist, IOE	IFAD
Cristina Spagnolo	Evaluation Assistant, IOE	IFAD
Abdoulaye Sy	Evaluation Research Analyst, IOE	IFAD
Benoit Thierry	Country Programme Manager, Asia and the Pacific Division	IFAD
Miguel Torralba	Lead Evaluation Officer, IOE	IFAD
Ann Turinayo	Governing Bodies Officer, Office of the Secretary	IFAD
Laure Vidaud	Evaluation Assistant, IOE	IFAD
Deidre Walker	Senior Audit Officer, Office of Audit and Oversight	IFAD
Shijie Yang	Evaluation Research Analyst, IOE	IFAD
Li Yong	Joint Senior Programme Officer	IFAD

| Name	Title	Agency
Xiaozhe Zhang	Evaluation Research Analyst, IOE	IFAD
Edoardo Masset	Deputy Director, Syntheses and Review Office	International Initiative for Impact Evaluation (3ie)
Matthew Batchelor	Software Developer	International Maritime Organization
Ziad Moussa	President	International Organization for Cooperation in Evaluation
Diana Cartier	Evaluation Officer, Office of the Inspector General	International Organization for Migration
Altaf Abdul Gaffar	Lead Portfolio Specialist	Islamic Development Bank
Hamayoon Sultan	Senior Impact Evaluation Officer, International Programmes Division	Islamic Relief Worldwide
Francesco De Stefani	Deputy Head, Evaluation Unit	Italian Ministry of Foreign Affairs and International Cooperation
Loredana Marrone	Evaluation Manager	Italian Ministry of Foreign Affairs and International Cooperation
Marco Pelucchi	Senior Account Director	Kantar Public Brussels
Martin Dorschel	Head of Evaluation Division	Kreditanstalt für Wiederaufbau (KfW)
Giorgio Cardone	Senior Manager	Lattanzio Advisory
Stefano Conci	Project Manager	Lattanzio Advisory
Jyrki Pulkkinen	Director, Development Evaluation	Ministry for Foreign Affairs of Finland
Barbara Mrówka	General Adviser	Ministry of Foreign Affairs of the Republic of Poland
Petra Bučeková	Evaluation Manager, Development Cooperation and Humanitarian Aid Department	Ministry of Foreign and European Affairs of Slovak Republic
Per Øyvind Bastøe	Director, Evaluation Department	Norwegian Agency for Development Cooperation
Hans Lundgren	Head of Unit, Development Assistance Committee (DAC) EvalNet Secretariat	Organisation for Economic Cooperation and Development/DAC
Dieffi Tchifou Miltiade	CEO, Open-IT and Information Systems Designer	Open-IT
Lukasz Wieczerzak	Senior Evaluator and Quality Assurance Officer, Office of Internal Oversight	Organisation for the Prohibition of Chemical Weapons
Simone Lombardini	Global Impact Evaluation Adviser	Oxfam GB
Emily Tomkys	ICT in Programme Officer	Oxfam GB
Paul Jasper	Deputy Portfolio Leader	Oxford Policy Management
Kalina Dimitrova	Student	Pinewwwod International
Julius Batemba	Monitoring Evaluation and Research Manager	Plan International
Steffie Rijpkema	Junior Project Coordinator	ProClimate
Danya Chudacoff	Director of Programs and Co-founder	Proximity International
Rupert Simons	CEO	Publish What You Fund
William Kibira	Junior Software Development Assistant	Pulse Lab Kampala
Federica Basadonne	Business Development	Relief Applications

