CGIAR Research Program on Agriculture for Nutrition and Health

Narrative of major planned work in 2016

The production of greater volumes of food commodities is necessary, but not sufficient, to ensuring that people are better-nourished and healthy. The focus of the CGIAR Research Program (CRP) on Agriculture for Nutrition and Health (A4NH) is to improve understanding of the dynamic linkages between food production and human nutrition and to develop policies, programs, and interventions related to agriculture that will result in improved nutrition and health. Our efforts are designed to help CGIAR achieve its commitment to addressing the global challenge of improving nutrition and health through agriculture.

Since 2012, our research portfolio has been organized into flagship programs that build on existing CGIAR research and development – in the areas of biofortified crops (Flagship 2: Biofortification) and the evaluation and analysis of programs and policies designed to improve nutrition (Flagship 4: Integrated Programs and Policies) – and strengthen new, comprehensive approaches to improve how nutrition outcomes can be shaped by actions all along particular value chains (Flagship 1: Value Chains for Enhanced Nutrition) and to characterize the multiple burdens of diseases associated with agriculture and identify management and control options (Flagship 3: Agriculture-Associated Diseases). The latter two flagships are innovative, priority areas for CGIAR and have taken time to define new approaches and build new coalitions during Phase I.

Thus, it is unfortunate that in the last year of the first phase of A4NH, the 2016 CGIAR Financing Plan reduced the Window 1/Window 2 (W1/W2) overall allocation to A4NH and asked that A4NH make larger percentage cuts of W1/W2 to the new areas in Flagships 1 and 3. The A4NH Independent Advisory Committee (IAC) requested that their disagreement with this part of the Financing Plan's advice to A4NH be noted. They felt that Flagships 1 and 3 should receive greater W1/W2 funding relative to the more mature flagships. They noted that research in these areas was very favorably reviewed in the A4NH pre-proposal and was recommended for relatively greater funding in Phase II, so that a selective cut in their funding in 2016 would seem unwise. Despite this objection, the IAC agreed to some differentiation in cuts by flagship as per the 2016 Financing Plan instructions. The 2016 POWB reflects an average 55% decrease of W1/W2 allocated across the entire CRP with a 65% decrease of W1/W2 allocated to Flagships 1 and 3, compared to the W1/W2 allocations received in 2015. Given that much of the research in these two flagships is new and has a greater reliance on W1/W2 funding, the two flagships will have decreased activities and outputs in 2016 compared to prior years.

Our 2016 activities by flagship are described below, followed by details on research outputs and outcomes at flagship and cluster level in Table 1 and gender activities in Table 2.

During Phase I, research efforts in **Flagship 1: Value Chains for Enhanced Nutrition** have focused on developing new tools and methods for assessing the nutritional quality of key commodities as they pass through the value chain and respond to consumers' needs and demands. Initial assessments, often conducted in partnership with actors in the value chains in selected countries, have resulted in identification of specific interventions that could improve the quality of diets, dietary choices, and nutritional outcomes as well as suggest broader-scale approaches that could make agricultural interventions more nutrition-sensitive. Results from a number of these research studies will be published in 2016 describing, for example, the relative impacts of two behavior change communication strategies on the dietary choices of adolescent girls and young women in Bangladesh and consumer

perceptions of and demand for fruit, beans, and amaranth in Kenya and Uganda. Ongoing work in 2016 will strengthen the design of the new Food Systems for Healthier Diets flagship for Phase II, including assessments on rural, peri-urban and urban value chains for perishable, nutritious foods, including identification of nutrient gaps, market barriers, and ways to promote production and consumption of nutritious crops, and comparisons of different models, such as public distribution chains and homegrown school feeding programs. Due to W1/W2 resource constraints, the cluster of activities on nutrition-sensitive landscapes will be continued in 2016 at a much smaller scale than anticipated in the A4NH Extension Plan, with reduced research activities limited to two rather than three sites in Kenya and Vietnam. Building on prior work on pulse value chains, we will leverage opportunities offered by the International Year of Pulses (IYP 2016) this year to launch research initiatives and pulse value chain innovation platforms with public, private, and civil society organizations, particularly for India and Ethiopia, to be expanded during Phase II of A4NH.

HarvestPlus, which leads **Flagship 2: Biofortification**, completed its development phase and launched delivery activities and expanded partnerships in nine target countries during Phase I of A4NH. Developing new, more nutritious varieties of staple food crops (beans, cassava, maize, pearl millet, rice, sweet potato and wheat) that provide higher amounts of vitamin A, iron, or zinc, and establishing the nutritional efficacy of these promising varieties is a key achievement for the flagship and its partners. Now Biofortification is focusing on improving diet quality by partnering with key national and regional actors to establish programs able to deliver biofortified crops at scale. Some of the activities that will be undertaken in 2016 that will support the overall goals of the delivery phase of the program include: building capacity of CGIAR and key research partners to mainstream high-levels of micronutrients into multidimensional breeding programs, providing evidence for targeting biofortification interventions and conducting policy analysis to support the integration of biofortification into national and regional policies and investment plans, and working with partners and the HarvestPlus country teams to support significant adoption and consumption of biofortified foods in expansion countries. Building on the A4NH-supported effort to develop and refine theories of change for specific crops and countries during Phase I, this year the improved Monitoring, Learning, and Assessment (MLA) system will be in place to track indicators in ways that help us understand better how gender influences household adoption, among other things, to inform delivery and scaling efforts in Phase II. Breeding of enhanced varieties of staple crops and nutritional efficacy and effectiveness studies of biofortified crops and biofortified foods remain core parts of our flagship in 2016 and through Phase II. Results from several of these activities, such as evidence on the bioavailability of zinc rice and efficacy studies on provitamin A cassava, will be published this year. National- and global-level policy engagement activities will continue to support decisionmakers with evidence-based information on biofortification. Specifically, we expect that Codex Alimentarius will continue the process of establishing international standards for biofortification in 2016, opening up new opportunities for Phase II.

