immana

Innovative Methods and Metrics for Agriculture and Nutrition Actions

Case Study

Surveillance of Climate-Smart Agriculture for Nutrition (SCAN)

The Surveillance of Climate-Smart Agriculture for Nutrition (SCAN) project developed new ways to acquire, integrate and analyse data to determine what is climate-smart and nutrition-sensitive.

The SCAN project was attached to Partnerships for Scaling Climate-Smart Agriculture (P4S), a cross-institution program led by World Agroforestry (ICRAF) and the International Center for Tropical Agriculture (CIAT) in collaboration with more than 75 partners including other CGIAR centres as well as development, government and private sector partners.

The aim of the project was to understand and design cost effective ways to monitor agricultural development for climate and nutrition outcomes. With partners, it developed opportunities to build coherent large-scale household datasets and investigated specific innovations to improve the quantity and quality of data acquisition. For example, woman's access and use of mobile phones, accuracy of information collected over phones vs. traditional interviews, and methods of voice-based data collection of African languages using natural language processing (NLP).

To assess the feasibility and biases of collecting nutrition data via computer assisted telephone interviews (CATI) to mobile phones, SCAN measured the following using a one-week test-retest study on 1,821 households in Kenya:

- Minimum Dietary Diversity for Women (MDD-W) and;
- Minimum Acceptable Diet for Infants and Young Children (MAD)

Findings suggest that CATI has the potential to be used as a rapid and cost-efficient approach to accurately collect dietary diversity data.

Project facts

PRINCIPAL INVESTIGATOR:
Todd Rosenstock, World Agroforestry (ICRAF)

COLLABORATORS:
Brian DeRenzi, University of Cape Town)
Christine Lamanna, ICRAF
Suneetha Kadiyala, LCIRAH
Sabrina Chesterman, ICRAF

DURATION:
24 months
(from September 2015)

COUNTRIES OF RESEARCH:
Zambia and Kenya

GRANT VALUE:
£249,999

London School of Hygiene & Tropical Medicine

Tufts University | Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy

The University Of Sheffield.

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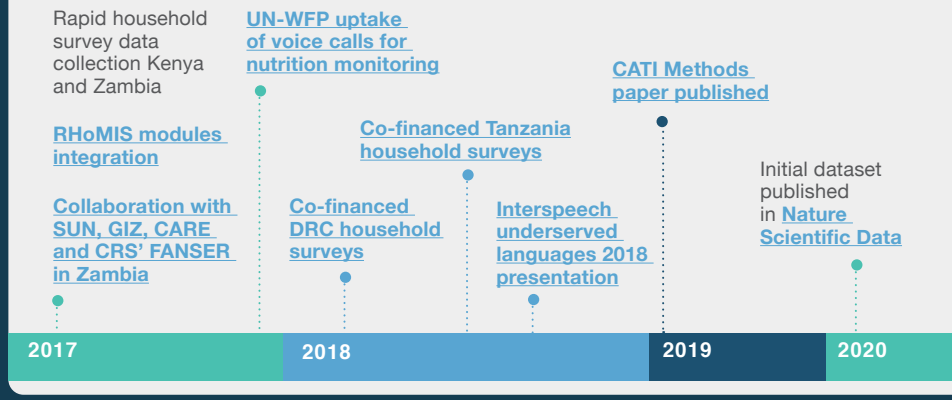
Contributing to large-scale research

RHoMIS; a well-known household survey tool

SCAN developed household nutrition modules on the Minimum Acceptable Diet and Minimum Dietary Diversity for Women, which were attached to the Rural Household Multi-Indicator Survey (RHoMIS) as the Minimum Dietary Diversity Score for Women. RHoMIS is a rapid, cheap, digital survey for characterizing, targeting and monitoring farming households, originally created in partnership with ILRI and ICRAF. RHoMIS captures information on more than 20 indicators on farm productivity and practices, nutrition, food security, gender equity, climate and poverty. The survey has collected data at over 50 sites on 21,024 smallholder farms in 25 countries. The RHoMIS dataset was submitted to a Jean Golding Institute data competition, and forms the basis for many publications.

Timeline



Collaborations and partnerships

THE UNITED NATIONS WORLD FOOD PROGRAMME (WFP)

- The Computer-Assisted Telephone Interviewing (CATI) feasibility and biases study, was a collaboration between WFP's mobile Vulnerability Analysis and Mapping (mVAM) initiative, WFP's Nutrition Division and SCAN.
- Results were disseminated through an internal validation report and two WFP based webinars, which reached key WFP programmatic directors, country directors and field staff, and one joint presentation to the UN Food and Nutrition Group in Kenya.
- WFP has started to adopt one of the monitoring methods developed and preliminarily validated under SCAN-WFP work (voice calls for nutrition monitoring). Testing has been carried out in 7 countries.

MULTI-STAKEHOLDER RESEARCH PARTNERSHIP

- SCAN took part in a collaborative field measurement campaign with GIZ, CARE and CRS' FANSER in Zambia. Findings showed that:
- ICT-based surveys offer opportunities to track key indicators over time and reduce costs of monitoring; and
- Results from pilots show both promising results and challenges during the transition to rapid and mobile-based surveys.

ONGOING RESEARCHER COLLABORATIONS

- SCAN brought together people who wouldn't normally work together, leading to ICRAF's involvement in the UKRI GCRF Action Against Stunting Hub. Collaboration with SCAN and IMMANA researchers is ongoing with The University of Cape Town computer scientist, Brian DeRenzi.

NATURAL LANGUAGE PROCESSING (NLP)

Natural language processing of 5 underserved African languages formed part of SCAN, with a focus on Bantu languages. The research aimed to understand the performance of different source languages and training techniques, to allow other researchers and practitioners to quickly develop high quality small-vocabulary speech-based applications for under resourced languages. SCAN presented this work at Interspeech 2018, Hyderabad.

Government and policy

SCAN presented to the National Food and Nutrition Commission in Zambia, including recommendations for rapid interim monitoring opportunities for Scaling up Nutrition (SUN) using RHoMIS, and recommendations for their transition to digital data collection for the SUN monitoring.