ANNUAL REPORT

Feed the Future Innovation Lab for Food Security, Policy Research, Capacity and Influence

October 2020 - September 2021

PRCI Program Partners

The Feed the Future Innovation Lab for Food Security Policy, Research, Capacity, and Influence is a consortium of research partners including Michigan State University, the International Food Policy Research Institute (IFPRI), Cornell University, ReNAPRI, University of Ghana, Kasetsart University, and Research and Information System for Developing Countries (RIS). Michigan State University is the institutional lead and manager of PRCI.

- Michigan State University, 426 Auditorium Road, East Lansing, MI 48824
- International Food Policy Research Institute, 1201 Eye Street, NW, Washington, DC 20005-3915
- Cornell University, 616 Thurston Ave. Ithaca, NY 14853
- Institute of Statistical, Social & Economic Research (ISSER), University of Ghana, P. O. Box LG74 Legon, Accra Ghana.
- Regional Network of Agricultural Policy Research Institutes (ReNAPRI), 26A Middleway, Lusaka, Zambia
- Kasetsart University (KU), 50 ซอย สุวรรณวาากสิกิจ Lat Yao, Chatuchak, Bangkok 10900, Thailand
- Research and Information System for Developing Countries (RIS), Core IV-B, Fourth Floor India Habitat Center, Lodhi Road, New Delhi-110 003, India

PRCI Executive Committee

David Tschirley serves as Director of the Lab. He is counseled by an Executive Committee constituted as outlined below. ExComm members can name delegates to represent them in meetings, as indicated (where relevant) in parentheses.

Table 1. Executive Committee Membership

Name	Institution	Role
Emily Weeks	USAID	AOR
Kristy Cook	USAID	AOR assistant
Chris Barrett	Cornell	STAAARS+ Director
Kelsey Schreiber	Cornell	STAAARS+ Manager (replaced Liz Bageant)
Kristin Davis	IFPRI	R2P Lead (replaced Danielle Resnick)
Elizabeth Bryan	IFPRI	Research mentor; gender co-lead
Ruth Meinzen-Dick	IFPRI	Gender Lead
Suresh Babu	IFPRI	Asia co-Lead
Xinshen Diao	IFPRI	Asia Lead
Andrew Agyei-Holmes	ISSER	ISSER representative
Peter Quartey	ISSER	ISSER Director
Cait Goddard	MSU	Institutional capacity strengthening co-lead
John Bonnell	MSU	Institutional capacity strengthening Lead (replaced John Medendorp)
David Tschirley	MSU	PRCI Director
Nicole Mason-Wardell	MSU	Mentor, and Core Center Technical Training co-lead
Saweda Liverpool-Tasie	MSU	Mentor, and Core Center Technical Training co-lead
Steve Longabaugh	MSU	Administrative Assistant

Name	Institution	Role
Alphonse Akouyu	ReNAPRI	ReNAPRI Secretariat
Lulama Traub	ReNAPRI	ReNAPRI Research Director
Miltone Ayieko	ReNAPRI	ReNAPRI Executive Director
Nalishebo Meebelo	ReNAPRI	ReNAPRI Secretariat CEO

PRCI Director Tschirley is assisted in his logistical and financial management of the program by one program assistant and a business office consisting of one manager and three additional staff dealing with contracting, accounting, and travel.

Countries Where PRCI was Active

Centers for Policy Leadership (CPLs): Nigeria, Senegal, Uganda
Core Center Research:
- Cohort #1: Nigeria, Senegal, Tanzania, Uganda
- Cohort #2: Nigeria, Senegal, Kenya, Uganda

STAAARS+:
- Cohort #1: Benin, Ethiopia, Uganda, Senegal
- Cohort #2: Cameroon, Malawi (2 teams), India

Asia Trade Flow Analysis: Thailand, Laos, India, Nepal, Sri Lanka
Collaborating on Center for Nutrition research: Senegal, Tanzania, Kenya
Collaborating on Center for Resilience research: Nigeria, Malawi
Participating in Training:
- **Asia**: East Timor, India, Laos, Myanmar, Papua New Guinea, Nepal, Sri Lanka, Thailand, Vietnam
- **Africa:** Kenya, Nigeria, Senegal, Uganda, Tanzania, Zambia

ReNAPRI full network: Democratic Republic of the Congo**,** Ghana, Kenya**,** Malawi**,** Mozambique**,** South Africa**,** Tanzania**,** Uganda**,** Zambia**,** Zimbabwe

Figure 1. Map of PRCI Activities
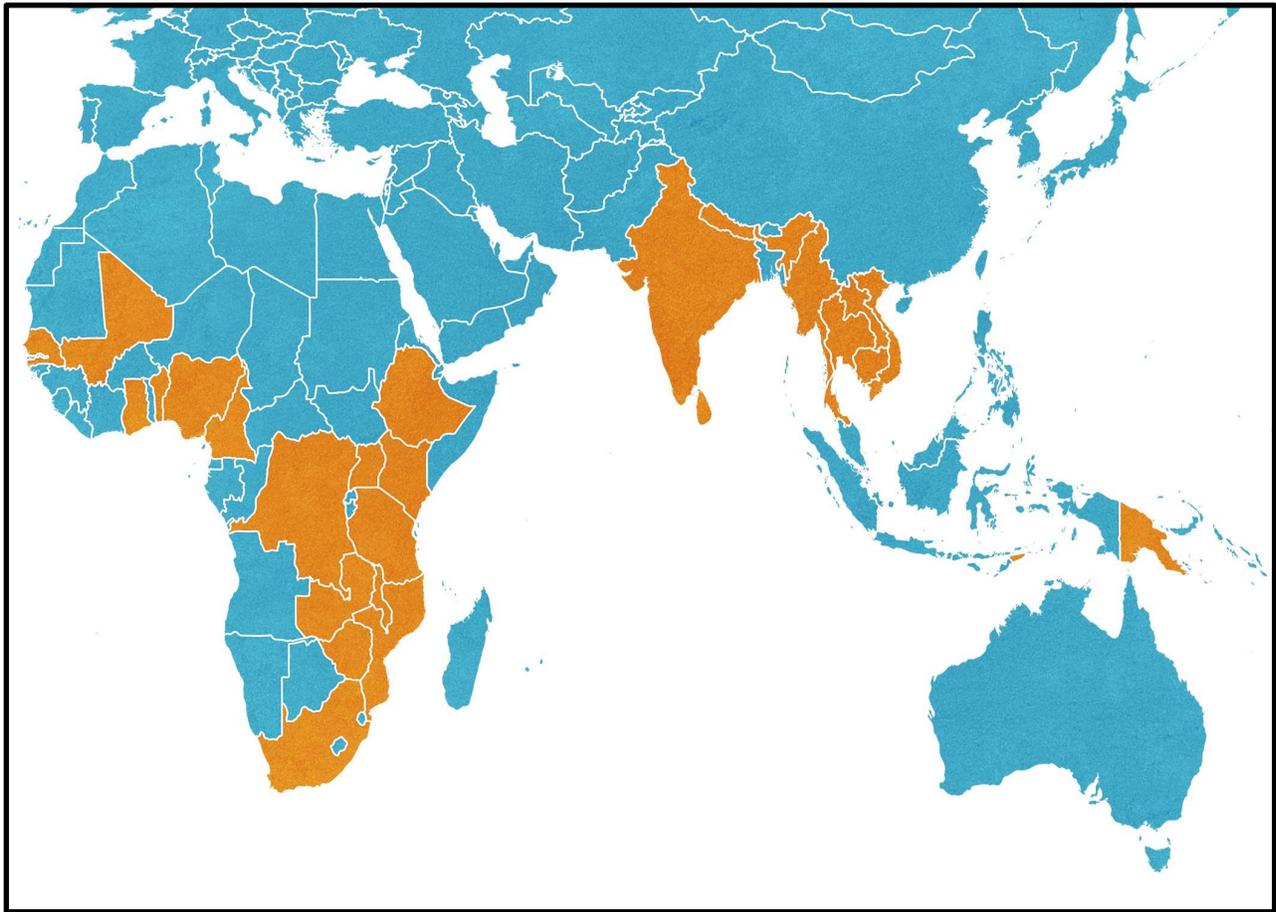
Acronyms

AGRA	Alliance for a Green Revolution in Africa
AOR	Agreement Officer Representative
AASR	African Agricultural Status Report
ASPIRES	Agriculture Sector Policy and Institutional Reforms Strengthening
AUC	African Union Commission
BACI	International Trade Database at Product Level - CEPII
BAME	Bureau d'analyses macro-économiques (Senegal)
CACCI	Comprehensive Africa Climate Change Initiative
CfN	Center for Nutrition, RFS
CfR	Center for Resilience, RFS
CGIAR	Consultative Group on International Agricultural Research
COMESA	Common Market for Eastern and Southern Africa
COVID-19	2019 novel coronavirus
CN	Center for Nutrition
CPEEL	Center for Petroleum, Energy Economics and Law (Nigeria)
CPLs	Core Centers for Policy Leadership
DAERD	Department of Agricultural Extension and Rural Development (Nigeria)
EAC	East African Community
EDRO	Economic Development Research Organization, Bangladesh
ECOWAS	Economic Community of West African States
EMMP	Environmental Management and Mitigation Plan
EPRC	Economic Policy Research Center (Uganda)
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FTFMS	Feed the Future Monitoring System
HICD	Human and Institutional Capacity Development
IAPRI	Indaba Agriculture Policy Research Institute (Zambia)
IFPRI	International Food Policy Research Institute
IIDS	Institute for Integrated Development Studies (Nepal)
ILLC	Internal Lab Launch Consultation
IMPACT	The International Model for Policy Analysis of Agricultural Commodities and Trade
IPS	Institute of Policy Studies (Sri Lanka)
ISRA	l'Institut sénégalais de recherches Agricoles (Senegal)
ISSER	Institute of Statistical, Social & Economic Research (University of Ghana)
GFSS	Global Food Security Strategy
KISAN	Knowledge-based Integrated Sustainable Agriculture in Nepal
KU	Kasetsart University (Thailand)
LAC	Latin America and the Caribbean
LMIC	Low- and Middle- Income Countries
LUANAR	Lilongwe University of Agriculture and Natural Resources (Malawi)
LSFF	Large-Scale Food Fortification
LSMS	Living Standards Measurement Study
MEL	Monitoring, Evaluation, and Learning
MENA	Middle East and North Africa
M&E	Monitoring and Evaluation
MoU	Memorandum of Understanding
MSU	Michigan State University