Name	Title	Agency
Raphael Bonnaud	CEO	Relief Applications
Arturo Garcia Fernandez	Co-founder and Chief Technical Officer	Relief Applications
Cauquil Guy	President	Réseau Francophone de l'Évaluation
Aryanti Radyowijati	Technical Director	Results in Health
Ruxandra Noica	Consilier	Cabinet Secretar General al Guvernului, Romania
Hassan Ileli	Information Technology Manager	Save the Children Somalia
Monica Zikusooka	Regional Monitoring, Evaluation, Accountability and Learning Manager	Save the Children-East and Southern Africa Region
Luc Lefebvre	Director	Société luxembourgeoise d'évaluation et de prospective
Daniela Coppola	Project Coordinator	Salvatorian Office for International Aid
Neal Jean	Researcher, School of Engineering	Stanford University
Martin Baumann	Deputy Head, Quality and Resources Unit	State Secretariat for Economic Affairs, Swiss Confederation
Pradeep Itty	Head of Quality Assurance and Aid Effectiveness	Swiss Agency for Development and Cooperation
Emmanuel Sangra	President	Swiss Evaluation Society (SEVAL)
David Galaty	Director, Research and Innovation East Africa	Technoserve
Stuart Shulman	Founder and CEO	Texifter LLC
Maria Collison	Strategy and Impact Advisor	Trócaire
Jan Willem Tulp	Data Experience Designer	TULP Interactive
Paula Hidalgo-Sanchis	Manager	UN Global Pulse Lab-Kampala
Marco Segone	Director, Independent Evaluation Office	UN Woman
Martin Barugahare	Chief Evaluation Unit, Office of the Executive Director	UN-Habitat
Lucy Waikwa-Omondi	Programme Assistant	UN-Habitat
Tina Tordjman-Nebe	Evaluation Specialist	United Nations Children's Fund
Anish Pradhan	Information Technology Specialist, Independent Evaluation Office	United Nations Development Programme
Susanne Frueh	Director, Internal Oversight Service	United Nations Educational, Scientific and Cultural Organization
Roxana Samii	Chief Digital Strategy	United Nations Environment Programme
Janet Wildish	Senior Evaluation Officer, Evaluation Office	United Nations Environment Programme
Katinka Koke	Associate Programme Officer	United Nations Institute for Training and Research
Itziar Arispe	Monitoring and Evaluation Officer, CBRN Risk Mitigation and Security Governance	United Nations Interregional Crime and Justice Research Institute
Adan Ruiz Villalba	Deputy Chief, Independent Evaluation Unit	United Nations Office on Drugs and Crime (UNODC)
Katharina Kayser	Chief, Independent Evaluation Unit	UNODC

| Name	Title	Agency
Emanuel Lohninger	Evaluation Adviser	UNODC
Elisabetta Carfagna	Full Professor of Statistics	University of Bologna
Steff Deprez	Independent consultant	Veco International
Mirjam Shaap	Senior Advisor ICT Supported Learning	Wagenigen University
Talip Kilic	Living Standards Measurement Study	World Bank Center for Development Data
Haishan Fu	Director, Development Data Group	World Bank Group
Caroline Heider	Director General and Senior Vice President, Independent Evaluation Group	World Bank Group
Wael Attia	Lead Information and Knowledge Management Officer, Analysis and Trends Service, Program and Policy Division	World Food Programme (WFP)
Rogerio Bonifacio	Senior Earth Observation and Climate Analyst, Analysis and Trends Service, Program and Policy Division	WFP
Laure Boudinaud	Analyst, Vulnerability Analysis Mapping	WFP
Andrea Cook	Director, Office of Evaluation	WFP
Ramona Desole	Research Analyst	WFP
Silvio Galeano	Communications and Knowledge Management Consultant	WFP
Dawit Habtemariam	Evaluation Officer, Office of Evaluation	WFP
Deborah McWhinney	Senior Evaluation Officer, Office of Evaluation	WFP
Alexandra Novokowsky	Research Analyst, Office of Evaluation	WFP
Jean-Baptiste Pasquier	Data Scientist	WFP
Giancarlo Pini	Independent consultant	WFP
Filippo Pompii	Evaluation Officer, Office of Evaluation	WFP
Gaurav Singhal	Data Scientist	WFP
Federica Zelada	Evaluation Officer, Office of Evaluation	WFP
Mar Guinot	Research Analyst, Office of Evaluation	WFP
Elilarasu Renganathan	DG, Representative Evaluation	World Health Organization
Michael Bamberger	Independent consultant	
Silva Feretti	Independent consultant	
Linda Raftree	Independent consultant	
Laura Table	Independent consultant	

