

# Harvesting Open Data for Nutrition Security

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ILSI Research Foundation promotes awareness around novel platforms and uses of open data for multi-sectoral partnerships in sustainable agriculture and nutrition



*“What are the benefits of open data? Improving service delivery, spurring innovation and creating growth.” -Dr. Catherine Woteki, USDA*

*“Good science is not just about the measurements. It’s about disseminating the information.” -Dr. Stanley Woods, Bill & Melinda Gates Foundation*

*“Reuse instead of reinvent.” -Dr. Robin Lougee, IBM*

On January 25, 2016, the ILSI Research Foundation hosted a scientific session at the ILSI Annual meeting in St. Petersburg, Florida titled Harvesting Open Data for Nutrition Security. Chaired by Ms. Jaime Adams, United States Department of Agriculture (USDA), this session served as an opportunity to catalyze new discussions about public-private collaborations to promote novel uses of open data, with a particular focus on nutrition and agriculture. Leaders in the field of open data from governmental, non-governmental and private sector organizations shared their experiences, describing the importance of open data for innovation in international development and ways to overcome institutional barriers to adoption of open data policies on a global scale.

*Open Data are data that can be freely used, re-used and redistributed by anyone - subject only, at most, to the requirement to attribute and sharealike.*

Dr. Catherine Woteki, USDA, detailed the importance of making data available for public use. Countries, including the U.S., have adopted open data policies and are creating the infrastructure to provide the scholarly publications and underlying data that are the result of publicly-funded research. Dr. Woteki highlighted the Global Open Data for Agriculture and Nutrition (GODAN) initiative that supports making data relevant to agriculture and nutrition available and accessible for unrestricted use worldwide.

Dr. Stanley Wood, Bill & Melinda Gates Foundation, discussed the role of donors in supporting the release of open data. As a leader in agricultural development programs, Dr. Wood acknowledged that agricultural models require data availability to support innovation. Governments, private sector and other funders are needed to achieve open data. He explained the role of funders like the Gates Foundation is to help shift the norm towards requiring and funding open

**Open Data Resources Shared During This Session:**

*Computational Infrastructure for Operations Research Project is an initiative to spur the development of open-source software for the operations research community: [www.coin-or.org](http://www.coin-or.org)*

*Data Spectrum explains the language of data: [www.theodi.org/data-spectrum](http://www.theodi.org/data-spectrum)*

*European Data Portal e-Learning Programme enables discovery of what open data is and how it is changing the lives of everyone on our planet: [www.europeandataportal.eu/elearning](http://www.europeandataportal.eu/elearning)*

*Global Open Data for Agriculture and Nutrition works to support global efforts to make agricultural and nutritionally relevant data available, accessible, and usable for application worldwide: [www.godan.info/](http://www.godan.info/)*

*GM Crop Database, managed by the ILSI Research Foundation, provides accurate, factual, safety-related information about regulatory evaluations and approvals of genetically engineered plants from 30 countries on over 175 events: [www.cera-gmc.org/GMCropDatabase](http://www.cera-gmc.org/GMCropDatabase)*

data in their selected projects, while government funders can produce open data policies.

Mr. Casper Sitemba, Government of Kenya, described the Kenya Open Data initiative, which is intended to make core government development, demographic, statistical and expenditure data available in a useful digital format. While the Kenyan Ministry of Health currently makes demographic nutrition and health data available through an open data portal, Mr. Sitemba noted that Kenya only recently realized the importance of data availability. Information Communication Technology (ICT) infrastructure has aided open data in Kenya, as a majority of the population now has access to the internet, mainly through mobile phones.

Dr. Kate Russell, ONE Campaign, spoke about the role of open data in meeting human nutrition challenges in Africa, emphasizing the reasons why open data is particularly important for advocacy - we need to know who needs to be reached, with what interventions, how much it will cost and who is already investing where so that we can better target our advocacy. Dr. Russell explained that ONE is convening an effort to create a digital, accessible accountability framework for achieving the Sustainable Development Goals which allows an average citizen to track input for interventions and outcomes.

Ms. Liz Carolan, Open Data Institute, outlined the challenges and potential pitfalls from the use of open data, as well as ways to overcome them. One key misstep is treating open data as strictly a technical process rather than a culture change or innovation

process. Ms. Carolan identified how to develop both business cases and models for data publication and innovation.

Dr. Robin Lougee, IBM, shared how open data can be used to transform food systems. Examples included using weather tracking to help farmers predict irrigation requirements, as well as using surveillance risk assessment and diagnosis of food borne pathogens across the food supply chain. Making open data discoverable and harmonized into a useable format for researchers is a critical challenge. IBM has created a system where data are pre-curated, through filtering, classifying, underlying, resampling and re-projecting.

#### Conclusion

Through this session, participants learned that open data enables more efficient and effective decision making; fosters innovation that benefits everyone; and drives organizational and sector change through transparency.

As the global population and food demand grow rapidly over the next several decades, increased availability and more effective use of research and programmatic data have the potential to be powerful drivers toward achieving the global Sustainable Development Goals.

The importance of avoiding duplication and collaborating on open data and harmonization efforts outweigh the challenges such as upfront costs and limited data scientists.

Many organizations, including the ILSI Research Foundation, are collaborating to help realize the full potential of open data.

#### Open Data Resources Continued:

*IBM Accelerated Discovery Lab designed an informatics infrastructure for IBM researchers, clients and partners to help parse and aggregate terabytes of genomic data and apply decades of refined analytics to uncover new insights: [www.research.ibm.com/client-programs/foodsafety/index.shtml](http://www.research.ibm.com/client-programs/foodsafety/index.shtml)*

*IBM Social Good Fellowship is an opportunity for graduate students and postdoctoral scholars to develop their skills and develop data science solutions that benefit humanity: [www.ibm.com/ibm/responsibility/initiatives/IBMSocialGoodFellowship.html](http://www.ibm.com/ibm/responsibility/initiatives/IBMSocialGoodFellowship.html)*

*ILSI Crop Composition Database contains searchable information on the natural composition variability of conventionally grown crops: [www.cropcomposition.org](http://www.cropcomposition.org)*

*Kenya Open Data Initiative makes key government data freely available to the public through a single online portal: [www.opendata.go.ke/page/about](http://www.opendata.go.ke/page/about)*

*Open Data Certificate is a free online tool to assess and recognize the sustainable publication of quality open data: <https://certificates.theodi.org/en/>*

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*The ILSI Research Foundation improves environmental sustainability and human health by advancing science to address real world problems.*

*The ILSI Research Foundation's programs in nutrition, toxicology, risk assessment and agriculture are informed and strengthened by the deliberate inclusion of international, multi-sectoral expertise and perspectives.*

*For more information, please visit: [www.ilsi.org/researchfoundation](http://www.ilsi.org/researchfoundation) or contact [rf@ilsi.org](mailto:rf@ilsi.org).*

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