Over the course of Phase I, **Flagship 3: Agriculture-Associated Diseases**, has focused its research efforts on studying how to mitigate the health risks associated with agriculture from intensification of livestock systems, land use change (including urbanization), climate change, neglected zoonoses, and food safety risks along the value chain. The research conducted to date, which is informed by socioeconomic, gender, and ecological thinking, has improved our understanding of the multiple burdens of agriculture-associated disease and, for some issues, management strategies have been identified and tested. This year, our research activities on aflatoxins will bring a special emphasis on mapping hotspots, conducting risk assessments, and pilot experiments testing innovative market-based strategies for mitigating aflatoxins with maize millers. Another set of related activities – ongoing with results expected after 2016 – is conducting a randomized trial to assess the relationship between aflatoxin exposure and child

growth in Kenya. Our research activities on food safety of perishable products will concentrate on synthesis and dissemination of results from multi-year assessments in several country contexts, primarily in Africa. These efforts will help strengthen partnerships for the identification and testing of promising interventions to improve food safety in Phase II. With partners from other CRPs, we will finalize results in 2016 from a pilot study in Zambia on foodborne disease risks and recommend food safety priorities for dairy products, fish, and meat. From the research cluster on disease risks, the agro-eco-health platform in West and Central Africa, will complete studies on the contribution of poor irrigation and water management and deep tillage on malaria vectors and health risks to producers and consumers as they relate to irrigation and peri-urban vegetable production and consumption. Although this type of research has been a rather small part of A4NH in Phase I, we are making efforts this year to expand partnerships with public health research institutions and mobilize resources to expand in Phase II. Other activities this year will include disseminating risk-based frameworks for predicting and managing zoonotic disease risks to users and policymakers in Southeast Asia and in Kenya and building on years of surveillance research to develop and present a plan for an integrated animal-human electronic surveillance system to manage zoonotic diseases.

The research team from **Flagship 4: Integrated Programs and Policies** has generated evidence from a variety of country contexts on how to improve the design and delivery of nutrition-sensitive programs and policies to enhance nutrition and health benefits. During Phase I, these efforts have supported the work of development partners and decisionmakers in government and funding agencies by documenting the contribution of agriculture and nutrition programs to improvements in maternal and child nutrition. In 2016, the research continues to be coordinated with the CRP on Policies, Institutions and Markets (PIM), in particular the work around assessments of social protection programs for nutritional benefits. From the two clusters which focus on evaluation research, this year we will complete and disseminate several process and impact evaluations of nutrition-sensitive programs, such as Helen Keller International's CHANGE (Creating Homestead Agriculture for Nutrition and Gender Equity) project in Burkina Faso and Tanzania, Concern Worldwide's RAIN (Realigning Agriculture to Improve Nutrition) project in Zambia, and Alive & Thrive, a large-scale behavior change communication intervention implemented in Bangladesh, Ethiopia, and Vietnam. Lessons learned from these evaluations are stimulating new investments in replicating, adapting, scaling-up, and evaluating agriculture-nutrition programs. For example, new evaluations will be underway to assess agriculture, nutrition and gender linkages in Bangladesh and India and will be completed early in Phase II. In 2016, we will start a new set of activities to explore solutions to address national and subnational data gaps in linked agriculture and nutrition indicators. One project will be developing methods and tools to improve the design and implementation of Household Consumption and Expenditure Surveys (HCES) with pilots in Bangladesh and Burkina Faso and another will explore ways to link spatial agricultural data to Demographic and Health Surveys (DHS) and disseminate guides and models to demonstrate how the integrated datasets can be used for research and decisionmaking.

The cross-sectoral policies research cluster has focused in Phase I on improving understanding and generating evidence of how policymakers and investors can enable nutrition-sensitive development and influence relevant policy processes. Research activities are carried out through consortia-led projects like *Transform Nutrition* and Leveraging Agriculture for Nutrition in South Asia (LANSA) and Leveraging Agriculture for Nutrition in East Africa (LANEA), where IFPRI is one of the partners. Our key outputs this year include a synthesis of the country-level Stories of Change, which will provide a systematic documentation of the drivers and processes behind successful country-level attempts to accelerate rates of stunting reduction via both nutrition-specific and nutrition-sensitive interventions, an evidence review on the role of public and private partnerships in nutrition, analysis of cross-country data to

examine the relationship between gender inequalities and undernutrition, and results from the funded research projects on nutrition-relevant policy and action in East Africa (a call for idea notes or "responsive window" opened by A4NH and *Transform Nutrition* in 2014). Another set of research activities in this cluster, led by Bioversity International, will be finishing up its final year of providing evidence and raising awareness of the nutritional value of agricultural biodiversity in four target countries – Brazil, Kenya, Sri Lanka, and Turkey.

A4NH **gender research** recognizes that understanding and addressing gender issues is necessary in order for agricultural technologies, interventions, and policies to contribute to equitable health and nutrition outcomes**.** Only by understanding the differences in the roles, responsibilities, decisionmaking, and bargaining power of men and women, can researchers start to explore factors that determine how and why impacts may differ within the households. IFPRI leads strategic cross-cutting gender research activities in A4NH. Of particular importance is the second phase of the Gender, Agriculture, and Assets Project (GAAP2). The five-year project (2015-2020) involves CGIAR Centers and partners to generate the first systematic body of evidence on how different types of agricultural projects can be oriented to empower women and improve nutrition outcomes; these results will be critical to our gender research in Phase II. The A4NH-led gender-nutrition community of practice engages gender specialists, such as those from the CRP on Policies, Institutions and Markets (PIM), Livestock and Fish (LaF), and Grain Legumes, through several activities. One is through two postdoctoral fellows (supported by funds from the Consortium and co-managed with other CRPs) to support work to validate gender and empowerment indicators and integrate gender considerations in the M&E of nutrition-sensitive value-chain projects (with PIM, LaF, and GL) which will be published in 2016. The second is the Gender-Nutrition Idea Exchange blog. The blog's audience has grown since it launched in mid-2014 to more than 8,500 users and has included posts from CGIAR and non-CGIAR researchers on the conduct of high-quality agriculture research that considers both gender and nutrition issues. More efforts to promote the blog to new audiences in 2016 will be launched by the gender team. The third is the A4NH Gender-Nutrition Methods workshop, which this year will be held as part of the GAAP2 inception workshop. In 2016, A4NH will be applying lessons learned from this successful community of practice model to the planning of other communities of practice for other topics in Phase II of the CRP.