Appendix 4. Results report on the ICT4Eval international conference feedback survey

A. Basic information

Q1 Nature of participation in ICT4Eval
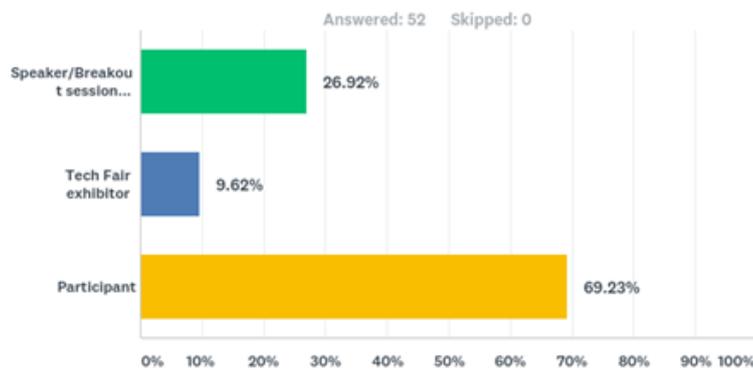
Answered: 52   Skipped: 0

Speaker/Breakout session... — 26.92%
Tech Fair exhibitor — 9.62%
Participant — 69.23%

Q2 Gender composition of the survey respondents

Female 41.18% (21)
Male 58.82% (30)

Q2 Gender composition of the survey respondents

Other (please specify)
Bilateral Development Agency
International Financial Institution
UN Organization
Private Sector
Government
Non-Governmental Organization
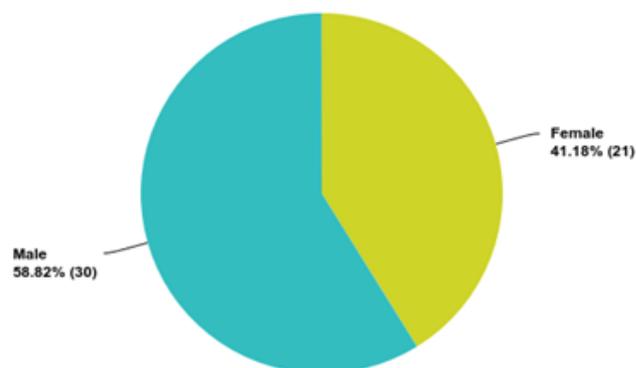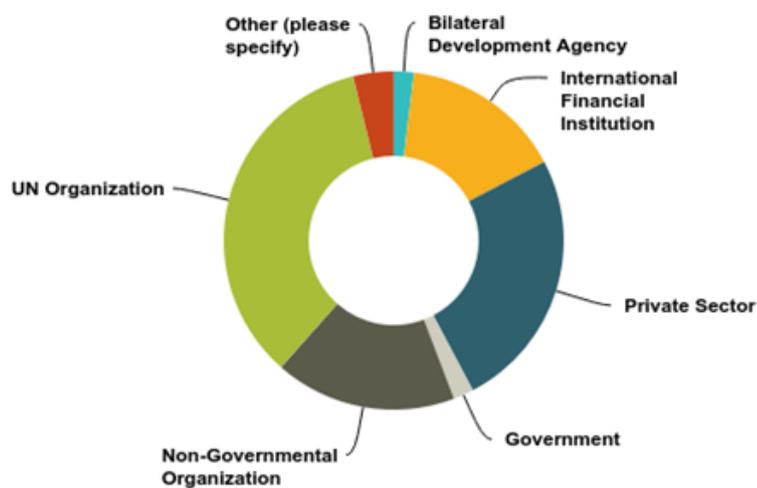
Q3 Type of organization

Answer choices	Responses	
Academic Institution	0.00%	0
Bilateral development agency	1.92%	1
International financial institution	15.38%	8
IFAD Executive Board member	0.00%	0
Private sector	25.00%	13
Government	1.92%	1
Non-governmental organization	17.31%	9
United Nations organization	34.62%	18
Other (please specify)	3.85%	2
Total		52

