



RESEARCH
PROGRAM ON
Agriculture for
Nutrition
and Health

Led by IFPRI

Annual Performance Monitoring Report **January to December 2016**



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KEY ACRONYMS AND ABBREVIATIONS

A4NH	Agriculture for Nutrition and Health
ACF	Action Contre la Faim
AIM	Amsterdam Initiative against Malnutrition
ANH Academy	Agriculture, Nutrition, and Health Academy
ARENA	Advancing Research on Nutrition and Agriculture
ASI	Agribusiness Systems International
AU	African Union
AU-IBAR	African Union - Inter-African Bureau for Animal Resources
BMGF	Bill and Melinda Gates Foundation
BPI	Biofortification Prioritization Index
CAADP	Comprehensive Africa Agriculture Development Programme
CHANGE	Creating Homestead Agriculture for Nutrition and Gender Equity
CRP	CGIAR Research Program
DFID	United Kingdom Department for International Development
EAC	East African Community
EHFP	Enhanced Homestead Food Production
FAO	Food and Agriculture Organization of the United Nations
GAAP2	Second Phase of the Gender, Agriculture and Assets Project
GAIN	Global Alliance for Improved Nutrition
HCES	Household Consumption and Expenditure Survey
HIB	High Iron Beans
HKI	Helen Keller International
IDO	Intermediate development outcome
IDS	Institute of Development Studies
IFAD	International Fund for Agricultural Development
IGAD	Intergovernmental Authority on Development
IMMANA	Innovative Methods and Metrics for Nutrition Actions
INDDEX	International Dietary Data Expansion Project
KALRO	Kenya Agriculture and Livestock Research Organization
LCIRAH	Leverhulme Centre for Integrative Research on Agriculture and Health
LSHTM	London School of Hygiene and Tropical Medicine
MARLO	Managing Agricultural Research for Learning and Outcomes
NGO	Non-governmental organization
PACA	Partnership for Aflatoxin Control in Africa
PM2A	Preventing Malnutrition in Children under Two
PMC	Planning and Management Committee
PMU	Program Management Unit
POSHAN	Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India
POWB	Plan of Work and Budget
RAIN	Realigning Agriculture to Improve Nutrition
RCT	Randomized controlled trial
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
RVF	Rift Valley fever
SMO	System Management Office
SRF	Strategy and Results Framework
SUN	Scaling Up Nutrition
TRAIN	Targeting and Realigning Agriculture for Improved Nutrition
USAID	United States Agency for International Development
USDA-ARS	United States Department of Agriculture-Agricultural Research Service
W1/2/3	Window 1/2/3
WEAI	Women's Empowerment in Agriculture Index
WFP	World Food Program
WHO	World Health Organization
WUR	Wageningen University and Research Centre

A. KEY MESSAGES

When the CGIAR Research Program (CRP) on Agriculture for Nutrition and Health (A4NH) began in 2012, improving nutrition and health was a new commitment for CGIAR. Now at the completion of its fifth year and end of Phase I, A4NH has accumulated a series of achievements around how the program has effectively expanded and integrated CGIAR research around biofortification (Flagship 2), evaluations of nutrition-sensitive programs (Flagship 4), food safety and zoonotic disease (Flagship 3), and enhancing value chains to improve availability, access, and utilization of nutritious foods (Flagship 1). A4NH research and capacity building activities conducted alongside our partners have moved us towards *improving diet quality, reducing exposure to agriculture-associated diseases, empowering women and poor communities, and making better cross-sectoral policies, programs and investments*. These four were our Phase I goals, or intermediate development outcomes (IDOs), as described in our [Extension Proposal for 2015-2016](#). This report describes the contributions we've made to these goals and highlights the outcomes we realized and outputs we produced in 2016.

A4NH management attention in 2016 focused on:

- **Building momentum for Phase II:** We spent the first quarter of 2016 preparing the [full proposal for Phase II](#), which was submitted in March 2016 and re-submitted with minor edits in July 2016. Upon receiving the green light for Phase II, we began operationalizing the plans described in the proposal, including specifying expectations and objectives for the five country coordination teams and identifying team leaders and members. A4NH welcomed two new non-CGIAR managing partners, Wageningen University and Research Centre (WUR) and the London School of Hygiene and Tropical Medicine (LSHTM), into Phase II and began developing the terms of the partnership agreements.
- **Re-framing the portfolio for Phase II:** We proposed significant changes to two of the Phase I flagships in the Phase II proposal. We restructured their research focus to strengthen their outcome and impact orientation. Led by WUR in Phase II, value chains for enhanced nutrition will have a greater emphasis on assessing consumption and diet quality and will work more with private sector partners to co-innovate and test innovations and embed A4NH research in a national food system context. Agriculture-associated diseases will be split into two flagships, one focused on food safety and one on human health. The Phase II flagship on food safety will respond to a growing demand for food safety research. Co-led by LSHTM and ILRI, the Phase II flagship called improving human health will serve as platform for building research partnerships between agriculture and public health. Its research agenda will focus on identifying solutions that can be co-managed by agriculture and public health for issues related to intensive agricultural water use and vector-borne diseases; moving from understanding to controlling animal-associated diseases contributing to human disease burden; and addressing global agriculture and public health challenges, particularly antimicrobial resistance. **Conceptualizing and launching MARLO:** A4NH joined four other CRPs – CCAFS, LIVESTOCK, PIM, and WLE – to develop an online tool for planning, monitoring, and reporting. We agreed on the fundamental conditions of a single, integrated online platform over the course of 2016, which is known as Managing Agricultural Research for Learning and Outcomes (or MARLO). A4NH launched MARLO in January 2017.

A1. SYNTHESIS OF TWO MOST SIGNIFICANT ACHIEVEMENTS/SUCCESSSTORIES

Taking integrated approaches for managing aflatoxins to scale in Africa

Aflatoxins have been called one of the many 'silent' threats in Africa. A4NH research carried out by IITA, ILRI, and IFPRI has drawn attention to viable solutions for controlling and mitigating aflatoxins in specific countries and contexts in Africa. One such solution is a biocontrol product, generically referred to as Aflasafe. IITA, with the US Department of Agriculture's Agricultural Research Service (USDA-ARS) and local national institutions, has successfully adapted the technology, reducing groundnut and maize aflatoxin contamination consistently by at least 80 percent. Supported by A4NH, other donors, and national governments, IITA's ambitious plan for expanding Aflasafe to 13 countries in Africa involves several steps: collecting baseline data on aflatoxin prevalence, gaining regulatory approval, performing market analysis, designing an efficient manufacturing process,

building a prototype, and completing efficacy trials until partners, both public and private, are prepared to take the product to scale. Progress in the reach of delivery efforts in 2016 is described later in Section C3.

Greatest progress has been made in Nigeria and Kenya. In Nigeria, the Ag Results project has shown success in engaging farmer-producer groups and private sector actors to develop sustainable aflatoxin-safe maize value chains for poultry feed. The value chain interventions integrate Aflasafe produced by IITA with good agricultural practice on farm and quality assurance along the value chain. In Kenya, IITA and the Kenya Agriculture and Livestock Organization (KALRO) signed the Technology Transfer Agreement for Aflasafe KE01™, a major step in scaling out the technology, and KALRO officially launched Aflasafe KE01™ in October 2016. IITA, with other partners, helped develop a communication strategy and supported the government in applying Aflasafe KE01™ in priority counties. By year's end, construction on the Aflasafe Modular Manufacturing Facility, built in KALRO's Katumani Research Station under a cooperative agreement between IITA and KALRO, was completed.

Through research and policy engagement, A4NH has raised awareness on aflatoxins. The [set of 11 evidence-based technical papers](#) developed by the East African Community (EAC), with support from the US Agency for International Development (USAID) and IITA, informed the development of the EAC Aflatoxin Prevention and Control Strategy and Action Plan. This year, these papers were used to develop ten additional policy briefs on aflatoxin prevention and control which the EAC intends to disseminate with the EAC region to raise awareness on the magnitude of aflatoxins (described [here](#)). In 2016, a special edition of the *African Journal of Food, Agriculture, Nutrition and Development* on [Aflatoxins in East Africa](#) was compiled by ILRI, with 12 articles from A4NH researchers on understanding and addressing aflatoxin contamination in eastern Africa. One article summarized results from a gendered analysis of farmers' knowledge and perceptions of risks within the dairy value chain in Kenya, which suggested that women were key in making decisions that prevented exposure to aflatoxins in contaminated food and feeds. The special issue was [featured by the Partnership for Aflatoxin Control in Africa](#) (PACA) with a message of gratitude from the African Union (AU) Commissioner Rhoda Peace.

Providing insights on country successes in accelerating improvements in nutrition

What drives reductions in undernutrition in high-burden countries? How can the enabling environment and pro-nutrition policy and implementation processes be cultivated and sustained? A4NH research carried out by IFPRI alongside research and development partners is providing answers to these questions. In 2016, findings from an IFPRI-led initiative called Stories of Change in Nutrition were disseminated widely to national and global stakeholders to explain the factors that contribute to success in diverse contexts. The Stories of Change approach started with a framework of analysis for understanding the political economy and dynamics of nutrition and change processes. The team brought together a set of analytical tools, frameworks, and methods to be adapted and applied to assess and analyze changes and challenges in the study countries into a single paper, [Stories of Change in Nutrition Tool Pool](#), which was published in 2015. By the beginning of 2016, multi-layered case studies were completed in five countries – Bangladesh, Ethiopia, Nepal, Senegal, and Zambia – and in one state in India, Odisha. Using secondary research and data to assess the [underlying determinants of change](#) in nutrition indicators, the team could trace and test the process of how that change came about. Key stakeholder interviews and analysis of policy documents and community data assessed community perspectives as well as the national, subnational, and global factors and actions. Analyses of various aspects of [gender equity and women's empowerment](#), which were both identified as drivers of nutritional outcomes in multiple countries, were included in the case studies. A full analysis paper was produced based on all the evidence and data for each country and state. Parts of these papers were used to develop chapters for the [Nourishing Millions](#) book (for [Bangladesh](#), [Nepal](#), [Ethiopia](#), [Odisha](#)) and country briefs and short videos for Nepal, Odisha, Senegal, and Zambia (all available [online](#)). In-country dissemination events were held throughout the year and the approach and findings were shared with the research community at the Micronutrient Forum. Stories of Change and *Nourishing Millions* complement/link to [Transform Nutrition](#) consortium, which is supported by the UK Department for International Development (DFID).

The importance of country ownership and leadership for nutrition outcomes and impacts is a central tenet of international development thinking. The Stories of Change approach supports these beliefs. In the case of Ethiopia, part of their progress comes from a demonstrated cascade of commitment and coherence from federal to ground level in driving nutrition-sensitive interventions for improving livelihoods and living conditions, especially around

sanitation. The growth of the agricultural sector, alongside improvements in sanitation, was highlighted as a significant contribution to improving nutrition in this context. Such conclusions are reaching key stakeholders. The 2016 Regional Strategic Analysis and Knowledge Support System (ReSAKSS) report [Achieving A Nutrition Revolution for Africa: The Road to Healthier Diets and Optimal Nutrition](#), edited by an A4NH researcher with several chapters authored by A4NH researchers, drew attention to findings from Stories of Change, as well as other work within A4NH on the impacts of nutrition-sensitive interventions in Africa.

A2. OVERALL FINANCIAL SUMMARY

The approved 2016 Financial Plan, provided a Window 1 (W1) budget of \$200,000 and an estimated W2 budget of \$9.1 million. This was a dramatic reduction from 2015 (final revenue \$19.2 million, including \$2.5 million from W1 and \$16.7 million from W2). We were instructed to reduce funding to Flagship 1 and Flagship 3. As noted in the 2016 Plan of Work and Budget (POWB), this led to a 2/3 reduction in budget and therefore reduced activities in these two flagships. Flagship 2 and Flagship 4 were relatively less affected largely because they are relatively mature programs with a large proportion of W3/bilateral funding. Overall W3/bilateral funding was down slightly from initial estimates (\$69 million versus \$71 million, or 97%). Some additional W2 funding was received in the first half of 2016, allowing us to make small additional allocations mid-year to Flagship 1 and Flagship 3. In December, unanticipated additional W2 funding was received raising W2 revenue to \$15.1 million. The additional funding will be carried forward into Phase II, which gives more certainty for planning for 2017.

2012-2016 Cumulative, Financial Summary (In USD Millions)	Cumulative PIA/Consortium Financial Plan	Cumulative Actual Expenditure	Planned Expenditure 2016	Actual Expenditure 2016	Cumulative Variance (PIA or POWB)
Total Expenditure	\$370.5 M	\$407.7M	\$83.3 M	\$78.6M	
Window 1 (\$15.6M income)	\$152.6 M (PIA)	\$89.3M	\$12.3 M	\$10.2M	-41%
Window 2 (\$81.8M income)	\$97.4 M				
Window 3/Bilateral	\$217.9 M (PIA) \$244.9 M	\$318.5M	\$71.0 M	\$68.4M	23%
*Estimated Gender Research Expenditure				24%	

B. IMPACT PATHWAY AND INTERMEDIATE DEVELOPMENT OUTCOMES (IDOS)

Our Extension Phase was guided by the results framework developed for the [extension proposal](#). The framework showed how A4NH flagships contribute to four IDOs – **improved diet quality, reduced exposure to agriculture-associated disease, empowerment of women and poor communities**, and making **better cross-sector programs, policies, and investments** through three types of impact pathways—**value chains, programs, and policies**. These IDOs were developed with substantial input across our flagships and were shared with other CRPs through the CRP-IDO working group. All these IDOs are reflected in the [new CGIAR Strategy and Results Framework \(SRF\)](#), (2016-2030), which will facilitate A4NH's transition to Phase II.

Other efforts in 2016 related to mapping our proposed Phase II contributions to the IDOs and sub-IDOs in the new CGIAR SRF as part of the full proposal efforts and working with other CRPs through the System Management Office (SMO)-commissioned Task Force on Indicators. Nancy Johnson from the A4NH Program Management Unit (PMU) played a significant role in this effort, which is part of a larger initiative to develop an integrated framework for CRP performance assessment.

C. PROGRESS ALONG THE IMPACT PATHWAY

C1. PROGRESS TOWARDS OUTPUTS

A4NH researchers generated a number of high-quality research outputs this year, including 18 products, 15 tools, and 127 articles in ISI journals with an overall average impact factor of 3.70. Major achievements are described in this next section by clusters of activity.

Delivery and nutritional efficacy of biofortified varieties. In 2016, HarvestPlus and its partners released 36 new varieties in 11 countries. The [Biofortification Priority Index](#) (BPI), a tool to help stakeholders assess for which crop and country their investments will have the greatest impact on reducing micronutrient deficiencies, was updated with the most recent national data and new crop-micronutrient combinations. In addition, the BPI can now be used to prioritize several crops at once. IITA published a handbook on standard methods and protocols for measuring iron, zinc and beta-carotene levels in leaves and roots of cassava. Both CIP and HarvestPlus refined and extended the XRF analysis methods for iron and zinc on a variety of crops. Nutritional efficacy studies were published on high iron beans (HIB) and provitamin A maize. The [Rwanda efficacy trial](#) among college-aged women demonstrated that marginally iron-deficient women showed a significant increase in hemoglobin, ferritin and total body iron after consuming biofortified beans for 4.5 months. The [Zambia provitamin A maize efficacy results](#) revealed that school-aged children (ages 4 to 8) in rural Zambia who consumed provitamin A maize showed improved night vision within six months. A published [review on the efficacy of biofortification, post-harvest fortification and supplementation](#) at low “physiological” doses for pregnant women and children under age two found that low daily doses of iron and zinc used during 6–23 months of age have a positive effect on child iron and zinc status, respectively, which has positive implications for biofortification as it shows that benefits of daily doses of iron and zinc can come from amounts lower than the target levels set for breeding biofortified varieties. Efficacy of biofortification for iron is now well established (complementing well established efficacy for vitamin A).

Evaluating and strengthening nutrition-sensitive agriculture and development programs. Results from several studies were finalized in 2016, filling important gaps in our understanding of how agricultural programs lead to nutritional impacts. An additional paper from IFPRI’s evaluation of Helen Keller International’s (HKI) Enhanced Homestead Food Production (EHFP) [programs in Burkina Faso](#) was published in 2016. The evaluation showed that a well-designed nutrition-sensitive agricultural program could have positive impacts, such as reducing the prevalence of wasting, anemia, and diarrhea among children and reducing the prevalence of underweight and improving several measures of empowerment among mothers, including women’s ownership of assets, social status, and role in decision-making about food production, income, household purchases, and healthcare. Published results from the impact evaluation of the first phase of [Alive & Thrive](#) in Bangladesh, Ethiopia, and Vietnam demonstrated the impact of large-scale behavior change communication on improved nutrition outcomes (results from [Vietnam](#) and [Bangladesh and Vietnam](#)). Endline reports for Creating Homestead Agriculture for Nutrition and Gender Equity ([CHANGE](#)) in Tanzania and Burkina Faso, Realigning Agriculture to Improve Nutrition ([RAIN](#)) in Zambia, and Preventing Malnutrition in Children under Two ([PM2A](#)) in Burundi and Guatemala were submitted with publications expected in 2017-18. Another important component of A4NH’s work in this area is to increase capacity for conducting comprehensive evaluations and to raise awareness of experiences and lessons learned. In 2016, IFPRI researchers summarized guidance in a [chapter](#) on how to design and implement a comprehensive evaluation framework to assess what impact a nutrition-sensitive program has, how and why the program has (or does not have) an impact, and at what cost.

Understanding, supporting and evaluating cross-sectoral policy processes. We highlighted A4NH’s achievements in this area as 2015 and 2016 success stories. The [Global Nutrition Report 2016](#) cemented its position as the go-to reference for decisionmakers, implementers and researchers for nutrition data globally.¹ The 2016 Report made a strong call for nutrition-sensitive spending on gender equity and highlighted gender equity as one of the Sustainable Development Goals. According to Altmetric, the report is in the top 5% of all research outputs ever tracked and ranks #1 in attention score for IFPRI. In other sections of this report, we describe the influence of Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India ([POSHAN](#)) evidence and policy engagement in state and national level policy in India. Key outputs in 2016 included a review of the Integrated Child Development Services’ Supplementary Nutrition Program and District Nutrition Profiles for

¹ As of December 2016, unique downloads for the 2016 Report stood at 74,252. In the two weeks following the June 14 launch, the report received 409 media mentions, 257 of which were original content (e.g., stories, blog posts, and op-eds). Coverage spanned 56 countries and 16 languages, including 21 top-tier publications such as The New York Times, The Wall Street Journal, and Voice of America.

Odisha, Uttar Pradesh, and Bihar. Their review of [evidence for delivering nutrition-sensitive interventions in India](#) identified gender equity – through improved economic, nutrition, education, and healthcare opportunities – as an essential input from improving maternal nutrition. Advancing Research on Nutrition and Agriculture ([ARENA](#)), which closes important knowledge gaps on the links between nutrition and agriculture by crowding in more policy-relevant research and by creating data sets and analytical tools that can benefit the broader research community, published results from Ethiopia on [seasonality and households diets](#) and links between [poultry keeping and child nutrition](#). How food and nutrition analysts can use household consumption and expenditure survey (HCES) data to understand national and sub-national level food consumption was described in an issue of [Sight and Life magazine](#). A4NH researchers across several flagships have been refining this approach for several years, establishing the utility of HCES data for assessing consumption of most populations and are contributing to International Dietary Data Expansion Project ([INDDEX](#)), a collaborative effort implemented by Tufts University, with the Food and Agriculture Organization of the United Nations (FAO), and IFPRI.

Food safety related to aflatoxin risks. We featured progress in scaling out aflasafe in Africa and generating evidence for researchers and decisionmakers as a 2016 success story. In addition, Aflasafe SN01™ was registered in Senegal and Gambia. The high-quality science produced by A4NH-affiliated researchers working on aflatoxins was recognized by the Editorial Board of the *World Mycotoxin Journal*. A review paper co-authored by several scientists from IITA and USDA-ARS was [selected as Best Paper of the Year 2016](#) by the Editorial Board. The review article provides an in-depth review of the possibilities, successes, and challenges of controlling aflatoxins in Africa with biocontrol products. A small-scale pilot study to test demand for aflatoxin control technologies in Kenya was initiated in 2016; results will inform the design of a larger randomized controlled trial (RCT). Likewise, one trial to reduce aflatoxins in milk by working with farmers was initiated and one on best methods of communicating extension information on aflatoxins was completed.

Food safety of perishable products. In Vietnam, the National Task Force of Risk Assessment was incorporated into the Hanoi University of Public Health. ILRI and other partners provide support to the Task Force, which strengthens the capacity of Ministry of Health and Ministry of Agriculture and Rural Development to use risk analysis for assessing, managing and communicating food safety risks. Guidelines for [chemical risk assessment](#) and [microbial risk assessment](#) were published in Vietnamese. There were several significant outputs on methods. Systematic literature reviews are considered the gold standard for generating evidence but are less used in agriculture and health in developing countries. ILRI researchers published systematic reviews for five important pathogens, three foodborne, as well as a methods paper on the [application of systematic literature reviews in Africa](#). Near the end of 2016, the food safety team from ILRI with the nutrition team at IFPRI won a competitive grant for a new project funded by the Bill and Melinda Gates Foundation (BMGF), known as MoreMilk. MoreMilk will start in 2017 and will evaluate the potential of milk markets and milk development interventions to contribute to health and nutrition outcomes by assessing the nutrition and health benefits of a successful piloted informal dairy sector intervention in Nairobi through an RCT. It will also adapt the project-level Women's Empowerment in Agriculture Index (or pro-WEAI) to measure women's empowerment in milk trader households..

Enhancing value chains at local and global levels. Last year we highlighted A4NH's progress in developing and applying diagnostics for value chains for nutrition interventions. Several studies started or continued in 2016, which are described in the outcomes section of this report. As part of our partnership with the International Fund for Agricultural Development (IFAD), A4NH researchers supported reviews of six Country Strategy Plans and 12 IFAD portfolio projects in 2016. The guidance document for design of nutrition-sensitive value chains progressed from a framework paper, to an operational guidance document that in 2016 was tested in Indonesia and Nigeria. A final version of this guidance document will be available in 2017. The IFAD Nutrition Action plan was drafted and subsequently approved, and will be published in 2017. CIAT completed its rapid market assessment and analysis of physical loss, nutrient leakages, and critical points of contamination along the bean and amaranth value chains in Kenya and Uganda. The LINK methodology analysis of the existing business models revealed that the groups have potential of being viable business partners when linked to a private processor. Some key outputs in 2016 related to value chains and food systems included a summary [book](#) on the scientific

foundations for the concept of an Agrobiodiversity Index, which builds upon the foundational work of sustainable diets, nutrition-sensitive landscapes, and multi-functional landscapes and seascapes. Tools, methods, and results from Phase I experiences were shared with stakeholders participating in the HumidTropics Systems Research Marketplace [event](#) and summarized in two chapters in *Integrated Systems Research for Sustainable Intensification in Smallholder Agriculture* and lessons learned from projects in Central Mekong Action Area were summarized in a [book chapter](#).

Animal-associated disease risks. The influence of ILRI's research on Rift Valley fever (RVF) response and control in East Africa is described more under 2016 outcomes in this report. ILRI scientists were involved in a series of papers on climate change and disease that highlighted the effects of climate change on [distribution of livestock diseases](#), priorities for [modelling livestock health and pathogens](#), and [tracking progress on health and climate change](#). Climate change can exacerbate disease in livestock and many of these are foodborne and/or zoonotic diseases. In 2015, ILRI and partners produced the first ever global mapping of antimicrobial use in livestock showing huge and increasing amounts driven by BRICs. This year they continued to build on the momentum generated through publication of reviews and opinion pieces on antimicrobial use in agriculture in high level human and animal journals, including *The Lancet*. Another publication reported for the first time the [presence of trichinella](#), one of the most globally important pig zoonoses, in Uganda. The paper provided evidence that the parasite is shifting from a wildlife to a livestock-based life cycle, exploiting the niche created by the rapidly growing pig sector. The ILRI team also published results from studies on [informed consent processes](#) in One Health research. The findings were based on ILRI research identifying diseases of animal and human importance, and to our knowledge, it is the first of its kind to be written by CGIAR researchers.

C2. PROGRESS TOWARDS THE ACHIEVEMENT OF RESEARCH OUTCOMES AND IDOS

A4NH is committed to applying the knowledge generated with our partners to practical situations that can improve diet quality and health, empower women and poor communities, and create a more enabling environment for nutrition and health. A4NH is tracking progress by focusing on the recognition and use of research outputs by our partners, extension of technology/materials, and changes in the enabling environment for nutrition and health, especially within agricultural policy and investment.

MAJOR OUTCOME ACCOMPLISHMENTS TO DATE

Cumulatively, A4NH's accomplishments since it began in 2012 are contributing towards the development impacts the program is designed to achieve. Some of the Phase I success stories are summarized in Annex 3 of this report.

Table 1. A4NH outcomes and achievements from 2016, by flagship

A4NH Outcomes for 2015-16 Achieved or Unrealized	Outcome-related achievements in 2016
Flagship 1: Value Chains for Enhanced Nutrition Contributes to IDOs on improved diet quality and better cross-sector programs, policies, and investments	
Evidence used to target additional work on value chain interventions using appropriate entry points and to strengthen design of value chain interventions for nutritious foods	<ul style="list-style-type: none"> • ASI, who leads work, supported by BMGF on developing smallholder poultry value chains in Burkina Faso, partnered with IFPRI to develop and launch SE LEVER, a project to augment poultry development activities by making them more nutrition-sensitive. The project will rigorously evaluate the impact and costs of the SE LEVER intervention, including additional components to improve nutrition and health through behavior change communication and activities to sensitize communities on women's empowerment and gender equity.
New partnerships created, tools and evidence used by researchers and practitioners to design additional projects that can achieve better results	<ul style="list-style-type: none"> • New partnerships established between CIAT and a small and medium enterprise, Azuri Health Foods Ltd., as part of ongoing work on beans and amaranth in Kenya and Uganda; between Bioversity and Fresh Studios, a private sector agro-food research and consulting firm, as part of new grant in Vietnam; between Bioversity and McGill University, Self Help Africa (Zambia), and the Small Producers Development and Transporters Association (SPRODETA, Malawi) as part of a newly funded IFAD grant; and IFAD-A4NH partnership strengthened relationships with several IFAD country offices, including India, Nepal, and Nigeria. • New collaboration between CIAT and Action Contre la Faim led to training workshop with 40 technical staff on value chains for nutrition approach and LINK methodology and review of opportunities for joint work in 2017-18. • A4NH researchers' support of the Global Pulse Confederation in its International Year of Pulses 2016 strengthened efforts in linking nutrition to pulse production trends and value chains. Support included providing inputs to the food and nutrition security and markets committees, a major pulse-nutrition conference, and other events.
Nutrition better integrated into FTA and systems CRPs*	<ul style="list-style-type: none"> • Tools, methods, and results from Phase I experiences shared with stakeholders participating in the HumidTropics Systems Research Marketplace event and summarized in two chapters in <i>Integrated Systems Research for Sustainable Intensification in Smallholder Agriculture</i>; lessons learned from projects in Central Mekong Action Area summarized in a book chapter. • <i>While some nutrition inclusive research efforts were completed, agreement between the system and commodity CRPs on which indicators and metrics to implement in sites has not been reached. At a minimum, anthropometric measurements and qualitative dietary recall information should be collected. These recommendations were considered in the 2016 development of the new A4NH flagship on food systems. A4NH also intends to support engagement of our researchers or other competent nutrition partners with other CRPs as part of our Phase II mandate as the integrative CRP on nutrition and health.</i>

*Note: 2015-16 achievements were reduced because of unfavorable ISPC review and decisions to terminate the systems CRPs before Phase II begins.