Table 1. Planned key activities for 2016 to produce IDOs and outputs, with associated planned budgets

Level of organization within the CRP	Description of planned key activities	Expected results of planned key activities	Planned budget
Level n-1: **FP1: Value Chains for Enhanced Nutrition**	**Value Chains for Enhanced Nutrition** conducts assessments for nutritional quality from supply to demand, considering value chains from informal / local through dedicated public distribution chains to formal, global chains. Activities in two clusters focus on assessments and evaluations of value chain interventions to improve nutrition, conducted in collaboration with key value chains actors and enablers, including other CRPs, private enterprises, development banks, governments, other food distribution organizations, farmer organizations, and civil society. The flagship also includes a cluster of research on nutrition-sensitive landscapes and supports the CRPs on HumidTropics and Aquatic Agricultural Systems on nutrition.	Our evidence and methods will help value chain actors, policymakers, farmers and NGOs to design, assess, and improve value chains for nutrition, contributing to the IDO on **improved diet quality** for women, infants and young children, and vulnerable groups. Characterizations and interventions are targeted at understanding gender roles and/or improving women's participation in value chains, findings that will support the achievement of the IDO on **empowering women and vulnerable groups.** Support to the systems CRPs on the topic of diet quality will enhance the **enabling environment** for nutrition by embedding nutrition into their work.	$5 million ($1.7 million from W1/W2)
Level n-2: **1.1 Value chain interventions for nutritious foods**	**Objectives** 1. To design, implement, and evaluate gender-sensitive value chain interventions with value chain partners in order to change consumer behavior and increase nutritional awareness with value chain actors in nutrient-dense value chains, such as fruits and vegetables, animal source foods, and pulses. 2. To design, implement, and evaluate value chain interventions with value chain partners in order to improve quality and/or reduce prices for nutrient-dense foods. **Locations** Bangladesh, Guatemala, India, Mali, Nigeria, Zambia **Methods** Panel surveys, lab-in-the-field experiments, key informant interviews, household surveys, focus group discussions **Gender research dimension** Design of interventions takes into account women as producers, improving incomes, and/or as consumers, helping to improve maternal and child nutritional status.	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • **One publication on results from an RCT comparing the impact of two behavior change communication strategies on nutrition behaviors of adolescent girls and young women in Bangladesh** • Up to 2 publications describing market barriers to expanding dietary diversity and potential interventions to address them • **Workshops for researchers and community members, with particular attention to women, to identify and promote ways to integrating nutrient dense resilient crops into production systems and householders' diets conducted in Guatemala, India, Mali, Nigeria, and Zambia** • **Reports of baseline assessments (household survey and focus groups including 24 hour recall for the primary woman of the household) carried out in Guatemala, India and Mali identifying nutrition gaps and the role of target crops and other local agricultural biodiversity in improving diet quality** <u>Expected research outcomes</u> • Evidence used to target additional work on value chain interventions for Phase II using appropriate entry points and strengthened design of value chain interventions for nutritious foods	$2.3 million

Level n-2: **1.2 Assessing value chains for nutrition from demand to supply**	**Objectives** 1. To characterize value chains for nutritious foods, including identification of constraints to supply and demand, nutritional quality, and food safety issues, particularly for the poor and women. 2. To characterize and assess the potential of different arrangements to a) enhance the performance of value chain actors and to b) deliver on a variety of outcomes, including income, women's empowerment and participation, and nutrition. 3. To develop methods, typologies and analytic frameworks to assess the structure and function of informal and formal value chains for nutrient-dense foods and their contributions to diverse diets for different target populations in different contexts. **Locations** Benin, Ethiopia, India, Kenya, Malawi, Uganda, Tanzania **Methods** Nutritional assessments, household surveys, key informant interviews, focus group discussions, food composition analysis **Gender research dimension** Assessments examine gender differences in nutritional status and consumption, roles of men and women along the entire chain from production to processing to sale and consumption, including gender-based differences in preferences and roles related to food preparation.	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • Up to 3 publications describing nutrition issues and consumer perceptions, demands, and intakes of fruits in Kenya and addressing the various aspects and dimensions of bean and amaranth value chains in Kenya and Uganda • Up to 3 publications from Tanzania describing nutrient intake and food insecurity of rural households operating maize-based farming systems, maize flour fortification compliance among maize millers (relating to iron and zinc), and effect of packaging and storage conditions on provitamin A retention in ogi powder • Systematic reviews of food systems: baseline information and analysis of policies and investments in Bangladesh and Ethiopia • Book on pulse sector consumption and supply trends, focusing on India but with global implications • Design and launch of global public-private pulse innovation partnership, coordinated by Desautels Faculty of Management at McGill University with A4NH as core partner • Up to 2 briefs/blogposts about A4NH involvement in IYP2016 • **Report comparing effectiveness of educational tools for promotion of good complementary feeding practices** <u>Expected research outcomes</u> • New partnerships created, tools and evidence used by researchers and practitioners to design Phase II projects that can achieve better results	$2.5 million
Level n-2: **1.3 Nutrition-sensitive landscapes**	**Objectives** 1. To identify approaches which will optimize the multiple goals of food and nutrition security and ecosystem services both for human health and environmental health by testing methodologies in 3 pilot sites with system CRPs and partners (reduced to 2 pilot sites in 2016) 2. To improve the enabling environment for nutrition by embedding nutrition into the work of the systems CRPs.	<u>Expected outputs</u>[1] **Bold** outputs have strong gender research dimensions and/or target women. • Up to two publications on impact of systems approach to improving nutrition in Kenya and Vietnam • Guidelines published on how to integrate nutrition into systems research	$0.2 million

[1] For Cluster 1.3 on Nutrition-sensitive landscapes, the translation of outputs from benchmarking-related activities will continue in 2016 for Humidtropics (in Kenya and Vietnam). This is reflected in the 2016 POWB for the CRP on Integrated Systems for the Humidtropics under "Nutrition Legacy products". WorldFish has closed the Zambia office where Bioversity was operational in nutrition-sensitive landscapes. For 2016, Bioversity did not receive any funding from the CRP on Aquatic Agricultural Systems (AAS) for nutrition outputs and therefore there are no outputs from nutrition-sensistive landscapes reflected in the AAS 2016 POWB.