MwAPATA	MwAPATA Institute, Malawi (Malawi Agriculture Policy Advancement and Transformation Agenda)
NAPs	National Adaptation Plans
NDCs	Nationally Declared Commitments
NGOs	Non-Governmental Organizations
PiLAF	Innovation Lab for Policy Leadership in Agriculture and Food Security (Nigeria)
PRCI	Policy Research, Capacity, & Influence
PICA	Policy Influence Capacity Advancement
Q&A	Question and Answer
R2P	Research-to-Policy
ReDD	Recommended Diet Deprivation
ReNAPRI	Regional Network of Agricultural Policy Research Institutes
RIAPA	Rural Investment and Policy Analysis
RIS	Research and Information Systems for Developing Countries (India)
SADC	Southern African Development Community
SOW	Scope of Work
STAAARS+	Structural Transformation of African and Asian Agriculture and Rural Spaces
SUA	Sokoine University of Agriculture (Tanzania)
ToT	Trainer of Trainers
USAID	United States Agency for International Development
WEAI4VC	Women's Empowerment in Agriculture Index for Value Chains
WIST	Women's Inclusion in Structural Transformation

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Executive Summary

Activities and Successes

During Year 2, the Feed the Future Innovation Lab for Food Security Policy Research, Capacity, & Influence (PRCI) consolidated its operations under the continuing limitations imposed by the COVID-19 pandemic. As the year ended, the Lab was beginning to see the reduction of COVID risks that could allow it to re-start travel and enter a new, hybrid phase of operations that promises even greater efficiency and effectiveness in what we do.

PRCI exceeded targets in all five of the indicators for which targets had been set for Year 2. In addition, the Lab achieved five institutional architecture milestones and had 18 studies in phase 1 of policy development ("under research") and 11 in Phase 3 ("made available for update").

The Lab completed its first cohorts of <u>mentored research and training</u> under the Core Center program and under the STAAARS+ fellowship program. A new STAAARS+ competition was held, four new teams of fellows were selected, and mentors and co-mentors were assigned to each. Mentors for cohort 2 expanded to include representatives from all three stateside PRCI partners: Cornell, MSU, and IFPRI.

For cohort 2 Core Center technical training, program leaders conducted a qualitative needs assessment and began laying out a technical training program that responded to these needs while taking advantage of the publicly accessible material developed for cohort 1.

<u>Buy-ins</u> were a major story for PRCI in Year 2. The Lab wrapped-up its <u>buy-in with the Mozambique mission</u> with a report that was very well received and that the mission made available to every bidder on its agricultural and nutrition sector RFAs. The Lab received research-oriented buy-ins of $500,000 each from the RFS <u>Center for Nutrition</u> for work (being done in collaboration with Tegemeo Institute and other partners) on food systems and nutrition, and from the <u>Center for Resilience</u> for work (shared with IFPRI) on policies and programmatic investments to promote resilience to climate change. As the year was closing, two buy-ins, each for $1 million, were received. One featured joint funding from the <u>Center for Resilience and the Africa Bureau</u> for CACCI – the Comprehensive Africa Climate Change Initiative that will build capacity and spur action on the ground to help African countries respond to their climate commitments under the Paris Agreement while increasing the resilience of their food and agricultural value chains. The second $1 million buy-in was from the <u>USAID/Malawi mission</u> to continue previous support under other funding to MwAPATA, a local policy research center started two years ago with technical support from MSU. This set of buy-ins will dramatically increase PRCI's research footprint.

PRCI's <u>partners in Asia and Africa</u> increased their capacity and extended their reach for policy influence and building of capacity in their region, both key goals of PRCI. PRCI saw a big advance in its <u>Asia</u> training and research during Year 2. Professionals from five centers (in India, Nepal, Sri Lanka, Thailand, and Laos) used the training they had received on trade flow analysis at the end of Year 1 to develop research papers (all nearly finalized by the end of Year 2 but posted publicly only at the beginning of Year 3) on locally decided topics.

Kasetsart University (KU) in Thailand played a major role in the training, beginning the process of extending its engagement regionally – a key objective of KU under PRCI and in keeping with the Lab's approach of "building capacity to build capacity". KU also began planning, with PRCI

support, a second step in its regional outreach – leading the preparation of a regional conference in May 2022 that draws on those involved in PRCI research and beyond.

ReNAPRI saw a major rise in its profile on the continent thanks in part to PRCI support. The strategic planning that PRCI supported in Year 1 segued to detailed research planning at the start of Year 2. With an effective Secretariat in place due to PRCI financial support, ReNAPRI was able to serve as co-leader of the Alliance for a Green Revolution in Africa (AGRA's) 2021 African Agricultural Status Report (AASR), as co-leader of preparations for the Abuja II summit of fertilizer and soil health, and as leader of an AGRA-sponsored study of policy responses to the COVID-19 pandemic finished by the end of 2020. As the year was closing, ReNAPRI was chosen as a co-lead, with AKADEMIYA2063 and under the auspices of the African Union Commission, of CACCI.

As a result of its strategic planning under PRCI's institutional capacity strengthening effort (PICA), CPEEL in Nigeria was able to realize the vision it first laid out in its winning proposal to PRCI in year 1 to launch PiLAF – the Innovation Lab for Policy Leadership in Agriculture and Food Security as a unit within CPEEL focusing on the food and agriculture sector. PiLAF launched its activities with extensive structured engagement with stakeholders in the country's poultry value chain as a precursor to research it is planning in that area.

Capping off the institutional strengthening portion of PRCI's work, the Lab wrapped-up the intensive phase of the PICA Process, working with all three CPLs to finalize their strategic plans and budgets. Full funding based on this work was put I place for all three CPLs early in Year 3.

Challenges and Responses

Our Year 1 annual report noted the PRCI faces two structural challenges. The first is that it is a far-flung consortium with high coordination costs. Technology such as zoom helps in coordination but requires some amount of in-person engagement to be most effective. This was again not possible during Year 2 due to COVID-19. The second structural challenge was a strong research mandate but few funds for research once the Lab's human and institutional capacity building mandates are addressed. PRCI is achieving success dealing with the second challenge through research-oriented buy-ins and hopes to continue this success and build some of the one-year buy-ins into multi-year associate awards. The first challenge of remote engagement PRCI is beginning to address in Year 3 with travel, new COVID variants permitting, to selected countries for specific activities. This will be especially important to ensure continued engagement of CPL leadership in the work of the Lab.

Two other challenges deserve mention. One is ensuring follow-through by local researchers on research papers. This is always a challenge when working as PRCI does, in a mentoring rather than a leading role, but we believe we are on track to get at least seven of the eight STAAARS+ and core center papers published as PRCI research papers and several of them submitted to peer review journals. A second challenge is driving sufficient applications to STAAARS+, where in cohort 2 the program had 15 total applicants, two of them from Asia. In cohort 3 we will more actively promote the program on both continents.

Future Directions

As it did last year, PRCI will continue to emphasis three broad aspects moving forward. The first is ensuring more learning, borrowing, and coordination between its platforms. Africa-Asia joint research has not yet emerged, but leadership will remain alert to possibilities there. The two

technical training programs (STAAARS+ and Core Center) are collaborating more broadly with joint sessions for the second cohort of each program, and R2P is more fully integrated into cohort 2 than it was in cohort 2, and into both the Core Center and STAAARS+ training programs. We will also continue to promote use of the great set of online training materials that PRCI has developed under its Core Center, STAAARS+, and Special Topics platforms.

The second broad aspect is to seek scaling of Lab efforts. ReNAPRI is seeking support outside PRCI to apply PICA within its network, and PRCI will continue to support it in this search. As the network has recently won funding beyond PRCI, it may be possible to do this through that new funding. Making progress on the training of trainers approach in year 3 is a high priority; lab leadership is working with several centers among ReNAPRI and the CPLs on adapting their training materials, and using existing PRCI training materials, to do training in their own centers and beyond. In Asia, KU is moving ahead, with PRCI support, to be a thought leader and targeted training provider in the southeast Asia region. CACCI, which brings together capacity building directly in the service of policy influence, will be a major focus of PRCI in Year 3, and Lab leadership is already working with its AOR to promote a similar effort in Asia.

The third area is research. Here, PRCI is ramping up its output through the Core Center and STAAARS+ programs and through the RFS/CN and RFS/CR research-oriented buy-ins. Each will have a strong policy component.