Flagship 2: Biofortification Contributes to the IDOs on improved diet quality and better cross-sector programs, policies, and investments	
Development of high-yielding varieties with full target nutrient levels for release and multiplication by partners	<ul style="list-style-type: none"> • 36 new varieties released in 11 countries
Nutritional efficacy and effectiveness evidence informs public health enabling and actions for biofortification	<ul style="list-style-type: none"> • Global consultation of 30 experts in micronutrient malnutrition and public health nutrition recommended conducting an effectiveness study to evaluate the target group expansion and developing methodology to identify suitable country- biofortified-food basket combinations prior to the preparation of a full proposal for such studies. Consequently, a multi-crop index was developed to rank and prioritize the low- and middle-income countries in which a food basket approach can address multiple micronutrient gaps, and where an effectiveness study can be implemented to evaluate the impact of the food basket.
Technical and policy support for enabling biofortification at global and national levels	<ul style="list-style-type: none"> • Biofortification recognized at global level with World Food Prize awarded to Howdy Bouis, Maria Andrade, Robert Mwanga and Jan Low. • WHO and FAO, in collaboration with the Sackler Institute for Nutrition Science, convened a consultation to discuss the evidence, ethical and regulatory issues pertaining to biofortification. WHO and FAO representatives voiced their support of biofortification as a viable strategy for reducing micronutrient deficiencies. • The interactive BPI revised to include: 1) the most recent data; 2) data on new crop-micronutrient combinations; and 3) a new specification that allows for prioritization for the biofortification of several crops at once; BPI assists interested national governments and partners in identifying the “highest opportunity” countries for expanding biofortification. • Conference room documents, discussion papers, project documents and e-Working Group (documents, have been advanced in the Codex Committee on Nutrition and Foods for Special Dietary Uses. The discussion of biofortification moved to the “elaboration” stage in the Codex procedural process. Biofortification has advanced from being a referral from the Codex Committee on Food Labelling to being very strongly positioned towards inclusion in Codex texts. There is now one definition of biofortification under consideration with six criteria to inform the definition.
Evidence from operational research informs partnerships for delivery at scale in 9 target and other expansion countries	<ul style="list-style-type: none"> • HarvestPlus developed and launched improved monitoring and evaluation systems, including an on-line monitoring database for measuring progress towards impact in target countries. All the indicators in the system are gender disaggregated. Monitoring officers recruited and trained. <p>Following recommendations from the Strategic Gender Assessment of HarvestPlus, previously collected consumer acceptance data was reviewed with a gender lens and the crop situation analysis data for all target country crops was reanalyzed for household decisionmaking patterns and labor allocation from seed purchases all the way through crop sales. HarvestPlus is also developing tools for qualitative assessment of gender issues, which will be used to complete data collected through the monitoring surveys.</p>

Flagship 3: Agriculture-Associated Diseases

Contributes to IDOs on reduced exposure to agriculture-associated diseases and better cross-sector programs, policies, and investments	
Evidence on health and economic burdens of food borne disease; technologies and practices being used at medium scale and with potential for large scale in Africa	<ul style="list-style-type: none"> • Aflasafe registered by regulatory authorities in Senegal and Gambia based on evidence dossiers. • Unga Ltd., one of Kenya's largest maize processing companies, agreed to purchase maize that has been treated with Aflasafe and tested as aflatoxin-safe from farmer groups in Meru. A4NH researchers engaged with Unga leadership around findings from a 2015 study showing the impact of price incentives on farmers' adoption of aflatoxin control technologies.
Influence on policy context at regional level and policy implementation in Kenya and Nigeria	<ul style="list-style-type: none"> • Official launch of Aflasafe KE01™ by KARLO and product application on 1,950 acres of maize in the Galana Irrigation Scheme in Kenya. • Technical papers prepared with support from A4NH researchers were used to develop ten additional policy briefs on aflatoxin prevention and control which the EAC intends to disseminate with the EAC region to raise awareness on the magnitude of aflatoxins (described here).
Evidence on health and economic burdens of food borne disease; technologies and practices being used at medium scale and with potential for large scale in countries where Livestock & Fish and system CRPs work**	<ul style="list-style-type: none"> • A third-party evaluation found that participatory disease surveillance was being used in countries which received ILRI support and that ILRI ranked globally highest in terms of participatory disease surveillance activities. • Improvements in researcher capacity for assessing food safety risks and value chain were documented. • Research has helped identify the need for geographical targeting for Rift Valley fever (RVF) vaccination, increased vaccination coverage, and timeliness and frequency of RVF vaccination. Findings are being incorporated in national contingency plans and operational manuals used by the Kenyan government. •
Evidence informs policy and investments, tools and methods used by researchers and program implementers	<ul style="list-style-type: none"> • Series of activities – literature reviews, field visits, round-table discussions and expert interviews – led by the World Bank and other partners, including ILRI, provided assistance to the Gov't of Vietnam in assessing food safety risks and in providing policy recommendations on how to improve food safety risk management. • National Task Force on Risk Assessment, supported by A4NH was incorporated into the Hanoi University of Public Health ensuring its sustainability. • ILRI implemented pilot research studies on livestock identification and traceability systems in four countries which is being used to support the development of a framework for surveillance and control of transboundary animal diseases by AU-IBAR and IGAD. • Findings from A4NH research incorporated in the UN High Level Panel of Experts report on <i>Sustainable agricultural development for food security and nutrition: what roles for livestock?</i> •

****Note:** Progress was slower than expected due to significant cuts to W1/W2 funding. A large bilateral project was approved in early 2016 that will provide the rigorous evidence on impacts of the dairy training and certification scheme as requested by the external evaluation panel. We intend to link A4NH food safety (and nutrition) results into livestock and fish value chains in Phase II. However, this may be delayed since the value chain work in these CRPs was approved without CGIAR funding. Likewise, there will be early challenges for nutrition and food safety of pulses since there is currently (at time of writing) no approved CRP for pulse research. Thus, it will be challenging in 2017 to link A4NH nutrition and food safety contributions to the value chain work in the proposed, but not approved, CRP. Hopefully, this will be clearer after decisions about how pulse value chains will be included in the CGIAR portfolio.

Flagship 4: Integrated Programs and Policies

Contributes to the IDOs on improved diet quality, better cross-sector programs, policies, and investments, and empowerment of women and poor communities	
<p>Evidence generated on impact, design, delivery and cost- effectiveness of nutrition-sensitive agricultural programs and used to:</p> <p>(1) strengthen program design and operations; (2) achieve greater impacts and cost-effectiveness; and (3) stimulate investments in replicating, adapting and scaling-up agriculture-nutrition programs</p>	<ul style="list-style-type: none"> • POSHAN funded for second four-year phase. Team invited to engage in strategic policy and programming discussions in India, including providing inputs into the Odisha Multisectoral Nutrition Action Plan, a strategy for women's nutrition, and Bihar's state nutrition strategy. POSHAN's costing study that attempted to estimate the cost of scaling up two packages of nutrition-specific interventions to fully cover target populations in the 35 states and union territories of India was featured in a special issue of Budget Track, a publication by the Centre for Budget and Governance Accountability and UNICEF India. • The CHANGE project concluded in 2016. This partnership with HKI assessed the additional impacts on child nutrition of adding a behavior change intervention to improve water, sanitation and hygiene practices and distributing a small-quantity lipid based micronutrient supplements (to an already successful gender- and nutrition-sensitive homestead food production program. The exciting preliminary findings have been shared in country (Burkina Faso and Tanzania) and internationally and are currently being reviewed by the BMGF to guide future investments in nutrition-sensitive programming in the region. • Recognizing IFPRI's critical role in rigorously evaluating and documenting the impact of a variety of nutrition-sensitive agricultural interventions on nutrition outcomes, the editors of the <i>Food Security Journal</i> approached IFPRI staff to request a review of new evidence on the impacts of nutrition-sensitive agriculture on maternal and child nutrition outcomes.
<p>Capacity strengthened among partners in designing gender-sensitive and nutrition sensitive programs and using impact pathway analysis methods for program strengthening and decisionmaking</p>	<ul style="list-style-type: none"> • WFP requested IFPRI to provide advice on how to make their programs more nutrition-sensitive. This advising work led to the development of a report that is serving as the basis for internal guidance that WFP is developing on how to make their programs more nutrition-sensitive. • IFPRI established stronger engagement with the African Nutrition Leadership Programme for building capacity. Strategic partnership will be a key part of fulfilling Phase II outcomes.
<p>AU-NEPAD CAADP policy processes become more nutrition-sensitive through improved capacity to use evidence and information, and apply tools, methods and approaches to strengthen policy</p>	<ul style="list-style-type: none"> • A4NH researchers contribute to the Annual Trends and Outlooks Report of the AU on the theme "Achieving a nutrition revolution for Africa: the road to healthier diets and optimal nutrition." Report has been used as a textbook for training of experts who will be engaged in appraising national Agricultural Investments Plans on nutrition as part of the CAADP process. A guide on possible biofortification indicators has also been prepared for inclusion in the tool package that has been shared with countries for the appraisal process. • The Commission of the AU, Monitoring and Evaluation Unit at the Department of Rural Economy and Agriculture asked A4NH for technical assistance with the finalization of the CAADP Results Framework nutrition component and preparation of technical guidelines for the CAADP biennial review being conducted at country level.

C3. PROGRESS TOWARDS IMPACT

Biofortification is the A4NH flagship most involved in reaching households, as producers and consumers, for nutrition, health and income benefits. In 2016, HarvestPlus achieved a global reach of 14.5 million people in 2.9 million households. Major crop and country reach included:

- Vitamin A cassava in Nigeria – 4 million people
- Vitamin A cassava in Democratic Republic of Congo – 1.4 million people
- High zinc rice in Bangladesh – 2.5 million people
- High iron beans in Rwanda – 2.5 million people
- Vitamin A maize in Zambia – 0.9 million people
- High-zinc wheat in India – 0.6 million people
- Orange-sweet potato in Uganda – 0.6 million people

Much of the initial reach has been in vegetatively-propagated cassava and orange sweet potatoes through government and other public providers. However, the greatest reach with time will be in high-micronutrient cereals delivered through private sector actors (maize in Africa and rice and wheat in South Asia). Reach is increasing. Given the increasing experience of delivery at scale, more monitoring and impact assessments of delivery are beginning. The first of these was published in 2016. More impact assessments and population efficacy studies on health impacts are planned in coming years to rigorously assess the assumptions along the impact pathways to accelerate delivery as well as to estimate cost-effectiveness and health impacts in target populations.

The other major research result moving systematically to impact at scale is aflatoxin control with Aflasafe. In 2016, the Ag-Results program, in which IITA is a critical partner, the number of farmers using Aflasafe and selling certified aflatoxin safe maize in Nigeria more than doubled from 2015 to 13,241 farmers in 24 farmer-producer organizations. The maize fields covered (19,726 ha) and safe maize produced (35,186 tons) more than trebled. Ag-Results incentivizes value chain actors through cash payments for reaching targets. In 2016 the relative share of incentive payments for profits decreased significantly from 2015 levels (36% to 31%). In Kenya, the government supported a large-scale aflatoxin proof of concept study, purchasing AflasafeKE01™ to treat over 3,000 ha of maize being produced by the National Irrigation Board in the Galana Irrigation Scheme. Ninety-nine per cent of the maize produced had less than 4 ppb of aflatoxin, in a region of Kenya, where more than 50% of the maize exceeds safe levels (>20 ppb). As noted above, the Kenya Government through KALRO is investing in scaling-up Aflasafe KE01™ production and distribution.

D. GENDER RESEARCH ACHIEVEMENTS

Developing nutrition-sensitive empowerment measures. In 2016, work was launched on the second phase of Gender, Agriculture, and Assets Project (GAAP2) which aims to develop a “Project-level WEAI” (pro-WEAI), a tested suite of indicators and tools for project implementers to accurately measure women’s empowerment. Pro-WEAI will be based on the WEAI, but, will be less data-intensive and will include component indicators that are relevant for specific types of projects and sensitive to change during a typical project time frame. This will be used by agricultural development projects to diagnose key areas of women’s (and men’s) disempowerment, design appropriate evidence-based strategies to address deficiencies, and monitor project outcomes related to women’s empowerment. The [inception meeting](#) in January 2016 identified new domains for pro-WEAI. The [GAAP2 portfolio](#) is composed of 15 agricultural development projects, which are collecting pro-WEAI baseline modules, including an enhanced livestock module and a nutrition module. GAAP2 is led by IFPRI, but the portfolio of projects includes several A4NH-affiliated grants from other CGIAR centers and partners.

Gender publications and resources. Some of the gender-oriented results from A4NH researchers published in 2016 included contributions to the [report](#) on the role of livestock for nutrition prepared by the High-Level Panel of Experts on Food Security and Nutrition for the Committee on World Food Security (gender was a major consideration in the report and one of the recommendations centered on gender); results from studies on socio-cultural health and nutrition risk factors along vegetable value chains in Benin and Cameroon, [pig farmers in Lao](#),

[livestock keepers in Nairobi](#), and [pastoral communities in northeastern Kenya](#) were published. One article in the special issue of *AJFAND* on aflatoxins included a [gendered analysis](#) on farmers' knowledge and perceptions of risks within the Kenya dairy value chain; results suggested that women were key decisionmakers in regards to the disposal of contaminated foods and dairy cow diets.

Launch of new projects. Several new grants were awarded in 2016 with a separate gender and equity objective or sub-objective that will add to our understanding of gender considerations in agriculture, nutrition, and health over the course of Phase II. Most officially began work in late 2016 or will begin in 2017. SELEVER is a new five-year BMGF-funded project led by IFPRI and ASI designed to evaluate the impact of an integrated agriculture-nutrition package of interventions, including poultry value chain development, women's empowerment activities, and a behavior change communications strategy to promote improved diets and feeding, care, and hygiene practices. MoreMilk is funded by BMGF and led by ILRI; IFPRI is a partner. MoreMilk will evaluate the potential of milk markets and milk development interventions to contribute to health and nutrition outcomes by assessing the nutrition and health benefits of an informal dairy sector intervention in Nairobi through an RCT, among other activities.

Update on CGIAR gender postdoctoral fellowships.

In 2016, A4NH continued to support two postdoctoral fellows who were recruited under the Consortium Office's Gender Research Action Plan. A4NH and PIM are jointly supporting Greg Seymour to work on quantitative measures of women's empowerment, using both existing nationally-representative datasets and survey data collected as part of nutrition-sensitive agricultural interventions. Greg is contributing to the validation work for pro-WEAI under GAAP2, and is conducting research on autonomy and decisionmaking indicators, innovative approaches to the collection of time use data, and household and child nutrition outcomes among the time and income poor in rural Bangladesh. A4NH, L&F and GL are jointly supporting Giordano Palloni to work on integrating gender in assessing the impacts of value chain interventions on nutrition and other key outcomes. Giordano is working on two impact evaluations: the Targeting and Realizing Agriculture for Improved Nutrition (TRAIN) project, a five year impact evaluation study comparing different modalities to integrate nutrition with agricultural programs with and without nutrition sensitive agricultural extension and male sensitization in Bangladesh; and the MoreMilk project, which will evaluate the potential of a market-based intervention in the informal dairy sector to generate sustainable and scalable nutrition and health benefits for children. Both TRAIN and MoreMilk are also part of the GAAP2 portfolio.

Gender in the workplace. Personnel involvement at different levels of A4NH continues to be fairly gender balanced. The data in Table 2 come from participating Center reports to A4NH on personnel that report spending at least 10% of their time on A4NH activities, funded by all sources.

Table 2. Gender composition among categories of A4NH personnel

	Female	Male	Total	F/M Ratio
Director/Team Leader	9	18	27	1:2
Principal or Senior Scientist/Senior Research Fellow	9	14	23	9:14
Scientist/Research Fellow	22	32	54	11:16
Post-doc/Associate Research Fellow	11	8	19	11:8
Other scientific and support staff	56	44	100	14:11
TOTAL for A4NH	107	116	223	107:116

E. PARTNERSHIP BUILDING ACHIEVEMENTS

Researchers. In preparation for Phase II, several new research partners were formally established in 2016. Two academic institutions, WUR and LSHTM, will lead and co-lead two A4NH flagships, Flagship 1 and Flagship 5, respectively. In addition, the Institute of Development Studies (IDS) and the Evident Network were engaged to help deliver upon the planned program of work in new Flagship 4. The first [Agriculture, Nutrition and Health Academy Week](#) conference was held in June 2016 in Addis Ababa, with more than 300 participants –

researchers, policy makers, practitioners, and funders – joining throughout the week. The [Agriculture, Nutrition, and Health \(ANH\) Academy](#) and the conference are a partnership between A4NH, the Leverhulme Centre for Integrated Research on Agriculture and Health (LCIRAH), and the LCIRAH-led Innovative Methods and Metrics for Nutrition Actions project.

CRPs and CGIAR Centers. New work began with ILRI and IFPRI on a dairy value chain project to evaluate the health and nutrition benefits of professionalizing the informal dairy sector in Nairobi. We developed closer links with the Phase II CRP LIVESTOCK flagship on Livestock Health, led by the Swedish University of Agricultural Sciences. This year more cross-Center proposals were developed and submitted. For example, a joint proposal with IITA, IFPRI, and WUR on market mechanisms to scale-up Aflasafe was funded in 2016; the pilot study is ongoing and additional funding proposals for larger studies have been submitted. Through Bioversity, A4NH developed strong thematic alignment around systems thinking with the CRPs on HumidTropics and AAS and produced several products and tools in 2016 mentioned elsewhere in this report. Although these CRPs will not continue in Phase II, some of the nutrition work related to agrobiodiversity in food systems will continue through engagement with the CRP on RTB.

Actors in Value Chains and Development Program Implementers. As part of renewed intentions to engage the private sector, GAIN/AIM was engaged as a strategic partner in the planned program of work in new Flagship 1 on food systems. CIAT established a new partnership with a small and medium enterprise, Azuri Health Foods Ltd., as part of their ongoing work in Kenya and Uganda, and signed a collaboration framework agreement with Action Contre la Faim (ACF). Bioversity established new partnerships to work on its Drivers of Food Choice project with Trócaire, a non-governmental organization (NGO) in Uganda, and Fresh Studios, a private sector agro-food research and consulting firm in Vietnam. During the second half of 2016, IFPRI entered a strategic partnership with the World Food Program (WFP) and was requested to provide advice on how to make their programs more nutrition-sensitive. This advising work led to the development of a report that is serving as the basis for internal guidance that WFP is developing on how to make their programs more nutrition-sensitive. HarvestPlus signed agreements with Mercy Corps to lead delivery of HIB in new areas of South Kivu, DRC; with KALRO, Ministry of Agriculture, County Government of Elgeyo Marakwet, and World Vision to lead seed production, delivery, and training; and with Prime SeedCo Zimbabwe and Zimbabwe Super Seeds to lead seed production in Zimbabwe.

Enablers (like policy and decisionmakers as well as investors who are all involved in the creation of enabling environments at different national, regional, and international levels).

A4NH's initiative on partnering with the AU on linking nutrition into the CAADP second 10-year phase gained considerable momentum in 2016. Activities included a policy roundtable with AU and national policymakers at the ANH Academy Week in Addis, plus support to ReSAKSS in the form of expert advice on the nutrition indicators in the new CAADP results framework and inputs in the ReSAKSS report mentioned elsewhere in this report. The other major partnership initiative was around food safety, which is becoming a much higher priority for donors and governments. A4NH researchers began a partnership with the U.S. government (USAID and USDA) on food safety and the World Bank's Global Food Safety Partnership.

F. CAPACITY BUILDING

Capacity building in A4NH takes two tracks – one focuses on the capacity to undertake research and the other on the capacity to use and apply research outputs in decisionmaking. Training provided by A4NH and partners built capacity among more than 66,078 farmers, technicians, community resource persons, retailers and marketing representatives, caregivers, and policymakers, of whom 72% were female. 173 master's and PhD-level students – of whom 58% were female – received long-term mentoring and support from A4NH researchers to conduct agriculture, nutrition, and health research.

Building research capacity. Building research capacity involves training, ongoing support or mentoring, and mutual learning and networking. The A4NH gender team provided training on [WEAI and Pro-WEAI for nutrition](#)

[projects](#) at the ANH Academy Week Conference in Ethiopia and for GREAT's [Gender-Responsive Root, Tuber, and Banana Breeding Course](#) in Uganda. In November 2016, POSHAN co-organized the first-ever [nutrition implementation research conference](#) in India. ILRI published a series of papers and learning tools targeted at agriculture and health researchers working in developing countries to build capacity on how to conduct systematic literature reviews.

Building capacity of users of research. Besides researchers, there are three other groups of users of A4NH research: development program implementers, actors in value chains, and enablers (policymakers and investors). A4NH builds capacity of these groups through things like short-term training courses, field demonstrations, and policy learning platforms. Some 2016 highlights:

- *Development implementers.* POSHAN's held a nutrition data workshop for district nutrition specialists in Uttar Pradesh and for district officers of nutrition in Bihar and CIAT coordinated a workshop on LINK methodology and the value chain for nutrition approach for 40 technical staff from ACF working in 22 countries in Africa and Asia and at headquarters.
- *Actors in value chains.* HarvestPlus' trained new and current seed multipliers in seed production techniques; extension officers (sector agronomists) on agronomic best practices, pest and disease management, general hygiene in the field, nutrition, and marketing; and engaged implementing partners to multiply and disseminate HIB seed. To complement nutrition-sensitive agriculture interventions with orange flesh sweet potato, CIP trained young women as Community Nutrition Scholars to prepare them to conduct nutrition awareness sessions with women and men in the target communities. Bioversity, with partners, delivered nutrition education training to several thousands of consumers and other value chain actors, the majority of whom were women, on improved complementary feeding with local foods, dietary diversification, and use of neglected and underutilized species for value added product development.
- *Enablers.* In mid-2016, ILRI launched work with the Voices for Change project, which aims to build the capacity of civil society organizations in several countries to engage in evidence-based advocacy. In both Kenya and Ghana, food safety is a major area of focus of this project. As mentioned earlier, ILRI provided support to the National Task Force of Risk Assessment in Vietnam, building capacity among members of government around applying risk assessment to food safety. Ten Nutrition Champions were selected by the *Transform Nutrition* consortium and celebrated for their work in moving forward nutrition policy, debate and status in their countries or localities. Five champions attended media and advocacy training provided by partnering INGO, Save the Children. The Scaling up Nutrition (SUN) Movement, recognizing the value of acknowledging and raising the profile of leaders in complex policy contexts, continues to work with *Transform Nutrition* to prepare guidance on identifying, engaging and sustaining champions that will be made available to SUN country focal points.² Lastly, for the first time, members of A4NH co-facilitated an African Nutrition Leadership Programme course and incorporated an aspect on the African Union policy environment as a leverage point for nutrition leadership in Africa.

G. RISK MANAGEMENT

Since the inception of A4NH, the top three risks that A4NH management has been working to mitigate relate to: (1) partnerships, (2) clarifying expectations and demonstrating progress in achieving outcomes and impacts, and (3) improving performance management systems. We described our approaches to managing these longer-term risks in the next section on lessons learned. However, even greater than in 2015, funding was the most urgent risk to manage. The decrease in CGIAR funds to A4NH in the 2016 Financing Plan (<50% of 2015 funding) slowed performance. Performance in Flagships 1 and 3 was particularly affected; these flagships are newer and more

² The [SUN Movement](#) is a global movement led by currently 59 countries who are working to deliver progress and action to scale up nutrition in their countries. Another part of SUN is its networks – the SUN Civil Society Network, the SUN Business Network, the UN Network for SUN, and the SUN Donor Network. SUN helps countries, business, and civil society with implementation. The role of A4NH is to share and translate evidence on what interventions are working and how and provide analysis of policy and enabling processes so SUN can better assess its own strategies and plans.

reliant on CGIAR funding and were the flagships identified for greater funding cuts in the 2017 Financing Plan. For both, we were able to slightly increase funding during the year and have taken medium-term measures, beginning in 2016 and to continue in 2017.

For Flagship 1, we initiated the transition from a value chain to food system approach, engaged a new managing partner, WUR, and began a national food system research agenda using Ethiopia as the first proof of concept country. The WUR partnership increased the capacity and comparative advantage of the new Flagship 1 research team and the initial experiences in defining a research agenda in Ethiopia helped inform a successful Flagship 1 proposal for Phase II. In 2017, we will consolidate the WUR leadership of Flagship 1, expand gradually to three other focus countries (faster in Vietnam and with initial diagnostic work in Bangladesh and Nigeria) and a more aggressive outreach to partners and donors. We expect the grant portfolio to expand and thus Flagship 1 will have greater resilience to fluctuations in CGIAR Funds.

For Flagship 3, we took lessons from the 2015 [CRP-Commissioned External Review of food safety](#) to strengthen the theory of change and impact pathways, which was incorporated into the Flagship 3 part of the Phase II proposal and very positive reviewed by the ISPC. We worked closely with partners and donors in co-developing food safety strategies and plans based on evidence reviews and stakeholder assessments. We feel that the role and comparative advantage of A4NH in food safety in informal and formalizing markets has improved and clarified and that this will attract increased funding and more effective partnerships in Phase II.

While funding and partnerships remain strong in Flagship 2 and Flagship 4, we anticipate future risks for both. As HarvestPlus moves to an aggressive delivery scale-out, its business model and operational planning will need to change. Considerable restructuring to manage new delivery demands while maintaining its strong research efforts to support delivery will begin in 2017. Likewise, but less drastically, Flagship 4 will reshape its focus to research with new implementing partners and alignment with global processes to support country capacity and performance for nutrition-sensitive development.