	Locations Kenya, Vietnam, Zambia (limited in 2016 due to funding cuts) **Methods** Nutritional surveys and agrobiodiversity assessments, focus group discussions, seasonal food availability calendars, land-use mapping by gender, incorporation of nutrition into farm systems analysis models **Gender research dimension** Research explores gender differences in perceptions of food availability, roles in landscape management, and dynamics of household decision making that influence consumption	• Up to four blogs and reserch briefs disseminated describing the research findings from the pilot sites • **Research report on available food biodiversity and seasonality in Turkana County** • **Research report on knowledge, perceptions and attitudes towards food and nutrition in Turkana County** <u>Expected research outcomes</u> • System CRPs (Humidtropics and AAS and the planning of subsequent research in AFS-CRPs) begin benchmarking the degree and type of nutrition and health mainstreaming in their programs and utilize common diet diversity indicators for monitoring	
Level of organization within the CRP	**Description of planned key activities**	**Expected results of planned key activities**	**Planned budget ($000s)**
Level n-1: **FP2: Biofortification**	**Biofortification** focuses on improving diet quality through food based solutions for essential micronutrients. Activities build on past and current CGIAR breeding research and the completed discovery and development phases of the HarvestPlus program. Three clusters of activities each focus on activities for a critical stakeholder / partner group. The first is varietal development with a view to mainstreaming the breeding of high micronutrient varieties in multi-dimensional crop breeding of food crops in low-income countries and populations. This cluster also includes capacity strengthening of platforms for nutritional analysis of roots and tubers. The second is nutritional efficacy testing so that biofortification is adopted as appropriate in public health nutrition. The third is in establishing delivery programs at scale with key national and regional actors.	This year delivery activities will grow and more partnerships will be established in our nine target countries to reach more than 3 million farm households with "proven" biofortified varieties, contributing to the IDO on **improved diet quality**. In 2016, consultations with regional and international stakeholders, country-level advocacy, and coordination of an effort to establish international standards for biofortification through Codex Alimentarius will support the achievement of the IDO on the **enabling environment.** Applying recommendations from last year's gender assessment, gender will be considered in the adaptive research for scaling out and informing the mainstreaming of micronutrients in breeding programs and nutritional assessments, contributing to the achievement of the IDO on **empowering women and vulnerable communities**. Results from impact assessments will consider the gender-differentiated impact of biofortification on outcomes such as time allocation, income, and market participation.	$42 million ($3 million from W1/W2)
Level n-2: 2.1 High-yielding micronutrient enhanced varieties made available to NARES and implementing partners in target countries	**Objectives** 1. To improve availability of high-micronutrient staple crops (beans, cassava, maize, pearl millet, rice, sweet potato, wheat) in target countries through breeding 2. To increase adoption of high micronutrient varieties by target partners 3. To develop, verify and establish methods in target countries	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • **Next wave varietal release for iron beans in Rwanda and provitamin A cassava in DRC** • **QTL mapping for zinc rice** • **Next wave varieties in testing in all target countries**	$15 million

	Locations Bangladesh, DRC, Ethiopia, India, Nigeria, Pakistan, Rwanda, Uganda, Zambia **Methods** "Next generation" high-throughput breeding methods; quality analysis/proficiency tests in NARS labs; XRF quality assurance training for staff **Gender research dimension** Crop development activities incorporate participatory varietal selection, including potentially gendered preferences for varietal traits.	<u>Expected research outcomes</u> • QTL mapping informs marker-assisted breeding for grain zinc • Multilocational testing data informs varietal release	
Level n-2: 2.2 Nutrition and health communities promote biofortified crops of demonstrated nutritional efficacy	**Objectives** 1. High-nutrient varieties have proven bioavailability: a. Zinc rice - Bangladesh 2. High-nutrient varieties have proven nutritional efficacy: a. Vitamin A cassava – Nigeria b. Zinc rice – Bangladesh c. Multiple crops – India **Locations** Bangladesh, India, Nigeria, Rwanda, Zambia **Methods** Efficacy trials, bioavailability testing, integration into policy frameworks **Gender research dimension** All data is sex-disaggregated, with a focus on understanding women's roles in household food consumption and nutrition-related outcomes.	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • **Completion and publication of zinc rice bioavailability study** • **Field work initiated for zinc rice efficacy study** • **Completion of provitamin A cassava efficacy study** • **Completion of background work for multi-crop efficacy study (initiation of field work if funds available)** • **Continuation of national policy integration and international standards work** <u>Expected research outcomes</u> • WHO Nutrition for Health and Development unit conducts review of evidence on biofortification, which includes a Cochrane review, discussion papers and an expert consultation (NY March, 2016). This is part of the evaluation process used to recommend (or not) potential nutrition interventions and produce guidelines for the implementation of those interventions that are assessed positively. • International standards established for biofortification at the Codex Alimentarius	$9 million
Level n-2: 2.3 Delivery programs establish progress in which farmers adopt and consumers eat biofortified varieties in target countries	**Objectives** 1. To incorporate biofortified varieties into distribution systems for seeds / planting materials 2. To prove effectiveness for provitamin A cassava and iron beans 3. Food processors adopt biofortified varieties 4. To increase number and availability of food products incorporating biofortified varieties	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • **Begin evaluation of model village intervention in Nigeria for vitamin A cassava** • **Complete baseline survey for iron bean effectiveness study**	$18 million