B. Opinion on the seminar

Q4 What aspect of ICT4Eval did you enjoy the most
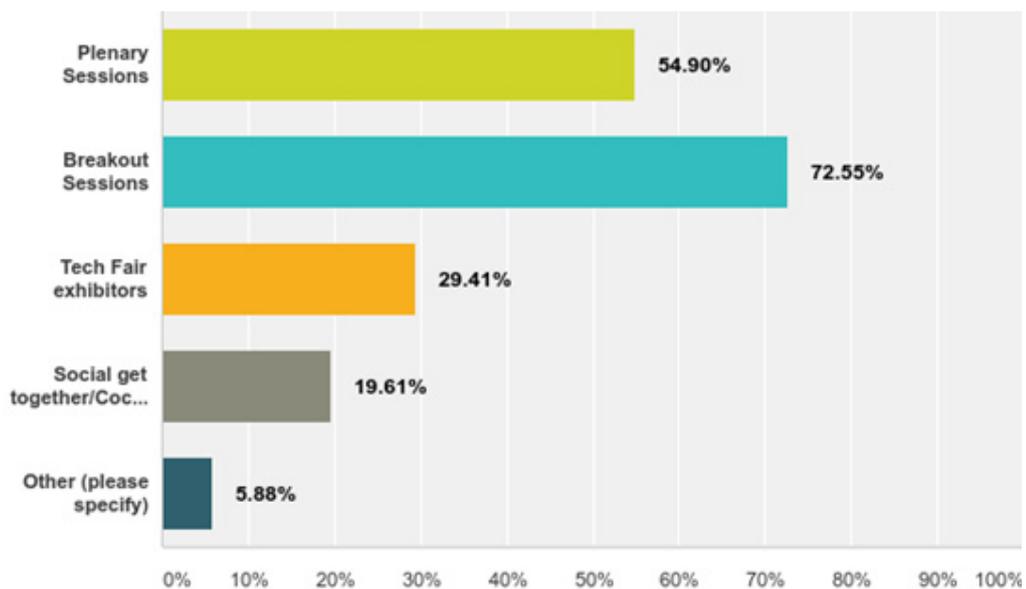
Q5 What were the most informative and interesting sessions?

Answer choices	Responses	
Keynote addresses (1)	40.00%	20
Panel discussion on Big data for evaluation (2)	48.00%	24
Panel discussion in impactful visualization or data distortion (3)	20.00%	10
Breakout session 1. Simulated field visits in fragile and conflict environments: A case of Save the Children in Somalia	26.00%	13
Breakout session 2. Using geospatial analysis for impact evaluations	24.00%	12
Breakout session 3. Using earth observation to support the evaluation of an income enhancement project in Georgia (6)	6.00%	3
Breakout session 4. Collect Earth: Innovative and free multipurpose land monitoring through remote sensing data (7)	12.00%	6
Breakout session 5. Mobile-based data collection tools for programme monitoring and evaluation (8)	26.00%	13
Breakout session 6. Improving systematic reviews and evidence gap maps by text mining and machine learning (9)	10.00%	5
Breakout session 7. Mapping poverty with satellite imagery and machine learning (10)	14.00%	7
Breakout session 8. Machine learning and causal inference: How machine methods might help to improve the rigour of quantitative impact evaluation (11)	22.00%	11
Breakout session 9. Advances in qualitative data analysis: Human and machines learning together (12)	18.00%	9
Breakout session 10. Analysing stories of change: Engaging beneficiaries to make sense of data (13)	28.00%	14
Breakout session 11. Enabling community participation and validation of digitally collected data through real-time feedback (14)	18,00%	9
Breakout session 12. Exploring the soft side: Ethics, protection and inclusion in ICT4Eval (15)	2.00%	1
Breakout session 13. How to use social media to positively impact development projects (16)	8.00%	4
Breakout session 14. From data to decision: How to collect, analyse and use high-quality data to increase impact (17)	18.00%	9
Breakout session 15. Open data and dissemination: Has the time come for common reporting standards for evaluations? (18)	8.00%	4
Total respondents: 50		

Basic statistics

Minimum	Maximum	Median	Mean	Standard deviation
1.00	18.00	7.00	7.64	5.25

Q6 How do you rate on the following?