H. LESSONS LEARNED

Based on experiences during Phase I, we introduced three important changes to A4NH management in 2016 to prepare us for Phase II. The first related to strengthening the management partnership between A4NH and its participating Centers. We chose a sub-set of participating Centers in Phase I who were most committed to aligning their management to building and co-managing A4NH. Four Centers were included - Bioversity, CIAT, IITA, and ILRI – plus IFPRI as the Lead Center. These five Centers will have senior representation (Deputy Director General level or equivalent) on the A4NH Planning and Management Committee (PMC) and have specific roles including flagship or cluster of activity leadership and country or international institutional partnership leadership. In 2016, the PMU conducted a compliance review of the key research management and quality policies and practices in our participating Centers. In 2017, we will expand this compliance review to include all Phase II Managing Partners.

The second change related to improving the support to country ownership and leadership for outcomes and impacts in line with international and national efforts for the sustainable development goals. In Phase I, we under-estimated the resources, especially human resources, required for meaningful country engagement. In Phase II, we will focus country engagement efforts in five focus countries: Bangladesh, Ethiopia, India, Nigeria, and Vietnam. In 2016, we began assembling an in-country team of 4-6 researchers working across flagships, with a coordinator and research analyst actively supported by an A4NH Managing Partner. These teams will make up the new Country Coordination and Engagement unit within the PMU in Phase II.

The third change came from our intention for A4NH to play a more integrative role for nutrition and health outcomes across CGIAR. This reflects advice from the external evaluation, greater emphasis on nutrition and health under the new CGIAR SRF, and changes in the CGIAR research portfolio for Phase II. Beyond our core research, which is largely jointly conducted with other CRPs and external partners, the Phase II proposal

describes what else A4NH can provide the CGIAR System: networking and mutual learning for agriculture-nutrition-health research and bridging the space between agriculture and the nutrition and health research and development communities. Our experience is that A4NH can play a useful integrating role for framing issues (e.g., the nutrition-sensitive value chain framework), providing tools and approaches (e.g., gender-nutrition capacity development and GNIE blog), and in convening agriculture with key nutrition and health partners. There has been interest expressed by other CRPs to strengthen links with the international and national nutrition communities convened by IFPRI and with the international and national public health communities convened by LSHTM. Other integrative research with other Centers/CRPs has been slower to develop. Most cross-CRP joint research to date has been in cross-CRP research in food safety, in which one or two Centers provide the research coordination (for example ILRI for food safety research with the Phase I Livestock and Fish CRP and IITA for food safety research in maize value chains coordinated by IITA). Beyond the cross-Centre partnership in biofortification through HarvestPlus, cross-Centre proposals and projects have been harder to promote than was anticipated, particularly in research on nutrition-sensitive value chains. In phase 1, most other CRPs that worked on commodity value chains did not wish to partner in A4NH, despite persisting weaknesses (as evidenced by the weaknesses of nutrition-sensitive value chain elements in many Phase II proposals). However, there has been some recent success in 2016, when donors have encouraged the cross-Center collaboration. Given the different comparative advantages of CGIAR Centers and some key partners, we anticipate more opportunities in future, particularly for food systems / value chain research in selected CGIAR ++ integration countries (Nigeria, Ethiopia, Bangladesh and Vietnam) that A4NH is most active in. This will be an area of active attention in Phase II.

L-SERIES FINANCIAL REPORTS

CRP No. 4 – CGIAR Research Program on Agriculture for
 Period: 01/01/2016 – 12/31/2016
 Amounts in USD (000's)

Cumulative Financial Summary



Report Description

Name of Report: Cumulative Financial Summary

Frequency/Period: Annual

Deadline: Every April 15th

Summary Report by CG Partners	(a) Total PDWB budget since inception					(b) Actual cumulative Expenses					(c) Variance / Balance				
	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding
1. AFRICA RICE					-					-					-
2. BIOVERSITY	7,080	1,048	10,852	164	19,144	7,080	652	6,536	426	14,694	0	396	4,316	(262)	4,450
3. CIAT	19,344	26,486	53,216	-	99,046	19,347	19,144	52,204		90,695	(3)	7,342	1,012	-	8,351
4. CIFOR					-					-					-
5. CIMMYT	7,144	2,325	3,041		12,510	7,141	2,325	3,041		12,507	3	-	-	-	3
6. CIP	1,862	4,473			6,335	1,862	4,464			6,326	-	9	-	-	9
7. ICARDA			208		208			208		208	-	-	-	-	-
8. ICRRAF	1,357	733	2,131		4,281	1,357	616	607		2,580	0	117	1,584	-	1,701
9. ICRISAT	6,543	4,585	314	1	11,443	6,409	2,844	176	1	9,431	140	1,741	137	-	2,018
10. IFPRI	30,370	58,884	122,671	1,049	213,574	23,037	58,884	122,672	739	205,332	7,333	-	(1)	310	8,242
11. IITA	8,822	7,895	32,133		48,850	8,822	7,433	21,349		37,604	-	462	10,784	-	11,246
12. ILRI	13,776	2,106	11,558		27,441	13,776	1,632	3,933	121	25,522	-	415	1,625	(121)	1,919
13. IRRI	-	-	1,670	-	1,670	-	-	1,715		1,715	-	-	(45)	-	(45)
14. IWMI					-					-	-	-	-	-	-
15. WORLD FISH	451		712		1,163	451		701		1,152	0	-	11	-	11
Total for CRP	97,357	108,535	238,566	1,214	445,672	89,283	98,054	219,143	1,287	407,767	8,073	10,481	19,423	(73)	37,905
	22%	24%	54%	0%	100%	22%	24%	54%	0%	100%	21%	28%	51%	0%	100%

CRP : A4NH
 Period: 31-Dec-16
 Amounts in USD (000's)

Annual Funding



Report Description

Name of Report: Annual Funding Summary
 Frequency/Period: Annual
 Deadline: Every April 15th

PART 1 - Annual FINANCE PLAN (Totals for Windows 1 and 2 combined)

Approved Level for Year - Initial Approval (as per PIA)
 Approved Level for Year - Final Amount

PART 2 - Funding Summary for Year

		2016 Actual Funding (in USD Millions)				
		Windows 1&2	Window 3	Bilateral Funding	Center Funds	Total Funding
1	1CGIAR Fund	10,158				10,158
2	Australian Center for International Agricultural Research (ACIAR)		7			7
3	AIMDP			10		10
4	Australia		-	83	-	83
5	Austria		87	0	-	87
6	Biotechnology and Biological Sciences Research Council (BBSRC)			267		267
7	Bioversity Italy		-	-	134	134
8	Bill & Melinda Gates Foundation (BMGF)		3,363	381		3,744
9	CAB International			512		512
10	CARE-ZAMBIA			92		92
11	Catholic Relief Services (CRS) - Malawi			67	1	68
12	International Livestock Research Institute -Center Fund				120	120
13	International Center for Tropical Agriculture (CIAT)			868		868
14	Children's Investment Fund Foundation (CIFF)		-	235		235
15	Center For International Policy (CIP)			176		176
16	Concern Worldwide		-	20		20
17	Cornell University		-	358		358
18	DELOITTE			1,082		1,082
19	Global Affairs Canada (DFATD)		-	4,544		4,544
20	U.K. Department for International Development		551	3,334		3,885
21	European Commission (EC)			94		94
22	Emory University			18		18
23	ENSCADP			3		3
24	Food and Agriculture Organization of the United Nations (FAO)		-	587	-	587
25	FHI 360		-	1,753		1,753
26	FIND			98		98
27	Finland		-	134	-	134
28	Finance Minister's Orders (FMOS)			113		113
29	FORD Foundation		-	131		131
30	Global Alliance for Improved Nutrition		-	114		114
31	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH			1,075	-	1,075
32	HarvestPlus (DFID, Syngenta Foundation, USAID,		18,478	3,557	-	22,035
33	Helen Keller International (HKI)		-	509		509
34	Institute of Development Studies		-	85		85
35	International Fund for Agricultural Development (IFAD)		1,211	-	-	1,211
36	Instituto de Investigación Nutricional (IIN)		-	3		3
37	London School of Economics (LSE)		-	192		192
38	London School of Hygiene and Tropical Medicine		-			
39	Luonnonvarakeskus (Finland)		-	22		22
40	McGill University		-	61	-	61
41	M.S. Swaminathan Research Foundation		-	333		333
42	NESTEC LTD			27		27
43	Netherlands			2		2
44	Natural Resources Institute (NRI)			2		2
45	Netherlands Organisation for Scientific Research		-	6		6
46	Public Health Foundation of India (PHFI)			33		33
47	Save the Children		-	5		5
48	Swedish International Development Agency (SIDA)			1		1
49	Swedish University of Agricultural Sciences (SLU)			6		6
50	Spencer Foundation		-	49		49
51	Global Health Council (TFGH)			60		60
52	The Royal Institute of International Affairs (RIIA)			13		13
53	TUFTS University		-	268		268
54	United Nations Environment Programme (UNEP)		-	555	-	555
55	University of Edinburgh			92		92
56	United States Agency for International Development		5,185	1,199		6,384
58	United States Department of Agriculture (USDA)			706		706
59	Various		13,813	833		14,646
60	World Bank Group		-	345		345
61	World Food Programme		-	81		81
62	World Vision - Canada		-	27		27
Total for CRP "4.0"		10,158	42,695	25,490	255	78,597



CRP : A4NH
 Period: 31-Dec-16
 Amounts in USD (000's)

Annual Financial Summary by Centers

Report Description

Name of Report: Annual Financial Summary by Centers & Other Participants
 Frequency/Period: Annual
 Deadline: Every April 15th

Summary Report - by CG Partners

	(a) CRP 2016 POWB approved budget					(b) CRP 2016 Expenditure					(c) Variance this Year				
	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding	Windows 1 & 2	Window 3	Bilateral Funding	Center funds	Total Funding
1. AFRICARICE					-					-					-
2. BIOVERSITY	979	224	2,622	-	3,825	979	225	1,115	134	2,453	0	(1)	1,507	(134)	1,372
3. CIAT	1,336	21,167	1,859	-	24,363	1,394	14,595	872	-	16,861	(58)	6,573	987	-	7,502
4. CIFOR					-					-					-
5. CIMMYT	421	2,320			2,741	421	2,325	-		2,746	-	(5)	-	-	(5)
6. CIP	180	1,390	-	-	1,570	180	1,388	-	-	1,568	-	2	-	-	2
7. ICARDA			208		208			208		208	-	-	-	-	-
8. ICRAF	25	22	143		190	25	22	143		190	-	-	-	-	-
9. ICRISAT	771	805	189	1	1,766	693	625	68	1	1,387	78	180	121	-	379
10. IFPRI	5,603	20,275	16,305	300	42,482	4,815	20,275	16,304		41,394	788	-	1	300	1,088
11. IITA	780	4,320	6,028	-	11,128	780	3,229	3,857	-	7,866	-	1,091	2,171	-	3,262
12. ILRI	848	266	1,211	-	2,325	848	11	1,212	120	2,191	-	255	(1)	(120)	134
13. IRRI			1,670	-	1,670			1,715	-	1,715	-	-	(45)	-	(45)
14. IwMI					-					-	-	-	-	-	-
15. WORLDFISH	23	-	-	-	23	23	-	(3)	-	20	-	-	3	-	3
Total for CRP	10,966	50,790	30,235	301	92,291	10,158	42,695	25,490	255	78,598	808	8,095	4,745	46	13,693
	12%	55%	33%	0%	100%	13%	54%	32%	0%	100%	6%	59%	35%	0%	100%



CRP : A4NH
 Period: 31-Dec-16
 Amounts in USD (000's)

Annual Financial Summary by Natural Classification

Report Description

Name of Report: Financial Summary by Natural Classification lines
 Frequency/Period: Annual
 Deadline: Every April 15th

	Windows 1 & 2	Window 3	Bilateral Funding	Center Funds	Total Funding	Windows 1 & 2	Window 3	Bilateral Funding	Center Funds	Total Funding	Windows 1 & 2	Window 3	Bilateral Funding	Center Funds	Total Funding
Total CRP 4	POWB Approved Budget					Actual					Unspent/Variance				
Personnel	4,701	12,753	7,363	257	25,074	4,563	12,177	6,316	113	23,168	138	577	1,047	144	1,906
Collaborators Costs - CGIAR Centers	6,870	26,735	330	-	33,735	2,973	25,965	274	-	29,213	3,697	769	56	-	4,522
Collaborator Costs - Partners	1,148	16,932	10,988	-	29,068	924	13,731	9,665	-	24,320	224	3,200	1,323	-	4,748
Supplies and services	3,224	12,926	7,352	-	23,502	2,985	9,453	5,881	33	18,351	239	3,474	1,471	(33)	5,151
Operational Travel	493	1,163	1,262	-	2,917	363	1,753	897	1	3,015	130	(590)	365	(1)	(98)
Depreciation	44	677	120	-	840	58	512	163	4	737	(14)	164	(43)	(4)	103
Sub-total of Direct Costs	16,280	71,186	27,414	257	115,136	11,866	63,592	23,195	151	98,804	4,414	7,594	4,219	105	16,332
Indirect Costs	1,356	6,339	3,150	44	10,889	1,265	5,069	2,569	104	9,006	91	1,270	581	(60)	1,882
Total - All Costs	17,635	77,524	30,564	301	126,025	13,131	68,660	25,764	255	107,810	4,504	8,864	4,801	46	18,215
LESS Coll Costs CGIAR Centers	(6,669.9)	(26,735)	(330)	-	(33,735)	(2,973)	(25,965)	(274)	-	(29,213)	*****	(769)	(56)	-	(4,522)
Total Net Costs	10,965	50,790	30,234	301	92,290	10,158	42,695	25,490	255	78,598	808	8,095	4,745	46	13,693

Amounts for each participating center below:

AFRICA RICE	POWB Approved Budget					Actual					Unspent/Variance				
Personnel	430	-	224	-	714	460	84	310	25	879	30	(84)	(86)	(25)	(165)
Collaborators Costs - CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Collaborator Costs - Partners	22	33	1,441	-	1,496	9	88	448	-	545	13	(54)	993	-	952
Supplies and services	320	155	562	-	1,037	365	41	247	4	658	(45)	114	315	(4)	379
Operational Travel	15	12	43	-	70	13	3	39	1	55	2	10	4	(1)	15
Depreciation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total of Direct Costs	847	201	2,270	-	3,318	847	215	1,044	31	2,137	0	(14)	1,226	(31)	1,181
Indirect Costs	131	24	352	-	507	131	10	71	104	317	(0)	13	281	(104)	191
Total - All Costs	979	224	2,622	-	3,825	979	225	1,115	134	2,453	0	(1)	1,507	(134)	1,372
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	979	224	2,622	-	3,825	979	225	1,115	134	2,453	0	(1)	1,507	(134)	1,372

CIAT	POWB Approved Budget					Actual					Unspent/Variance				
Personnel	594	3,893	372	-	4,859	668	3,647	233	-	4,548	(74)	246	139	-	311
Collaborators Costs - CGIAR Centers	1,059	7,028	56	-	8,144	969	6,259	-	-	7,228	90	769	56	-	916
Collaborator Costs - Partners	17	6,661	561	-	7,238	17	3,696	346	-	4,058	(0)	2,965	215	-	3,180
Supplies and services	454	7,614	566	-	8,634	443	4,715	208	-	5,365	11	2,899	358	-	3,268
Operational Travel	101	128	163	-	391	101	837	6	-	943	0	(709)	157	-	(552)
Depreciation	(0)	319	6	-	325	-	196	-	-	196	(0)	123	6	-	129
Sub-total of Direct Costs	2,225	25,643	1,723	-	29,591	2,197	19,350	793	-	22,339	28	6,293	930	-	7,252
Indirect Costs	171	2,552	192	-	2,915	167	1,504	79	-	1,749	4	1,043	113	-	1,166
Total - All Costs	2,396	28,196	1,915	-	32,506	2,363	20,854	872	-	24,088	33	7,342	1,043	-	8,418
LESS Coll Costs CGIAR Centers	(1,059.4)	(7,028.3)	(55.9)	-	(8,144)	(969.0)	(6,259.0)	-	-	(7,228)	(90)	(769)	(56)	-	(916)
Total Net Costs	1,336	21,167	1,859	-	24,363	1,394	14,595	872	-	16,861	(58)	6,573	987	-	7,502

CIMMYT					Actual					Unspent/Variance				
Personnel	95	1,006		1,101	95	911		1,006		95	-	-	-	95
Collaborators Costs - CGIAR Centers				-				-			-	-	-	-
Collaborator Costs - Partners	-	25		25	-	25		25		-	-	-	-	-
Supplies and services	244	905		1,149	244	1,003		1,247		(98)	-	-	-	(98)
Operational Travel	21	68		89	21	69		90		(1)	-	-	-	(1)
Depreciation	5	16		21	6	16		22		(0)	-	-	-	(0)
Sub-total of Direct Costs	365	2,020	-	2,385	366	2,024	-	2,390	-	(0)	(4)	-	-	(4)
Indirect Costs	55	300		355	56	301		357		(0)	(1)	-	-	(1)
Total - All Costs	421	2,320	-	2,741	421	2,325	-	2,746	-	(0)	(5)	-	-	(5)
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	421	2,320	-	2,741	421	2,325	-	2,746	-	(0)	(5)	-	-	(5)

CIP					Actual					Unspent/Variance				
Personnel	40	283		323	35	293		328		5	(10)	-	-	(5)
Collaborators Costs - CGIAR Centers				-				-			-	-	-	-
Collaborator Costs - Partners	27	552		579	27	535		562		17	-	-	-	17
Supplies and services	84	318		402	85	342		427		(1)	(24)	-	-	(25)
Operational Travel	5	53		58	9	30		39		(4)	23	-	-	19
Depreciation		4		4		1		1			3	-	-	3
Sub-total of Direct Costs	156	1,210	-	1,366	156	1,201	-	1,357	-	9	9	-	-	9
Indirect Costs	24	180		204	24	187		211			(7)	-	-	(7)
Total - All Costs	180	1,390	-	1,570	180	1,388	-	1,568	-	2	2	-	-	2
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	180	1,390	-	1,570	180	1,388	-	1,568	-	2	2	-	-	2

ICARDA					Actual					Unspent/Variance				
Personnel		77		77		66		66			-	11	-	11
Collaborators Costs - CGIAR Centers				-				-			-	-	-	-
Collaborator Costs - Partners		79		79		79		79			-	-	-	-
Supplies and services		17		17		28		28			-	(11)	-	(11)
Operational Travel		7		7		7		7			-	-	-	-
Depreciation				-				-			-	-	-	-
Sub-total of Direct Costs	-	-	180	180	-	180	-	180	-	-	-	-	-	-
Indirect Costs			28	28		28		28			-	-	-	-
Total - All Costs	-	-	208	208	-	208	-	208	-	-	-	-	-	-
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	-	-	208	208	-	208	-	208	-	-	-	-	-	-

ICRISAT					Actual					Unspent/Variance				
Personnel	386	198		585	364	190	5	560		22	8	(5)	-	25
Collaborators Costs - CGIAR Centers				-				-			-	-	-	-
Collaborator Costs - Partners	3	172		175	3	128		131			44	-	-	44
Supplies and services	237	283	120	640	217	194	34	445		20	89	86	-	195
Operational Travel	32	37	43	112	10	27	18	54		22	10	25	-	58
Depreciation	2			2				-		2	-	-	-	2
Sub-total of Direct Costs	661	690	163	1,514	594	540	57	1,191	-	67	150	106	-	323
Indirect Costs	110	115	26	252	99	85	11	195		11	30	15	-	56
Total - All Costs	771	805	189	1,766	693	625	68	1,387	-	78	180	121	-	379
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	771	805	189	1,766	693	625	68	1,387	-	78	180	121	-	379

IFPRI	POWB Approved Budget					Actual					Unspent/Variance				
Personnel	1,073	6,279	3,456	256	11,063	1,099	6,279	3,456	-	10,834	(26)	-	(0)	256	230
Collaborators Costs - CGIAR Centers	5,611	19,706	274	-	25,591	2,004	19,706	274	-	21,985	3,606	-	-	-	3,606
Collaborator Costs - Partners	647	8,731	8,538	-	17,916	662	8,731	8,538	-	17,931	(16)	-	0	-	(15)
Supplies and services	995	1,931	2,255	-	5,182	1,019	1,931	2,255	-	5,206	(24)	-	-	-	(24)
Operational Travel	64	626	305	-	994	65	626	304.00	-	995	(2)	-	1	-	(1)
Depreciation	27	186	110	-	324	28	186	110	-	325	(1)	-	-	-	(1)
Sub-total of Direct Costs	8,416	37,459	14,939	256	61,070	4,877	37,459	14,938	-	57,275	3,539	-	1	256	3,796
Indirect Costs	364	2,522	1,640	44	4,570	373	2,522	1,640	-	4,535	(9)	-	-	44	35
Total - All Costs	8,780	39,981	16,579	300	65,640	5,250	39,981	16,578	-	61,809	3,530	-	1	300	3,831
LESS Coll Costs CGIAR Centers	(5,611)	(19,706)	(274)	-	(25,591)	(2,004)	(19,706)	(274)	-	(21,985)	*****	-	-	-	(3,606)
Total Net Costs	3,170	20,275	16,305	300	40,049	3,246	20,275	16,304	-	39,825	(76)	-	1	300	224

IITA	POWB Approved Budget					Actual					Unspent/Variance				
Personnel	235	980	1,958	3,173		462	732	1,253	-	2,447	(227)	248	705	-	726
Collaborators Costs - CGIAR Centers	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Collaborator Costs - Partners	32	758	302	1,092		-	567	193	-	760	32	191	109	-	332
Supplies and services	341	1,622	2,650	4,613		175	1,212	1,728	-	3,115	166	410	922	-	1,498
Operational Travel	67	203	600	870		53	152	384	-	589	14	51	216	-	281
Depreciation	9	151	1	161		1	113	(31)	-	83	8	38	32	-	78
Sub-total of Direct Costs	684	3,714	5,511	-	9,909	691	2,776	3,527	-	6,994	(7)	938	1,984	-	2,915
Indirect Costs	36	606	517	1,219		89	453	330	-	872	7	153	187	-	347
Total - All Costs	780	4,320	6,028	-	11,128	780	3,229	3,857	-	7,866	-	1,091	2,171	-	3,262
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	780	4,320	6,028	-	11,128	780	3,229	3,857	-	7,866	-	1,091	2,171	-	3,262

ILRI	POWB Approved Budget					Actual					Unspent/Variance				
Personnel	503	98	601	1,202		503	24	401	87	1,015	-	74	200	(87)	187
Collaborators Costs - CGIAR Centers	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Collaborator Costs - Partners	-	-	4	4		-	(38)	2	-	(36)	-	38	2	-	40
Supplies and services	203	98	413	714		203	14	546	28	792	-	84	(133)	(28)	(78)
Operational Travel	31	36	37	104		31	10	67	0	107	-	26	(29)	(0)	(3)
Depreciation	-	-	-	-		-	10	33	4	38	-	-	(33)	(4)	(38)
Sub-total of Direct Costs	737	232	1,056	-	2,025	737	10	1,049	120	1,916	-	222	7	(120)	109
Indirect Costs	111	35	155	300		111	1	163	275	275	-	33	(8)	-	25
Total - All Costs	848	266	1,211	-	2,325	848	11	1,212	120	2,191	-	255	(1)	(120)	134
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	848	266	1,211	-	2,325	848	11	1,212	120	2,191	-	255	(1)	(120)	134

IRRI	POWB Approved Budget					Actual					Unspent/Variance				
Personnel	-	-	610	610		-	-	526	-	526	-	-	84	-	84
Collaborators Costs - CGIAR Centers	-	-	-	-		-	-	-	-	-	-	-	-	-	-
Collaborator Costs - Partners	-	-	63	63		-	-	59	-	59	-	-	4	-	4
Supplies and services	-	-	743	743		-	-	812	-	812	-	-	(69)	-	(69)
Operational Travel	-	-	64	64		-	-	74	-	74	-	-	(10)	-	(10)
Depreciation	-	-	3	3		-	-	50	-	50	-	-	(47)	-	(47)
Sub-total of Direct Costs	-	-	1,483	-	1,483	-	-	1,521	-	1,521	-	-	(39)	-	(39)
Indirect Costs	-	-	187	187		-	-	194	-	194	-	-	(7)	-	(7)
Total - All Costs	-	-	1,670	-	1,670	-	-	1,715	-	1,715	-	-	(45)	-	(45)
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	-	-	1,670	-	1,670	-	-	1,715	-	1,715	-	-	(45)	-	(45)

IWMI	POWB Approved Budget					Actual					Unspent/Variance				
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WORLD AGROFORESTRY					POWB Approved Budget					Actual					Unspent/Variance				
Personnel	18	17	65	100		18	17	65	100		18	17	65	100		-	-	-	-
Collaborators Costs - CGIAR Centers				-					-					-		-	-	-	-
Collaborator Costs - Partners				-					-					-		-	-	-	-
Supplies and services			25	25				25	25				25	25		-	-	-	-
Operational Travel				-					-					-		-	-	-	-
Depreciation				-					-					-		-	-	-	-
Sub-total of Direct Costs	18	17	90	-	125	18	17	90	-	125	18	17	90	-	125	-	-	-	-
Indirect Costs	7	5	53	65		7	5	53	65		7	5	53	65		-	-	-	-
Total - All Costs	25	22	143	-	190	25	22	143	-	190	25	22	143	-	190	-	-	-	-
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	25	22	143	-	190	25	22	143	-	190	25	22	143	-	190	-	-	-	-

WORLD FISH					POWB Approved Budget					Actual					Unspent/Variance				
Personnel	-	-	-	-		-	-	-	-		4	-	-	-		(4)	-	-	(4)
Collaborators Costs - CGIAR Centers	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-
Collaborator Costs - Partners	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-
Supplies and services	14	-	-	14		15	-	(3)	12		15	-	(3)	12		(1)	-	3	2
Operational Travel	7	-	-	7		1	-	-	1		1	-	-	1		6	-	-	6
Depreciation	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-
Sub-total of Direct Costs	21	-	-	21		20	-	(3)	17		20	-	(3)	17		1	-	3	4
Indirect Costs	2	-	-	2		3	-	-	3		3	-	-	3		(1)	-	-	(1)
Total - All Costs	23	-	-	23		23	-	(3)	20		23	-	(3)	20		-	-	3	3
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	23	-	-	23		23	-	(3)	20		23	-	(3)	20		-	-	3	3