	Locations Bangladesh, DRC, India, Nigeria, Pakistan, Rwanda, Uganda, Zambia, Guatemala and LAC region **Methods** Dietary assessment, impact assessment, market analysis **Gender research dimension** A gender assessment will develop tools to help identify gender issues, how to increase impact through examining gender constraints and opportunities along the impact pathway, recommendations for applying what has been learned, identify a set of indicators to monitor the effect of addressing gender issues on outcomes and impact, and guidelines for expanding, replicating what has been learned. (Target countries: Zambia, Nigeria, Rwanda and Uganda).	• **Subnational Biofortification Prioritization Indices (BPIs) created for six countries (Colombia, Guatemala, Ethiopia, Nigeria, India, Brazil)** • **Nutrient retention modeled and/or tested for maize meal, pearl millet flour and processed products, and OSP processed products** <u>Expected research outcomes</u> • Iron bean effectiveness demonstrated • Evidence generated on delivery modalities for vegetatively propagated crops • Future investments by partners guided by subnational BPIs • Improved understanding of nutrient retention in food products informs recommendations for processing • More than 2 million households grow biofortified crops in 2016	
Level of organization within the CRP	**Description of planned key activities**	**Expected results of planned key activities**	**Planned budget**
Level n-1: **FP3: Agriculture-Associated Diseases**	**Agriculture-Associated Diseases (AAD)** conducts agricultural research, informed by socioeconomic, gender, and ecological thinking to improve understanding of the multiple burdens of AAD and identify and test successful management and control options. The flagship is organized into three clusters of research on food safety associated with aflatoxins, food safety of perishable products, and disease risks. Activities in all the clusters describe systems and priorities, which can be used to inform AAD policies, programs and research; improve our understanding of disease through epidemiology and socio-economics to inform the prevention and control of AAD in effective, equitable and sustainable ways; and build capacity for risk management by sharing evidence on innovation and risk-based and ag-based management for priority AAD.	Results from studies on the size of AAD risks in particular contexts will help decisionmakers, value chain actors, NGOs, and farmers to make informed decisions about investment of resources into evidence-based management and control options, contributing to the IDO on **reducing exposure to agriculture-associated diseases**. In particular, evidence, recommendations, and resources such as business models for producing biocontrol will be widely disseminated this year to partners to support an **enabling environment** for aflatoxin control. Evidence from food safety research in informal markets will be shared with value chain partners and decisionmakers to improve their understanding of the role of gender in improving food safety knowledge and practice and the role of informal markets for the poor, contributing to the IDO on **empowering women and vulnerable groups**.	$10.1 million ($1.5 million from W1/W2)
Level n-2: 3.1 Food safety – aflatoxins	**Objectives** 1. To estimate, map, and predict aflatoxin contamination risks and evidence of impacts on income and health in maize, groundnuts, and milk, including differential impacts on women	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • Up to 2 publications and a report describing transfer of aflasafe™ manufacturing technology to potential public and private sector producers in Nigeria and Kenya	$6.5 million

	2. To develop and test novel tests to detect aflatoxins for use by researchers, regulators, farmers, market agents, and other field staff 3. To test interventions to mitigate risk and reduce exposure to aflatoxins in value chains with special emphasis on gender 4. To understand demand (willingness-to-pay) for aflatoxin control and how control can be sustained through gender-sensitive technical, institutional and regulatory innovations 5. To pilot elements of aflatoxin control scale out, specifically biological control 6. To scale out interventions including application and assessment of innovative institutional arrangements and delivery mechanisms 7. To promote appropriate regulations and policy and plans for investment opportunities to enable scaling-out for aflatoxin control and reduce market and public health risks **Locations** Burundi, Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zambia **Methods** Surveys/surveillance, diagnostics, risk assessment, impact evaluation, RCTs, consumer acceptance studies **Gender research dimension** Research on aflatoxin technology development and dissemination assess gender differences in access to information/comparative responsiveness to marketing information; decision-making and impact on demand for and use of post-harvest technologies; preferences; constraints to adoption; and issues with use and impact.	• Modular manufacturing plant constructed and commissioned for production of aflasafe™ in Kenya • Up to 3 publications from studies in Kenya on efficacy of and determinants of demand for technology to reduce aflatoxin contamination in maize, consumers' perceptions of commercial maize flour quality and safety, and information, salience, and the impact of marketing on demand for food safety • Up to 5 publications on willingness to pay (WTP) for aflatoxin-safe milk in Kenya, WTP for aflatoxin-safe maize for human consumption in Nigeria, WTP for aflatoxin-safe maize feed in poultry industry in Nigeria, integrated risk and economic assessments of aflatoxins in milk in Kenya, levels of aflatoxin in Nairobi dairy products • Up to 7 reports/publications describing aflatoxin exposure in infants and young children, levels of aflatoxin contamination in groundnut and maize-based complementary foods in Ghana and Zambia, prevalence and levels of aflatoxin in maize and groundnuts in Mozambique, Rwanda, Tanzania • Up to 9 publications in a special journal edition on aflatoxins in East Africa, **one publication focused on gender issues** • Report on RCT to test different communication strategies on farmers' ability to mitigate aflatoxins <u>Expected research outcomes</u> • Factory design, manufacturing process and standard operating protocols for large-scale manufacturing of aflasafe™ made available to engage businesses for out-scaling aflasafe™ use across Africa • Validation of aflasafe™ demonstrated through trials • EAC policy makers develop implementation plans based on policy recommendations for aflatoxin control in East Africa across the health, agriculture, trade and environment sectors • Government of Ethiopia undetakes aflatoxin research as direct result of findings of aflatoxins in Ethiopian milk value chain	
Level n-2: 3.2 Food safety – perishables	**Objectives** 1. To identify potential food safety hazards (sometimes with nutritional benefits) and mitigation measures in different animal source food value chains in different countries and roles for different target groups (poor, women, children)	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • Up to 4 publications/reports describing food safety risks in informal value chains in Ethiopia and Uganda and impact and effectiveness of training and certification of informal	$2.1 million

	2. To estimate food safety / health risks in informal and formal animal source food value chains in Africa and Asia disaggregated by age-gender target groups 3. To assess innovative surveillance and data capture and sharing methods 4. To test communication tools and message formats for food safety risks for different clients 5. To identify, design, implement, and assess value chain and enabling environment innovations for mitigating food-borne diseases 6. To evaluate the sustainability of food safety risk-based incentives and capacity building in informal markets **Locations** Ethiopia, India, Kenya, Senegal, Tanzania, Uganda, Vietnam, Zambia **Methods** Surveys/surveillance, participatory appraisal, diagnostics, risk assessment, impact evaluation, RCTs, consumer acceptance studies **Gender research dimension** Research on food safety brings attention to gender-based differences in perceptions and exposure to risk. This research also examines how gender is associated with differences in preferences related to food acquisition, consumption, and preparation.	smallscale milk vendors on milk quality, food safety and livelihoods in Kenya, plus up to 4 policy briefs disseminated to decisionmakers • Guidelines published for risk assessment in informal markets in Vietnam plus final reports on the findings and recommendations from pork value chain assessments in Vietnam describing prevalence of zoonotic pig parasitosis, chemical risk assessment results, and perceptions and awareness of certain groups at risk • Set of mobile phone applications developed to deliver customized messages on pig-keeping, nutrition, and food safety in Uganda • Seminars for policymakers to share research results and build local capacity for integrating public health and livestock health, urban planning, local food production and social development in peri-urban settings of India • Report on physico-chemical (heavy metal screening) and microbiological analysis of irrigation water contaminants coupled with the analysis of the quality of irrigated vegetables • Final report describing foodborne disease risks, food safety priorities, and asssessment of efficacy and acceptability of food safety interventions for dried fish in the CRP on Aquatic Agriultural Systems site in Barotse, Zambia • Book on food safety in low and middle-income countries <u>Expected research outcomes</u> • Recommendations for management of foodborne disease taken up by decisionmakers • National Food Safety Task Force in Vietnam uses risk assessment guidelines for formulation of policy and guidelines to improve food safety • World Bank mission incorporates A4NH evidence in design for $41 million food safety project in Vietnam	
Level n-2: 3.3 Disease risk	**Objectives** 1. To estimate and map health risks and impacts (e.g. DALYs) associated with different agricultural practices disaggregated by key age-gender target groups 2. To understand and assess drivers of pathogen population dynamics and disease emergence associated with agricultural intensification, climate change, urbanization and other large-scale agro-ecological or social drivers	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • **Up to 5 reports for ministries in the Government of Kenya responsible for public health and animal health describing zoonotic disease burdens in specific value chains and recommendations for interventions and strategies to**	$1.5 million