	Relevance of the sessions	Quality of the sessions	Organizational arrangements	Responsiveness of the organizing team
Highly Satisfactory	35.29%	19.61%	62.75%	67.35%
Satisfactory	39.22%	56.86%	33.33%	30.61%
Moderately Satisfactory	17.65%	13.73%	0.00%	
Moderately Unsatisfactory	3.92%	5.88%	1.96%	0.00%
Unsatisfactory	1.96%	1.96%	0.00%	
Highly Unsatisfactory	1.96%	1.96%	1.96%	2.04%
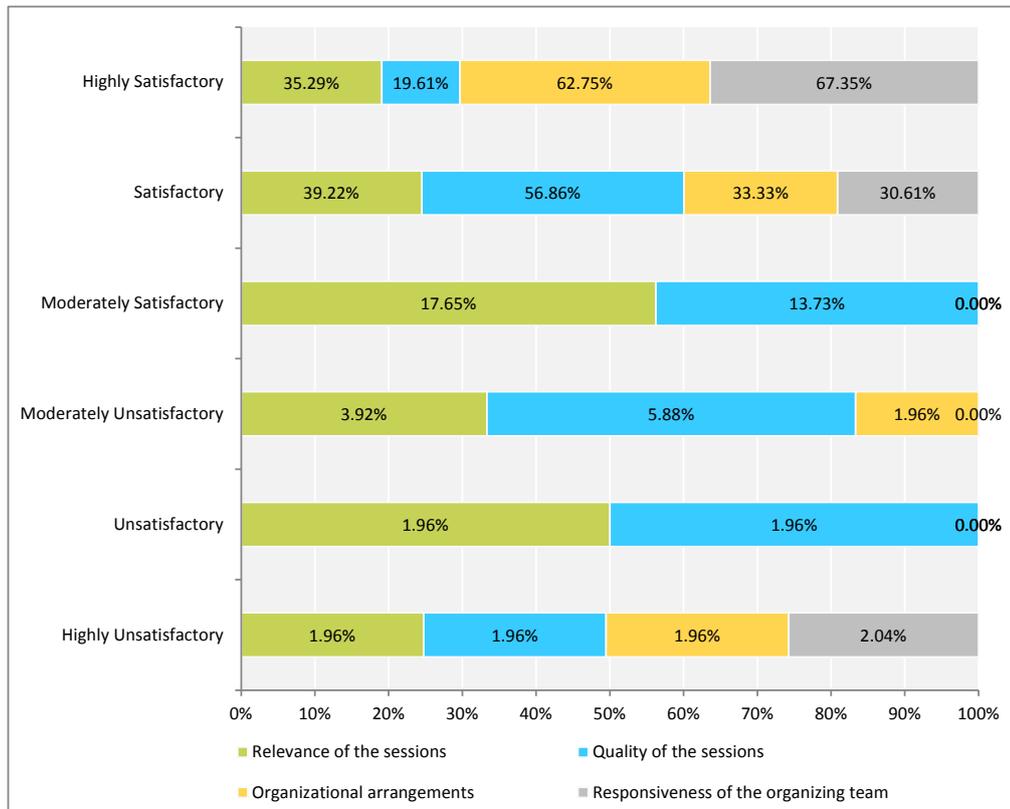
Q7 What was your main takeaway from the conference?

1) Technology presents great opportunities for M&E - Big data is definitely an opportunity to further explore.

2) Lot of room for improvement on usage of ICT.

3) My main interest was the debate between Big data and Complex Adaptive Systems Theory and it was this I took away most.

4) That ICTs can help make evaluation work more efficient through remote field visits, machine learning for systematic reviews, etc.

5) I would like to know more about mobile-based data collection and Survey CTO.

6) ICT can be a big help but not replace human interaction!

7) My main takeaway is a growing interest for the application of machine learning to development evaluation.

8) Data have value.

9) Being critical and aware of how new technologies may change and shape evaluation. Things to keep an eye on are geospatial analysis and machine learning.

10) That ethics in ICT is finally gaining some traction in multiple spaces, but that no one feels as though significant progress is made on it yet.