PMU					POWB Approved Budget					Actual					Unspent/Variance				
Personnel	1,267	-	-	1,267		856	-	-	856		412	-	-	412		-	-	-	-
Collaborators Costs - CGIAR Centers	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-
Collaborator Costs - Partners	400	-	-	400		206	-	-	206		194	-	-	194		-	-	-	-
Supplies and services	332	-	-	332		219	-	-	219		113	-	-	113		-	-	-	-
Operational Travel	150	-	-	150		60	-	-	60		91	-	-	91		-	-	-	-
Depreciation	-	-	-	-		23	-	-	23		(23)	-	-	(23)		-	-	-	-
Sub-total of Direct Costs	2,149	-	-	2,149		1,363	-	-	1,364		786	-	-	786		-	-	-	-
Indirect Costs	284	-	-	284		206	-	-	206		78	-	-	78		-	-	-	-
Total - All Costs	2,433	-	-	2,433		1,569	-	-	1,570		864	-	-	864		-	-	-	-
LESS Coll Costs CGIAR Centers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Net Costs	2,433	-	-	2,433		1,569	-	-	1,570		864	-	-	864		-	-	-	-

CRP No.4: A4NH
 Period: 12/31/2016
 Amounts in USD 000's

Summary by Flagship Project



Report Description

Name of Report: Financial Summary by Flagship Project
Frequency/Period: Annual
Deadline: Every April 15th

	POWB Approved	Current Year Actual Expenditures	Unspent Budget
Summary Report - by Flagship Project			
Flagship Project 1	3,960	3,739	221
Flagship Project 2	50,993	44,408	6,585
Flagship Project 3	8,262	6,387	1,875
Flagship Project 4	26,190	22,478	3,712
Flagship Project 5	-	-	-
CRP Management/Coordination	2,885	1,588	1,297
Total - All Costs	92,290	78,600	13,690

AFRICA RICE			
Total - All Costs	-	-	-

BIOVERSITY			
Flagship Project 1	1,422	1,384	38
Flagship Project 2	-	-	-
Flagship Project 3	-	-	-
Flagship Project 4	2,403	1,069	1,334
Flagship Project 5	-	-	-
CRP Management/Coordination	-	-	-
Total - All Costs	3,825	2,453	1,372

CIAT			
Flagship Project 1	1,059	900	159
Flagship Project 2	23,304	15,961	7,343
Flagship Project 3	-	-	-
Flagship Project 4	-	-	-
Flagship Project 5	-	-	-
CRP Management/Coordination	-	-	-
Total - All Costs	24,363	16,861	7,502

CIFOR			
Total - All Costs	-	-	-

CIMMYT			
Flagship Project 1	-	-	-
Flagship Project 2	2,741	2,746	(5.00)
Flagship Project 3	-	-	-
Flagship Project 4	-	-	-
Flagship Project 5	-	-	-
CRP Management/Coordination	-	-	-
Total - All Costs	2,741	2,746	(5.00)

CIP			
Flagship Project 1	1,117	1,115	2
Flagship Project 2	419	413	6
Flagship Project 3			-
Flagship Project 4	34	40	(6)
Flagship Project 5			-
CRP Management/Coordination			-
Total - All Costs	1,570	1,568	2

ICARDA			
Flagship Project 1			-
Flagship Project 2	208.00	208.00	-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
CRP Management/Coordination			-
Total - All Costs	208.00	208.00	-

ICRISAT			
Flagship Project 1			-
Flagship Project 2	1,364	1,107	257
Flagship Project 3	402	280	122
Flagship Project 4			-
Flagship Project 5			-
CRP Management/Coordination			-
Total - All Costs	1,766	1,387	379

IFPRI			
Flagship Project 1	149	130	19
Flagship Project 2	15,669	18,286	(2,617)
Flagship Project 3	26	22	4
Flagship Project 4	23,753	21,369	2,384
Flagship Project 5	-	-	-
CRP Management/Coordination	2,885	1,588	1,297
Total - All Costs	42,482	41,395	1,087

IITA			
Flagship Project 1			-
Flagship Project 2	5,619	3,973	1,646
Flagship Project 3	5,509	3,894	1,615
Flagship Project 4			-
Flagship Project 5			-
CRP Management/Coordination			-
Total - All Costs	11,128	7,867	3,261

ILRI			
Flagship Project 1			-
Flagship Project 2			-
Flagship Project 3	2,325	2,191	134
Flagship Project 4			-
Flagship Project 5			-
CRP Management/Coordination			-
Total - All Costs	2,325	2,191	134

IRRI			
Flagship Project 1			-
Flagship Project 2	1,670	1,715	(45.00)
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
CRP Management/Coordination			-
Total - All Costs	1,670	1,715	(45.00)

IWMI			
Total - All Costs	-	-	-

WORLD AGROFORESTRY CENTRE (ICRAF)			
Flagship Project 1	190.00	190.00	-
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
CRP Management/Coordination			-
Total - All Costs	190.00	190.00	-

WORLD FISH			
Flagship Project 1	23	20	3
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
CRP Management/Coordination			-
Total - All Costs	23	20	3

CRP No. 4: A4NH
 Period: 12/31/2016
 Amounts in USD 000's

Annual Financial Summary of Gender by Flagship Project



Science for a food secure future

Report Description

Name of Report:	Financial Summary of Gender Expenditure by Flagship Project
Frequency/Period:	Annual
Deadline:	Every April 15th

	POWB Approved	Current Year Actual Expenditures	Unspent Budget
Summary Gender Report - by Flagship Project			
Flagship Project 1	604	574	29
Flagship Project 2	6,478	5,725	752
Flagship Project 3	718	545	174
Flagship Project 4	6,779	5,717	1,063
Flagship Project 5	-	-	-
Total - All Costs	14,579	12,561	2,018
AFRICA RICE			
Flagship Project 1			-
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs	-	-	-
BIOVERSITY			
Flagship Project 1	498	484	13
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4	841	374	467
Flagship Project 5			-
Total - All Costs	1,339	859	480
CIAT			
Flagship Project 1	106	90	16
Flagship Project 2	3,496	2,394	1,101
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs	3,602	2,484	1,117
CIFOR			
Flagship Project 1			-
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs	-	-	-

CIMMYT			
Flagship Project 1			-
Flagship Project 2	439.00	438.00	1.00
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs	439.00	438.00	1.00

CIP			
Flagship Project 1			-
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs	-	-	-

ICARDA			
Flagship Project 1			-
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs	-	-	-

ICRISAT			
Flagship Project 1			-
Flagship Project 2	136	111	26
Flagship Project 3	40	28	12
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs	177	139	38

IFPRI			
Flagship Project 1			-
Flagship Project 2	2,350	2,743	(393)
Flagship Project 3			-
Flagship Project 4	5,938	5,342	596
Flagship Project 5			-
Total - All Costs	8,289	8,085	203

IITA			
Flagship Project 1			-
Flagship Project 2	56	40	16
Flagship Project 3	551	389	162
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs	607	429	178

ILRI			
Flagship Project 1			-
Flagship Project 2			-
Flagship Project 3	127	127	0
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs	127	127	0

IWMI			
Flagship Project 1			-
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs		-	-

WORLD AGROFORESTRY CENTRE (ICRAF)			
Flagship Project 1			-
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs		-	-

WORLD FISH			
Flagship Project 1			-
Flagship Project 2			-
Flagship Project 3			-
Flagship Project 4			-
Flagship Project 5			-
Total - All Costs		-	-

CRP No. 4 - A4NH

Period: 31-Dec-16

Amounts in USD 000's

CRP Partnership Report



Science for a food secure future

Report Description

Report: CRP Partnerships Report

Frequency/Period: Annual

Deadline: Every April 15th

TOTAL FOR CRP "4.0"				Actual Expenses - This Year (in USD Millions)				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	ADEM	Agencia De Desenvolvimento Economico De Manica	Mozambique		166			166
2	AFRICA 2000	Africa 2000 Network Uganda	Uganda	-	209	-	-	209
3	AFRICSANTE	Agence De Formation, De Recherche & D'Expertise En Sante Pour L'Afrique	Burkina Faso	-	8	489	-	497
4	AJEET	Ajeet Seeds Ltd	India		2			2
5	AKADEP	Akwa Ibom Agricultural Development Programme	Nigeria	-	15	-	-	15
6	ALI SEED FARM	Ali Seed Farm	BANGLADESH	-	223	-	-	223
7	ALL OTHERS	All other partners	Various	92	2,323	1,208		3,623
8	APHRC	African Population & Health Research Ctr.	Kenya	-	0	49	-	49
9	ARI-MARUKU	Agricultural Research Institute	Tanzania	-	13	9	-	22
10	BAU	Bihar Agricultural University	India			4		4
11	BAYER	Bayer Bio Science Pvt Ltd	India		6			6
12	BHU	Banaras Hindu University	India	-	81	-	-	81
13	BIOCROPS	Biocrops Uganda Ltd	Uganda		6			6
14	BIO-SEED	Bioseed Research India Pvt Ltd	India		5			5
15	BRRI	Bangladesh Rice Research Institute	Bangladesh			6		6
16	CH & RES.	Children's Hospital & Research Center at Oakland	United States	-	-	192	-	192
17	CABE	Centre For African Bio-Entrepreneurship	Kenya	-	-	50	-	50
18	CADP Kano	Cadp Kano	Nigeria			1		1
19	CARES	Center For Agricultural Research And Ecological Studies	Vietnam	5	-	-	-	5
20	CARITAS JINJA	Caritas Jinja	Uganda	-	152	-	-	152
21	CARITAS MERU	Caritas Meru	KENYA	16	-	99	-	115
22	CBAS	College of Basic and Applied Science	Ghana			3		3
23	CCSHAU	Ccs Haryana Agricultural University	India		13			13
24	CEDO	Community Enterprises Development Organization	Uganda	-	93	-	-	93
25	CHEMONICS	Chemonics International Inc-	United States		446			446
26	CIAT	International Maize And Wheat Improvement Center	COLOMBIA	63	20	-	-	83

27	CIENSA	Centro De Investigaciones En Nutricion Y Salud	Guatemala	-	-	274	-	274
28	CIP-ICRAF-LATIN AMERICA	CIP-ICRAF-Latin America	Peru	-	-	6	-	6
29	CLAYUCA CORPORATION	Clayuca Corporation	Colombia	-	66	-	-	66
30	COMITE NATIONAL	Comite National De Lutte Antiacridienne				10		10
31	CONCERN	Concern Worldwide	Ireland		32			32
32	CORNELL UNIVERSITY	Cornell University	United States	12	134	19	-	164
33	COVOID	Community Volunteer Initiative For Development	UGANDA	-	109	-	-	109
34	DATA	Data Analysis & Tech Asst	Bangladesh	-	88	521	-	609
35	DEPT OF AGRIC EXT	Dept Of Agric Extension	BANGLADESH	-	124	-	-	124
36	DEVELOPMENT-VIS	Development-Vision	UNITED STATES	-	112	-	-	112
37	DEVGEN	Devgen	India		6			6
38	ECAP	Ecap	Nigeria	-	30	-	-	30
39	EIAR	Ethiopian Institute of Agricultural Research	Ethiopia		7			7
40	EIS03	EIS03	Senegal			2		2
41	EMBRAPA/FUNARE	Embrapa/Funarbe	Brasil	-	279	-	-	279
42	EMORY	Emory University	UNITED STATES	-	-	64	-	64
43	ETH-ZURICH	Eth-Zurich	Switzerland	-	249	-	-	249
44	FARM RADIO	Farm Radio	CANADA	-	354	-	-	354
45	FECA	FECA	Nigeria	-	23	-	-	23
46	FLINDERS UNIVER	Flinders University	Australia	-	661	-	-	661
47	FREIBURG UNIVER	Freiburg University	Germany	-	332	7	-	340
48	FTC	FTC	Malawi		4			4
49	FUNDIT	FUNDIT	Guatemala	-	-	31	-	31
50	GANGA KAVERI	Ganga Kaveri	India		7			7
51	GEORGE AUGUST U	George August Universitat Gottingen	Germany	-	-	50	-	50
52	GHS	GHS	UNITED STATES	-	189	29	-	218
53	GiB	Genotypic In Bangalore	India	3				3
54	GROUNDWORK LLC	Groundwork Group Llc	Switzerland	-	36	32	-	67
55	HAWKES & B LIMIT	Hawkes & B Limited	United Kingdom	-	43	-	-	43
56	HEALTHBRIDGE	Healthbridge	Vietnam	12	-	-	-	12
57	HITECH	Hytech Seeds Pvt Ltd	India		5			5
58	HI-YIELD	Hi-Yield Agri Seeds	India		3			3
59	HKI	Helen Keller International	United States	-	-	2,196	-	2,196
60	HOCADERO	Hoima Caritas Development Organization	Uganda	-	121	-	-	121
	HUMANITAS GLOB	Humanitas Global Development	United States	-	43	-	-	43
62	IARI	Indian Agricultural Reserch Institute	India			16		16
63	ICDDR,B	International Center For Diarrheal And Desease	BANGLADESH	-	1	337	-	337

64	IIPR	Indian Institute of Pulses Research				16		16
65	IITA-NIGERIA	International Institute Of Tropical Agriculture	NIGERIA	2	-	-	-	2
66	IMBARAGA	Imbaraga Farmers Organization	Rwanda		66			66
67	INCAP	Instituto De Nutrición De Centroamérica Y	PANAMA	-	-	207	-	207
68	INERA - CONGO	Institut National Des Etudes Et Recherches	DEMOCRATIC REPUBLIC OF TH	-	76	-	-	76
		Agronomique						
69	INERA BURKINA FASO	Institut De L'Environnement Et De Recherches	Burkina Faso			8		8
		Agricoles						
70	INLEXO	Inlexo	UNITED STATES	-	55	-	-	55
71	INRAN	Institute National De La Recherche Agronomique	Niamey		5			5
		Du Niger						
72	IOOP	Institute Of Oil And Oil Plants (Ioop), Hochi Minh	Vietnam	1				1
		City, Viet Nam						
73	IPA	Innovations For Poverty Action	United States	264	-	104	-	368
74	IRD	International Relief & Development	FRANCE	-	236	-	-	236
75	ISU	ISU	United States	-	132	-	-	132
76	JAU	Junagadh Agricultural University	India		8			8
77	JHU	Johns Hopkins University	United States	119	142	613	-	874
78	JIC	JIC	UNITED KINGDOM		160		-	160
79	JKAG	JK Agri Genetics Ltd	India		4			4
80	KALRO	Kenya Agricultural And Livestock Research	Kenya	-	-	67	-	67
		Organization						
81	KALRO	Kenya Agricultural And Livestock Research	Kenya		37			37
		Organization						
82	KAVERI	Kaveri Seeds Co. Ltd	India		5			5
83	KSSC LTD	Karnataka State Seeds Corporation	India		2			2
84	LAEC	Long An Extension Center	Vietnam			4		4
85	LIOBAT	Luxemburg Institute Of Science And Technology	Luxembourg	14				14
86	MANGALAM	Managalam Seeds	India		2			2
87	MCGILL	McGill University	Canada	14				14
88	METAHELIX	Methelix Life Sciences Pvt. Ltd.	India		4			4
89	MMDE	Ministry Of Mahaweli Development And	Sri Lanka	-	-	269	-	269
		Environment						
90	MPKV	Mpkv College Of Agriculture	India		6			6
91	MSAG INDS LTD	Mother Seed Agro Inds Ltd	BANGLADESH	-	71	-	-	71
92	MSS Ltd	Maharashtra State Seeds Corporation Ltd	India		2			2
93	MSSRF	The M. S. Swaminathan Research Foundation	India	-	16	-	-	16
94	MU	Makerere University	Uganda		4			4
95	MUST	Mbarara University Of Science & Technology	UGANDA	-	120	-	-	120
	NaCRRRI	National Crops Resources Research Institute Of	Uganda		28			28
		Naro						
96	NARC	Nepal Agricultural Research Council	Nepal			20		20

97	NARO	National Agricultural Research Organization	Uganda	-	113	14	-	126
98	NI SOL INC	Nutrition Impact Sol Inc	CANADA	-	75	-	-	75
99	NIRMAL	Nirmal Seeds	India	-	5	-	-	5
100	NOA	National Orientation Agency	Nigeria	-	16	-	-	16
101	NUGENE	Nugenes Seeds	India	-	2	-	-	2
102	NUZIVEEDU	Nuziveedu Seeds	India	-	5	-	-	5
103	OPML	Oxford Policy Management Limited	United Kingdom	-	140	187	-	327
104	OYSADEP	Oyo State Development Programme	Nigeria	-	100	-	-	100
105	PARC/NARC	Pakistan Agricultural Research Council	PAKISTAN	-	52	-	-	52
106	PATH	Program For Appropriate Technology In Health	Usa	-	55	-	-	55
107	PAU	Punjab Agricultural University	India	-	85	-	-	85
108	PDKV	Panjabrao Deshmukh Krishi Vidyapeeth	India	-	7	-	-	7
109	PHFI	Public Health Foundation	India	-	-	174	-	174
110	PHILRICE	Philippine Rice Research Institute	Philippines	-	-	39	-	39
111	PJTSAU	Prof. Jayashankar Telangana State Agricultural University	India	-	3	-	-	3
112	POINEER	Pioneer Hi Bread Pvt Ltd	India	-	5	-	-	5
113	PURDUE	Purdue University	United States	-	200	38	-	238
114	RAB	Rwanda Agriculture Board	Rwanda	-	200	-	-	200
115	RAU	Rajendra Agricultural University	India	-	-	5	-	5
116	RUC	Regents Of The University Of California	United States	159	17	61	-	237
117	SABANCI UNIVERSI	Sabanci University	Turkey	-	116	337	-	452
118	SAMARITAN'S PUR	Samaritan's Purse International	Uganda	-	130	-	-	130
119	SAVE THE CHILDRE	Save The Children	India, United Kingdom	-	-	182	-	182
120	SELF HELP AFRICA	Self Help Africa	Zambia	-	-	19	-	19
121	SFTZ	Savannas Forever Tanzania	TANZANIA	-	63	-	-	63
122	SHAKTI VARDHAK	Shakti Vardhak Hybrid Seeds Pvt Ltd	India	-	5	-	-	5
123	SKNAU	Sri Karan Narendra Agriculture University	India	-	8	-	-	8
124	SNDT WOMEN'S UI	Registrar, Sndt Women'S University	INDIA	-	-	85	-	85
125	SPRODETA	Small Producers' Development And Transporters Association	Malawi	-	-	15	-	15
126	SWISSCONTACT	Swisscontact - Fundacion Suiza De Cooperacion Para El Desarrollo Tecnico	Nicaragua	-	-	6	-	6
127	UCAM	Catholic University Of Murcia	Taiwan	-	10	-	-	10
128	UCK BUTEMBO	Université Catholique Du Graben	Congo	-	-	20	-	20
129	UGENT	University Of Ghent	Belgium	1	-	-	-	1
130	UofSC	Univ Of South Carolina	UNITED STATES	-	-	91	-	91
131	UoG	University Of Georgia	United States	17	-	56	-	73
132	UoH	University Of Hohenheim	Germany	-	-	94	-	94
133	UoM	University Of Melbourne	Australia	-	242	-	-	242
134	UoW	University Of Washington	UNITED STATES	-	-	55	-	55
135	USDA-ARS	United States Department Of Agriculture, Agricultural Research Services, Beltsville Human Nutrition Research Center	United States	-	-	54	-	54

136	VARIOUS HP	Various Harvestplus Non Cgiar Partners	Various	14	3,604	292	-	3,910
137	VEDCO	Volunteer Efforts fFor Development Concerns	Uganda		84		-	84
138	VNMKV	Vasantarao Naik Marathwada Krishi Vidyapeeth	India		4			4
139	VSF-SUISSE	Veterinaires Sans Frontieres Suisse	Switzerland	-		65	-	65
140	VTECH	Virginia Tech	United States	-	-	63	-	63
141	WADONDA CONSU	Wadonda Consult Ltd	MALAWI	20	-	55	-	75
142	WORLD VISION UC	World Vision Uganda	UGANDA	-	187	-	-	187
143	WUR	Wageningen University and Research Center	The Netherlands	100		-	-	100
144	YWCA	Young Women's Christian Association of Rwanda	Rwanda		114			114
145	ZHEJIANG UNIVER!	Zhejiang University	China	-	13		-	13
146	ZIZILE	Zizile	India		3			3
147	ZSS	Zimbabwe Super Seeds	Zimbabwe	-		223	-	223
Total for CRP				924	13,731	9,665	-	24,321

1. AFRICA RICE				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1								-
2								-
Total for CRP				-	-	-	-	-
2. BIOVERSITY				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	CU	Columbia University	United States*	(2)	-	-	-	(2)
2	N/A	Goettingen University	Germany*	(7)	-	-	-	(7)
3	UGENT	University of Ghent	Belgium	1	-	-	-	1
4	ARI-MARUKU	Agricultural Research Institute	Tanzania	-	13	9	-	22
5	NARO	National Agricultural Research Organization	Uganda	-	29	-	-	29
6	FUNBIO	Brazilian Biodiversity Fund	Brazil	-	-	-	-	-
7	KALRO	Kenya Agricultural and Livestock Research Organization	Kenya	-	-	67	-	67
8	UCK BUTEMBO	Université Catholique du Gabon	Congo	-	-	20	-	20
9	IRD	Institut de Recherche pour le Développement	France	-	-	-	-	-
10	MMDE	Ministry of Mahaweli Development and Environment	Sri Lanka	-	-	269	-	269
11	CARES	Center for Agricultural Research and Ecological Studies	Vietnam	5	-	-	-	5
12	IER	Institut d'Economie Rurale	Mali	-	30	-	-	30
13	CABE	Centre for African Bio-entrepreneurship	Kenya	-	-	50	-	50
14	MSSRF	The M. S. Swaminathan Research Foundation	India	-	16	-	-	16
15	SPRODETA	Small Producers' Development and Transporters Association	Malawi	-	-	15	-	15
16	SELF HELP AFRICA	Self Help Africa	Zambia	-	-	19	-	19
17	HEALTHBRIDGE	HealthBridge	Vietnam	12	-	-	-	12
18								-
Total for CRP				9	88	448	-	545
3. CIAT				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
	GEORGE AUGUST UNIVERSITÄT	George August Universität Göttingen, Stiftung						
1	GÖTTINGEN	Offentlichen Rechts	Germany	-	-	50	-	50
2	NARO	National Agricultural Research Organization	Uganda	-	-	14	-	14
3	SWISSCONTACT	SWISSCONTACT - Fundación Suiza de Cooperación para el Desarrollo Técnico	Nicaragua	-	-	6	-	6
4	UNIVERSITY OF HOHENHEIM	University of Hohenheim	Germany	-	-	43	-	43
5	VTECH	Virginia Tech	United States	-	-	63	-	63
6	Various	Various HarvestPlus Non CGIAR Partners	Various	17	3,696	170	-	3,883
Total for CRP				17	3,696	346	-	4,058
4. CIFOR				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1								-
Total for CRP				-	-	-	-	-
5. CIMMYT				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	AATF	The African Agricultural Technology Foundation	Africa		10			10
2	AGRA	The Alliance for a Green Revolution in Africa	Africa		15			15
3								-
4								-
5								-
6								-
7								-
8								-
9								-
10								-
11								-
12								-
13								-
14								-
15								-
16								-
Total for CRP				-	25	-	-	25

6. CIP				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	RAB	Rwanda Agriculture Board	Rwanda			39		39
2	BIOCROPS	BioCrops Uganda Ltd	Uganda			6		6
3	Makerere Univer	Makerere University	Uganda			4		4
4	NaCRRI	National Crops Resources Research Institute of Na	Uganda			28		28
5	UCAM	Catholic University of Murcia	Taiwan			10		10
6	MCGILL	McGill University	Canada	13				13
7	PATH	Program for Appropriate Technology in Health	USA			56		56
8	YWCA	Young Women's Christian Association of Rwanda	Rwanda			114		114
9	IMBARAGA	IMBARAGA Farmers Organization	Rwanda			66		66
10	LIOSAT	Luxemburg Institute of Science and Technology	Luxembourg	14				14
11	CONCERN	Concern Worldwide	Ireland			32		32
12	ADEM	Agencia de Desenvolvimento Economico de Manic	Mozambique			166		166
13	FTC	Feed the Children	Malawi			4		4
14	ZIZILE	Zizile	India			3		3
15	EIAR	Ethiopian Institute of Agriculture Research	Ethiopia			7		7
16								-
Total for CRP				27	535	-	-	562

7. ICARDA				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	BARI	Bangladesh Agricultural Research Institute	Bangladesh			27		27
2	IARI	Indian Agricultural Research Institute	India			16		16
3	IPR	Indian Institute of Pulses Research	India			16		16
4	NARC	Nepal Agricultural Research Council	Nepal			20		20
5								-
6								-
7								-
8								-
Total for CRP				-	-	79	-	79

8. ICRAF				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1								-
2								-
3								-
4								-
5								-
6								-
7								-
8								-
9								-
10								-
11								-
12								-
13								-
14								-
15								-
Total for CRP				-	-	-	-	-

9. ICRISAT				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	AJEET	Ajeet Seeds Ltd	India		2			2
2	BAYER	Bayer Bio Science Pvt Ltd	India		6			6
3	BIO-SEED	Bioseed Research India Pvt Ltd	India		5			5
4	CCSHAU	CCS Haryana Agricultural Univeristy	India		13			13
5	DEVGEN	Devgen Seeds and Crop Technoogy Pvt Ltd/Syngenta	India		6			6
6	GANGA KAVERI	Ganga Kaveri Seeds Pvt Ltd	India		7			7
7		Genotypic in Basngalore, Inida	India	3				3
8	HI-YIELD	Hi-yield Agri Seeds	India		3			3
9	HITECH	Hytech Seeds Pvt Ltd	India		5			5
10	INRAN	Institute National de la Recherche Agronomique d Niamey			5			5
11	IOOP	Institute of Oil and Oil Plants (IOOP), HoChi Minh C Vietnam		1				1
12	JKAG	JK Agri Genetics Ltd	India		4			4
13	JAU	Junagadh Agricultural Univeirsty	India		8			8
14	KSSC LTD	Karnataka State Seeds Corportion	India		2			2
15	KAVERI	Kaveri Seeds Co. Ltd	India		5			5
16	MSS Ltd	Maharashtra State Seeds Corporation Ltd	India		2			2
17	MANGALAM	Managalam Seeds	India		2			2
18	METAHELIX	Methelix Life Sciences Pvt. Ltd.	India		4			4
19	MPKV	MPKV College of Agriculture	India		6			6
20	NIRMAL	Nirmal Seeds	India		5			5
21	NUGENE	NuGenes Seeds	India		2			2
22	NUZIVEEDU	Nuziveedu Seeds	India		5			5
23	POKV	Panjabrao Deshmukh Krishi Vidyapeeth	India		7			7
24	POINEER	Pioneer Hi Bread Pvt Ltd	India		5			5
25	PJTSAU	Prof. Jayashankar Telangana State Agricultural Uni	India		3			3
26	SHAKTI VARDHAK	Shakti Vardhak Hybrid Seeds Pvt Ltd	India		5			5
27	SKNAU	Sri Karan Narendra Agriculture University	India		8			8
28	VNMKV	VASANTARAO Naik Marathwada Krishi Vidyapeeth	India		4			4
Total for CRP				3	128	-	-	132