I. Program Activities and Highlights

The Feed the Future Innovation Lab for Food Security Policy Research, Capacity, & Influence's (PRCI), or "the Lab" henceforth) second year of operation was October 1, 2020 to September 30, 2021. PRCI'S first year featured implementation of the processes that the PRCI consortium had laid out to ensure local leadership of research, training and institutional capacity strengthening activities within a consultative framework, and adaptation to the novel coronavirus (COVID-19) pandemic Following this successful start, PRCI's second year featured major milestones in institutional capacity strengthening, research completion, policy outreach and influence, and new buy-ins to extend the Lab's research and policy influence both thematically and geographically. PRCI's activities and highlights during year 2 were:

- Finalizing the first major phase of institutional strengthening of the three competitively selected Centers for Policy Leadership (CPLs): The selected CPLs are (1) From Senegal, l'Institut sénégalais de recherches Agricoles (ISRA) / Bureau d'analyses macro-économiques (BAME), (2) From Nigeria, Center for Petroleum, Energy Economics and Law (CPEEL) / Department of Agricultural Extension and Rural Development (DAERD) – University of Ibadan and (3) From Uganda, Economic Policy Research Center (EPRC). Under the facilitating leadership of PRCI's institutional capacity strengthening team, every CPL finished their 3-year strategic plan and budget (See Annex A for first page of each narrative; full documents available upon request), and administrative processes were begun (finished early in Year 3) to amend their agreements to add the full $300,000 in funding for each center. In Nigeria, and per their original proposal, CPEEL/U. of Ibadan used PRCI's support to found the Innovation Lab for Policy Leadership in Agriculture and Food Security (PiLAF), the Innovation Lab for Policy Leadership in Agriculture and Food Security in Nigeria that formalizes CPEEL's entrance into the food and agriculture space in the country. BAME and EPRC already had food within their focus so did not create any new unit.
- Finalizing research under cohort 1: After working with local colleagues and PRCI mentors, all four Core Center teams presented their papers at a PRCI peer review session in June 2021. Assigned reviewers from other centers and from MSU and IFPRI provided detailed feedback on each paper. By the end of Year 2, three of these papers were in final form and in the process of being submitted as PRCI working papers. Following their own internal peer review process, all four STAAARS+ teams presented their topics in a public PRCI webinar during July 2021. By the end of Year 2, two of the four papers were finalized, submitted to PRCI (they are currently being formatted for working paper publication) and ready for submission for peer review publication. The other two papers are expected not later than December 15
- Selection of new research topics for cohort 2:
  o CPLs BAME and EPRC delivered fully developed research proposals and are currently working with their mentors on second cohort topics. Tegemeo was selected as the ReNAPRI center entering the core research program during cohort 2, replacing Sokoine University of Agriculture (Tanzania) (SUA). Their topic is being defined under the buy-in from the Center for Nutrition (CfN) of RFS (see below). A topic and set of mentors are still being defined with PiLAF in Nigeria.
  o Selection of four new topics for the second cohort of STAAARS+: STAAARS+ continued its competitive process for selecting topics while opening the competition to Asia in addition to Africa. The mentor pool also expanded beyond Cornell to include MSU and IFPRI. Four winning teams were selected by the end of Year 2: two from Malawi (from

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MwAPATA Institute (MwAPATA) and Lilongwe University of Agriculture and Natural Resources LUANAR), one from Cameroon, and one from India.

- Wrap-up of first cohort technical training and planning for second cohort: A total of 17 training modules, nine during Year 1 and eight during year 2, were designed and implemented under the fully online Core Center technical training program through the end of year 2. The MSU team leading the program consulted intensively with each center to identify priorities for Year 3 and has designed a program featuring more customized training, greater collaboration across Core and STAAARS+ training, and a greater role for local colleagues in the training, in keeping with PRCI's emphasis on training-of-trainers (ToT) for greater impact. We expect a big step forward during year 3 in this emphasis on training of trainers.

- Intensified support to Asian centers: PRCI's Asia team followed its successful engagement of Asia centers near the end of year 1 with several types of support during year 2:
  o Working with Asian centers to produce research papers around the topic of COVID impacts on food trade, defined during the special topics training at the end of year 1,
  o Supporting Institute for Integrated Development Studies (Nepal) (IIDS) in a series of national seminars resulting in the definition of policy research priorities for the country. An important thematic accomplishment of this support was to broaden thinking about policy into a transformation framework rather than the narrower farm focus that had characterized policy thinking to date.
  o Work with Institute of Policy Studies (IPS) in Sri Lanka to produce a timely policy brief on the country's sudden decision to ban all imports of synthetic fertilizers. This work with IPS and their ability to project it into the policy debate was one factor that resulted in the country abandoning the policy near the end of PRCI's second year. PRCI continues to engage with IPS on policy issues raised by this abrupt policy decision and then the backtracking on it; and
  o Continuing to strengthen KU's drive to become a center of excellence in Southeast Asia: PRCI did this in part by supporting their decision to transform what was to be a national agricultural policy conference into a regional conference focusing on food system transformation, scheduled for May 2022.

- Facilitating ReNAPRI's research strategy: After facilitating the network's five-year strategic plan during Year 1, PRCI provided ReNAPRI with additional financial support to develop its research plan in a highly consultative fashion with its member centers. This planning made it possible for ReNAPRI to function as co-leader of Alliance for a Green Revolution in Africa (AGRA's) 2021 African Agricultural Status Report (AASR), also co-leader of preparations for the Abuja II summit of fertilizer and soil health, and as leader of an AGRA-sponsored study of policy responses to the COVID-19 pandemic finished by the end of 2020.

- Building R2P into both Core Center and STAAARS+ programs from the start of Cohort 2: PRCI's Research-to-Policy program (R2P) in year 1 started after cohort 1 research had started for both core center and STAAARS+ teams. In year 2, we built a policy focus into the research proposals under each program and achieved greater integration of the training into the STAAARS+ program.

- Output and outreach from the COVID-19 survey: PRCI with its partners produced a research paper, three policy research notes, and four policy briefs from the COVID-19 survey, with policy outreach in at least three countries (Kenya, Zambia, and Thailand).

- New buy-ins: PRCI won four new buy-ins during year 2, three centrally funded and one from a country mission. Two of the centrally funded buy-ins were research oriented while a third was focused on achieving major continental policy influence in Africa. The country mission buy-in

combined research, capacity strengthening, and policy influence:
- o CfN funded PRCI in the amount of $500,000 for research on food systems and nutrition including large-scale food fortification (LSFF). See Section III below for more detail on this effort.
- o The Center for Resilience (CfR) of RFS added $500,000 for research on climate change. See also Section III below for more detail.
- o The CfR and the Africa Bureau combined to fund PRCI in the amount of $1,000,000 for the first year of work on Comprehensive Africa Climate Change Initiative (CACCI) will fund ReNAPRI and AKADEMIYA2063 to strengthen national, regional and continental capacity to implement National Determined Contributions (NDCs) and develop and implement National Adaptation Plans (NAPs) (see Annex B for an information sheet on this work);
- o The Malawi mission funded PRCI with $1,000,000 for continuation of MSU's support to MwAPATA for one year and is currently putting in place an associate award for longer-term support under PRCI (see Annex C for the scope of work (SOW) for this buy-in).

II. Key Accomplishments[1]

Mentored research (C1 in the Monitoring, Evaluation, and Learning (MEL) Plan): During Year 2, PRCI added 20 Asian researchers (Year 2 target = 15) to its set of mentees, spread across five countries (Thailand, Laos, Nepal, Sri Lanka, and India). At the same time, the Lab continued to work with the 20 African researchers mentored during Year 1. PRCI complemented this mentored research with these training programs:
- o Core Center training program: 32 unique participants (18 female, 14 male) from four African centers participated in eight online training modules. Combined with the nine modules from Year 1, a total of 17 training modules were delivered. At the time of this writing, the training program for Year 3 and cohort 2 of researchers is being prepared.
- o STAAARS+ training program: This continued with the same 18 unique participants (10 males, 8 female) from four African centers participating in fully online training modules on multiple research and analytical topics
- o Special Topics training program: Training of forty-four unique participants from nine Asian centers began at the end of Year 1 and finished early in Year 2. After these formal trainings, teams from six countries developed papers under the guidance of the Asia program coordinators
- Papers (C2): The Lab produced seven policy research or best practice papers during Year 2 (Year 2 target = 5). One paper was on fertilizer import policy in Sri Lanka; five were on the impacts of COVID-19 in Kenya, Zambia, Mali, and across all five African countries; and one was an assessment to aid United States Agency for International Development/Mozambique programming in ag and food and nutrition security.
  - o In addition, four papers under the core center research program, four under STAAARS+, and six under the Asia trade flow analysis research and training program were nearing completion at the end of Year 2, for a total of 14 new papers.
- Stakeholder Forums (C3): PRCI organized 23 learning forums / webinars (Year 2 target = 4) in which research findings or best practices were presented. See Annex E for information on each forum.

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[1] See Annex D for list of indicators, definitions, baseline values, Year 2 target, and Year 2 actual.

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- Requests from national/regional/global organizations (C4): PRCI-affiliated researchers were called on 44 times (Year 2 target = 5) to provide information, analysis, data, or presentations on policy issues within PRCI's remit. Each of these presentations either grew directly out of PRCI activities that the person was engaged in or drew on PRCI experience. See Annex F for a list of each request.
- CBLD-9: PRCI is tracking improvement in six organizations – the three CPLs plus ReNAPRI, IIDS in Nepal, and KU in Thailand. We require positive answers to four of the five areas of performance that are tracked for each to conclude that the organization's capacity has been strengthened. By this measure, three of the six or 50% – ReNAPRI, IIDS, and KU - showed measurable improvement. The target for Year 1 was two organizations or 33%. See Annex G for factors considered in the computation of this indicator. Full details on how these results were generated are available on request.
- EG 3.1-d – Improved Institutional architecture for policy: PRCI achieved five institutional architecture milestones in Year 2, defined as "a 'positive change' that marks a significant achievement in the development of better performing, more effective policy systems". By agreement with the PRCI AOR, the Lab has no firms targets for this indicator but will track it through the life of the program. See Annex H for each milestone and its description. Full details are available on request.
- EG 3.2-7 - Number of technologies, practices, and approaches under various phases of research, development, and uptake as a result of USG assistance:
  - Eighteen potential policy areas were in the research phase (Phase 1): These come from three studies under the climate change buy-in; three studies under the nutrition buy-in; five studies under the Core Center program, and seven under STAAARS+ programs
  - Ten studies enter phase 3, being available for uptake, defined here as completed studies with policy content that are available to policy makers. These come one from PRCI's Asia component, one from CACCI, and eight from the COVID work. See Annex I for a full listing of each study, their category, phase, PRCI component, and engaged institutions and authors.

