



*The CGIAR Research Program on Agriculture for Nutrition and Health (A4NH)  
Outcomes and results summary for IrishAid  
(Submitted 06/2014)*

### **Realigning Agriculture to Improve Nutrition (RAIN) in Zambia**

In Zambia, A4NH is helping to evaluate nutrition-sensitive agriculture under the Realigning Agriculture to Improve Nutrition (RAIN) project, which aims to reduce child stunting in the Mumbwa District of central Zambia by linking homestead food production through homestead gardens and animals, with infant and young child feeding practices as well as gender behavior change.

The project is being implemented by Concern Worldwide, with support from Irish Aid. Currently, more than 5,000 households, which include pregnant women or mothers of young children, are enrolled in the project. From the start of the project sustainability has been a top priority, with the establishment of a District-level intersectoral committee that links government ministries with civil society organizations, in order to continue implementing RAIN activities in the future, if desired.

A4NH researchers from the International Food Policy Research Institute (IFPRI) are evaluating whether RAIN is having an impact on nutrition—specifically stunting of children—in the target areas by comparing randomly selected groups who received different combinations of treatments (for example, agriculture-only interventions, or agriculture-plus-health interventions). We will evaluate this in several ways: an impact evaluation study will compare baseline data collected at the project start with endline data collected at the end of the project in 2015; a process evaluation will assess program delivery and utilization; and lastly, IFPRI will develop a case study that assesses the government coordination mechanism developed as part of RAIN.

The RAIN project team is planning to conduct an endline survey. In the meantime, they plan to release a paper that examines links between production diversity, dietary diversity, and nutrition using cross-sectional data from the baseline study.



***Preparing vegetables taken from a garden in Mongu, Zambia.***  
*(Photo credit: Felix Clay/Duckrabbit 2012, Flickr-WorldFish)*

## A4NH Prioritizes Dietary Diversity

Another research priority throughout the A4NH portfolio is collecting evidence on nutrition-sensitive agriculture programs in order to assess their contribution to a range of health and nutrition outcomes, such as maternal and child health and nutrition, and diet quality, among others.

Although agriculture alone cannot be solely responsible for improving nutritional status, it does play a critical role in the diversity and quality of food that reaches poor households. Dietary diversity (DD) is an important element of a nutritious diet which can be measured by simply counting the number of food groups (or unique foods) consumed over a period of time. Simple DD measures used in women or in children have been shown to be strongly associated with micronutrient adequacy, which makes it a popular tool for measuring diet. For nutrition-sensitive agriculture development programs, using child DD indicators is more appropriate than using child nutritional status indicators because a child's nutritional status depends not only on food intake, but also a variety of other factors, such as maternal feeding and caregiving practices, and health, among others.

Collecting information on DD requires access to accurate data on the nutrient values and composition for a variety of foods. For years, food composition tables compiled by organizations such as the United States Department of Agriculture (USDA) or the Food and Agriculture Organization of the United Nations (FAO), have been used for this purpose. While these databases are a valuable resource, they are not updated regularly and they may lack data on context-specific foods or recipes.

To address this, A4NH partner, the International Institute of Tropical Agriculture (IITA), and the School of Public Health at the University of Texas-Houston have created a database containing information on Nigerian food, recipes, and nutrients. They reviewed 15,000 food records from food consumption and nutrition population surveys identifying commonly consumed foods, preparation methods, and portion sizes. The recipes were tested using actual ingredients and preparation methods, and then analyzed for select nutrients.

IITA and its partners also adapted and expanded the Nigerian database to create new context-specific databases for other sub-Saharan countries. The approach was replicated in Zambia, Swaziland, and Sierra Leone, using available intake data. As new country data are compiled, IITA envisions it being used to aid policymakers and public health workers in more accurately estimating the nutrient intake of children under the age of five and women of childbearing age in specific African countries.



**Diverse foods are critical to healthy, nutritious diets.**

(Photo credit: S.Landersz/ Bioversity International)

*This work is in part supported by Irish Aid through its contribution to the CGIAR's Agriculture for Nutrition and Health Program.*

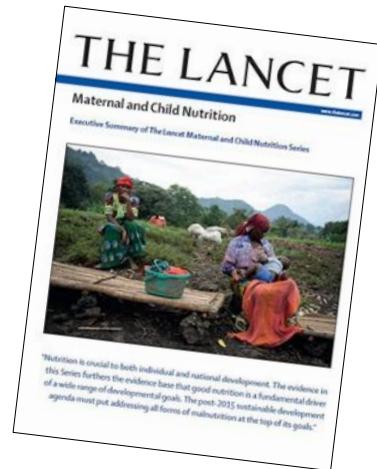
## One Year Later, the Lancet Series on Maternal and Child Nutrition Continues to Influence

In June 2013, the influential [Lancet Journal](#) published a new Series on Maternal and Child Nutrition. A4NH researchers from the International Food Policy Research Institute (IFPRI) took the lead on two of the four papers in the series, which included a literature review of current knowledge and research needs on the impact of nutrition-sensitive programs in the agriculture, social protection, education, and other sectors.

Since being published, the series has continued to influence global decisionmakers, including those beyond the nutrition sector.

One of the Lancet articles in the Maternal and Child Nutrition Series, "[Nutrition-sensitive interventions and programmes](#)," written by IFPRI authors Ruel and Alderman, led the Agriculture and Nutrition team at the Bill and Melinda Gates Foundation to invite the first author to discuss the paper with Melinda Gates in a closed learning session on Agriculture and Nutrition.

Just this month, [in an interview with Devex](#), Richard Greene, senior deputy assistant to the USAID administrator, cited the Lancet series' influence on the development of the agency's new nutrition strategy, which utilizes a multi-sectoral approach to addressing the problem. Greene stated, "*We have a lot of new evidence, based on the 2013 Lancet Series on nutrition. ...This is a real compendium of new data, which we want to take advantage of.*" He added, "*There's growing evidence that nutrition needs to be looked at in terms of a multi-sectoral approach ... not only health, but also food security, water, hygiene, sanitation, women's empowerment.*"



For more information on A4NH, please visit [www.a4nh.cgiar.org](http://www.a4nh.cgiar.org) or contact Kimberly Keeton at [k.keeton@cgiar.org](mailto:k.keeton@cgiar.org).

*This work is in part supported by Irish Aid through its contribution to the CGIAR's Agriculture for Nutrition and Health Program.*