10. IFPRI				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
1	AFRICA 2000	Africa 2000 Network Uganda	UGANDA	-	209	-	-	209
2	APHRC	African Population & Helath Research Ctr.	KENYA	-	0	49	-	49
3	AFRICSANTE	Agence De Formation, De Recherche & D'Expertise En Se	BURKINA FASO	-	8	489	-	497
4	AKADEP	Akwa Ibom Agricultural Development Programme	NIGERIA	-	15	-	-	15
5	ALI SEED FARM	Ali Seed Farm	BANGLADESH	-	223	-	-	223
6	BHU	Banaras Hindu University	INDIA	-	81	-	-	81
7	CARITAS JINJA	Caritas Jinja	UGANDA	-	152	-	-	152
8	CARITAS MERU	Caritas Meru	KENYA	16	-	99	-	115
9	CIENSA	Centro De Investigaciones En Nutricion Y Salud	GUATEMALA	-	-	274	-	274
10	C H & RES.	Children'S Hospital & Research Center At Oakland	UNITED STATES	-	-	192	-	192
11	CIP-ICRAF-LATIN AI	CIP-ICRAF-Latin America	PERU	-	-	6	-	6
12	CLAYUCA CORPORA	Clayuca Corporation	COLOMBIA	-	66	-	-	66
13	CEDO	Community Enterprises Development Organization	UGANDA	-	93	-	-	93
14	COVOID	Community Volunteer Initiative For Development	UGANDA	-	109	-	-	109
15	CORNELL UNIVERS	Cornell University	UNITED STATES	13	134	19	-	165
16	DATA	Data Analysis & Tech Asst	BANGLADESH	-	88	521	-	609
17	DEPT OF AGRIC EXT	Dept Of Agric Extension	BANGLADESH	-	124	-	-	124
18	DEVELOPMENT-VIS	Development-Vision	UNITED STATES	-	112	-	-	112
19	EMBRAPA/FUNARE	EMBRAPA/FUNARBE	BRASIL	-	279	-	-	279
20	EMORY	Emory University	UNITED STATES	-	-	64	-	64
21	ECAP	Envoy Consult Agric Prod	NIGERIA	-	30	-	-	30
22	ETH-ZURICH	Eth-Zurich	SWITZERLAND	-	249	-	-	249
23	FARM RADIO	Farm Radio	CANADA	-	354	-	-	354
24	FECA	Federal College Of Agriculture	NIGERIA	-	23	-	-	23
25	FLINDERS UNIVERS	Flinders University	AUSTRALIA	-	661	-	-	661
26	FREIBURG UNIVERS	Freiburg University	GERMANY	-	332	7	-	340
27	FUNDIT	Fundacion Para La Innovacion Tecnologica Agrope	GUATEMALA	-	-	31	-	31
28	GHS	GLOBAL HEALTH STRATEGIES	UNITED STATES	-	189	29	-	218
29	GROUNDWORK LLC	Groundwork Group Llc	SWITZERLAND	-	36	32	-	67
30	HAWKES & B LIMITE	Hawkes & B Limited	UNITED KINGDOM	-	43	-	-	43

31	HKI	Helen Keller International	UNITED STATES	-	-	2,196	-	2,196
32	HOCADO	Hoima Caritas Development Organization	UGANDA	-	121	-	-	121
33	HUMANITAS GLOB	Humanitas Global Development	UNITED STATES	-	43	-	-	43
34	INLEXO	INLEXO	UNITED STATES	-	55	-	-	55
35	IPA	Innovations For Poverty Action	UNITED STATES	264	-	104	-	368
36	INERA - CONGO	Institut National Des Etudes Et Recherches Agrono	DEMOCRATIC REPUBLIC OF TH	-	76	-	-	76
37	IDS	Institute Of Dev Studies	UNITED KINGDOM	-	24	425	-	448
38	INCAP	Instituto De Nutrición De Centroamérica Y Panamá	PANAMA	-	-	207	-	207
39	ICDDR,B	International Center For Diarrheal And Disease Re	BANGLADESH	-	1	337	-	337
40	IITA-NIGERIA	International Institute Of Tropical Agriculture	NIGERIA	2	-	-	-	2
41	CIAT	International Maize And Wheat Improvement Cent	COLOMBIA	63	20	-	-	83
42	IRD	INST DE RECHERCHE POUR LE DEVELOPPEMENT	FRANCE	-	236	-	-	236
43	JHU	Johns Hopkins University	UNITED STATES	119	142	613	-	874
44	MUST	Mbarara University Of Science & Technology	UGANDA	-	120	-	-	120
45	MSAG INDS LTD	Mother Seed Agro Inds Ltd	BANGLADESH	-	71	-	-	71
46	NOA	National Orientation Agency	NIGERIA	-	16	-	-	16
47	NI SOL INC	Nutrition Impact Sol Inc	CANADA	-	75	-	-	75
48	OPML	Oxford Policy Management Limited	UNITED KINGDOM	-	140	187	-	327
49	OYSADEP	Oyo State Development Programme	NIGERIA	-	100	-	-	100
50	PARC/NARC	Pakistan Agricultural Research Council	PAKISTAN	-	52	-	-	52
51	PHFI	Public Health Foundation	INDIA	-	-	174	-	174
52	PAU	Punjab Agricultural University	INDIA	-	85	-	-	85
53	PURDUE	Purdue University	UNITED STATES	-	200	-	-	200
54	RUC	Regents Of The University Of California	UNITED STATES	159	17	61	-	237
55	SDNT WOMEN'S UI	Registrar, Sndt Women'S University	INDIA	-	-	85	-	85
56	RAB	Rwanda Agriculture Board	RWANDA	-	161	-	-	161
57	SABANCI UNIVERSI	Sabanci University	TURKEY	-	116	337	-	452
58	SAMARITAN'S PUR	Samaritan'S Purse International	UGANDA	-	130	-	-	130
59	SFTZ	Savannas Forever Tanzania	TANZANIA	-	63	-	-	63
60	SAVE THE CHILDRE	Save The Children	INDIA, UNITED KINGDOM	-	-	182	-	182
61	UofSC	Univ Of South Carolina	UNITED STATES	-	-	91	-	91
62	UoG	University Of Georgia	UNITED STATES	17	-	56	-	73
63	UoH	University Of Hohenheim	GERMANY	-	-	51	-	51
64	UoM	University Of Melbourne	AUSTRALIA	-	242	-	-	242
65	UoW	University Of Washington	UNITED STATES	-	-	55	-	55
66	VSF-SUISSE	Veterinaires Sans Frontieres Suisse	SWITZERLAND	-	-	65	-	65
67	VEDCO	Volunteer Efforts For Development Concerns	UGANDA	-	84	-	-	84
68	WADONDA CONSU	Wadonda Consult Ltd	MALAWI	20	-	55	-	75
69	WUR	Wageningen University	THE NETHERLANDS	100	-	-	-	100
70	WORLD VISION UC	World Vision Uganda	UGANDA	-	187	-	-	187
71	ZHEJIANG UNIVERS	Zhejiang University	CHINA	-	13	-	-	13
72	ZSS	Zimbabwe Super Seeds	ZIMBABWE	-	-	223	-	223
73	ISU	Iowa State University	United States	-	132	-	-	132
74	JIC	John Innes Centre	UNITED KINGDOM	-	160	-	-	160
75	ALL OTHER PARTNERS (<\$50K)			97	2,244	1,223	-	3,564
Total for CRP				868	8,731	8,538	-	18,137
				868	8,731	8,538		

11. IITA				Actual Expenses - This Year				
Item	Institute Acronym	Institute Name	Country	Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
	CHEMONICS	CHEMONICS INTERNATIONAL INC-	United States		446			446
	NARO	National Agricultural Research Organization	Uganda		84			84
	KALRO	Kenya Agricultural and Livestock Research Organiz	Kenya		37			37
	USDA-ARS	United States Department of Agriculture, Agricultur	United States			54		54
	INERA BURKINA F	Institut de L'Environnement et de Recherches Agric	BURKINA FASO			8		8
	DAPP	Development Aid from People to People in Zambia	ZAMBIA			(8)		(8)
	PURDUE	Purdue University	United States			38		38
	College of Basic A	College of Basic And Applied Science	Ghana			3		3
	COMITE NATIONAL	COMITE NATIONAL DE LUTTE ANTIACCRIDIENNE				10		10
	CADP Kano	CADP Kano	Nigeria			1		1
	Others	Others				87		87
Total for CRP				-	567	193	-	760

12. ILRI			
Item	Institute Acronym	Institute Name	Country
1	HUA01	Hanoi University of Agriculture	Vietnam
2	EIS03	Ecole Inter Etats des Sciences et Médecine Vétérin	Senegal
3			
4			
Total for CRP			

Actual Expenses - This Year				
Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
	(38)			(38)
		2		2
				-
				-
-	(38)	2	-	(37)

13. IRRI			
Item	Institute Acronym	Institute Name	Country
	LAEC	Long An Extension Center	Vietnam
	PHILRICE	Philippine Rice Research Institute	Philippines
	BRRI	Bangladesh Rice Research Institute	Bangladesh
	RAU	Rajendra Agricultural University	India
	BAU	Bihar Agricultural University	India

Actual Expenses - This Year				
Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
		4		4
		39		39
		6		6
		5		5
		4		4
-	-	59	-	59

14. IWMI			
Item	Institute Acronym	Institute Name	Country
Total for CRP			

Actual Expenses - This Year				
Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
-	-	-	-	-

15. WORLD FISH			
Item	Institute Acronym	Institute Name	Country
Total for CRP			

Actual Expenses - This Year				
Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
-	-	-	-	-

TOTAL FOR CRP "X.X"			
1. AFRICA RICE			
2. BIOVERSITY			
3. CIAT			
4. CIFOR			
5. CIMMYT			
6. CIP			
7. ICARDA			
8. ICRAF			
9. ICRISAT			
10. IFPRI			
11. IITA			
12. ILRI			
13. IRRI			
14. IWMI			
15. WORLD FISH			
Total for CRP			

Actual Expenses - This Year				
Windows 1 & 2	Window 3	Bilateral	Center Funds	TOTAL
				-
9	88	448	-	545
17	3,696	346	-	4,058
				-
-	25	-	-	25
27	535	-	-	562
-	-	79	-	79
-	-	-	-	-
3	128	-	-	132
868	8,731	8,538	-	18,137
-	567	193	-	760
-	(38)	2	-	(37)
-	-	59	-	59
				-
924	13,731	9,665	-	24,320

ANNEX 1. CRP INDICATORS OF PROGRESS, WITH GLOSSARY AND TARGETS

CRPs concerned by this indicator	Indicator	Glossary/guidelines for defining and measuring the indicator, and description of what the CRP includes in the indicator measured, based upon	Deviation narrative	2014		2015		2016	
				Target	Actual	Target	Actual	Target	Actual
KNOWLEDGE, TOOLS, DATA									
All	1. Number of flagship “products” produced by CRP	See documentation in Annex 1a	*	8	15	12	30	12	18
All	2. % of flagship products produced that have explicit target of women farmers/NRM managers	See documentation in Annex 1a		67%	40%	40%	20% (6)	40%	28% (5)
All	3. % of flagship products produced that have been assessed for likely gender-disaggregated impact	See documentation in Annex 1a		50%	40%	30%	63% (19)	40%	44% (8)
All	4. Number of “tools” produced by CRP	See documentation in Annex 1a		22	22	15	15	15	15
All	5. % of tools that have an explicit target of women farmers	See documentation in Annex 1a		67%	27%	40%	20% (3)	40%	33% (5)
All	6. % of tools assessed for likely gender-disaggregated impact	See documentation in Annex 1a		50%	22%	20%	0%	30%	33% (5)
All	7. Number of open access databases maintained by CRP	Databases include (not exhaustive): food consumption and iron status, environmental data on RVF in animals and humans, and other diseases	**	7	10	8	10	10	4
All	8. Total number of users of these open access databases			unknown	unknown	unknown	unknown	unknown	unknown
All	9. Number of publications in ISI journals produced by CRP	See documentation in Annex 1a		115	137	120	151	120	127

1,2,3, 4, 6	10. Number of strategic value chains analyzed by CRP	<u>Animal source food value chains:</u> dairy, pork, beef <u>Biofortified crop value chains:</u> OSP, high iron beans, vitamin A maize <u>Fruit and vegetable value chains:</u> amaranth, leafy vegetables <u>Other value chains:</u> beans, groundnut, maize for animal feed, maize for human consumption, mung beans	*	25	33	20	36	20	34
CAPACITY ENHANCEMENT AND INNOVATION PLATFORMS									
All	13. Number of trainees in short-term programs facilitated by CRP (male)		**	40,600	174,500	50,000	25,477	30,000	18,736
All	14. Number of trainees in short-term programs facilitated by CRP (female)		*	50,650	172,990	50,000	92,032	30,000	47,342
All	15. Number of trainees in long-term programs facilitated by CRP (male)		*	50	73	50	45	50	72
All	16. Number of trainees in long-term programs facilitated by CRP (female)		*	70	107	50	66	50	101
TECHNOLOGIES/PRACTICES IN VARIOUS STAGES OF DEVELOPMENT									
All	18. Number of technologies/NRM practices under research in the CRP (Phase I)	See documentation in Annex 1a	*	150,010	150,038	150,000	150,025	100,000	150,119
All	19. % of technologies under research that have an explicit target of women farmers	See documentation in Annex 1a		50%	< 1%	0%	0%	0%	< 1%
All	20. % of technologies under research that have been assessed for likely gender- disaggregated impact	See documentation in Annex 1a		50%	< 1%	0%	< 1%	1%	20%
All, except 2	23. Number of technologies /NRM practices field tested (phase II)	See documentation in Annex 1a		1,000	1,031	1,000	1,029	1,000	1,012

All, except 2	27. Number of technologies/NRM practices released by public and private sector partners globally (phase III)	See documentation in Annex 1a	*	19	19	15	9	12	42
POLICIES IN VARIOUS STAGES OF DEVELOPMENT									
All	28. Numbers of Policies/ Regulations/ Administrative Procedures Analyzed (Stage 1)	See documentation in Annex 1a	*	15	27	15	11	12	16
All	29. Number of policies / regulations / administrative procedures drafted and presented for public/stakeholder consultation (Stage 2)	See documentation in Annex 1a		7	7	5	6	5	5
All	30. Number of policies / regulations / administrative procedures presented for legislation (Stage 3)	See documentation in Annex 1a	*	1	1	1	2	1	3
All	31. Number of policies / regulations / administrative procedures prepared passed/approved (Stage 4)	See documentation in Annex 1a	*	1	4	1	2	1	3
All	32. Number of policies / regulations/admin procedures passed for which implementation has begun (Stage 5)	See documentation in Annex 1a		1	0	0	2	1	1
OUTCOMES ON THE GROUND									
All	33. Number of hectares under improved technologies or management practices as a result of CRP research		*	unknown	7,408	unknown	11,290	5,000	19,797
All	34. Number of farmers and others who have applied new technologies or management practices as a result of CRP research	34 (a) number of women farmers concerned 34(b) number of male farmers concerned	***	Total:	Total:	1,000,000	Total:	1,500,000	Total:
				1,128,200	1,089,139		1,936,245		2,952,452
				18,200			3,534		15,688
				10,000			9,701		12,471

Deviation narrative:

An (*) indicates where the actual exceeds the target by at least 10%. This can be explained by maturity; this is the last year of Phase I of A4NH and for indicators like products, policies, and hectares under improved technologies/management practices, research teams have had time to assemble results and share them with partners. An (**) indicates where the actual is less than the target by at least 10%. For databases and short-term trainings (male), we had fewer CGIAR Centers in A4NH in 2016 and so their data were not included in this year's report. Reduced funding in 2016 also meant there were less resources to prepare datasets for open access. For (***), not all data were available in sex-disaggregated form so 34(a) and 34(b) will not sum to the total. An (+) indicates where we are missing information from one flagship. The data for those indicators will be added when we submit our revisions.

ANNEX 1A. ADDITIONAL DOCUMENTATION

1. ...flagship "products" produced by CRP (n=18)	2. ... have explicit target of women farmers/ NRM managers	3. ... have been assessed for likely gender-disaggregated impact
FLAGSHIP 1	2	
(Bioversity) Ordinance 163/2016 was published and being used to measure and monitor the expenditures of sociobiodiversity products by National School Feeding Program (PNAE), Food Acquisition Program (PAA) and Minimum Price Guarantee Program (PGPM-Bio) in Brazil	No	No
(Bioversity) Summary book on the scientific foundations for the Agrobiodiversity Index	No	No
FLAGSHIP 2	3	
(HP) 36 new varieties released in 11 countries	No	Yes
(HP) Nutritional efficacy study published on high iron beans (HIB) in Rwanda	No	Yes
(HP) Nutritional efficacy study published on provitamin A maize in Zambia	No	Yes
FLAGSHIP 3	8	
(ILRI) AJFAND Special edition on aflatoxins	Yes	No
(ILRI) Institutionalization of risk analysis in Vietnam	Yes	Yes
(ILRI) Series of papers on effects of climate change on animal diseases and zoonoses	Yes	Yes
(ILRI) Reviews and recommendations on antimicrobial use in animals	Yes	Yes
(ILRI) Important findings about emerging and neglected disease in Uganda and Kenya	Yes	No
(IITA) Aflasafe SN01™ registered in Senegal and Gambia	No	No
(IITA) Official launch of Aflasafe KE01™ by KARLO and product application on 1,950 acres of maize in the Galana Irrigation Scheme in Kenya.	No	No
(IITA) Review article on status of biological control of aflatoxins in Africa and potential challenges in the face of climate change	No	No
FLAGSHIP 4	5	
(IFPRI-PHND) Global Nutrition Report 2016	No	Yes
(IFPRI-PHND) Stories of Change - briefs, videos, book chapters, presentations	No	No
(IFPRI-PHND) POSHAN District Nutrition Profiles	No	Yes
(IFPRI-PHND) Public-Private Partnerships and the Reduction of Undernutrition in Developing Countries	No	No
(IFPRI-PHND) Contributions to the ReSAKSS 2016 Africa Wide Annual Trends and Outlook Report	No	No
4. ...tools produced by CRP (n=15)	5. ... have explicit target of women farmers/NRM managers	6. ... assessed for likely gender-disaggregated impact
FLAGSHIP 1	4	
(Bioversity) Adaptation of existing 24hour recall software to fit adapted 24hour recall method for Vietnam	No	No

(Bioversity) Training materials: How to Facilitate a Diversity Club Guide	No	No
(Bioversity) Self-administrative dietary intake tool for use in Turkana County	No	No
(Bioversity) BCC materials - Healthy Diet for a Healthy Life	Yes	No
FLAGSHIP 2	6	
(IITA) Handbook on standard methods and protocols for measuring Fe, Zn and beta-carotene levels in leaves and roots of cassava	Yes	No
(CIP) XRF analysis methods for iron and zinc in fresh sweet potato roots and fresh potato tubers	No	No
(HP) XRF analysis methods for iron and zinc in Irish potato and cowpea	No	No
(HP) Multi-crop index to rank and prioritize the low- and middle-income countries in which a food basket approach can address multiple micronutrient gaps, and where an effectiveness study can be implemented to evaluate the impact of the food basket.	No	No
(HP) Revised Biofortification Priority Index (BPI) include: 1) most recent data; 2) data on new crop-micronutrient combinations; and 3) ability to prioritize for several crops at once.	No	No
(HP) Developed monitoring framework, indicator manual and various tools and methods for monitoring data collection	No	Yes
FLAGSHIP 3	3	
(ILRI) Ecohealth book for Vietnam	Yes	Yes
(ILRI) Pictorial consent form and advice for written versus oral consent for use in Tanzania and Kenya	Yes	Yes
(ILRI) Methods and results from using Systematic Literature Review	No	No
FLAGSHIP 4	2	
(IFPRI-PHND) Use of Household Consumption and Expenditure Survey (HCES) data	No	Yes
(CIP) Module and visuals for CNS nutrition and health training for mothers in Bangladesh	Yes	Yes

7...Open access databases maintained by CRP	4
Total number of users (only when specified)	Unknown
FLAGSHIP 2	1
Food consumption and iron status survey in two provinces of rural Burkina Faso	
FLAGSHIP 3	3
Environmental Information Data Centre: http://eidc.ceh.ac.uk/ ILRI Data Portal: http://data.ilri.org Nutrition Knowledge Bank: http://www.cabi.org/nutritionkb	

9. Publications in ISI journals produced by CRP (n=127)		
List of 2016 ISI Publications, in alphabetical order	Center	Impact Factor
Flagship 1. Value Chains for Enhanced Nutrition (n=15)		

1. Alamu, E.O., Maziya-Dixon, B., Ferede-Menkir, R., Popoola, I., Asiedu, R. and Gondwe, T. 2016. Characterization and classification of the provitamin A carotenoids of deep yellow-fleshed bitter yam (<i>Dioscorea dumetorum</i>) varieties. <i>Journal of Food and Nutrition Research</i> , 4. 640— 645. (Open Access)	IITA	1.676
2. Alamu, E.O., Maziya-Dixon, B., Popoola, I., Gondwe, T. and Chikoye, D. 2016. Nutritional evaluation and consumer preference of legume fortified maize-meal porridge. <i>Journal of Food and Nutrition Research</i> , 4. 664— 670. (Open Access)	IITA	1.676
3. Allen, T., & Prosperi, P. (2016). Modeling Sustainable Food Systems. <i>Environmental Management</i> , 1-20 (http://link.springer.com/article/10.1007/s00267-016-0664-8)	Bioversity	1.857
4. Awoyale, W., Maziya-Dixon, B., and Menkir, A. 2016. Retention of pro-vitamin A carotenoids in Ogi powder as affected by packaging materials and storage conditions. <i>Journal of Food and Nutrition Research</i> , 4. 88— 93. (Open Access)	IITA	1.676
5. Awoyale, W., Maziya-Dixon, B., Alamu, E.O., and Menkir, A. 2016. Effect of packaging materials and storage conditions on the degradation of Xanthophylls in yellow-maize Ogi powder. <i>Journal of Food and Nutrition Research</i> , 4. 522— 527. (Open Access)	IITA	1.676
6. Bellon, M.R.; Ntandou-Bouzitou, G.D.; Caracciolo, F. (2016) On-farm diversity and market participation are positively associated with dietary diversity of rural mothers in southern Benin, West Africa. <i>PLoS ONE</i> 11(9): e0162535. ISSN: 1932-6203. https://dx.doi.org/10.1371/journal.pone.0162535 .	Bioversity	3.057
7. Biehl, E.; Klemm, R.D.; Manohar, S.; Webb, P.; Gauchan, D.; West, K.P. Jr. (2016) What does it cost to improve household diets in Nepal? Using the cost of the diet method to model lowest cost dietary changes. <i>Food and Nutrition Bulletin</i> . On-line first. ISSN: 0379-5721; https://doi.org/10.1177/0379572116657267 .	Bioversity	1.543
8. Fernandes, Meenakshi; Galloway, Rae; Gelli, Aulo; Mumuni, Daniel; Hamdani, Salha; Kiamba, Josephine; Quarshie, Kate; Bhatia, Rita; Aurino, Elisabetta; Peel, Francis; and Drake, Lesley. 2016. Enhancing linkages between healthy diets, local agriculture, and sustainable food systems: The school meals planner package in Ghana. <i>Food and Nutrition Bulletin</i> 37(4): 571 - 584. http://dx.doi.org/10.1177/0379572116659156	IFPRI-PHND	1.543
9. Flavien, N. B.; Vanhove, W.; Termote, C.; Van Damme, P. (2016) Importance of traditional protected areas for the collection of medicinal plants, Kongo-Central (DRC). <i>African Journal of Ecology</i> ISSN: 1365-2028; https://dx.doi.org/10.1111/aje.12307 .	Bioversity	0.875
10. Gelli, Aulo; Masset, Edoardo; Folsom, Gloria; Kusi, Anthony; Arhinful, Daniel K.; Asante, Felix; Ayi, Irene; Bosompem, Kwabena M.; Watkins, Kristie; Abdul-Rahman, Lutuf; Agble, Rosanna; Anase-Baden, Gertrude; Mumuni, Daniel; Aurino, Elisabetta; Fernandes, Meena; and Drake, Lesley. 2016. Evaluation of alternative school feeding models on nutrition, education, agriculture and other social outcomes in Ghana: Rationale, randomised design and baseline data. <i>Trials</i> (2016) 17:37. http://dx.doi.org/10.1186/s13063-015-1116-0	IFPRI-PHND	1.859
11. Manda, J., Gardebroek, C., Khonje, M., Alene, A., Mutenje, M., and Kassie, M. 2016. Determinants of child nutritional status in the eastern province of Zambia: the role of improved maize varieties. <i>Food Security</i> , 8. 239— 253. (Open Access)	IITA	1.557
12. Ng'endo, M.; Bhagwat, S.; Keding, G.B. (2016) Influence of seasonal on-farm diversity on dietary diversity: a case study of smallholder farming households in Western Kenya. <i>Ecology of Food and Nutrition</i> 55(5) 25 p. ISSN: 0367-0244; http://dx.doi.org/10.1080/03670244.2016.1200037 .	Bioversity	0.894
13. Pawera, L.; Verner, V.; Termote, C.; Sodobekov, I.; Kandakov, A.; Karabaev, N.; Polesny, Z. (2016) Medical ethnobotany of herbal practitioners in the Turkestan Range, southwestern Kyrgyzstan. <i>Acta Societatis Botanicorum Poloniae</i> 85(1) ISSN: 0001-6977; https://dx.doi.org/10.5586/asbp.3483 .	Bioversity	1.213
14. Penafiel, D., Termote, C., Lachat, C., Espinel, R., Kolsteren, P., & Van Damme, P. (2016). Barriers to Eating Traditional Foods Vary by Age Group in Ecuador With Biodiversity Loss as a Key Issue. <i>Journal of Nutrition Education and Behavior</i> (http://www.sciencedirect.com/science/article/pii/S1499404615007757)	Bioversity	2.253
15. Saak, Alexander E. 2016. Optimal provision of information about consumption choices in the presence of a cognitive constraint. <i>Economics Letters</i> 145(2016): 25 - 28. http://dx.doi.org/10.1016/j.econlet.2016.05.010	IFPRI-MTID	0.603
Flagship 2 - Biofortification (n=15)		
1. Banerji, Abhijit; Birol, Ekin; Karandikar, Bhushana; and Rampal, Jeevant. 2016. Information, branding, certification, and consumer willingness to pay for high-iron pearl millet: Evidence from experimental auctions in Maharashtra, India. <i>Food Policy</i> 62(2016): 133 - 141. http://dx.doi.org/10.1016/j.foodpol.2016.06.003	IFPRI-HP	2.044
2. De Moura, Fabiana F.; Moursi, Mourad; Angel, Moira Donahue; Angeles-Agdeppa, Imelda; Atmarita, Atmarita; Gironella, Glen M.; Muslimatun; and Carriquiry, Alicia. 2016. Biofortified b-carotene rice improves vitamin A intake and reduces the prevalence of inadequacy among women and young	IFPRI-HP	6.703