III. Research Program Overview and Structure

With the addition of two centrally funded, research-oriented buy-ins during Year 2, PRCI's research program during this year expanded from three to four related streams of work. All continue to feature multi-institutional teams emphasizing mentoring whenever possible, focus on the Lab's three overarching research themes, and are designed to contribute to PRCI's objective of developing a locally grounded but globally relevant research program. Key changes took place during Year 2 in the three original programs described in the Year 1 Annual Report. We describe these changes here, and give a full explanation of the new stream based on centrally funded buy-ins.

Expansion from three- to four related research programs

PRCI's first research program is the <u>Core Center research program</u>. The first cohort, which began in the middle of Year 1 and continued near to the end of year 2, was a "semi-competitive" process in that CPLs and ReNAPRI centers had to submit research proposals (each could submit more than one) and PRCI chose among them. All four selected centers (the three CPLs and SUA) completed paper drafts in time to present them at the PRCI peer review session in June 2021, and to receive structured feedback from assigned reviewers. By the end of Year 2, two papers were near final form

(BAME and SUA), one (EPRC) was by previous agreement an interim report since the research is taking place over two full years (with further delays due to COVID related to delayed fieldwork), and one (PiLAF/CPEEL) had ceased making progress due to extended illness of the lead author and principal data analyst.

Having worked with the CPLs and SUA during cohort 1, and with a commitment to work with all CPLs and at least one ReNAPRI center during each cohort, PRCI leadership decided to depart from the competitive process for topic selection during cohort 2 and follow a joint-definition process involving local research teams and their established mentors. This resulted in strong proposals from BAME and EPRC, both of whom had maintained their original mentors for the second cohort. BAME's topic was new, as they had completed their research under cohort 1. EPRC's topic was a second phase of the same topic but with much more detailed definition of research hypotheses and analytical methods. PiLAF's cohort 1 mentors were no longer able to continue mentoring the team in the second cohort and PiLAF does not yet have an approved topic and team of mentors. Tegemeo Institute in Kenya was chosen as the ReNAPRI core center for the second cohort, based on their involvement in the CfN buy-in on nutrition (see below for more detail).

The second program - STAAARS+ - is based on Cornell University's successful STAARS (Structural Transformation in African Agricultural and Rural Spaces) program with modifications to make it consistent with PRCI's objectives and approach: opening to Asia, requiring an institutional affiliation for each candidate, and a broad but limited institutional eligibility based on a "ReNAPRI +" model that included all ReNAPRI centers, all three CPLs, policy research centers in African countries where ReNAPRI was potentially interested in expanding, and low- and lower-middle income Asian countries. In cohort 2, STAAARS+ fellows and their topics were again chosen based on a fully competitive process.

Special Topics is PRCI's third research program. This program emerged shortly after the onset of the COVID-19 pandemic, to allow PRCI to respond to new and urgent analytical needs created by the pandemic and country response to it. Work continued during year 2 on the trade flow analysis based on the global International Trade Database at Product Level – CEPII (BACI) dataset[2] as discussed in Year 1's annual report. Through the end of year 2 and following intensive training that took place at the end of Year 1, papers from six centers were nearing completion.

The cross-country study of the impact of COVID-19 on citizen livelihoods and access to foods generated one research report, three policy research notes and four policy briefs, and policy outreach in three countries.

Two research-oriented centrally funded buy-ins allowed PRCI to launch two new research areas near the end of Year 2. First, one-year funding of $500,000 from the CfN of RFS will inform the agency's strategy for LSFF while adding fundamental knowledge of changing food environments and diets, with implications for policy. Most of this work will be done in Kenya, to achieve a critical mass of effort and identify methods that could be rolled-out in other locations if future funding is available.

The second buy-in, also in the amount of $500,000 and from the CfR of RFS, will fund research on

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[2] BACI is a global public good data base of trade covering more than 200 countries and 5,000 products, between 1994 and 2006. It is based on the well-known COMTRADE database but features reconciliation of bilateral export-import figures to ensure consistent data across all countries. See Gaulier, Guillaume and Zignago, Soledad (2009): BACI: International Trade Database at the Product-level. Published in: CEPII Working Paper No. 2010-23.

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the impacts of alternative policies and programmatic investments on household resilience to climate change shocks.

Overarching themes

All research under PRCI needs to fit into the Lab's overarching themes. These are:

- **Inclusive agricultural and rural transformation** to raise rural household incomes and to create decent jobs, particularly for young women and men;
- Development of **healthy food systems**, including addressing regulatory issues and engaging with the private sector, in ways that address food safety and the triple burden of malnutrition; and
- **Enhanced resilience** at individual, household, national, and regional levels (to climate and other sources of shocks) to achieve economic and environmental sustainability

IV. Theory of Change and Impact Pathway(s)

As elaborated in the original PRCI proposal, the ultimate aim of this Innovation Lab is to "Influence global, regional, and national policy that advances food security through high quality research from credible policy research institutions." To achieve this aim, PRCI relies on the following theory of change, with a set of corresponding assumptions:

- **Building the organizational and research capacities of local and regional research institutes will lead those institutions to provide robust and credible evidence for decision-making.**
  - *Assumption 1:* The way we are going about strengthening capacities, including through regular technical training sessions, co-creation of research papers between center researchers and MSU/IFPRI/Cornell mentors, and the PICA process, are effectively changing the quality of research outputs.
- **In turn, policymakers will increasingly turn to these institutes for empirical research for food security policymaking.**
  - *Assumption 2:* There is adequate outreach by the institutes with policymakers to increase the Centers' visibility and reputation.
  - *Assumption 3:* There are few alternative sources of credible information about food security policy in the country/region
  - *Assumption 4:* Policymakers in the country/region are committed to evidence-based, rather than ideologically- or politically driven, policymaking.
- **Policymakers will then adopt policies that improve the food security for their populations**
  - *Assumption 5*: Policymakers are motivated by improving social welfare
  - *Assumption 6*: Policy recommendations for improving food security are economically, politically, institutionally, and socially feasible

Assessing this theory of change and the assumptions that undergird it is an important component of PRCI's MEL agenda. In particular, some of the MEL indicators will be specific to the actions of the

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PRCI consortium and the CPLs (e.g. assumptions 1, 2, and 6). Others will need to be more directly focused on the policy system to contextualize the setting in which the CPLs are operating (e.g. assumptions 3 -5).

The approach to doing this was developed and began to be rolled-out during Year two. See Annex J for more detail on the plan for context monitoring as part of PRCI's Learning Agenda, including a questionnaire that began to be implemented near the end of Year 2 to assess local stakeholders' familiarity with and use of data, information, and perspective from the PRCI CPLs and other sources in making policy decisions.

V. Research Project Report

This section identifies the status of cohort 1 research papers, the topics being pursued under each of PRCI's three research programs, the team members (including mentors), and progress to date.

Core Center Research Program

The status of the four core center research topics from cohort 1 are shown in Table 2. All teams generated full drafts that were peer reviewed within PRCI. Three have shown satisfactory progress while one has ceased to make progress due to extended illness of the main author.

Table 2. Status of Core Center Cohort 1 Research Topics

Local Center	Research Topic		Status
BAME	Contribution of horticulture value chains to healthy and sustainable food systems in Senegal	Analyzes: 1) consumption of fruits and vegetables by consumer income strata and urban city-type; 2) patterns and determinants of consumption; and 3) determinants of prices.	Full paper drafted and peer reviewed within PRCI and revised by end of Year 2. Currently being revised for peer review submission and posting as research paper to PRCI site
CPEEL	Energy poverty, food security and diet-related health outcome nexus		Full paper drafted and peer reviewed within PRCI during Year 2. Revisions not made due to extended illness of principal analyst and lead author from CPEEL. Progress on this paper has stopped.
EPRC	Institutional arrangements in the sugarcane value chain for sustainable and inclusive rural transformation		Full paper drafted and peer reviewed within PRCI and revised by end of Year 2. Treated as intermediate output as EPRC under cohort 2 carries out data collection on the same topic.
SUA	Constraints to and opportunities for women's empowerment in the cashew value chain in Tanzania		Full paper drafted, peer reviewed within PRCI, and partially revised. Mentors continue to work with the team to finalize the paper.

Four teams are expected to produce papers under cohort 2 as outlined in Table 3. BAME and EPRC have fully defined topics and are actively working with their mentors. Tegemeo is actively working with MSU researchers under the Center for Nutrition buy-in and will be co-authors on all

papers emerging from that work. PiLAF has defined several topics on the poultry value chain.

Table 3. Core Center Research Topics, cohort 2

Local Center	Research Topic	Team Members (including mentors)	Global research theme(s)
BAME	Wholesaling and processing cereals in Senegal: a rural and urban empirical analysis	Center Researchers: Ndèye Fatou Faye (lead), Cheickh Sadibou Fall, Diatou Ndiaye Mentors: Veronique Theriault (MSU), Tom Reardon (MSU),	Inclusive agricultural transformation; Healthy food systems
EPRC	Effects of Sugarcane Production on household food security and welfare in Uganda	Center Researchers: Francis Mwesigye, Swaibu Mbowa, Madina Guloba, Mildred Barungi, and Umar Kabanda Mentors: Elizabeth Bryan (IFPRI), David Mather (MSU)	Inclusive agricultural transformation
PiLAF	Several potential topics on the poultry value chain, final still to be defined		Inclusive agricultural transformation; Healthy food systems
Tegemeo	A topic related to the Center for Nutrition buyin focusing on food environment and consumer dietary choices	Center Researchers: Tim Njagi, Lilian Kirimi Mentors/stateside partners: Two among David Tschirley, Mywish Maredia, Thomas Reardon, Veronique Theriault, and Ayala Wineman	Healthy food systems

Challenges and lessons learned: PRCI confronted a number of challenges in its core center research program during Year 2. Chief among these are a limited number of research-capable analysts in the centers and limited time of these researchers to invest in raising this capacity through formal learning and mentoring. Limited time stems from the multiple responsibilities that researchers have, frequent outside work for pay due to low official salaries, and in some cases loss of analytical support staff that handle quantitative data analysis while allowing the researchers to focus on interpreting results and writing. PRCI saw very active participation in its technical training program but little or none of the preparation prior to virtual training sessions that organizers had expected. Learning objectives for the sessions thus had to be scaled-back, though we believe the learning remains substantial. The limited number of sufficiently trained analytical staff was a special problem in PiLAF, where the extended illness of the main author and lack of others with the same skills made effective mentoring difficult and ultimately led to abandonment of the paper. In SUA, committed researchers and mentors meant that the paper has advanced and should be completed despite the loss of one staff member to overseas study. A similar dynamic played out in BAME, where a strong relationship between local researchers and stateside mentors allowed a paper to near completion despite the loss of several analytical support staff to other (more remunerative) employment opportunities that slowed the work. EPRC, the largest and most established of the centers, was able to deliver on its agreed work during Year 2 despite major disruptions from COVID-19, and to segue smoothly in Year 3 into the agreed second phase of their work.