	3. To assess innovative surveillance and data capture and sharing methods **Locations** Benin, Cameroon, India, Kenya, Laos, Tanzania, Vietnam **Methods** Surveys/surveillance, participatory appraisal, diagnostics, risk assessment, impact evaluation, RCTs, consumer acceptance studies **Gender research dimension** Research on disease risk examines how gender influences differences in vulnerability to risk, impacts of risk on different groups, and capacity to manage risk. The gender dimension of this research takes into account the role of both gender norms and biological sex in relationship to disease risk.	**develop an effective national surveillance program for zoonoses** • Up to 5 publications describing serological results for a range of zoonotic diseases associated with smallholder dairy production in Tanzania, prevalence of pig diseases and other zoonoses in Laos, the ecology of leptospirosis in Vietnam, **poverty-equity-ecosystem linkages of zoonoses,** and first reported cases of MERS in humans in Kenya • Publications/reports incuding vulnerability maps, impact assessments, and control options for Rift Valley fever (RVF) in East Africa • Tools for predicting and measuring disease risks in Laos and Vietnam, including risk-based frameworks, weather based risk-prediction tool for diseases, maps of hot spots of animal diseases and aflatoxicosis, and combined database of animal diseases, aflatoxicosis, and meteorological data • **Report describing nutritional benefits of participation in dairy value chains in Tanzania, particularly the gender implications of participation, and recommendations for benefits and off-setting known risks** • Reports/publications describing contribution of agricultural and irrigation practices to health risks and recommendations on the design of appropriate management strategies <u>Expected research outcomes</u> • Recommendations for zoonoses disease management taken up by decisionmakers • Government of Kenya uses A4NH tools and support to better plan for and respond to anticipated El Nino and associated RVF outbreak • Government of Kenya uses A4NH inputs to develop messages and actions for control of MERS in humans and camels in Kenya	
Level of organization within the CRP	**Description of planned key activities**	**Expected results of planned key activities**	**Planned budget**
Level n-1: **FP4: Integrated Programs and Policies**	**Integrated Programs and Policies** provides high-quality evaluative research to support nutrition-sensitive development partners more broadly as well as nutrition-sensitive agriculture more specifically, and evidence, approaches and tools for strengthening cross-sectoral policy and investment processes for nutrition-sensitive development. Research is done collaboratively, usually within the programs of development	Results from the portfolio of program evaluations provide evidence for development partners and investors on agriculture-nutrition linkages and recommendations that will improve the design and implementation of multi-sectoral development programs that will contribute to the IDOs on **improved diet quality** and **empowering women and vulnerable groups**. Evidence from the Global Nutrition Reports, regional and country-	$20.6 million ($2.5 million from W1/W2)

	partners including governments, international agencies, NGOs and development banks. Gender research is fully integrated into all research. Activities in the cross-sectoral policies research cluster focus on improving understanding and generating evidence of how policymakers and investors can enable nutrition-sensitive development and influence relevant policy processes.	specific case studies, and other resources for tracking and analyzing policy impacts will help policy makers and investors to develop and maintain an **enabling environment** for sustained nutrition improvements.	
Level n-2: 4.1 Evaluation of nutrition-sensitive agriculture	**Objectives** 1. To assess the impact and cost-effectiveness of strengthening agriculture and nutrition linkages 2. To strengthen partnerships, results and innovations to improve nutrition globally 3. To assess how agriculture practices can be leveraged to improve nutrition outcomes **Locations** Bangladesh, Burkina Faso, Ethiopia, Ghana, India Kenya, Tanzania, Zambia **Methods** Panel and cross-sectional household surveys, anthropometric measurements, use of biomarkers tests for micronutrient status, key informant interviews, process evaluation, impact evaluation, cost and cost-effectiveness analysis **Gender research dimension** Analyses of gender differences in asset ownership, agricultural production, nutrition knowledge, and women's empowerment and her own health and nutritional status, and the associated impacts on nutrition.	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • **Process and impact evaluation reports for the HKI CHANGE project in Burkina Faso and Tanzania** • **Publications on impacts of HKI's agriculture and nutrition program in Burkina Faso on women's health, nutrition and empowerment outcomes** • **Final impact evaluation report for RAIN project in Zambia** • **Baseline report for evaluation of new self-help group integrated agricultural programs in India** • **Baseline report for TRAIN project in Bangladesh looking at the impact of microcredit for agriculture programs targeted to women and including nutrition and health behavior change communication interventions on women's empowerment and maternal and child nutrition outcomes** • Combined DHS-GIS dataset, programming codes and instruction files for the project team and collaborators • Nutrition-sensitive general equilibrium models for Bangladesh, Ethiopia and Ghana <u>Expected research outcomes</u> • Implementing partners strengthen program design and operations and achieve greater impacts and deliver programs more cost-effectively • A4NH research stimulates investments in replicating, adapting and scaling up agriculture-nutrition programs • Capacity strengthened among partners in designing gender-sensitive and nutrition-sensitive programs and using impact pathway analysis methods for program strengthening and decisionmaking	$7.4 million
Level n-2: 4.2 Evaluation of broader nutrition-sensitive and	**Objectives** 1. To assess the impact of integrated nutrition-sensitive programs from different sectors (e.g., social protection, health, water and sanitation, gender) on maternal and child	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women.	$6.2 million