children in a simulated analysis in Bangladesh, Indonesia, and the Philippines. American Journal of Clinical Nutrition 104(3): 769 - 775. http://dx.doi.org/10.3945/ajcn.115.129270		
3. Duah, E.A., Parkes, E., Baah, R.O., Acquatey-Mensah, A., Danquah, E., Kirscht, H., Kulakow, P., and Steiner-Asiedu, M. 2016. Consumption trends of white cassava and consumer perceptions of yellow cassava in Ghana. Journal of Food and Nutrition Research, 4. 814— 819. (Open Access)	IITA	1.676
4. Gichohi-Wainaina, W.N., Tanaka, T., Towers, G.W., Verhoef, H., Veenemans, J., Talsma, E.F., Harryvan, J., Boekschoten, M.V., Feskens, E.J., and Melse-Boonstra, A. Associations between Common Variants in Iron-Related Genes with Haematological Traits in Populations of African Ancestry. PLoS One. 2016 Jun 22 ;11(6) doi: 10.1371/journal.pone.0157996 (Open Access: Free PMC Article)	IITA	3.057
5. Harvey-Leeson, Sarah; Karakochuk, Crystal D.; Hawes, Meaghan; Tugirimana, Pierrot L.; Bahizire, Esto; Akilimali, Pierre Z.; Michaux, Kristina D.; Lynd, Larry D.; Whitfield, Kyly C.; Moursi, Mourad; Boy, Erick; Foley, Jennifer; McLean, Judy; Houghton, Lisa A.; Gibson, Rosalind S.; and Green, Tim J. 2016. Anemia and micronutrient status of women of childbearing age and children 6–59 months in the Democratic Republic of the Congo. Nutrients 8(2): 98. http://dx.doi.org/10.3390/nu8020098	IFPRI-HP	3.759
6. Kubow, S., Iskandar, M., Sabally, K., Azadi, B., Ekbatan, S.S., Kumarathasan, P., Dhar Das, D., Prakash, S., Burgos, G. and zum Felde, T. 2016. Biotransformation of anthocyanins from two purple-fleshed sweet potato accessions in a dynamic gastrointestinal system. Food Chemistry 192 (2016) 171–177, http://dx.doi.org/10.1016/j.foodchem.2015.06.105	CIP	4.052
7. Martin-Prevel, Yves; Allemand, Pauline; Nikiema, Laetitia; Ayassou, Kossiavavi A.; Ouedraogo, Henri Gautier; Moursi, Mourad; and De Moura, Fabiana F. 2016. Biological status and dietary intakes of Iron, Zinc and Vitamin A among women and preschool children in rural Burkina Faso. PLoS One 11(3): e0146810. http://dx.doi.org/10.1371/journal.pone.0146810	IFPRI-HP	3.057
8. Mwanga, Robert O. M.; Kyalo, Gerald; Ssemakula, Gorrettie N.; Niringiye, Charles; Yada, Benard; Otema, Milton A.; Namakula, Joweria; Alajo, Agnes; Kigozi, Benjamin; Makumbi, Rose N. M.; Ball, Anna-Marie; Gruneberg, Wolfgang J.; Low, Jan W.; and Yencho, G. Craig. 2016. 'NASPOT 12 O' and 'NASPOT 13 O' Sweetpotato. HortScience 51(3): 291 - 295. http://hortsci.ashspublishings.org/content/51/3/291	IFPRI-HP	0.436
9. Oparinde, Adewale; Birol, Ekin; Murekezi, Abdoul; Katsvairo, Lister; Diressie, Michael T.; Nkundimana, Jean d'amour; and Butare, Louis. 2016. Radio messaging frequency, information framing, and consumer willingness to pay for biofortified iron beans: Evidence from revealed preference elicitation in rural Rwanda. Canadian Journal of Agricultural Economics. Canadian Journal of Agricultural Economics 64(4): 613 - 652. http://dx.doi.org/10.1111/cjag.12105	IFPRI-HP	1.739
10. Oparinde, Adewale; Banerji, Abhijit; Birol, Ekin; and Ilona, Paul. 2016. Information and consumer willingness to pay for biofortified yellow cassava: Evidence from experimental auctions in Nigeria. Agricultural Economics 47(2): 215 - 233. http://dx.doi.org/10.1111/agec.12224	IFPRI-HP	1.291
11. Petry, Nicolai; Rohner, Fabian; Gahutu, Jean B.; Campion, Bruno; Boy, Erick; Tugirimana, Pierrot L.; Zimmerman, Michael Bruce; Zwahlen, Christian; Wirth, James P.; and Moretti, Diego. 2016. In Rwandese women with low iron status, iron absorption from low-phytic acid beans and biofortified beans is comparable, but low-phytic acid beans cause adverse gastrointestinal symptoms. Journal of Nutrition 146(5): 970 - 975. http://dx.doi.org/10.3945/jn.115.223693	IFPRI-HP	3.759
12. Petry, Nicolai; Olofin, Ibironke; Boy, Erick; Angel, Moira Donahue; and Rohner, Fabian. 2016. The effect of low dose iron and zinc intake on child micronutrient status and development during the first 1000 days of life: A systematic review and meta-analysis. Nutrients 8(12): 773. http://dx.doi.org/10.3390/nu8120773	IFPRI-HP	3.759
13. Petry, Nicolai; Olofin, Ibironke; Hurrell, Richard F.; Boy, Erick; Wirth, James P.; Moursi, Mourad; Angel, Moira Donahue; and Rohner, Fabian. 2016. The proportion of anemia associated with iron deficiency in low, medium, and high human development index countries: A systematic analysis of national surveys. Nutrients 2016, 8(11), 693. http://dx.doi.org/10.3390/nu8110693	IFPRI-HP	3.74
14. Smale, Melinda; Diressie, Michael T.; and Birol, Ekin. 2016. Understanding the potential for adoption of high-iron varieties of pearl millet in Maharashtra, India: What explains their popularity? Food Security 8(2): 331 - 344. http://dx.doi.org/10.1007/s12571-016-0559-9	IFPRI-HP	1.557
15. Talsma, Elise F; Brouwer, Inge D; Verhoef, Hans; Mbera, Gloria NK; Mwangi, Alice M; Demir, Ayşe Y; Maziya-Dixon, Busie; Boy, Erick; Zimmermann, Michael B; and Melse-Boonstra, Alida. 2016. Biofortified yellow cassava and vitamin A status of Kenyan children: A randomized controlled trial. American Journal of Clinical Nutrition 103(1): 258 - 267. http://dx.doi.org/10.3945/ajcn.114.100164	IFPRI-HP	6.703
Flagship 3 – Agriculture-Associated Diseases (n=78)		

1. Adhikari, B.N., Bandyopadhyay, R., and Cotty, P.J. 2016. Degeneration of aflatoxin gene clusters in <i>Aspergillus flavus</i> from Africa and North America. <i>AMB Express</i> DOI 10.1186/s13568-016-0228-6. (Open Access: Free PMC Article)	IITA	2.167
2. Ahlberg, S., Joutsjoki, V., Laurikkala, S., Varmanen, P. and Korhonen, H. 2016. <i>Aspergillus flavus</i> growth inhibition by <i>Lactobacillus</i> strains isolated from traditional fermented Kenyan milk and maize products. <i>Archives of Microbiology</i> . doi:10.1007/s00203-016-1316-3. http://hdl.handle.net/10568/78161	ILRI	1.76
3. Akoko, J.M., MacLeod, E., Kang'ethe, E., Muinde, P., Alarcon, P., Muloi, D., Gachoya, J. and Fèvre, E. 2016. Serological survey of porcine cysticercosis and associated risk factors in pigs slaughtered at Ndumbuini abattoir in Nairobi, Kenya. <i>International Journal of Infectious Diseases</i> 45(Supplement 1): 464. http://hdl.handle.net/10568/72847	ILRI	6.344
4. Alonso, S., Dohoo, I., Lindahl, J., Verdugo, C., Akuku, I. and Grace, D. 2016. Prevalence of tuberculosis, brucellosis and trypanosomiasis in cattle in Tanzania: a systematic review and meta-analysis. <i>Animal Health Research Reviews</i> 17(01): 16–27. http://hdl.handle.net/10568/76227	ILRI	1.5
5. Alonso, S., Lindahl, J., Roesel, K., Traoré, S.G., Yobouet, B.A., Ndour, A.P.N., Carron, M. and Grace, D. 2016. Where literature is scarce: observations and lessons learnt from four systematic reviews of zoonoses in African countries. <i>Animal Health Research Reviews</i> 17(01): 28–38. http://hdl.handle.net/10568/76226	ILRI	1.5
6. Anderson, N.E., Bessell, P.R., Mubanga, J., Thomas, R., Eisler, M.C., Fèvre, E.M. and Welburn, S.C. 2016. Ecological monitoring and health research in Luambe National Park, Zambia: Generation of baseline data layers. <i>EcoHealth</i> 13(3): 511–524. http://hdl.handle.net/10568/75998	ILRI	2.489
7. Asmare, K., Abayneh, T., Mekuria, S., Ayelet, G., Sibhat, B., Skjerve, E., Szonyi, B. and Wieland, B. 2016. A meta-analysis of contagious caprine pleuropneumonia (CCPP) in Ethiopia. <i>Acta Tropica</i> 158: 231–239. http://hdl.handle.net/10568/72552	ILRI	2.38
8. Asmare, K., Sheferaw, D., Aragaw, K., Abera, M., Sibhat, B., Haile, A., Kiara, H., Szonyi, B., Skjerve, E. and Wieland, B. 2016. Gastrointestinal nematode infection in small ruminants in Ethiopia: A systematic review and meta-analysis. <i>Acta Tropica</i> 160: 68–77. http://hdl.handle.net/10568/75608	ILRI	2.38
9. Asmare, K., Sibhat, B., Abera, M., Haile, A., Degefu, H., Fentie, T., Bekele, J., Terefe, G., Szonyi, B., Robertson L.J. and Wieland, B. 2016. Systematic review and meta-analysis of metacystode prevalence in small ruminants in Ethiopia. <i>Preventive Veterinary Medicine</i> 129: 99–107. http://hdl.handle.net/10568/73679	ILRI	2.182
10. Atehnkeng, J., Donner, M., Ojiambo, P.S., Ikotun, B., Augusto, J., Cotty, P.J., and Bandyopadhyay, R. 2016. Environmental distribution and genetic diversity of vegetative compatibility groups determine biocontrol strategies to mitigate aflatoxin contamination of maize by <i>Aspergillus flavus</i> . <i>Microbial Biotechnology</i> 9: 75-88. DOI: 10.1111/1751-7915.12324. (Free PMC Article)	IITA	3.991
11. Bandyopadhyay, R., Ortega-Beltran, A., Akande, A., Atehnkeng, J., Mutege, C.K., Kaptoge, L., Senghor, A.L., Adhikari, B.N., and Cotty, P.J. 2016. Biological control of aflatoxins in Africa: current status and potential challenges in the face of climate change. <i>World Mycotoxin Journal</i> 9: 771-779. doi.org: 10.3920/WMJ2016.2130 (Open Access)	IITA	2.091
12. Barongo, M.B., Bishop, R.P., Fèvre, E.M., Nobel, D.L. and Ssematimba, A. 2016. A mathematical model that simulates control options for African swine fever virus (ASFV). <i>PLOS ONE</i> 11(7): e0158658. http://hdl.handle.net/10568/76234	ILRI	3.057
13. Bett, B., Kiunga, P., Gachohi, J., Sindato, C., Mbotha, D., Robinson, T., Lindahl, J. and Grace, D. 2016. Effects of climate change on the occurrence and distribution of livestock diseases. <i>Preventive Veterinary Medicine</i>	ILRI	2.182
14. Carter, N.A., Dewey, C.E., Thomas, L.F., Lukuyu, B., Grace, D. and Lange, C. de. 2016. Nutrient requirements and low-cost balanced diets, based on seasonally available local feedstuffs, for local pigs on smallholder farms in western Kenya. <i>Tropical Animal Health and Production</i> 48(2): 337–347. http://hdl.handle.net/10568/69521	ILRI	0.87
15. Cook, E.A.J., Glanville, W.A. de, Thomas, L.F., Kariuki, S., Bronsvoort, B.M. de C. and Fèvre, E.M. 2016. Risk factors for leptospirosis seropositivity in slaughterhouse workers in western Kenya. <i>Occupational and Environmental Medicine</i> . doi:10.1136/oemed-2016-103895 http://hdl.handle.net/10568/78160	ILRI	3.745
16. Cooper, T.L., Kirino, Y., Alonso, S., Lindahl, J. and Grace, D. 2016. Towards better-informed consent: Research with livestock-keepers and informal traders in East Africa. <i>Preventive Veterinary Medicine</i> 128: 135–141. http://hdl.handle.net/10568/73663	ILRI	2.182

17. Corman, V.M., Eckerle, I., Memish, Z.A., Liljander, A.M., Dijkman, R., Jonsdottir, H., Ngeiywa, K.J.Z.J., Kamau, E., Younan, M., Al Masri, M., Assiri, A., Gluecks, I., Musa, B.E., Meyer, B., Müller, M.A., Hilali, M., Bornstein, S., Wernery, U., Thiel, V., Jores, J., Drexler, J.F. and Drosten, C. 2016. Link of a ubiquitous human coronavirus to dromedary camels. <i>Proceedings of the National Academy of Sciences of the United States of America</i> 113(35): 9864–9869. http://hdl.handle.net/10568/77264	ILRI	9.423
18. Djouaka, R., Riveron, J.M., Yessoufou, A., Tchigossou, G., Akoton, R., Irving, H., Djegbe, I., Moutairou, K., Adeoti, R., Tamò, M., Manyong, V., and Wondji, C.S. 2016. Multiple insecticide resistance in an infected population of the malaria vector <i>Anopheles funestus</i> in Bénin. <i>ParasitVectors</i> . 2016 Aug 17;9:453. doi: 10.1186/s13071-016-1723-y. PMID: 27531125 (Free PMC Article)		3.234
19. Djouaka, R.J., Atoyebim S.M., Tchigossou, G.M., Riveron, J.M., Irving, H., Akoton, R., Kusimo, M.O., Bakare, A.A., and Wondji, C.S. 2016. Evidence of a multiple insecticide resistance in the malaria vector <i>Anopheles funestus</i> in South West Nigeria. <i>Malaria Journal</i> . 2016 Nov 22;15(1):565. PMID: 27876039 (Open Access: Free PMC Article)	IITA	3.079
20. Do Thu Nga, Ta Thi Thao, Vu Van Tu, Pham Duc Phuc and Hung Nguyen-Viet. 2016. Development of nutrient cycle through agricultural activities of a rural area in the North of Vietnam. <i>Journal of Material Cycles and Waste Management</i> . doi:10.1007/s10163-016-0557-1 http://hdl.handle.net/10568/77600	ILRI	1.422
21. Erume, J., Roesel, K., Dione, M.M., Ejobi, F., Mboowa, G., Kungu, J.M., Akol, J., Pezo, D., El-Adawy, H., Melzer, F., Elschner, M., Neubauer, H. and Grace, D. 2016. Serological and molecular investigation for brucellosis in swine in selected districts of Uganda. <i>Tropical Animal Health and Production</i> 48(6): 1147–1155. http://hdl.handle.net/10568/77107	ILRI	0.87
22. Fuhrmann, S., Nauta, M., Phuc Pham-Duc, Nguyen Thuy Tram, Hung Nguyen-Viet, Utzinger, J., Cissé, G. and Winkler, M.S. 2016. Disease burden due to gastrointestinal infections among people living along the major wastewater system in Hanoi, Vietnam. <i>Advances in Water Resources</i> doi:10.1016/j.advwatres.2016.12.010 http://hdl.handle.net/10568/78393	ILRI	4.349
23. Fuhrmann, S., Phuc Pham-Duc, Cissé, G., Nguyen Thuy Tram, Hoang Thu Ha, Do Trung Dung, Pham Ngoc, Hung Nguyen-Viet, Tuan Anh Vuong, Utzinger, J., Schindler, C. and Winkler, M.S. 2016. Microbial contamination along the main open wastewater and storm water channel of Hanoi, Vietnam, and potential health risks for urban farmers. <i>Science of The Total Environment</i> 566–567: 1014–1022. http://hdl.handle.net/10568/75817	ILRI	3.976
24. Gachohi, J.M., Njenga, M.K., Kitala, P. and Bett, B. 2016. Modelling vaccination strategies against Rift Valley fever in livestock in Kenya. <i>PLOS Neglected Tropical Diseases</i> 10(12): e0005049. http://hdl.handle.net/10568/78660	ILRI	3.948
25. Gikungu, D., Wakhungu, J., Siamba, D., Neyole, E., Muita, R. and Bett, B. 2016. Dynamic risk model for Rift Valley fever outbreaks in Kenya based on climate and disease outbreak data. <i>Geospatial Health</i> 11(2): 95–103. http://hdl.handle.net/10568/75605	ILRI	1.093
26. Gizachew, D., Szonyi, B., Tegegne, A., Hanson, J. and Grace, D. 2016. Aflatoxin contamination of milk and dairy feeds in the Greater Addis Ababa milk shed, Ethiopia. <i>Food Control</i> 59: 773–779. http://hdl.handle.net/10568/67339	ILRI	3.388
27. Grant, C., Lo Iacono, G., Dzingirai, V., Bett, B., Winnebahl, T.R.A. and Atkinson, P.M. 2016. Moving interdisciplinary science forward: integrating participatory modelling with mathematical modelling of zoonotic disease in Africa. <i>Infectious Diseases of Poverty</i> 5: 17. http://hdl.handle.net/10568/72864	ILRI	2.13
28. Guyatt, H.L. and Fèvre, E.M. 2016. Lingual palpation for porcine cysticercosis: A rapid epidemiological tool for estimating prevalence and community risk in Africa. <i>Tropical Medicine and International Health</i> 21(10): 1319–1323. http://hdl.handle.net/10568/76529	ILRI	2.519
29. Hoang Van Minh and Hung Nguyen-Viet. 2016. Health and social determinants of health in Vietnam: Local evidence and international implications. <i>International Journal of Public Health</i> . doi:10.1007/s00038-016-0932-7 http://hdl.handle.net/10568/80063	ILRI	2.586
30. Holt, H.R., Inthavong, P., Boualam, K., Blaszk, K., Keokamphe, C., Somoulay, V., Phongmany, A., Durr, P.A., Graham, K., Allen, J., Donnelly, B., Blacksell, S.D., Unger, F., Grace, D., Alonso, S. and Gilbert, J. 2016. Endemicity of zoonotic diseases in pigs and humans in lowland and upland Lao PDR: Identification of socio-cultural risk factors. <i>PLOS Neglected Tropical Diseases</i> 10(4): e0003913. http://hdl.handle.net/10568/72967	ILRI	3.948
31. Hung Nguyen-Viet, Chotinun, S., Schelling, E., Widyastuti, W., Nguyen Viet Khong, Kakkar, M., Beeche, A., Jing, F., Khamlome, B., Tum, S. and Adisasmito, W. 2016. Reduction of antimicrobial use and resistance needs sectoral-collaborations with a One Health approach: Perspectives from Asia. <i>International Journal of Public Health</i> . doi:10.1007/s00038-016-0933-6 http://hdl.handle.net/10568/80019	ILRI	2.586
32. Kimani, T., Schelling, E., Bett, B., Ngigi, M., Randolph, T. and Fuhrmann, S. 2016. Public health benefits from livestock Rift Valley fever control: A simulation of two epidemics in Kenya. <i>Ecohealth</i> 13(4): 729–742. http://hdl.handle.net/10568/78108	ILRI	2.489

33. Knight-Jones, T.J.D., Gubbins, S., Bulut, A.N., Stärk, K.D.C., Pfeiffer, D.U., Sumption, K.J. and Paton, D.J. 2016. Mass vaccination, immunity and coverage: modelling population protection against foot-and-mouth disease in Turkish cattle. <i>Scientific Reports</i> 6: 22121. http://hdl.handle.net/10568/72411	ILRI	5.228
34. Knight-Jones, T.J.D., Hang'ombe, M.B., Songe, M.M., Sinkala, Y. and Grace, D. 2016. Microbial contamination and hygiene of fresh cow's milk produced by smallholders in western Zambia. <i>International Journal of Environmental Research and Public Health</i> 13(7): 737. http://hdl.handle.net/10568/76286	ILRI	2.035
35. Knight-Jones, T.J.D., McLaws, M. and Rushton, J. 2016. Foot-and-mouth disease impact on smallholders – What do we know, what don't we know and how can we find out more? <i>Transboundary and Emerging Diseases</i> . doi:10.1111/tbed.12507 http://hdl.handle.net/10568/75604	ILRI	2.714
36. Knight-Jones, T.J.D., Robinson, L., Charleston, B., Rodriguez, L.L., Gay, C.G., Sumption, K.J. and Vosloo, W. 2016. Global foot-and-mouth disease research update and gap analysis: 1 – Overview of global status and research needs. <i>Transboundary and Emerging Diseases</i> 63(Suppl. 1): 3–13. http://hdl.handle.net/10568/76164	ILRI	2.714
37. Knight-Jones, T.J.D., Robinson, L., Charleston, B., Rodriguez, L.L., Gay, C.G., Sumption, K.J. and Vosloo, W. 2016. Global foot-and-mouth disease research update and gap analysis: 2 – Epidemiology, wildlife and economics. <i>Transboundary and Emerging Diseases</i> 63(Suppl. 1): 14–29. http://hdl.handle.net/10568/76165	ILRI	2.714
38. Knight-Jones, T.J.D., Robinson, L., Charleston, B., Rodriguez, L.L., Gay, C.G., Sumption, K.J. and Vosloo, W. 2016. Global foot-and-mouth disease research update and gap analysis: 4 – Diagnostics. <i>Transboundary and Emerging Diseases</i> 63(Suppl. 1): 42–48. http://hdl.handle.net/10568/76128	ILRI	2.714
39. Kühnen, P., Handke, D., Waterland, R.A., Hennig, B.J., Silver, M., Fulford, A.J., Dominguez-Salas, P., Moore, S.E., Prentice, A.M., Spranger, J., Hinney, A., Hebebrand, J., Heppner, F.L., Walzer, L., Gröttinger, C., Gromoll, J., Wiegand, S., Grüters, A. and Krude, H. 2016. Interindividual variation in DNA methylation at a putative POMC metastable epiallele is associated with obesity. <i>Cell Metabolism</i> 24(3): 502–509. http://hdl.handle.net/10568/77018	ILRI	17.303
40. Lankondjoa, Kolani, Komla Sanda, Komi Agboka, Gbénonchi Mawussi, Koffi Koba, and Rousseau Djouaka. 2016. Investigation of Insecticidal Activity of Blend of Essential Oil of <i>Cymbopogon schoenanthus</i> and neem oil on <i>Plutella xylostella</i> (Lepidoptera: Plutellidae). <i>Journal of Essential Oil Bearing Plants</i> , DOI: 10.1080/0972060X.2016.1221742. To link to this article: http://dx.doi.org/10.1080/0972060X.2016.1221742	IITA	0.313
41. Liebenehm, S., Bett, B., Verdugo, C. and Said, M. 2016. Optimal drug control under risk of drug resistance – The case of African animal trypanosomosis. <i>Journal of Agricultural Economics</i> 67(2):510-533.	ILRI	2.037
42. Liljander, A., Meyer, B., Jores, J., Müller, M.A., Lattwein, E., Njeru, I., Bett, B., Drosten, C. and Corman, V.M. 2016. MERS-CoV antibodies in humans, Africa, 2013–2014. <i>Emerging Infectious Diseases</i> 22(6). http://hdl.handle.net/10568/72545	ILRI	6.994
43. Makita, K., Goto, M., Ozawa, M., Kawanishi, M., Koike, R., Asai, T. and Tamura, Y. 2016. Multivariable analysis of the association between antimicrobial use and antimicrobial resistance in <i>Escherichia coli</i> isolated from apparently healthy pigs in Japan. <i>Microbial Drug Resistance</i> 22(1): 28–39. http://hdl.handle.net/10568/71239	ILRI	2.529
44. Mbugu, D.O., Negrini, R., Nyakundi, L.O., Kuate, S.P., Bandyopadhyay, R., Muiro, W.M., Torto, B., and Mezzenga, R. 2016. Application of superabsorbent polymers (SAP) as desiccants to dry maize and reduce aflatoxin contamination. <i>Journal of Food Science and Technology</i> . http://dx.doi.org/DOI: 10.1007/s13197-016-2289-6 .	IITA	1.241
45. Munyua, P.M., Murithi, R.M., Ithondeka, P., Hightower, A., Thumbi, S.M., Anyangu, S.A., Kiplimo, J., Bett, B., Vrieling, A., Breiman, R.F. and Njenga, M.K. 2016. Predictive factors and risk mapping for Rift Valley fever epidemics in Kenya. <i>PLOS ONE</i> 11(1): e0144570. http://hdl.handle.net/10568/71002	ILRI	3.057
46. Muriuki, J.M., Kitale, P., Muchemi, G., Njeru, I., Karanja, J. and Bett, B. 2016. A comparison of malaria prevalence, control and management strategies in irrigated and non-irrigated areas in eastern Kenya. <i>Malaria Journal</i> 15: 402. http://hdl.handle.net/10568/76507	ILRI	3.079
47. Mutua, E.N., Bukachi, S.A., Bett, B.K., Estambale, B.A. and Nyamongo, I.K. 2016. Lay knowledge and management of malaria in Baringo county, Kenya. <i>Malaria Journal</i> 15: 486. http://hdl.handle.net/10568/77168	ILRI	3.079
48. Ng'ang'a, C.M., Bukachi, S.A. and Bett, B.K. 2016. Lay perceptions of risk factors for Rift Valley fever in a pastoral community in northeastern Kenya. <i>BMC Public Health</i> 16:32. http://hdl.handle.net/10568/70218	ILRI	2.209