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PRCI is committed to working with specific institutions over the life of a five-year program and to putting these institutions meaningfully in the lead on defining and carrying out their research programs. Doing this effectively requires an adaptive approach. PRCI adapted for the second cohort by moving to a more collaborative approach (between local researchers and established mentors) to defining the research topic while still requiring the centers to produce a high-quality proposal. Proposal quality clearly increased compared to the first cohort. It also established much clearer benchmarks at the outset of cohort 2. This approach has worked well in the case of BAME and EPRC. For Tegemeo, PRCI leadership judged the payoff from integrating its work into the research planned under the Center for Nutrition buy-in to be worth a delay in the Tegemeo team defining a focused topic and outlining their objectives and methods.

The central lesson from year 2 of the core center research program is that a strong mentoring relationship is central to the success of our model. This requires two-way commitment to regular and transparent communication, a clear understanding of roles, and some degree of excess capacity in each side of the relationship for others to step in if any members are lost to illness, other employment, or other responsibilities within their institution. We believe the model has clearly been successful to date in Senegal and Uganda, and that success will also be achieved in Tanzania with the SUA team. We are currently developing this relationship with Tegemeo and anticipate success based on strong commitment from both sides. In Nigeria we need to re-establish a mentoring relationship even as the team proceeds with the topics that they have defined.

Presentations and publications: Research presentations during year 2 were internal to PRCI for peer review. Other presentations to a broader audience done by all four core center teams are discussed under R2P.

STAAARS+

The status of STAAARS+ papers from cohort 1 are shown in Table 4. All were near completion at the end of Year 2, two have since been posted and submitted for journal review, and two are expected at the end of first quarter Year 3.

Table 4. Status of cohort 1 STAAARS+ Fellow research topics

Local Center	Research Topic	Status
BAME	Domestic or imported rice: An empirical analysis of consumer choices in Senegal	Nearly completed by end of Year 2. Final version for posting and submission expected during December 2022
EPRC	Resilience to climate shocks and its implications for food security: Evidence from Uganda	Completed in Year 2 and submitted for peer review and posted to PRCI site 1st quarter Year 3
Bahir Dar University IDRM	Climate shocks and resilience in rural Ethiopia	Completed in Year 2 and submitted for peer review and posted to PRCI site 1st quarter Year 3
African School of Economics, Benin	Dynamics of agricultural heterogeneity, productivity and technical efficiency in sub-Saharan Africa: A geometric approach	Nearly completed by end of Year 2. Final version for posting and submission expected during December 2022

Four new STAAARS+ Fellow teams, competitively selected again for cohort 2, will work on four papers as outlined in Table 5. As STAAARS+ follows an 18-month cycle, these papers will be published early in Year 4, not during Year 3.

Table 5. STAAARS+ Fellow teams research topics, cohort 2

Local Center	Research Topic	Team Members (including mentors)	Global research theme(s)
University of Buea (UB), Cameroon	Land Market Responses to Weather Shocks: Evidence from rural Uganda and Kenya	Center researchers: Rayner Tabetando Raoul Fani Djomo Choumbou Mentors: Catherine Ragasa (IFPRI), Aleks Michuda (Cornell)	Resilience; inclusive agricultural transformation
Lilongwe University of Agriculture and Natural Resources (LUANAR), Malawi	Biomass energy dependency and implications for forest conservation policies in Malawi	Center researchers: Robertson Khataza, Jabulani Nyengere Mentors: Joey Goeb (MSU), Bill Burke (MSU)	Resilience
Indian Institute of Technology Kanpur (IIT), India	A home-production based approach to improve nutritional outcomes of children in rural areas	Center researchers: Debayan Pakrashi, Sounak Thakur, Chitwan Lalji Mentors: Carolina Castilla (Cornell), Andaleeb Rahman (Cornell)	Healthy Food systems
Malawi Agriculture Policy Advancement and Transformation Agenda (MwAPATA), Malawi	Measuring the distributional effects of fertilizer subsidies on young female and male farmers in Malawi	Center researchers: Christone Nyondo, Maggie Munthali, Zephaniah Bondera Nyirenda Mentors: Brian Dillon (Cornell), Sergio Puerto (Cornell)	Inclusive agricultural transformation

Achievements: By the end of Year 2, all four STAAARS+ teams achieved their objectives or were on the verge of success as judged by submission for journal review and posting on the PRCI site of a high-quality research paper. In at least one case, substantial early difficulties in the mentoring relationship were successful dealt with by engaging both the local researchers and their center leadership, resulting in a much smoother relationship and finalization of a jointly authored paper now under review. STAAARS+ also took a big step forward in year 2 with some engagement with the R2P program and much integration of the program and its policy focus into the cohort 2 proposals and training.

Challenges and lessons learned: Beyond the challenges discussed last year, two key challenges in Year 2 were inconsistent communications and missed meetings among one team early in the research process and misunderstanding of authorship by that same team near the end of the process. Communications were improved once STAAARS+ and PRCI leadership engaged with the mentors and with center leadership. Both also got involved resolving authorship issues. In both cases, problems were resolved effectively and the team was successful in completing their paper under agreed authorship.

The key lessons from Year 2 of STAAARS+ (still part of cohort 1) are the importance of a clear understanding at the outset of the collaborative nature of the work between center researchers and mentors; the centrality of regular communication among mentors and center researchers; the importance of timely intervention by STAAARS+ leadership and, if needed, PRCI leadership to iron out difficulties; and the importance of persistence by all involved. In all cases, teams were not yet at the point of a final paper for submission by the end of Year 2, but regular follow-ups by program coordinators and mentors means that we are likely very soon to get to that point with all teams.

Presentations and publications: All four STAAARS+ Fellow teams presented their research at a public webinar in July attended by other PRCI researchers and USAID.

Special Topics

Special topics research started at the beginning of Year 2 following the trade flow analysis training in September 2020. By the end of Year 2, six teams had prepared paper drafts that were being reviewed by PRCI Asia leads. By the first quarter of Year 3, three papers (Sri Lanka, Nepal, and Thailand) had been finalized and were being posted on the PRCI website. Next phase research topics began to be defined across all centers in early Year 3, with an emerging theme on transforming value chains.

Research-Oriented Buy-Ins

PRCI's buy-in from CfN features a critical mass of research in Kenya with Tegemeo Institute and related work with partners in Senegal (BAME) and Agriculture Sector Policy and Institutional Reforms Strengthening (ASPIRES) Tanzania. Its objective is to establish RFS as a global leader on research-for-policy in food systems. See Annex K for the agreed SOW for this work.

The work in Kenya consists of two related components. First, the overall focus of the research is on characterizing and measuring the healthiness of the food environments that consumers face when making their food choices, characterizing the healthiness of consumer diets, and identifying the drivers of these diets including the characteristics of consumers and households and the food environments they are exposed to. This work will build on previous work by MSU and improve it in three ways: (a) by examining these patterns and relationships over space (large- and small urban areas and the nearby rural, or peri-urban, areas around them; and neighborhoods differentiated by level of income), (b) by explicitly considering consumer mobility (e.g. commuting for work or school) within these spaces and building data collection around that mobility, and (c) by collecting individual consumption and shopping data in contrast to the typical approach of relying on one informant to report "household consumption" and shopping. We expect this approach to generate more accurate information on consumption (especially of unhealthy food away from home) and to allow more reliable testing than in the past of hypotheses regarding data collection methods and the importance of retail food environments as drivers of consumer choice. Clear implications should follow regarding best practice in data collection and regarding the scope for policy interventions to influence consumer diets through the food environment.

The second related component of work in Kenya is on LSFF. This research will quantify the reach of LSFF in Kenya by residence and other characteristics of consumers and identify the share of

different retail channels in providing these foods to consumers. It will also develop a draft generic methodology for assessing the policy enabling environment for LSFF – one of several generic methodologies that the center has commissioned. Testing of the methodology in other countries and modification to final form will depends on further funding. Consumption will be evaluated both in terms of value and of nutrient value, using food composition tables.

Work in Senegal and Tanzania will attack particular topics related to food systems and nutrition. In Senegal, buy-in funds will be used to allow PRCI partner BAME to supplement data collection focusing on the wholesaling and processing of cereals in rural and urban areas. Policy relevance of this work stems from the fact that new empirical evidence is needed to understand the resilience strategies of wholesalers and first- stage processors that supply the great majority of the basic cereals consumed in Senegal. Their efficiency and resilience are key to the food security and nutrition of urban areas and incomes of grain farmers as well as buyers of cereals in rural areas. Understanding what these actors do to deal with shocks such as COVID, what investments they are making to expand their businesses, helps inform policymakers how they can support them with investments in improving for example roads, electrification, and wholesale markets. Moreover, second stage processing is an important activity of urban women and understanding its development and constraints will help government to better support it to expand women's employment and the production of nutritious foods, such as processed millet (thiakry, arraw, etc.), for consumers.