11) Human loops are still very important.

12) Importance of the human element in evaluation even in the context of ICTs/Big data.

13) The level achieved by participant institutions was a benchmark for my institution.

14) Lots of really interesting work is happening, lots of good reflection among the participants and the wider field. We still really need to build capacity here to use ICTs in appropriate ways in evaluation.

15) Important to see the right areas to include Big data in data collection.

16) Remembering human beings, using data analytics as a tool not an end, algorithms can't explain outliers.

17) ICT can be very helpful but not a panacea -- mixed methods.

18) Technology is a tool and we should be aware of when to and not to use technology.

19) There is a missing feedback loop between monitors/evaluators and program managers.

20) There is a long way to go for evaluation to incorporate Big data and the complementary aspects of new technology. The danger is that the technology will be promoted as the solution rather than a facilitator. Certain breakout sessions in fact confirmed this tendency (that tech was used for the sake of tech, rather than for the added value of data that can be collected, and in these cases was failed to be collected).

21) ICT tools can be very useful in the evaluation process but it is very important the way we use them.

22) That there is a lot more to learn...the sessions only touched the surface.

23) The importance of open data and the need to change perspectives of evaluation.

24) Linking ICT to Eval and not pursue another dichotomy.

25) There's a lot of desire to go digital but getting there continues to be a challenge.

26) I think this was my most involved learning experience about the development/NGO world. I have worked for several NGOs but this conference gave me the most in-depth experience of what these organizations do, and what challenges they run into.

27) Better understanding of developments in ICTs for development and possible use in evaluation.

28) Get updated and roll on.

29) Evaluations need to listen and contribute to the important conversations occurring in social media. Surely evaluators have a role to play in countering fake news!

30) Knowledge of other software to be used for geospatial analysis.

31) ICT can help but are not the golden solution.

32) A deep distance exists between evaluators and tech companies.

Q8 What could we have done differently?

1) Lab sessions could have been useful where participants use/get a first-hand feel for software such as sense maker, etc.

2) Include lunch

3) Can't think of anything - great job!

4) Probably give more space between the breakout sessions

5) Hotel and travel arrangement

6) It is was excellent.

7) Excellent conference. A third day to develop a way forward / next steps to deal with issues such as ethics and data protection would have been very useful. I personally would have liked to have seen more NGOs there. Overall great event.

8) Not much - programmed very well

9) Compile a directory of participants (with affiliation and contact information?)

10) More integration actions among the participants.

11) If possible, a different set-up in some of the breakout rooms so that speakers can be more dynamic.

12) Plenary was not ideal - difficult to see screens; more concrete examples/breakout sessions on use of ICT in different parts of evaluation cycle (e.g. stakeholder involvement; follow-up to evaluations; etc.).

13) Provide more workshop style arrangements for discussion.

14) Select speakers who have something of substance to present.

15) Speakers could have been improved. Few highly qualified speakers with more depth knowledge in technology they were using could have improved sessions. Also there were not much opportunity to share or express agency experience during plenary. Most of the focus and QA session was devoted to presenter, which in most cases were very mediocre and didn't add much value other than waste time.

16) TechFair during the whole conference not only on the second day one hour.

17) Active learning, interactive sessions.

18) Fantastic conference, very well managed and facilitated.

19) It was geared mainly to an audience that is just beginning to explore the concept of ICT for evaluation purposes.

20) Strong disappointment with quality of many presentations.

21) Maybe more implementing advice and best practices.

22) I think bigger screens for the slides of the talks would be great, they were rather small.

23) Younger evaluators could have been given a platform to express how they think evaluation processes could draw on state-of-the-art ICT.

24) More on organisational change and organisational commitment to ICT4Eval.

25) Shorter presentations - in google presenters are given 3 minutes to present topics.

26) Showcase more some evaluations that have used ICT as good practice.

27) More sessions on some tech and real examples of ICTs.

Conference proceedings, presentations,
interviews and full recordings of the sessions
are available on the website of the Independent
Office of Evaluation of IFAD, events section:

www.ifad.org/evaluation

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