49. Njeru, J., Henning, K., Pletz, M.W., Heller, R., Forstner, C., Kariuki, S., Fèvre, E.M. and Neubauer, H. 2016. Febrile patients admitted to remote hospitals in Northeastern Kenya: seroprevalence, risk factors and a clinical prediction tool for Q-Fever. BMC Infectious Diseases 16: 244. http://hdl.handle.net/10568/75603	ILRI	2.69
50. Njeru, J., Melzer, F., Wareth, G., El-Adawy, H., Henning, K., Pletz, M.W., Heller, R., Kariuki, S., Fèvre, E. and Neubauer, H. 2016. Human brucellosis in febrile patients seeking treatment at remote hospitals, northeastern Kenya, 2014–2015. Emerging Infectious Diseases 22(12). doi:10.3201/eid2212.160285 http://hdl.handle.net/10568/77247	ILRI	6.994
51. Nyamwaya, D., Wang'ondy, V., Amimo, J., Michuki, G., Ogugo, M., Ontiri, E., Sang, R., Lindahl, J., Grace, D. and Bett, B. 2016. Detection of West Nile virus in wild birds in Tana River and Garissa Counties, Kenya. BMC Infectious Diseases 16: 696. http://hdl.handle.net/10568/78123	ILRI	2.69
52. Obonyo, M.O., Akoko, J.M., Orinde, A.B., Osoro, E., Boru, W.G., Njeru, I. and Fèvre, E.M. 2016. Suspected rabies in humans and animals, Laikipia County, Kenya. <i>Emerging Infectious Diseases</i> 22(3): 551–553. http://hdl.handle.net/10568/71022	ILRI	6.994
53. Özkan, S., Vitali, A., Lacetera, N., Amon, B., Bannink, A., Bartley, D.J., Blanco-Penedo, I., Haas, Y. de, Dufrasne, I., Elliott, J., Eory, V., Fox, N.J., Garnsworthy, P.C., Gengler, N., Hammami, H., Kyriazakis, I., Leclère, D., Lessire, F., Macleod, M., Robinson, T.P., Ruete, A., Sandars, D.L., Shrestha, S., Stott, A.W., Twardy, S., Vanrobays, M.-L., Vosough Ahmadi, B., Weindl, I., Wheelhouse, N., Williams, A.G., Williams, H.W., Wilson, A.J., Østergaard, S. and Kipling, R.P. 2016. Challenges and priorities for modelling livestock health and pathogens in the context of climate change. <i>Environmental Research</i> 151: 130–144. http://hdl.handle.net/10568/76509	ILRI	3.088
54. Picchioni, F., Aleksandrowicz, L., Bruce, M.M., Cuevas, S., Dominguez-Salas, P., Jia, L. and Tak, M. 2016. Agri-health research: what have we learned and where do we go next? <i>Food Security</i> 8(1): 291–298. http://hdl.handle.net/10568/69514	ILRI	1.557
55. Rasche, A., Saqib, M., Liljander, A.M., Bornstein, S., Zohaib, A., Renneker, S., Steinhagen, K., Wernery, R., Younan, M., Gluecks, I., Hilali, M., Musa, B.E., Jores, J., Wernery, U., Drexler, J.F., Drosten, C. and Corman, V.M. 2016. Hepatitis E virus infection in dromedaries, North and East Africa, United Arab Emirates, and Pakistan, 1983–2015. <i>Emerging Infectious Diseases</i> 22(7). doi:10.3201/eid2207.160168 http://hdl.handle.net/10568/75763	ILRI	6.994
56. Robinson, L., Knight-Jones, T.J.D., Charleston, B., Rodriguez, L.L., Gay, C.G., Sumption, K.J. and Vosloo, W. 2016. Global foot-and-mouth disease research update and gap analysis: 3 – Vaccines. <i>Transboundary and Emerging Diseases</i> 63(Suppl. 1): 30–41. http://hdl.handle.net/10568/76166	ILRI	2.714
57. Robinson, L., Knight-Jones, T.J.D., Charleston, B., Rodriguez, L.L., Gay, C.G., Sumption, K.J. and Vosloo, W. 2016. Global foot-and-mouth disease research update and gap analysis: 5 – Biotherapeutics and disinfectants. <i>Transboundary and Emerging Diseases</i> 63(Suppl. 1): 49–55. http://hdl.handle.net/10568/76167	ILRI	2.714
58. Robinson, L., Knight-Jones, T.J.D., Charleston, B., Rodriguez, L.L., Gay, C.G., Sumption, K.J. and Vosloo, W. 2016. Global foot-and-mouth disease research update and gap analysis: 6 – Immunology. <i>Transboundary and Emerging Diseases</i> 63(Suppl. 1): 56–62. http://hdl.handle.net/10568/76168	ILRI	2.714
59. Robinson, L., Knight-Jones, T.J.D., Charleston, B., Rodriguez, L.L., Gay, C.G., Sumption, K.J. and Vosloo, W. 2016. Global foot-and-mouth disease research update and gap analysis: 7 – Pathogenesis and molecular biology. <i>Transboundary and Emerging Diseases</i> 63(Suppl. 1): 63–71. http://hdl.handle.net/10568/76169	ILRI	2.714
60. Robinson, T.P., Bu, D.P., Carrique-Mas, J., Fèvre, E.M., Gilbert, M., Grace, D., Hay, S.I., Jiwakanon, J., Kakkar, M., Kariuki, S., Laxminarayan, R., Lubroth, J., Magnusson, U., Thi Ngoc, P., Boeckel, T.P. van and Woolhouse, M.E.J. 2016. Antibiotic resistance is the quintessential One Health issue. <i>Transactions of the Royal Society of Tropical Medicine and Hygiene</i> 110(7): 377–380. http://hdl.handle.net/10568/76493	ILRI	1.631
61. Robinson, T.P., Wertheim, H.F.L., Kakkar, M., Kariuki, S., Bu, D. and Price, L.B. 2016. Animal production and antimicrobial resistance in the clinic. <i>The Lancet</i> 387(10014): e1–e3. http://hdl.handle.net/10568/68997	ILRI	44.002
62. Roesel, K., Nöckler, K., Baumann, M.P.O., Fries, R., Dione, M.M., Clausen, P.-H. and Grace, D. 2016. First report of the occurrence of <i>Trichinella</i> -specific antibodies in domestic pigs in Central and Eastern Uganda. <i>PLOS ONE</i> 11(11): e0166258. http://hdl.handle.net/10568/78110	ILRI	3.057
63. Sinh Dang-Xuan, Hung Nguyen-Viet, Meeyam, T., Fries, R., Huong Nguyen-Thanh, Phuc Pham-Duc, Lam, S., Grace, D. and Unger, F. 2016. Food safety perceptions and practices among smallholder pork value chain actors in Hung Yen province, Vietnam. <i>Journal of Food Protection</i> 79(9): 1490–1497. http://hdl.handle.net/10568/77065	ILRI	1.609
64. Sinh Dang-Xuan, Hung Nguyen-Viet, Unger, F., Phuc Pham-Duc, Grace, D., Ngan Tran-Thi, Barot, M., Ngoc Pham-Thi and Makita, K. 2016. Quantitative risk assessment of human salmonellosis in the smallholder pig value chains in urban of Vietnam. <i>International Journal of Public Health</i> doi:10.1007/s00038-016-0921-x http://hdl.handle.net/10568/77739	ILRI	2.586

65. Songe, M.M., Willems, A., Sarowar, M.N., Rajan, K., Evensen, Ø., Drynan, K., Skaar, I. and West, P. van. 2016. A thicker chorion gives ova of Atlantic salmon (<i>Salmo salar</i> L.) the upper hand against <i>Saprolegnia</i> infections. <i>Journal of Fish Diseases</i> 39(7): 879–888. http://hdl.handle.net/10568/69428	ILRI	2.053
66. Stentiford, G.D., Becnel, J.J., Weiss, L.M., Keeling, P.J., Didier, E.S., Williams, B.A.P., Bjornson, S., Kent, M.L., Freeman, M.A., Brown, M.J.F., Troemel, E.R., Roesel, K., Sokolova, Y., Snowden, K.F. and Solter, L. 2016. Microsporidia – Emergent pathogens in the global food chain. <i>Trends in Parasitology</i> 32(4): 336–348. http://hdl.handle.net/10568/70157	ILRI	7.295
67. Thomas, L.F., Bishop, R.P., Onzere, C., McIntosh, M.T., Lemire, K.A., Glanville, W.A. de, Cook, E.A.J. and Fèvre, E.M. 2016. Evidence for the presence of African swine fever virus in an endemic region of Western Kenya in the absence of any reported outbreak. <i>BMC Veterinary Research</i> 12: 192. http://hdl.handle.net/10568/77002	ILRI	1.643
68. Thomas, L.F., Harrison, L.J.S., Toye, P., Glanville, W.A. de, Cook, E.A.J., Wamae, C.N. and Fèvre, E.M. 2016. Prevalence of <i>Taenia solium</i> cysticercosis in pigs entering the food chain in western Kenya. <i>Tropical Animal Health and Production</i> 48(1): 233–238. http://hdl.handle.net/10568/69014	ILRI	0.87
69. Thu Le-Thi, Phuc Pham-Duc, Zurbrugg, C., Toan Luu-Quoc, Huong Nguyen-Mai, Tu Vu-Van and Hung Nguyen-Viet. 2016. Diarrhea risks by exposure to livestock waste in Vietnam using quantitative microbial risk assessment. <i>International Journal of Public Health</i> . doi:10.1007/s00038-016-0917-6 http://hdl.handle.net/10568/78121	ILRI	2.586
70. Tran Thi Tuyet-Hanh, Dang Xuan Sinh, Pham Duc Phuc, Tran Thi Ngan, Chu Van Tuat, Grace, D., Unger, F. and Hung Nguyen-Viet. 2016. Exposure assessment of chemical hazards in pork meat, liver, and kidney, and health impact implication in Hung Yen and Nghe An provinces, Vietnam. <i>International Journal of Public Health</i> . doi:10.1007/s00038-016-0912-y http://hdl.handle.net/10568/77702	ILRI	2.586
71. Tu Vu-Van, Phuc Pham-Duc, Winkler, M.S., Zurbrugg, C., Zinsstag, J., Huong Le Thi Thanh, Tran Huu Bich and Hung Nguyen-Viet. 2016. <i>Ascaris lumbricoides</i> egg die-off in an experimental excreta storage system and public health implication in Vietnam. <i>International Journal of Public Health</i> . doi:10.1007/s00038-016-0920-y http://hdl.handle.net/10568/78162	ILRI	2.586
72. Udomkun, P., Wiredu, A.N., Nagle, M., Bandyopadhyay, R., Mueller, J., and Vanlauwe, B. 2016. Mycotoxins in sub-Saharan Africa: present situation, socioeconomic impact, awareness, and outlook. <i>Food Control</i> DOI: 10.1016/j.foodcont.2016.07.039).	IITA	3.388
73. Verdugo, C., El Masry, I., Makonnen, Y., Hannah, H., Unger, F., Soliman, M., Galal, S., Lubroth, J. and Grace, D. 2016. Sensitivity and specificity estimation for the clinical diagnosis of highly pathogenic avian influenza in the Egyptian participatory disease surveillance program. <i>Avian Diseases</i> 60(4): 805–809. http://hdl.handle.net/10568/79420	ILRI	1.104
74. Vosloo, W. and Knight-Jones, T.J.D. 2016. Editorial: GFRA Global foot-and-mouth disease research update and gap analysis. <i>Transboundary and Emerging Diseases</i> 63(4): 351–352. http://hdl.handle.net/10568/76170	ILRI	2.714
75. Wardrop, N.A., Thomas, L.F., Cook, E.A.J., Glanville, W.A. de, Atkinson, P.M., Wamae, C.N. and Fèvre, E.M. 2016. The sero-epidemiology of <i>Coxiella burnetii</i> in humans and cattle, western Kenya: Evidence from a cross-sectional study. <i>PLOS Neglected Tropical Diseases</i> 10(10): e0005032. http://hdl.handle.net/10568/77258	ILRI	3.948
76. Warimwe, G.M., Gesharisha, J., Carr, B.V., Otieno, S., Otingah, K., Wright, D., Charleston, B., Okoth, E., Lopez-Gil, E., Lorenzo, G., El-Behiry, A., Alharbi, N.K., Al-dubaib, M.A.A., Brun, A., Gilbert, S.C., Nene, V. and Hill, A.V.S. 2016. Chimpanzee adenovirus vaccine provides multispecies protection against Rift Valley fever. <i>Scientific Reports</i> 6: 20617. http://hdl.handle.net/10568/71057	ILRI	5.228
77. Watts, N., Adger, W.N., Ayeb-Karlsson, S., Bai, Y., Byass, P., Campbell-Lendrum, D., Colbourn, T., Cox, P., Davies, M., Depledge, M., Depoux, A., Dominguez-Salas, P., Drummond, P., Ekins, P., Flahault, A., Grace, D., Graham, H., Haines, A., Hamilton, I., Johnson, A., Kelman, I., Kovats, S., Liang, L., Lott, M., Lowe, R., Luo, Y., Mace, G., Maslin, M., Morrissey, K., Murray, K., Neville, T., Nilsson, M., Oreszczyn, T., Parthemore, C., Pencheon, D., Robinson, E., Schütte, S., Shumake-Guillemot, J., Vineis, P., Wilkinson, P., Wheeler, N., Xu, B., Yang, J., Yin, Y., Yu, C., Gong, P., Montgomery, H. and Costello, A., 2016. The Lancet Countdown: Tracking progress on health and climate change. <i>The Lancet</i> . http://hdl.handle.net/10568/78122	ILRI	44.002
78. Winkler, M.S., Fuhrmann, S., Phuc Pham-Duc, Cissé, G., Utzinger, J. and Hung Nguyen-Viet. 2016. Assessing potential health impacts of waste recovery and reuse business models in Hanoi, Vietnam. <i>International Journal of Public Health</i> . doi:10.1007/s00038-016-0877-x http://hdl.handle.net/10568/77001	ILRI	2.586
Flagship 4 – Integrated Programs and Policies (n=18)		
1. Aguayo, Victor M.; and Menon, Purnima. 2016. [Introduction] Stop stunting: improving child feeding, women's nutrition and household sanitation in South Asia. <i>Maternal & Child Nutrition</i> 12 (Suppl. 1), pp. 3–11. http://dx.doi.org/10.1111/mcn.12283	IFPRI-PHND	3.505

2.	Avula, Rasmi; Raykar, Neha; Menon, Purnima; and Laxminarayan, Ramanan. 2016. Reducing stunting in India: what investments are needed? <i>Maternal & Child Nutrition</i> 12(Suppl. 1), pp. 249–252. http://dx.doi.org/10.1111/mcn.12291	IFPRI-PHND	3.505
3.	Béné, Christophe; Headey, Derek D.; Haddad, Lawrence James; and von Grebmer, Klaus. Is resilience a useful concept in the context of food security and nutrition programmes? Some conceptual and practical considerations. <i>Food Security</i> 8(1): 123 - 138. http://dx.doi.org/10.1007/s12571-015-0526-x	CIAT/IFPRI-PHND	1.557
4.	De Cock, Nathalie; Van Leppevelde, Wendy; Vervoort, Leentje; Vangeel, Jolien; Maes, Lea; Eggermont, Steven; Braet, Caroline; Lachat, Carl; Huybregts, Lieven F.; Goossens, Lien; Beullens, Kathleen; Kolsteren, Patrick; and Van Camp, John. 2016. Sensitivity to reward is associated with snack and sugar-sweetened beverage consumption in adolescents. <i>European Journal of Nutrition</i> 55(4): 1623 - 1632. http://dx.doi.org/10.1007/s00394-015-0981-3	IFPRI-PHND	3.239
5.	Harris, Jody; Nguyen, Phuong Hong; To, Quyen; Frongillo, Edward A.; and Menon, Purnima. Progress in improving provincial plans for nutrition through targeted technical assistance and local advocacy in Vietnam. <i>Health Policy and Planning</i> 31(10): 1333 - 1341. http://dx.doi.org/10.1093/heapol/czw067	IFPRI-PHND	2.513
6.	Headey, Derek D.; and Hirvonen, Kalle. 2016. Is exposure to poultry harmful to child nutrition? An observational analysis for rural Ethiopia. <i>PLoS One</i> 11(8): e0160590. http://dx.doi.org/10.1371/journal.pone.0160590	IFPRI-PHND	3.057
7.	Headey, Derek D.; and Hoddinott, John F. 2016. Agriculture, nutrition and the green revolution in Bangladesh. <i>Agricultural Systems</i> 149(November 2016): 122-131. http://dx.doi.org/10.1016/j.agsy.2016.09.001	IFPRI-PHND	2.867
8.	Jensen, Melissa L.; Frongillo, Edward A.; Leroy, Jef L.; and Blake, Christine E. 2016. Participating in a food-assisted maternal and child nutrition and health program in rural Guatemala alters household dietary choices. <i>Journal of Nutrition</i> 146(8): 1593 - 1600. http://dx.doi.org/10.3945/jn.116.232157	IFPRI-PHND	3.74
9.	Kim, Sunny S.; Rawat, Rahul; Mwangi, Edna M.; Tesfaye, Roman; Abebe, Yewelsew; Baker, Jean; Frongillo, Edward A.; Ruel, Marie T.; and Menon, Purnima. 2016. Exposure to large-scale social and behavior change communication interventions is associated with improvements in infant and young child feeding practices in Ethiopia. <i>PLoS ONE</i> 11(10): e0164800. https://dx.doi.org/10.1371/journal.pone.0164800	IFPRI-PHND	3.057
10.	Leroy, Jef L.; Olney, Deanna K.; and Ruel, Marie T. Tubaramure, a food-assisted integrated health and nutrition program in Burundi, increases maternal and child hemoglobin concentrations and reduces anemia: A theory-based cluster-randomized controlled intervention trial. <i>Journal of Nutrition</i> 146(8): 1601 - 1608 http://dx.doi.org/10.3945/jn.115.227462	IFPRI-PHND	3.74
11.	Menon, Purnima; McDonald, Christine M.; and Chakrabarti, Suman. 2016. Estimating the cost of delivering direct nutrition interventions at scale: National and subnational level insights from India. <i>Maternal & Child Nutrition</i> 12 (Suppl. 1), pp. 169–185. http://dx.doi.org/10.1111/mcn.12257	IFPRI-PHND	3.505
12.	Menon, Purnima; Nguyen, Phuong Hong; Saha, Kuntal K.; Khaled, Adiba; Kennedy, Andrew; Tran, Lan Mai; Sanghvi, Tina; Hajeerhoy, Nemat; Baker, Jean; Alayon, Silvia; Afsana, Kaosar; Haque, Raisul; Frongillo, Edward A.; Ruel, Marie T.; and Rawat, Rahul. 2016. Impacts on breastfeeding practices of at-scale strategies that combine intensive interpersonal counseling, mass media, and community mobilization: Results of cluster-randomized program evaluations in Bangladesh and Viet Nam. <i>PLoS Med</i> 13(10): e1002159. http://dx.doi.org/10.1371/journal.pmed.1002159	IFPRI-PHND	13.585
13.	Menon, Purnima; Nguyen, Phuong Hong; Saha, Kuntal K.; Khaled, Adiba; Sanghvi, Tina; Baker, Jean; Afsana, Kaosar; Haque, Raisul; Frongillo, Edward A.; Ruel, Marie T.; and Rawat, Rahul. Combining intensive counseling by frontline workers with a nationwide mass media campaign has large differential impacts on complementary feeding practices but not on child growth: Results of a cluster-randomized program evaluation in Bangladesh. <i>Journal of Nutrition</i> 146(10): 2075 - 2084. http://dx.doi.org/10.3945/jn.116.232314	IFPRI-PHND	3.74
14.	Nguyen, Phuong Hong; Kim, Sunny S.; Nguyen, Tuan T.; Hajeerhoy, Nemat; Tran, Lan M.; Alayon, Silvia; Ruel, Marie T.; Rawat, Rahul; Frongillo, Edward A.; Menon, Purnima. 2016. Exposure to mass media and interpersonal counseling has additive effects on exclusive breastfeeding and its psychosocial determinants among Vietnamese mothers. <i>Maternal & Child Nutrition</i> 12(4): 713 - 725. http://dx.doi.org/10.1111/mcn.12330	IFPRI-PHND	3.505
15.	Nguyen, Phuong Hong; Kim, Sunny S.; Nguyen, Tuan T.; Tran, Lan M.; Hajeerhoy, Nemat; Frongillo, Edward A.; Ruel, Marie T.; Rawat, Rahul; and Menon, Purnima. 2016. Supply- and demand-side factors influencing utilization of infant and young child feeding counselling services in Viet Nam. <i>PLoS One</i> 11(3): e0151358. http://dx.doi.org/10.1371/journal.pone.0151358	IFPRI-PHND	3.057

16. Nguyen, Phuong Hong; Young, Melissa; Gonzalez-Casanova, Ines; Pham, Hoa Q.; Nguyen, Hieu; Nguyen, Son V.; Harding, Kimberly B.; Reinhart, Gregory A.; Martorell, Reynaldo; and Ramakrishnan, Usha. 2016. Impact of Preconception Micronutrient Supplementation on Anemia and Iron Status during Pregnancy and Postpartum: A Randomized Controlled Trial in Rural Vietnam. PLOS ONE 11(12): e0167416. doi: 10.1371/journal.pone.0167416	IFPRI-PHND	3.057
17. Olney, Deanna K.; Bliznashka, Lilia; Pedehombga, Abdoulaye; Dillon, Andrew; Ruel, Marie T.; and Heckert, Jessica. 2016. A 2-year integrated agriculture and nutrition program targeted to mothers of young children in Burkina Faso reduces underweight among mothers and increases their empowerment: A cluster-randomized controlled trial. Journal of Nutrition 146(5): 1109 - 1117. http://dx.doi.org/10.3945/jn.115.224261	IFPRI-PHND	3.74
18. Wondafrash, Mekitie; Huybregts, Lieven F.; Lachat, Carl; Bouckaert, Kimberley P.; and Kolsteren, Patrick. Dietary diversity predicts dietary quality regardless of season in 6–12-month-old infants in south-west Ethiopia. Public Health Nutrition 19(14): 2485 - 2494. http://dx.doi.org/10.1017/S1368980016000525	IFPRI-PHND	2.433
Cross-Flagship (n=1)		
1. Johnson, Nancy L.; Kovarik, Chiara; Meinzen-Dick, Ruth Suseela; Njuki, Jemimah; and Quisumbing, Agnes R. 2016. Gender, assets, and agricultural development: Lessons from eight projects. World Development 83(2016): 295 - 311 http://dx.doi.org/10.1016/j.worlddev.2016.01.009	IFPRI-PHND/PMU	2.438

18. Number of technologies/NRM practices under research in the CRP (Phase I)	19. ... have an explicit target of women farmers	20. ...have been assessed for likely gender-disaggregated impact
FLAGSHIP 1	3	
(CIAT) New solar panel drying technology introduced	Yes	Yes
(CIAT) LINK methodology introduced linking farmers to markets through inclusive business models	Yes	Yes
(CIAT) New multi-composite porridge flour for BoP consumers developed	Yes	Yes
FLAGSHIP 2	150,104	
150,000 lines of biofortified crops in on-station testing	No	Yes - 20% of the new bean varieties with reduced cooking time
(1-CIP) OFSP varieties and vine multiplication system for planting material	No	No
(100 – IITA) 50 varieties of plantain and plantain hybrids and 50 orange fleshed (OF) diploids - total carotenoid and pVAC content	No	No
(3 – IITA) Gender responsive assessment of improved cassava varieties for beta carotene, Fe and Zn	Yes	Yes
FLAGSHIP 3	12	
Biocontrol of aflatoxins using LAB	Yes	No
Nutrient cycles for waste management	No	No
Irrigation and disease and advice on disease-proofing irrigation	No	Yes
Experimental Excreta Storage System	No	No
Indicators for tracking health and climate change	No	Yes
Livestock products for improving nutrition	Yes	Yes
Weather based forecasting and surveillance for climate sensitive diseases	No	No
Genetic resistance to aflatoxin in maize	No	No
Aflatoxin binders in livestock feed	No	Yes
APSIM modelling to predict aflatoxin risk.	No	No
Weather-based forecasting for aflatoxin mitigation	No	No
Experimental biocontrol products	No	No
23. Number of technologies/NRM practices field tested in the CRP (Phase II)	Geographical Location	

FLAGSHIP 2	1,000	
1,000 of lines in multi-locational field trials	Multiple	
FLAGSHIP 3	12	
(ILRI) Better diets for local pigs that increase availability and safety of pork	Kenya, Uganda	
(ILRI) Vaccination for Rift Valley fever in Kenya	Kenya	
(ILRI) Risk maps for transboundary and emerging disease	Kenya, Uganda	
(ILRI) Mass vaccination for FMD	Turkey	
(ILRI) Livestock traceability to improve disease control, assure food safety and decrease theft	Kenya	
(ILRI) Optimal drug use and management in the face of drug resistance	Global	
(ILRI) A clinical prediction tool for Q fever	Kenya	
(ILRI) Insecticide treated netting for fly reduction in wet markets	Uganda	
(ILRI) Reducing health risks from biogas	Vietnam	
(IITA) Efficacy trials of aflasafe products for Tanzania	Tanzania	
(IFPRI-MTID) Mobile maize dryer	Kenya	
(IFPRI-MTID) Tarps for drying maize and groundnuts	Ghana	
27. Number of technologies/NRM released by public and private sector partners globally by the CRP (Phase III)	42	
FLAGSHIP 2	36	
36 varieties released or commercialized in target countries	36	
FLAGSHIP 3	6	
(ILRI) Training and certification for dairy traders in Assam, India	India	
(ILRI) Food safety Risk Assessment:	Vietnam	
(ILRI) Lingual palpation for cysticercosis	East Africa	
(ILRI) Participatory disease surveillance	Egypt	
(ILRI) Biosecurity for disease control	Vietnam	
(ILRI) Waste reuse business models	Vietnam	