Work in Tanzania will partner with ASPIRES and focus on the food service industry in the capital city of Dar es Salaam. Previous research has established the very large share of food away from home in total food consumption in urban Africa, and Dar appears to have among the highest shares. Understanding this consumption is thus important for understanding the healthiness of consumer diets and prospects for influencing the same. Five hundred food vendors spread across the city will be sampled and their operations assessed under the buy-make-sell framework: understanding the ingredients they buy and their sources and costs, their food- and meal preparation practices (including mode of cooking e.g. roasting or frying or boiling, which is relevant to the healthiness profile of the foods), and the profile of the consumers they sell to.

PRCI's buy-in from RFS's CfR will feature work by IFPRI and MSU. The two partners will work to produce four outputs: (a) a systematic review (and technical brief) of empirical survey-based studies of investments in climate change adaptation and mitigation, to be produced by MSU in January 2022, (b) a report on analysis of trader survey data on climate shocks and responses, with policy implications, produced by MSU in April 2022, (c) a report that summarizes different approaches to modeling policy impacts on climate resilience and lays out key findings for the selected pilot countries of Malawi and Nigeria, and (d) a technical brief that summarizes methods and results. This report and brief will be written by IFPRI in April 2022 for a general audience. MSU will write the first two reports. See Annex L for the SOW for work under this buy-in.

VI. Human & Institutional Capacity Development

All elements of PRCI's human and institutional capacity development (HICD) program during Year 2 continued to focus on helping participating research centers generate better quality research that feeds more directly into policy thinking and policy and program design. The *Policy Impact Capacity Advancement (PICA)* approach originally outlined in the PRCI proposal continued in Year 2. The PICA team also continued to engage with ReNAPRI in its strategic planning and exploring the

possibility that it could facilitate institutional capacity strengthening across the network. Beyond PICA, the Lab finished its ambitious technical training program for Cohort 2 and began assessing needs and planning adjustments in the approach for 'year 3.

Institutional Capacity Strengthening

ReNAPRI Strategic Planning

Achievements: PRCI saw three main achievements with ReNAPRI during Year 2. First, the intensive interaction across centers and ReNAPRI leadership and its secretariat necessitated by the development of the strategic plan and research plan created far greater cohesiveness for the network. The research plan made it possible for the network to play a very active role leading the preparation of AGRA's Africa Agricultural Status Report for 2021, in the person of network leadership and several researchers from member centers. This also made it possible for the network to step into a leadership role on the Abuja II Fertilizer and Soil Health Summit to take place in 2022.

Second, Institute of Statistical, Social & Economic Research (University of Ghana) (ISSER) – the newest member of ReNAPRI - was far more integrated into the network. ISSER staff played a major role (through their membership in ReNAPRI) in AGRA's review of policy responses to COVID-19 and also, by the end of Year 2, were emerging as at interim lead of CACCI.

Third, ReNAPRI substantially raised its profile on the continent through the AASR and Abuja II. We expect the network's profile to continue rising in Year 3 through CACCI and other funding that ReNAPRI won from other donors (this success will be reported in Year 3's report).

Challenges and lessons learned: The main challenge that ReNAPRI how faces is ensuring that it has sufficient capacity, spread centrally and in its member centers, to respond to the growing requests being made to it. PRCI will be engaging with network leadership over Year 3 to ensure they are able to do this.

PICA Process

Achievements: During Year 2 the PICA team worked with each of the three CPLs to build their capacity in using SmartSheets software to develop a detailed plan of action to implement their strategic vision. SmartSheets made the detailed planning transparent and facilitated modifications over time as conditions changed. As in Year 1, the remote format created challenges in carrying out the PICA process. An additional difficulty during Year 2 was more serious COVID outbreaks that led to additional delays and needed adjustments. Yet by the end of Year 2 all three CPLs had prepared Strategic Planning Narratives and Budgets, amended awards had been approved by the PRCI Contracting Officer in USAID, and final processing of the amendments at MSU was taking place. Thus, at the start of Year 3, all CPLs will have plans in place and funding behind them. Going forward, the team is meeting on a bi-weekly (eventually changing to monthly) basis with all CPLs to help them track their progress. They have also introduced the Leadership Practices Inventory (LPI) to CPL leadership and queried them as to their interest in using this tool to evaluate and improve their leadership practices. We expect this to be an important undertaking in Year 3, with results reviewed and progress tracked in the bi-weekly or monthly meetings.

Technical Capacity Strengthening

PRCI's technical capacity strengthening was built around its three research streams: Core Center, STAAARS+, and Special Topics. We review progress of each during Year 2 in order.

Core Center Technical Training

Table 6 provides summary information on the eight Core Center training modules carried out during the Lab's second year (in addition to the nine presented during Year 1). A total of 232 people – at least 54 of which were unique participants – participated in the trainings. Materials were downloaded 538 times (286 male, 158 female), suggesting broader reach than the number of direct participants.

Table 6. PRCI Core Center Short-Term Trainings Held, Year 2

Topic of training	Date of training	Country of Training	Brief Purpose of Training	Who was Trained[3]	# of partici-pants	# of downloads of materials			
						M	F	Oth	Total
Panel Data Methods	10/12/20	Online / asynchro-nous and Virtual / synchronous	To provide an overview of linear panel data models as well as testing and correcting for attrition bias	Research-ers	19	22	19	2	46
Tobit models	11/5/2020		To provide an overview of Tobit models		15	49	14		72
Double Hurdle Models	1/13/2021		To provide an overview of Double Hurdles.		43	42	33	1	100
Integrating Mixed Methods in Research Summary	2/17/2021		To provide an overview of Integrating Mixed Methods in Research Summary.		25	11	2		18
Article Writing	4/6/2021		To provide an overview of Article Writing for Peer Reviewed Journals.		34	49	24	1	87
Presenting papers for critical feedback	4/23/2021		Experience of going through reviewing papers and providing critical feedback.		12	22	12		36
Grant Proposal Writing	6/9/2021		To help participants learn how to secure funding. Thus, increasing the sustainability of the research program.		54	32	24	1	63
Navigating Peer review	6/15/2021		Learning the peer review process.		30	59	30	4	116
				Total	232	286	158	9	538

Purpose, design, and achievements: The training modules for cohort 1 were based on a survey-based assessment of perceived needs of researchers in the three CPLs and SUA (the ReNAPRI center participating in the core center research during cohort 1). Modules were designed to convey specific skills and knowledge generally useful in quantitative agricultural policy research. All modules were designed to be accessible by anyone not involved in PRCI, while being useful to PRCI participants. Materials from each module can be [downloaded](#) via the PRCI website.

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[3] Such as farmers, government officials, women entrepreneurs

For the design of the training program for the second cohort, the technical training team used a qualitative assessment of center needs rather than the previous year's quantitative survey. The objective of this approach was to develop a more nuanced sense of what researchers' needs were and to catch aspects that may have been missed in the previous assessment approach. The design of second cohort modules was being finalized as Year 2 drew to a close but it was already clear that the modules during this cohort would include mix of new sessions, including on qualitative research methods and more in-depth gender analysis, together with modules from the first cohort that were broadly relevant, for example article writing, navigating peer review, transparent and reproducible research, and avoiding unintentional plagiarism.

As in Year 1, the outstanding achievement of the cohort 1 effort was creating a highly ambitious technical training program 100% online, with all training materials (including videos, powerpoints, and other) available online ahead of each synchronous session, and edited recordings of each session available online within days of completion. Though with some challenges, overall participation was strong and contributed directly to the quality of research being undertaken by each team.

In addition to tailoring training more to particular needs of centers during cohort 2, PRCI will strive to make progress on its commitment to a training-of-trainers approach. Several centers in ReNAPRI, and MwAPATA in Malawi which is being supported in a new mission buy-in, have developed and used training materials. PRCI will evaluate these and work out with our partners which can be integrated into the training and how.

Challenges and lessons learned: The challenges of poor internet connectivity, limited participant preparation prior to training sessions, and use of break out rooms were discussed in Year 1's Annual Report. To deal with connectivity problems, PRCI records each Zoom meeting and makes this available after the training. To address limited review of the asynchronous material ahead of time by participants, the technical training sessions moved to a strategy of covering more of the core material during the synchronous sessions. Breakout rooms did not work well for the econometric training sessions and were discontinued for that purpose. As discussed earlier, the technical training team took a more qualitative approach to needs assessment for cohort 2, hoping to deliver a set of materials more tailored to particular needs of research team.

STAAARS+ short-term training

PRCI staff from Cornell University made a major effort during Year 1 to turn what had been a fully in-person set of trainings into a 100% online approach. After six sessions in Year 1, the STAAARS+ team held five training sessions during Year 2, summarized in Table 7.

Ninety-two total participants (56 male, 36 female) and 18 unique participants (10 males, 8 female) from the four African STAAARS+ centers participated in these fully online training modules.

Purpose, design and achievements: STAAARS+ capacity strengthening sessions during Year 2 were focused primarily on the papers that were now well into their development. Fellows' initial presentation of their papers to other Fellows and mentors was a chance to practice scholarly presentation techniques. This led to an intensive feedback session where Fellows learned both to give and to receive strong but constructive critiques of their work, and to respond to that feedback

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to improve their papers. The session on navigating peer review built on this experience to familiarize Fellows with this process and prepare them for success in submitting then revising their own papers for journal publication. This all culminated in late July with a public presentation of their research results. The session on grantsmanship was an attempt to look forward by orienting Fellows to the factors involved in conceiving strong proposals and responding effectively to RFAs to win future funding for their work.