direct nutrition development sectors	diets, infant and young child feeding (IYCF) practices and nutritional status 2. To assess the cost effectiveness of different models of nutrition-sensitive programs from different sectors 3. To generate a body of knowledge on what and how nutrition-sensitive programs from different sectors can contribute to improving nutrition and document the key pathways of impact **Locations** Bangladesh, Burundi, Burkina Faso, Ethiopia, Guatemala, India, Mali, Senegal, Vietnam **Methods** Secondary data analysis, evaluations (impact, program impact pathway analysis, process evaluation, cost-effectiveness), panel and cross-sectional household surveys, stakeholder mapping/analysis, key informant interviews, focus group discussions, biomarker tests for micronutrient status **Gender research dimension** Analyses of gender differences in decisionmaking, nutrition knowledge, and women's empowerment and her own health and nutritional status, and the associated impacts on nutrition.	• **Cost-study report for the Preventing Malnutrition in Children under 2 years of age (PM2A) program in Burundi and Guatemala and publications describing results of impact evaluations of the program in both countries** • **Final report describing results of the multi-year POSHAN (Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India) project in India** • **Publications on impacts of Alive & Thrive behavior change interventions on child feeding practices and nutrition in Bangladesh, Ethiopia and Vietnam** • **Mid-term survey report of the impact evaluation of Mali's cash transfer program on socioeconomic and nutrition outcomes and the mid-term and process evaluation reports of the cash component of the WFP-implemented SNACK project and its impacts on birth weight and children's growth in Mali** • Global review of recent HCES methodological issues and improvements and country-specific reports for Bangladesh and Burkina Faso on key methodological issues <u>Expected research outcomes</u> • Implementing partners strengthen program design and operations and achieve greater impacts and deliver programs more cost-effectively • A4NH research stimulates investments in replicating, adapting and scaling up agriculture-nutrition programs • Capacity strengthened among partners in designing gender-sensitive and nutrition-sensitive programs and using impact pathway analysis methods for program strengthening and decisionmaking	
Level n-2: 4.3 Enable cross-sector policy analysis, formulation and implementation	**Objectives** 1. Enabling environment: To generate knowledge, develop capacity, and investigate approaches to cultivate and sustain enabling environments for nutrition-sensitive development 2. Agri-food policy: To identify approaches to improve cross-sectoral knowledge, capacity and processes for strengthening the nutrition-sensitivity of agri-food policy and investments 3. Scaling-up impact: To understand how to scale up the impact of multisectoral actions for nutrition at country-level. 4. Accountability and monitoring of global action on nutrition: tracking progress, identifying cross-sectoral actions and	<u>Expected outputs</u> **Bold** outputs have strong gender research dimensions and/or target women. • **Synthesis of the country-level Stories of Change aimed at systematically documenting the drivers and processes behind successful country-level attempts to accelerate rates of stunting reduction via nutrition-specific and nutrition-sensitive interventions** • Evidence review on the role of public and private partnerships in nutrition • **Analysis of cross-country data to examine the relationship between gender inequalities and undernutrition**	$7 million

	opportunities, and strengthening accountability around commitments to reducing malnutrition. **Locations** Afghanistan, Bangladesh, Burkina Faso, Brazil, Ethiopia, India, Kenya, Nepal, Pakistan, Sri Lanka, Turkey, Uganda, Zambia; plus regional work in Central Asia, South Asia, East Africa **Methods** Evidence reviews, mapping exercises, secondary data analysis, econometric analysis, case studies, focus group discussions, key informant interviews, "stories of change" **Gender research dimension** Research on women's empowerment, gender inequality and trends over time.	• **Results from the funded research projects on nutrition-relevant policy and action in East Africa (a call for idea notes or "responsive window" opened by A4NH and Transform Nutrition in 2014)** • Up to 3 publications/reports describing the enabling environment, including knowledge base, for mainstreaming biodiversity for improved nutrition and sustainable, healthy food systems and the upscaling and dissemination of tools and methods for mainstreaminb biodiversity into food and nutrition country strategies • One national portal on local biodiversity and foods, containing databases on nutritional properties of agrobiodiversity and associated traditional knowledge (ATK), developed to facilitate cross-sectoral collaboration and implementation • Multiple major events, including the International Syposium on Biodiversity and Edible Wild Species to explore the enabling environment, knowledge and evidence base for edible wild biodiversity and to highlight the importance of biodiversity for nutrition-sensitive development • New marketing options for biodiverse foods with high nutritional value identified and developed • Comprehensive analysis of food and nutrition security in the Central Asian region with special focus on macroeconomic, cross-sector, and household level issues <u>Expected research outcomes</u> • Stories of change and policy-relevant analytical tools and methods lead to more nutrition-sensitive, cross-sectoral policy and action for nutrition • 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. • Member states adopt IFAD nutrition action framework, including engagement strategy developed with evidence-based inputs from A4NH • Greater recognition and support for the role of agro-biodiversity for human nutrition by country decisionmakers in Brazil, Kenya Sri Lanka, Turkey, including one additional country example for dissemination as an A4NH outcome story	

Table 2. Planned CRP gender research budget for 2016: Expected gender research results and associated budget