28. Number of Policies/ Regulations/ Administrative Procedures Analyzed (Stage 1)	Supporting Evidence
FLAGSHIP 1	1
National Policy Reviewed in Sri Lanka	Upon request
FLAGSHIP 3	8
<i>Sustainable agricultural development for food security and nutrition: what roles for livestock?</i> High Level Panel of Experts on Food Security and Nutrition (HLPE) Report No. 10.	http://hdl.handle.net/10568/76163
One Health ethics: The need for policy before research and action.	http://hdl.handle.net/10568/78683
Field Building Leadership Initiative. 2016. Regional workshop on translating knowledge from ecohealth research to policy. Hanoi, Vietnam: Field Building Leadership Initiative.	http://hdl.handle.net/10568/75688
Health and environmental impact of agricultural intensification: Translating Ecohealth program-derived knowledge into	http://hdl.handle.net/10568/80145
Urban animals – feeding the cities of the future. Swedish International Agricultural Network Initiative (SIANI) Policy Brief.	http://hdl.handle.net/10568/75687
Management of health risk from biogas effluent at smallholder pig farms in Vietnam: A transdisciplinary and community participatory approach. Regional policy brief.	http://hdl.handle.net/10568/80143
Influencing agricultural policies through evidence (Control of Classical Swine Fever)	http://hdl.handle.net/10568/72542
Results from studies analyzing impact of subsidies and market incentives on adoption of aflatoxin control in Ghana and Kenya presented at PACA/GAIN/AMREF workshop on “Engaging the Health and Nutrition Sectors in Aflatoxin Control in Africa”	http://aflatoxinpartnership.org/uploads/Program%20or%20Participants_Health%20workshop_%20FINALv2_18032016.pdf
FLAGSHIP 4	7
(6) Stories of Change analyzed policy context and changes in 5 countries and one Indian State	http://www.transformnutrition.org/stories_of_change/
PHND/A4NH researchers contributed to ReSAKSS 2016 Africa Wide Annual Trends and Outlook Report	http://www.resakss.org/node/6437
29. Number of policies / regulations / administrative procedures drafted and presented for public/stakeholder consultation (Stage 2)	Supporting Evidence
FLAGSHIP 1	2
Ongoing work under A4NH on value chains for nutrition has been included in policy-level discussions with WFP, IFAD and FAO	Upon request
In Kenya, the country’s first ever county-level Biodiversity Policy was submitted to the County Government for enactment	Upon request
FLAGSHIP 2	1
One consultation convened by WHO-FAO to review the evidence on biofortified staple crops to make a recommendation	Upon request
FLAGSHIP 3	1
Livestock masterplan Tanzania (covers zoonotic diseases),	https://news.ilri.org/2016/03/09/tanzania-lmp/
FLAGSHIP 4	1
POSHAN joined an informal working group convened by the India Nutrition Initiative, established by the TATA Trusts and shared results from its review of the Integrated Child Development Services' Supplementary Nutrition Program and discuss cash transfers and nutrition	Upon request
30. Number of policies / regulations / administrative procedures presented for legislation (Stage 3)	Supporting Evidence

FLAGSHIP 3	1
Nagaland pig breeding policy. Government of Nagaland	http://hdl.handle.net/10568/76530
FLAGSHIP 4	2
POSHAN contributions are recognised in newly launched state nutrition strategies in Odisha and Bihar.	Upon request
Bangladesh National Five Year Plan drew on Transform Nutrition evidence for the Nutrition Background paper (including assessment of NNS, TMRI evaluation and Lancet Framework, Politics work, economic investments work, nutrition drivers work. This work also informed the 2016 National Nutrition Plan of Action for Children	http://www.plancomm.gov.bd/wp-content/uploads/2015/02/23_FINAL-Nutrition-Background-Paper-for-7th-Five-Year-Plan_-23-Feb-2015.pdf
31. Number of policies / regulations / administrative procedures prepared passed/approved (Stage 4)	Supporting Evidence
FLAGSHIP 1	1
MMA/BFN was instrumental in guiding the process that culminated in the publishing of Ordinance No.163/2016 in May 2016 that defines the importance of sociobiodiversity and includes a list of "Brazilian Sociobiodiversity Native Food Species of Nutritional Value".	Upon request
FLAGSHIP 3	1
Livestock master plan Ethiopia (covers zoonotic diseases – published in 2015 but not reported). Ministry of Agriculture and ILRI. 2015. Livestock health priorities in the Ethiopia livestock master plan. Ethiopia Livestock Master Plan Brief 3. Nairobi, Kenya: ILRI.:	http://hdl.handle.net/10568/68039
FLAGSHIP 4	1
The Ministry of Women and Children Affairs of the Government of Bangladesh has added nutrition BCC to a modified Vulnerable Group Development program for destitute women, encouraged by the results of IFPRI's evaluation of TMRI (included in Transform work)	http://www.mof.gov.bd/en/budget/14_15/gender_budget/en/04_30_MoWCA_English.pdf
32. Number of policies / regulations / administrative procedures passed for which implementation has begun (Stage 5)	Supporting Evidence
FLAGSHIP 4	1
The new phase of the Ethiopia Productive Safety Net programme now in operation includes recommendations from IFPRI research to make it more nutrition-sensitive	Upon request

ANNEX 2: SUCCESSES AND CHALLENGES IN MAINSTREAMING GENDER RESEARCH

A4NH has met the requirements for gender mainstreaming defined by the Consortium Office for the performance indicator ‘gender inequality targets defined’ and has exceeded expectations for the performance indicator ‘Institutional architecture for integration of gender is in place’.

In 2016, A4NH continued to systematically collect from projects information on their gender research questions, whether sex-disaggregated data has been collected and the level of gender focus on project deliverables. In its updated [strategy](#), the Gender, Equity and Empowerment (GEE) unit of A4NH has recognized the need for expanding the scope of its research and capacity building agenda to go beyond gender to include other sources of inequity that contribute to inequitable nutrition and health outcomes. In preparation for Phase II, an initial consultation workshop was held in Nov 2016 to inform A4NH research and capacity building priorities, identify opportunities for action in the short term, and highlight potential challenges.

Gender inequality targets defined

- The current status of A4NH indicators and targets have been summarized in the Performance Indicator Matrix tables submitted as part of the Phase II proposal. In 2016, the second round of the Gender, Assets and Agriculture Program (GAAP2) continued work on [developing a project-level indicator for measuring women’s empowerment](#).
- The A4NH Gender Team continues to monitor the integration of gender in the A4NH research portfolio. Three-fourths of the projects that were active in 2016 self-reported to have a gender dimension in their research. The gender quotient of project deliverables continued to increase. Around 65 per cent of the 2016 project deliverables have a gender focus with 21 per cent of 2016 deliverables significantly focused on gender³. In 2015, 60 per cent of deliverables had a gender focus and 20 per cent had a significant gender focus. For Phase II, the GEE unit plans to initiate a process for reviewing selected deliverables to validate the self-reported assessments and to track which projects had cross-cutting gender dimensions but were not able to produce gender-focused deliverables, why this was the case and how the gender unit can support these projects.

Institutional architecture for integration of gender is in place

- The A4NH gender strategy that was updated in 2015 emphasizes the role of the GEE unit to build capacity within participating centers and within the other CRPs working towards nutrition and health outcomes. In 2016, the [Gender-Nutrition Idea Exchange](#) continued to publish blogs to a growing readerships on new topics such as developing a nutrition-sensitive pro-WEAI, linkages between women’s empowerment and diets in rural Ethiopia, and using qualitative methods to study value chains for nutrition in rural India.
- The GAAP2 project which is part of strategic gender research being conducted by the GEE unit, has several capacity building initiatives. Gender researchers from CGIAR centers were invited to apply to be part of the GAAP2 research team and two CGIAR fellows from Bioversity and ILRI were selected in 2016. GAAP2 is also developing a Community of Practice initially comprised of participating projects, which will later be opened up to a wider community, including researchers from A4NH as well as other CRPs.
- The GEE unit continued to conduct cross-cutting gender research on frontier research topics that provide evidence and methodologies useful to A4NH research projects. New research initiated in 2016 includes a study on participation in agricultural cropping and nutritional status in Tanzania.

³The following definitions are used to assess gender quotient of a deliverable:

- Some: Gender and/or women are not the primary focus of the research activity but there is some analysis of sex-disaggregated data
- Significant: At least one research question is focused on gender and/or women and the deliverable explicitly analyses sex-disaggregated data

Performance Indicator	CRP performance approaches requirements	CRP performance meets requirements	CRP performance exceeds requirements
1. Gender inequality targets defined	Sex-disaggregated social data is being collected and used to diagnose important gender-related constraints in at least one of the CRP's main target populations	Sex-disaggregated social data collected and used to diagnose important gender-related constraints in at least one of the CRP's main target populations And The CRP has defined and collected baseline data on the main dimensions of gender inequality in the CRP's main target populations relevant to its expected outcomes (IDOs)	Sex-disaggregated social data collected and used to diagnose important gender-related constraints in at least one of the CRP's main target populations And The CRP has defined and collected baseline data on the main dimensions of gender inequality in the CRP's main target populations relevant to its expected outcomes (IDOs) And CRP targets changes in levels of gender inequality to which the CRP is or plans to contribute, with related numbers of men and women beneficiaries in main target populations
2. Institutional architecture for integration of gender is in place	<ul style="list-style-type: none"> - CRP scientists and managers with responsibility for gender in the CRP's outputs are appointed, have written TORS. - Procedures defined to report use of available diagnostic or baseline knowledge on gender routinely for assessment of the gender equality implications of the CRP's flagship research products as per the Gender Strategy - CRP M&E system has protocol for tracking progress on integration of gender in research 	<ul style="list-style-type: none"> - CRP scientists and managers with responsibility for gender in the CRP's outputs are appointed, have written TORS and funds allocated to support their interaction. - Procedures defined to report use of available diagnostic or baseline knowledge on gender routinely for assessment of the gender equality implications of the CRP's flagship research products as per the Gender Strategy - CRP M&E system has protocol for tracking progress on integration of gender in research And A CRP plan approved for capacity development in gender analysis 	<p>CRP scientists and managers with responsibility for gender in the CRP's outputs are appointed, have written TORS and funds allocated to support their interaction.</p> <ul style="list-style-type: none"> - Procedures defined to report use of available diagnostic or baseline knowledge on gender routinely for assessment of the gender equality implications of the CRP's flagship research products as per the Gender Strategy - CRP M&E system has protocol for tracking progress on integration of gender in research And A CRP plan approved for capacity development in gender analysis And The CRP uses feedback provided by its M&E system to improve its integration of gender into research

ANNEX 3. KEY A4NH SUCCESS STORIES FROM PHASE I

Flagship on Biofortification. HarvestPlus joined A4NH with a well-established research program that had produced a portfolio of staple crop varieties with higher levels of micronutrients (Vitamin A, iron and zinc), methods for screening and validating micronutrient levels, and rigorously-tested nutritional efficacy trials. The earliest results were of the nutritional efficacy of orange sweet potato consumption on Vitamin A status. Prior to A4NH, HarvestPlus had also established several ex-ante studies on the cost-effectiveness and potential impact of large-scale delivery of biofortified crops. During Phase I, HarvestPlus established a convincing evidence base on improvements in iron status in women and children through consumption of biofortified crops. Two [efficacy studies](#) demonstrated that consumption of high iron beans (HIB) had a significant impact on micronutrient status and functional indicators like physical activity. To date, ten varieties of beans with up to 94 percent of the target iron increment have been released in Rwanda. The Democratic Republic of Congo has nine varieties of beans, including some exceeding the target iron increment. Significant multiplication and delivery efforts have been undertaken. Innovative marketing plans and outreach campaigns increased [consumer awareness](#) as HIB entered urban markets. A [music video and outreach tour](#) by Rwanda's top musicians celebrated the benefits of growing and consuming HIB, with live performances for more than 30,000 people alongside exhibitions and sales of HIB seeds. Nationally representative [surveys](#) from Rwanda show high acceptance of HIB. By 2015, 350,000 households had grown HIB during the period. This progress complements a growing emphasis on nutrition in Rwandan public policies.

Beyond the HIB example, HarvestPlus engaged with actors to deliver biofortified crops in other target countries (for example, Nigeria, Uganda, Zambia, Bangladesh, and India). There has been deliberate engagement with investors and decisionmakers through the [Second Global Conference on Biofortification](#) in 2014 and with countries through dissemination of evidence and tools such as the Biofortification Priority index ([BPI](#)). The theory of change approach has been rigorously applied to better understand impacts on target populations, delivery processes (including gendered dimensions), and to estimate future reach. Impressive evidence and evaluation processes are in place for future delivery at-scale. By the end of Phase I of A4NH, 14.5 million people were reached.

Beyond delivery, A4NH researchers contributed to the body of evidence on biofortification, through studies on consumer acceptance and population [health effects](#). There has been progress in defining biofortification (through the *Codex Alimentarius* process) and in global recognition and promotion of the health benefits (through [WHO and FAO](#)). The 2016 World Food Prize award to Howdy Bouis, founding director of HarvestPlus, and 3 CIP colleagues – Maria Andrade, Jan Low, and Robert Mwanga – showed the acceptance of biofortification as an impactful and scalable approach to micronutrient deficiency.

Flagship on Integrated Policies and Programs. During Phase I, A4NH generated a number of influential syntheses on the role and impact of nutrition-sensitive solutions, which includes nutrition-sensitive agriculture. One of the first in Phase I was IFPRI's contributions to *The Lancet Maternal and Child Nutrition Series* and later, ICN2, which brought together more than 170 countries and launched a [Decade of Action for Nutrition](#). Both have been influential in the international and national development dialogue, as well as in A4NH and CGIAR planning. One of the most important A4NH-supported efforts in Phase I was the *Global Nutrition Report*, co-chaired and hosted by IFPRI through 2016. With national-level statistics and targeted analysis on key themes, the Report guides actions, builds accountability, and sparks increased commitment for reducing malnutrition. In 2014, the first [Global Nutrition Report](#) highlighted the urgency of addressing malnutrition reach and the need for more data in this area. The [2015 report](#) was downloaded more than 11,000 times and was presented at a side event at the 2015 Paris Climate Conference. The [2016 report](#) provided new evidence on [country commitment and nutrition outcomes](#).⁴

To help answer the question '[does better agriculture mean better nutrition?](#)', A4NH researchers from IFPRI co-authored six of eight studies in [a special issue of the Journal of Development Studies](#). These studies, using a range of data, metrics, and analytical tools and carried out in a variety of contexts, confirmed that household production diversity and/or livestock ownership are associated with greater diversity in the diet (making them more nutritious) and, in some studies, with lower rates of stunting in children – particularly in households where women were more empowered. A4NH researchers also finalized results from the first randomized controlled trial other than biofortification of a gender- and nutrition-sensitive agricultural development program, implemented by Helen Keller International (HKI), a long-term partner, in Burkina Faso. [The findings](#), summarized in an IFPRI [blog post](#), showed reduced anemia, wasting, and diarrhea in young children, improved maternal nutrition, and increased women's ownership of productive assets, social status, and role in household decision-making. One of our success stories from Phase I is how HKI, BRAC, and other implementers have used A4NH evidence and methods in the design, implementation, monitoring, and evaluation of programs.

⁴ As of December 2016, unique downloads for the 2016 Report stood at 74,252. In the two weeks following the June 14 launch, the report received 409 media mentions, 257 of which were original content (e.g., stories, blog posts, and op-eds). Coverage spanned 56 countries and 16 languages, including 21 top-tier publications such as *The New York Times*, *The Wall Street Journal*, and Voice of America. According to Altmetric, the report is in the top 5 percent of all research outputs ever tracked and ranks #1 in attention score for IFPRI.

Another Phase I area of success has been on how to scale up investments to reduce malnutrition, so governments can craft effective programs and policies. In 2015, the *Transform Nutrition* consortium, led by IFPRI, generated an [evidence review](#) listing nine critical elements. The Scaling up Nutrition movement (SUN) [highlighted](#) this as a key reference framework in their guidance on documenting and enabling access to systematic research expertise on the implementation strategies, effective coverage, and impact of evidence-based actions. Two events, [Together for Nutrition in India](#) and [in Ethiopia](#), convened by *Transform Nutrition* and *POSHAN*, allowed national stakeholders to share their experiences on the important lessons and role of country actions and multi-sectoral engagement. The [Stories of Change in Nutrition](#) approach – which is linked to *Transform Nutrition* – reached a wide audience during Phase I. A series of case studies from Bangladesh, Nepal, Ethiopia, Zambia, and the Indian state of Odisha, *Stories of Change* described how enabling environments, policies, and processes were cultivated and sustained in ways that have resulted in improved nutrition. Country-level workshops were held and a set of analytical tools, frameworks, and methods to assess the [underlying determinants of change](#) in nutrition indicators have been assembled for others to learn from the approach. Some cases studies were included in an IFPRI-published book, [Nourishing Millions](#) and were cited in the ReSAKSS report [Achieving A Nutrition Revolution for Africa](#).

Flagship on Agriculture-Associated Diseases. The [2015 WHO Global Burden of Foodborne Disease](#) documented that the global burden of foodborne disease was comparable to the burdens of HIV and malaria.⁵ Recognizing that the greatest foodborne disease burdens are from pathogens in fresh foods in low- and middle-income countries, A4NH, led by ILRI, focused on these issues in Phase I. In 2014, the team synthesized ten years of research results in the book [Food Safety and Informal Markets](#). With 25 case studies of meat, milk, egg, and fish products drawn from eight countries in East, West, and Southern Africa, the book offered policymakers and public health experts examples of challenges and solutions in managing food safety in informal markets. The evidence showed how participatory food safety risk assessment linked with market-based risk management solutions can help provide a realistic and pragmatic strategy for reducing the risk for consumers, while supporting market access for poor producers. Evidence also highlighted the gendered aspects of food safety risks and control options. Training and evidence were incorporated into university curricula in three countries.

Another major thrust of food safety research in Phase I has been on the mitigation of aflatoxin risks, particularly in maize and groundnuts. A4NH research carried out by IITA, ILRI, ICRISAT, and IFPRI has drawn more attention to viable solutions to this problem. One solution is based on the biocontrol product [Aflasafe](#). IITA, with USDA-ARS and national institutions, successfully improved the technology in the MAIZE program, consistently reducing groundnut and maize aflatoxin contamination by at least 80 percent. Then as part of A4NH, the team developed plans to transfer Aflasafe technology and commercialize it in 11⁶ countries in Africa, starting with initial risk assessment, developing and registering products, moving through designing efficient manufacturing prototypes, and executing strategic manufacturing/distribution partnerships until partners are prepared to take over. In Nigeria, all steps have been undertaken, with nearly 32,800 ha treated by 23,800 farmers as part of the AgResults project to incentivize the use of Aflasafe⁷. In Kenya, IITA and the Kenya Agriculture and Livestock Organization (KALRO) signed a Technology Transfer Agreement for Aflasafe KE01™. KALRO officially launched Aflasafe KE01™ and began construction of a modular manufacturing facility at its Katumani Research Station. Aflasafe KE01™ was applied to nearly 3,000 acres and 98 percent of the harvested maize was classified as safe by the European Union and the Kenya Bureau of Standards, a first. Beyond technology, A4NH has provided policy-relevant research on the public health risks of aflatoxins and effective market and technology solutions. In 2013, A4NH published a [set of 19 briefs](#) as part of IFPRI's 2020 Vision Initiative. A [set of 11 evidence-based technical papers](#) by A4NH researchers led by IITA have informed the development of the East African Community (EAC) Aflatoxin Prevention and Control Strategy and Action Plan. Ten additional policy briefs on aflatoxin prevention and control are being disseminated by the EAC to member governments to raise awareness on the magnitude of aflatoxins (described [here](#)). In 2016, a special edition of the African Journal of Food, Agriculture, Nutrition and Development on [Aflatoxins in East Africa](#) was compiled with 12 articles from A4NH researchers. It was [featured by the Partnership for Aflatoxin Control in Africa](#) with a message of gratitude from AU Commissioner Rhoda Peace.

In Phase 1, there has been research on zoonoses, including cysticercosis and brucellosis. In this research, there have been strong national partnerships. One example (among others) is on Rift Valley fever research conducted at ILRI as part of A4NH, including 52 million people and 90 million hectares in high-risk areas of East Africa. Researchers use risk-based surveillance to target scarce surveillance efforts to highest-risk and reward locations. Future scenarios consider IPCC climate change scenarios and poverty maps.

⁵ A4NH scientists from ILRI contributed to this report as part of their involvement with the WHO Foodborne Disease Burden Epidemiology Reference Group (FERG).

⁶ We are developing products for 13 countries, but the ATTC project where commercialization activities have begun or will take place will be in 11 countries.

⁷ These are cumulative values from 2013 to 2016.

Research results have been incorporated into a Kenyan government (public health and veterinary) [decision support tool for Rift Valley fever](#).

Flagship on Value Chains for Enhanced Nutrition. Generating evidence to strengthen the design of interventions in nutrition-sensitive value chains was an important objective of Phase I. Following a [2014 A4NH workshop](#), researchers and practitioners developed a framework to identify, design, and evaluate interventions. Results were published in an [IFPRI Discussion Paper](#) and [research brief](#). Since then, several projects have applied the framework. For example, IFPRI and the World Food Program are conducting studies to update the framework for multi-chain systems and to develop and validate theory-based methods and metrics for nutrition-sensitive value chain interventions. CIAT is conducting a [study on market-based solutions](#) to increase the consumption of beans and amaranth by poor urban and peri-urban consumers in Kenya and Uganda. IFPRI is evaluating mung bean interventions in USAID's [Agricultural Value Chains](#) project in Bangladesh. In addition, the framework was disseminated to key United Nations food and agriculture agencies. With technical support from A4NH, the International Fund for Agricultural Development (IFAD) developed guidance on designing nutrition-sensitive value chains and is testing an approach in Indonesia and Nigeria. With A4NH, IFAD modified the framework to focus on smallholder producers. This now underpins IFAD's approach to value chain development in several projects. To complement value chain research, A4NH supported research on agricultural diversity and nutrition with system CRPs. Multiple centers – Bioversity, CIAT, IITA, ICRAF, IFPRI, ILRI and WorldFish – jointly developed and implemented methodologies. Bioversity synthesized key results in a [book on Agrobiodiversity](#) that assesses the relationships between the diversity of agricultural/multi-functional landscapes and sustainable diets.

A major gap in value chain research is assessing consumption. Standard 24-hour consumption data are expensive to collect and are thus not widely available. In Phase I, A4NH researchers proposed how household consumption and expenditure survey (HCES) data can be alternative sources for identifying and assessing diets. Researchers from several flagships worked together on refining this approach and explaining how it can be used to policymakers and members of the nutrition community.⁸ This effort is part of the ongoing International Dietary Data Expansion Project (INDDEX), a collaborative effort implemented by Tufts University, FAO, and IFPRI. Another Phase I success in the area of improving the accuracy and availability of dietary data was the establishment of the [Minimum Dietary Diversity-Women \(MDD-W\)](#) for measuring women's dietary diversity. The MDD-W was an improvement on the Women's Dietary Diversity Score because it provided a single, universal cut-off point that would accurately classify women into those with low dietary diversity. A4NH researchers participated in the consensus meeting, generated research that helped inform the indicator, and explained to program implementers and decisionmakers how it can be applied (see [A4NH blog post](#)).

When A4NH began in 2012, CGIAR had just elevated improving nutrition and health to a system-level outcome, reflecting the increased importance of nutrition in the global development agenda. While there was much interest within CGIAR in contributing to nutrition and health outcomes, evidence and experience on what agricultural interventions could do to improve nutritional status, and how, was limited. A4NH took on two important initiatives during Phase I to systematically strengthen knowledge and evidence of how agriculture could contribute to improved nutrition and health.

Defining Impact Pathways and Theories of Change. In the early part of Phase I, A4NH conceptualized a framework, based on pre-A4NH research, to explain the pathways between agriculture and nutrition.⁹ The pathways have been influential in guiding the design and implementation of nutrition-sensitive agriculture programs. More broadly, A4NH evidence based around this framework has influenced international platforms such as SUN and the second FAO-WHO International Conference on Nutrition (ICN2), as well as the CGIAR Strategy and Results Framework (SRF) for 2016-30. The SRF is now clearer on CGIAR's expected contributions to improved nutrition and correctly specifies *diet quality* as agriculture's contribution, recognizing that inputs from other sectors will be necessary to significantly reduce childhood stunting rates.

While the agriculture to nutrition pathways offered a useful map for what to do, understanding how we can orient research to

⁸ How food and nutrition analysts can use the household consumption and expenditure survey data to understand national and sub-national level food consumption was described recently in an issue of [Sight and Life magazine](#) and in several articles by Fiedler et al. in a 2012 [supplement](#) to the *Food and Nutrition Bulletin*. Since then, there have been numerous publications on how the nutrition community can work with household consumption and expenditure survey stakeholders to improve HCES (see [Fiedler 2013](#) and [Fiedler and Mwangi 2016](#)), costs comparisons to other dietary data sources (see [Fiedler, Martin-Prével, and Moursi 2013](#)), and applications to specific countries ([Fiedler and Lividini 2014](#) and [Fiedler 2014](#)).

⁹ The pathways between agriculture and nutrition have been conceptualized in many ways. The one we are referring to here comes out of research in India as described in Headey et al. (2011) and [Gillespie, Harris, and Kadiyala \(2012\)](#). It has been described further in *The Lancet* (see [Ruel et al. 2013](#)) and disseminated and used by the USAID-funded [SPRING project](#).

accelerate development outcomes and impacts required a more systematic process. During Phase I, A4NH built on past investments in developing [theories of change and impact pathways](#). Each flagship now has at least one impact pathway, explaining how research outputs will lead to development outcomes at different levels. Evidence to assess assumptions within the ToCs are tracked from research outputs to outcomes and impacts and updated with new evidence. The approaches for food safety ([informal markets for meat and dairy](#) and [aflatoxins](#)) and [biofortification](#) have been recognized as particularly helpful, as noted by the CGIAR Independent Science and Partnership Council (ISPC) in [their review](#) of the Phase II proposal. To monitor our progress along each impact pathway, we've identified indicators and targets for Phase II. Over the course of 2016, we incorporated each impact pathway and associated indicators and targets into an online planning and reporting tool, which was developed in collaboration with four other CRPs and launched for A4NH in January 2017.

Strengthening the Understanding and Awareness of Gender in the Agriculture to Nutrition Pathways. The synthesis of evidence on the agriculture to nutrition pathways revealed that gender was a crucial determinant. To ensure the inclusion of gender throughout CGIAR and beyond on agriculture for nutrition, A4NH convened a community of practice and provided tools and resources through annual workshops with CGIAR and partner gender and evaluation specialists during Phase I. To further support the community of practice, A4NH launched the [Gender Nutrition Idea Exchange \(GNIE\)](#) blog, which gives researchers a forum for sharing ideas, information, projects, questions, and approaches with one another and the broader community. With more than 32,000 unique pageviews since its launch in May 2014, the blog continues to increase its reach and readership, providing an important resource for its many readers. Other gender tools and resources, including [videos](#) on the agriculture to nutrition pathways and gender-related research findings, have been well-received, reflecting the hunger for reliable, quality resources from those working in this area.¹⁰

¹⁰ A4NH's approach to gender research has been positively reviewed and recognized, most recently in the CGIAR Independent Evaluation Arrangement's [Evaluation of Gender in CGIAR](#).