Table 7. STAAARS+ Trainings Held, Year 2

Topic of training	Date of training	Country of Training	Brief Purpose of Training	Who was Trained	Number Trained		
					M	F	Total
Paper presentations	9/19, 9/30, 10/1/20	Virtual	For the four teams to present their papers as preparation for the intensive feedback sessions scheduled for November	STAAARS+ Fellows and mentors	10	8	18
Intensive feedback session for research teams	11/4, 11/5/20	Virtual	Mentors and other STAAARS+ Fellows provide intensive feedback to Fellows on their papers	STAARS/STAAARS+ Fellows and mentors	10	7	17
Grantsmanship	11/10/20	Virtual	Orient Fellows to what donors are looking for in proposals, how proposals are evaluated, and teach writing skills to improve grantmaking success	STAARS/STAAARS+ Fellows and Core Center Researchers	20	10	30
Navigating peer review	2/3/21	Virtual	Help Fellows and core center researchers understand the structure and purpose of the peer review process, and how to make use of peer review feedback to improve their paper and succeed in publishing	STAAARS+ Fellows and Core Center Researchers	6	4	10
Research paper presentations webinar	7/27/21	Virtual	STAAARS+ Fellows presented their papers to an audience of other Fellows, mentors, Core Center researchers and mentors, and USAID	STAARS/STAAARS+ Fellows and mentors	10	7	17
				Total	56	36	92

*The numbers reported above count the number of people at each training. Many attended multiple meetings. As during Year 1, the number of unique people attending these trainings was 18 people (10 men and 8 women).
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As Year 2 ended, the work of the first cohort also ended, and STAAARS+ segued into selection of cohort 2 researchers and learning lessons from Year 1 to enhance the design of the second cohort training program. Year 3 will be rich in training activities for the newly selected second and third cohort as much of the training takes place in the first 6 months of each cohort's 18-month program

period. These cohorts will include teams from Asia. While we do not anticipate dramatic adjustments to the training materials or timelines due to the addition of the Asia teams, we will assess each cohort's needs and adapt accordingly.

Challenges and Lessons Learned: COVID-19 and the need to do all engagement remotely continued to challenge all aspects of PRCI operations in Year 2, including STAAARS+. An attempt to bring cohort 1 and new cohort 2 fellows to Cornel campus in September 2021 had to be abandoned due to travel restrictions that would have made it impossible for several teams to participate. PRCI is now aiming to hold these sessions in April 2022, and we remain hopeful that cohort 3 will be able to enjoy in-person launch activities as originally planned but will have to adapt to circumstances at that time.

To promote convergence across STAAARS+, Core Centers and special topics trainings, the STAAARS+ and Core teams shared materials from existing online trainings for each. STAAARS+ fellows were also invited to join several Core Center technical trainings on topics relevant to their work. R2P was integrated into first cohort activities late in the process but was introduced from the start of cohort 2.

Special Topics Short-term Training

Purpose and structure: Special Topics training during Year 2 focused on two areas: follow-up to the technical training on trade flow analysis put on near the end of Year 1 by PRCI Asia leads working closely with Kasetsart University; and identification of policy research gaps in Nepal, in collaboration with the USAID/Nepal-funded Knowledge-based Integrated Sustainable Agriculture in Nepal (KISAN) II program.

With concern about trade disruptions emerging in response to the COVID-19 pandemic, PRCI's Asia leads conceived the trade flow analysis as a way to get Asian centers up to speed on a valuable global database and use it to inform policy making at this time. Following the three Special Topics training modules on trade flow analysis using the international BACI dataset at the end of Year 1, PRCI assisted Asian centers to develop papers out of the analysis.

In Nepal, PRCI Asia leads worked closely with IIDS, the KISAN II project, and government officials to orient all to the importance of moving beyond a heavy focus on the farm to consider a food system perspective, appreciate the rapidly growing post-farm segment of the food system, and understand process of food system transformation. These are relatively new concepts in policy circles in Nepal, so PRCI prioritized them, using outreach events also as training events for researchers and policy makers. See Table 8 for a list of all training sessions and participants. In total, 224 unique participants – 130 male and 94 female – participated in these trainings across three countries (Table 9).

Table 8. Special topics trainings and learning events, Year 2

Topic of training	Date of training	Country of Training	Brief Purpose of Training	Who was Trained	Number Trained		
					M	F	Total
Dissemination workshop on trade flow patterns in Nepal	Sep 13, 2021	Nepal	Learning to give a dissemination workshop	Research professionals, Development practitioners, Government officials	21	12	33
International Agricultural Trade Flow Analysis meetings (with KU)	Sep 29, 2021	Virtual	Research training to allow participants to study this issue	Research professionals, Development practitioners,	23	19	42
Policy analysis training workshop (Nepal)	Mar 8 - 12, 2021	Nepal+ Virtual	Series on Policy	Research professionals, Development practitioners, Government officials	11	4	15
Technical meeting on identification of policy gaps on food system transformation in Nepal	Sep 13, 2021	Nepal	Series on Policy	Research professionals, Development practitioners, Government officials	21	7	28
Policy Brief Training	April 2021	Sri Lanka		Research professionals, Development practitioners, Government officials	30	30	60
Nepal Priority Setting workshop	10-Jun-21	Nepal		Research professionals, Development practitioners, Government officials	14	3	17
				Total	154	104	258

Table 9. Unique participants by country, PRCI Year 2 Asia program

Country	Male	Female	Total
Nepal	51	18	69
Sri Lanka	30	30	60
Trade Flow Analysis	23	19	42
Total	130	94	224

Challenges and lessons learned: A key conclusion from evaluations of Year 1 activities on trade3 flow analysis was that there was a strong case for diving deeper into this topic through more rounds of technical training or backstop Q&As. As can be seen above, this is what was done during Year 2. PRCI also would like to see learning across Africa and Asia on this topic. The fact that ReNAPRI is

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engaged with the African Union Commission (AUC) advising on the African Continental Free Trade Agreement suggests that such work might be useful. To date ReNAPRI has not been able to prioritize this kind of analysis in its agenda but PRCI leadership will continue to look for opportunities to do so.

VII. Cross Cutting

PRCI's cross-cutting activities include integration of gender into all program activities, and a R2P program that operated throughout Year 2.

Gender

Activities: PRCI's gender team continued to integrate gender into the program in several ways. First, the team organized a technical training on mixed methods research, which included explicit treatment of gender, based on PRCI research carried out by SUA on Tanzania's cashew value chain.

Second, the gender team mentored two of the research projects during Year 2 – the cashew value chain study by SUA in Tanzania, which focuses explicitly on gender, and the sugarcane study by EPRC in Uganda that includes a strong gender component in looking at the impacts of the crop on smalholder farmer welfare. Both projects built on the Women's Empowerment in Agriculture Index for Value Chains (WEAI4VC) explore opportunities and constraints along each node of the value chain.

Third, the gender team continued to engage in the PICA process and in the technical training needs assessment. During year 2 they were instrumental in identifying CPL demand for more training on gender and mixed methods research – a need which first came to light as they participated in PICA check-ins with the teams. All CPLs were encouraged in the PICA process to consider research and organizational capacity needs related to gender.

Achievements: PRCI continued to maintain a focus on gender during Year 2 through two research topics, technical trainings that incorporated gender, and engagement in PICA and planning for new technical trainings. This shows the integration of a gender focus across PRCI activities. Qualitative methods training was identified during Year 1 as a need, and the gender team played a key role responding to that in Year 2 and standing ready to build more into it in Year 3.

Research-to-Policy (R2P)

Quality research may not have policy impact without a well-informed outreach strategy to decision makers. PRCI's R2P program was designed to address this. During Year 2, R2P delivered on its plan to deliver to each CPL (1) an asynchronous powerpoint video on issues to consider while trying to enhance the impact of research on policy; (2) a two-hour interactive policy landscape assessment webinar to assess the policy actors and issues with respect to each Center's specific research topic; and (3) the development of a 1-2 page policy outreach strategy produced by each Center with the input of their mentors. As planned, centers shared their outreach strategies with each other, presented instances of successful policy influence in a side-event to the 2020 ReNAPRI annual conference (part of Year 2), and did so again in the 2021 Conference (part of Year 3). Also as planned, R2P expanded to include STAAARS+ in mid-2021. Finally, a policy focus and orientation
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to R2P was part of cohort 2 (starting at the end of Year 2) for both the core center program and for STAAARS+.

VIII. Innovation Transfer and Scaling Partnerships

PRCI is entirely focused on transferring knowledge and capabilities and doing it in a way that ensures scaling. As detailed above, we transfer knowledge and build capacity in four ways:

- Mentored research that emphasizes joint, collaborative work in which highly experienced and highly trained analysts from PRCI member institutions can nurture the capacities of local analysts.
- Technical training closely tied to the research to ensure greater uptake of knowledge by putting it to use during or shortly after the training.
- Design of learning forums in which findings and best practices are regularly presented; and
- Institutional capacity strengthening through the PICA process.

PRCI pursues a "training of trainers" (ToT) approach whenever possible to ensure future scaling of these efforts. For example:

- ReNAPRI staff and its research director continued in Year 2 to engage in the PICA process with the objective of rolling it out with selected centers from the network; PRCI continues to seek funding for ReNAPRI to be able to do this with their centers.
- PRCI is engaging with CPLs and ReNAPRI centers regarding the training that they have done and will work during Year 3 to build this into its training agenda, while ensuring direct relevance and top quality of training material and deliver.
- In Asia, Research and Information Systems for Developing Countries (India) (RIS) and especially KU have played a large role reaching out to "junior" centers in the subregions to enhance their capacity for applied policy research with policy impact. In the case of KU, this can be seen by its active role in the trade flow analysis training and in its organizing of the regional conference scheduled for May 2022 that will involve centers from the region.
- PRCI promotes policy change through PICA – this program is built around a diagnosis of the CPLs' and ReNAPRI's current position in the policy system, their desired position after four years, and their strategic plan for moving to that desired position. Also, R2P works to enable and encourage every research team to build an explicit, empirically informed policy impact plan for its particular study. Any impact on policy will have very large scaling effects from PRCI action.

IX. Environmental Management and Mitigation Plan (EMMP)

Per Annex E of its final award documents, PRCI has a categorical exemption and thus is not required to prepare an EMMP. PRCI is required to have a functioning IRB and to consider gender as a cross-cutting activity, not separate an activity, both of which it does.