Level of organization within the CRP	Expected gender research results as described in Table 1	Planned gender research budget
Level n-1: Flagship Projects that contribute to the CRP gender IDO and if relevant other IDOs that have a gender dimension.	*Expected progress toward the CRP's gender IDO and if relevant other IDOs that have gender equity dimension. Indicate, where relevant, the geographical areas of focus*	
Cross-flagship gender activities	Cross-country papers on women's time use and nutrition using WEAI data (For 2016: costs for analysis and write-up; field work is completed)	$25,000
	Paper from the gender in A4NH strategic innovation fund (For 2016: costs for analysis and write-up; field work is completed)	$25,000
	One gender training event to build capacity for gender research and analysis in other CRPs that collaborate closely with A4NH, recorded and shared online	$40,000
	Reports on capacity building activities related to gender research and analysis in other CRPs that collaborate closely with A4NH. Reports will include: 1) a workshop summary and 2) results from the post-workshop assessment.	$10,000
	Gender-Nutrition Idea Exchange monthly blog posts providing resources and advice on addressing gender in agriculture, nutrition, and health programs. (Total blog posts = 12 max per year)	$10,000
	At least 1 paper from the A4NH-LaF-GL gender postdocs' research on nutritious value chains (For 2016: postdoc salary and costs for field work, analysis and write-up)	$100,000
	Paper on empowerment and nutrition from the PIM-A4NH gender postdoc research (For 2016: costs for collection of available data, analysis and write-up)	$47,200
	GAAP2 Activities in 2016: initial adaptation of nutrition-relevant empowerment modules in the Women's Empowerment in Agriculture Index (WEAI) to a "pro-WEAI" for GAAP2 projects; consultation with partner agriculture-nutrition projects and testing of pro-WEAI in design / baseline phase of 16 agriculture-nutrition projects	$1,000,000
Level n-2: Cluster of activities *Use one row per relevant Cluster of Activities. For instance:* *Cluster of activities 1.3 (title)*	**Expected research outcomes and outputs that have a gender/equity dimension** (from Table 1). o Gender research outcome 1.3.a : (title) o Gender output 1.3.b: (title) **Note: Gender research is integrated in the A4NH research portfolio. To estimate gender research budgets we use the budget estimation method in the approved A4NH Gender Strategy**	
1.1 Value chain interventions for nutritious foods	1.1b One publication on results from RCT comparing the impact of two behavior change communication strategies on nutrition behaviors of adolescent girls and young women in Bangladesh 1.1b Workshops for researchers and community members, with particular attention to women, to identify and promote ways to integrating nutrient dense resilient crops into production systems and householders' diets in Guatemala, India and Mali 1.1b Reports of baseline assessments (household survey and focus groups including 24 hour recall for the primary woman of the household) carried out in Guatemala, India and Mali identifying nutrition gaps and the role of target crops and other local agricultural biodiversity in improving diet quality	$23,000
1.2 Assessing value chains for nutrition from demand to supply	1.2b Report comparing effectiveness of educational tools for promotion of good complementary feeding practices	$25,000
1.3 Nutrition-sensitive landscapes	1.3b Research report on available food biodiversity and seasonality in Turkana County 1.3b Research report on knowledge, perceptions and attitudes towards food and nutrition in Turkana County	$20,000
2.1 High-yielding micronutrient enhanced varieties made available to NARES and implementing partners in target countries	2.1b Next wave varietal release for iron beans in Rwanda and provitamin A cassava in DRC 2.1b QTL mapping for zinc rice 2.1b Next wave varieties in testing in all target countries	$150,000

2.2 Nutrition and health communities promote biofortified crops of demonstrated nutritional efficacy	2.2b Completion and publication of zinc rice bioavailability study 2.2b Field work initiated for zinc rice efficacy study 2.2b Completion of provitamin A cassava efficacy study 2.2b Completion of background work for multi-crop efficacy study (initiation of field work if funds available) 2.2b Continuation of national policy integration and international standards work	$90,000
2.3 Delivery programs establish progress in which farmers adopt and consumers eat biofortified varieties in target countries	2.3b Begin evaluation of model village intervention in Nigeria for vitamin A cassava 2.3b Complete baseline survey for iron bean effectiveness study 2.3b Subnational BPI created for six countries 2.3b Nutrient retention modeled and/or tested for maize meal, pearl millet flour and processed products, and OSP processed products	$180,000
3.1 Food safety – aflatoxins	3.1b One publication focused on gender issues in special journal edition on aflatoxins in East Africa	$65,000
3.3 Disease risk	3.3b Up to 5 reports for ministries in the Government of Kenya responsible for public health and animal health describing zoonotic disease burdens in specific value chains and recommendations for interventions and strategies to develop an effective national surveillance program for zoonoses 3.3b One publication describing poverty-equity-ecosystem linkages of zoonoses 3.3b Report describing nutritional benefits of participation in dairy value chains in Tanzania, particularly the gender implications of participation, and recommendations for benefits and off-setting known risks	$150,000
4.1 Evaluation of nutrition-sensitive agriculture	4.1b Process and impact evaluation reports for the HKI CHANGE project in Burkina Faso and Tanzania 4.1b Publications on impacts of HKI's agriculture and nutrition program in Burkina Faso on women's health, nutrition and empowerment outcomes 4.1b Final impact evaluation report for RAIN project in Zambia 4.1b Baseline report for evaluation of new self-help group integrated agricultural programs in India 4.1b Baseline report for TRAIN project in Bangladesh looking at the impact of microcredit for agriculture programs targeted to women and including nutrition and health behavior change communication interventions on women's empowerment and maternal and child nutrition outcomes	$3,700,000
4.2 Evaluation of broader nutrition-sensitive and direct nutrition development sectors	4.2b Cost-study report for the Preventing Malnutrition in Children under 2 years of age (PM2A) program in Burundi and Guatemala and publications describing results of impact evaluations of the program in both countries 4.2b Final report describing results of the multi-year POSHAN (Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India) project in India 4.2b Publications on impacts of Alive & Thrive behavior change interventions on child feeding practices and nutrition in Bangladesh, Ethiopia and Vietnam 4.2b Mid-term survey report of the impact evaluation of Mali's cash transfer program on socioeconomic and nutrition outcomes and the mid-term and process evaluation reports of the cash component of the WFP-implemented SNACK project and its impacts on birth weight and children's growth in Mali	$3,100,000
4.3 Enable cross-sector policy analysis, formulation and implementation	4.3b Synthesis of the country-level Stories of Change aimed at systematically documenting the drivers and processes behind successful country-level attempts to accelerate rates of stunting reduction via nutrition-specific and nutrition-sensitive interventions 4.3b Analysis of cross-country data to examine the relationship between gender inequalities and undernutrition 4.3b Results from the funded research projects on nutrition-relevant policy and action in East Africa (a responsive window opened by A4NH and Transform Nutrition in 2014)	$3,500,000
TOTAL GENDER BUDGET FOR THE CRP (SUM OF ALL CELLS ABOVE)		$12,260,200

Note: The budget assigned to the second half of Table 2 follows the methodology described in the A4NH Gender Strategy which estimates the % of the total Center budgets being spent on gender and then applies that across the clusters. That percent is then applied to outputs and outcomes as an estimate of what is being spent. The estimates are 1% for clusters 1.1 and 1.2; 10% for cluster 1.3; 1% for clusters 2.1., 2.2, and 2.3; 10% for clusters 3.1., 3.2, and 3.3; and 50% for clusters 4.1, 4.2, and 4.3. The exception in 2016 applies to cluster 3.1, which was adjusted to closer to 1% because IITA is the Center leading most of this work.