X. Open Data Management Plan

PRCI collected data under the cross-country COVID survey during Year 1 and Year 2. That data

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will be submitted to the USAID data library during Year 3. EPRC is collecting primary data during Year 3 and will be assisted as needed to submit that data.

XI. Project Management Activity

In responding to our evolving understanding of needs under the Lab, and responding to changing personnel, PRCI during Year 2 modified the set of programmatic leads as follows:

- Lab Director: David Tschirley (MSU). No change.
- Asia Lead: Suresh Babu with Xinshen Diao (IFPRI). Position created Year 1, no change Year 2.
- R2P Lead: Kristin David (IFPRI) took over for Danielle Resnick (IFPRI), who moved to other employment.
- Institutional Capacity Development Lead: John Bonnell (MSU) replaced John Medendorp (MSU). Cait Goddard (MSU) continued to assist.
- Core Center Technical Training Leads: Saweda Liverpool-Tasie (MSU) and Nicole Mason-Wardell (MSU) continued in this position.
- Gender Lead: Ruth Meinzen-Dick continued with Elizabeth Bryan (IFPRI).
- Special Topics research & training leads: Varying depending on topics and centers.
- ReNAPRI Liaison: Thom Jayne (MSU) stepped down from this position upon his retirement on 9/30/21. David Tschirley plays this role now, given his regular interaction with ReNAPRI on a wide range of issues.

PRCI Director Tschirley is assisted in his logistical and financial management of the program by one program assistant and a business office consisting of one manager and three additional staff dealing with contracting, accounting, and travel. Tschirley also oversees on communications specialist.

XII. Communications

The Lab's communication efforts during Year 2 focused on reaching a global community of stakeholders who are interested in agricultural policy research, including researchers, practitioners, government and Non-Governmental Organizations (NGOs) leadership, and policymakers. PRCI communication materials adhere to the expectations outlined in the Feed the Future Branding Guide and attempt to capture audience interest through the use of engaging visual design.

Website

The PRCI website is the primary source for distributing news about the lab and its events, and central to the distribution of PRCI's webinars and technical training offerings.

In year two, the website had 4,909 page views. This was an increase of 48.1% over the previous year. The most popular pages on the site were the STAAARS+ Fellowship application page (2,044) and the report page for the "Analysis to Guide USAID Mozambique Programmatic Investments in Agriculture and Food Nutrition Security." The high number of views for the STAAARS+ Fellowship application is an encouraging sign that our efforts to reach a broad audience of interested stakeholders have been successful.

Promoting our site on social media and through the FSG newsletter has improved our search engine optimization. The most popular news article written for the site was Strategic Planning Through a Global Pandemic - Innovation Lab for Food Security Policy, Research, Capacity and Influence (127 views). During Year 2 the website began hosting PRCI research papers, policy briefs and reports. We expect website traffic continue toincrease in year three as we increasingly populate the cite with content from our core center and STAAARS+ research, from our new research-oriented buy-ins, and CACCI, the ambitious climate change initiative that PRCI is coordinating. Impact stories from our central and mission-funded work should also generate interest for our audience. Our goal is to eventually reach an audience as large as that of the Feed the Future Innovation Lab for Food Security Policy Website which in its fifth year reached 25,000 people. We are moving in that direction.

Social Media

PRCI builds off of the social media channels that were previously managed by the Feed the Future Innovation Lab for Food Security Policy (FSP) and Michigan State University's Food Security Group (FSG). These channels include a Twitter account, Facebook account, and YouTube account. By using these existing channels PRCI did not have to cultivate a new user base but was able to immediately begin connecting with an audience already interested in food security policy. PRCI continues to share the use of these platforms with FSP and FSG. Sharing the accounts in this way makes branding PRCI content more difficult but the synergies across the three programs outweighs the branding challenges.

Twitter
Over the course of the year our twitter account [@foodsecuritylab](#) received a total of 84,000 impressions. This means that our tweets reached a combined audience of 84,000 people, which is substantially larger than our audience of 4,909 on the PRCI website. Our Twitter count has 2,014 followers. Our most popular tweet can be seen below, with 7,052 impressions.. A general rule of thumb is that you should try to reach 20% of your followers and this tweet can be considered highly successful because it significantly exceeded our number of followers.

Facebook

We have created a new [Facebook account](#) for the MSU Food Security Group and PRCI. The account has 110 followers. In addition to posting articles and event announcements to the page we are using it to live stream our webinars. Facebook records the livestream and then the content is readily available. By sharing our webinars through Facebook we can expand our audience. Our top performing live stream was the PRCI Webinar: STAAARS+ Research Presentations which was viewed by 47 users for a total of 199 minutes.

YouTube

We created a new [YouTube account](#) for the MSU Food Security Group and PRCI in Year 2. The YouTube channel is primarily used to host our Webinar recordings. We added 7 videos to the channel in year two and received a combined 550 views.

Newsletter and Email Marketing

PRCI News, updates and events are shared on a quarterly basis through MSU Food Security Group newsletter. The newsletter is sent to more than 2,400 email addresses and our quarterly update had a 34% open rate, compared to an average open rate for an email newsletter of 10-15%. In addition to providing timely information on PRCI, the newsletter drives hundreds of users to our websites. The newsletter email address is also used to promote PRCI webinars and events. An example of the quarterly newsletter can be viewed at this [link](#).

XIII. Issues and How They are Being Addressed

Beyond the substantive issues already discussed under sections on challenges and lessons learned in each activity area, the primary challenge that PRCI faces continues to be building strong relationships with the large number of far-flung centers with which it engages. These include three CPLs, 10 members of ReNAPRI, the ReNAPRI Secretariat and technical direction, three additional

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centers with STAAARS+ fellows, two lead centers in Asia, and at least four additional centers in Asia. During Year 2, COVID-19 continued to make travel and direct contact with leadership of these centers impossible – the last direct contact with most of our colleagues was November 2020 at the Internal Lab Launch Consultation (ILLC). PRCI's response so far has been two-fold. First, we rely on our strong pre-existing relationship with ReNAPRI and with several of its centers to facilitate communication. By engaging so heavily with ReNAPRI in institutional capacity strengthening exercises that were not originally anticipated (strategic planning and research strategy), we helped the new Secretariat and technical leadership supercharge its engagement with centers. Second, PRCI Asia Leads know Southeast Asia and South Asia, and some of the centers in each region, quite well and have been able to remain closely engaged with them. Doing this through the two lead centers (KU and RIS) has, like ReNAPRI, ensured a regular "presence" of PRCI even when travel was not possible. Third, with COVID restrictions lifting somewhat and receiving new research-oriented buy-ins, we are engaging with some CPLs and ReNAPRI centers to design new, joint work. Finally, through PICA we have regular contact with center leadership and a conduit of information back to lab leadership. PRCI leadership still intends to visit as many of the Lab's collaborating centers as possible within one year of travel becoming possible again

XIV. Future Directions

PRCI will build on its first two years of success in five ways. First, the Lab will continue adapting as needed to changing circumstances. We have shown this adaptability in how we responded to the pandemic with a huge push into virtual engagement with our partners, by working much more closely than anticipated with ReNAPRI on its own institutional development, by developing R2P to ensure an explicit policy focus on all that we do, and in modifying our approach to defining research topics under the second cohort of core centers. We will remain alert to additional changes needed to maintain our effectiveness.

Second, PRCI will continue to increase engagement across Lab components to ensure that all its leaders are well informed about what is going on more broadly in the Lab and able to take this into account in their own work. Year two saw a big increase in this kind of cross-component engagement, for example between the gender and technical training teams, the technical training and R2P team, and both of these and some mentoring teams (both core and STAAARS+). A major new way in which we expect to do this in Year 3 is through the climate change research and policy action (CACCI) that the Lab is now undertaking in Africa. Given the heavy focus on climate change in USAID, we are now developing a proposal to undertake similar work in Asia, borrowing and adapting as needed from the design of the Africa work.

Third, we hope to make major progress in Year 3 in expanding our training-of-trainers approach in order to leverage the training that the Lab is doing and solidify one of the major indicators of capacity development – when our partner institutions can increasingly take charge of collaborating and using their diverse abilities to build the capacity of their colleagues. To some extent this is happening in Asia especially with KU. In Africa, Centers such as ISSER, Tegemeo, Indaba Agriculture Policy Research Institute (Zambia) (IAPRI), potentially EPRC and the new center MwAPATA in Malawi are likely to be the main centers we draw on in this effort. To a great extent we will try to do this through ReNAPRI which already has an Africa-to-Africa learning agenda that fits well with this approach.

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Fourth, PRCI will focus on ramping up its research output through its nutrition and climate change buy-ins, adding to the mentored research we're conducting under the core center and STAAARS+ programs. We will continue to emphasize partnering with local partners in this research, as is already apparent in the work with Tegemeo on nutrition and in CACCI. This work will be crucial to PRCI making a visible and important contribution to our global research agenda especially in the areas of healthy food systems and resilience.

Finally, CACCI in Africa and a potential sister effort in Asia will be a major focus of PRCI's activities going forward. Right now, this is primarily an effort to mobilize existing data and information to achieve positive policy influence. Increasingly over the expected five-year total time horizon of the effort, research will need to be done and will need to directly inform decisions promoted at country level. The effort itself also needs to be the focus of research on how best to achieve policy change at the level that CACCI is attempting. The Lab needs to lay out its approach to doing this during Year 3.

XV. Appendix: Success Stories

Success Story #1: Strategic Planning for Policy Impact

Through the implementation of a new strategic plan, the Regional Network of Agricultural Policy Research Institutes (ReNAPRI) is forging impactful policy research in Africa with support from the Feed the Future Innovation Lab for Food Security Policy Research, Capacity and Influence (PRCI). ReNAPRI, a consortium of ten African agricultural policy research centers in Southern Africa, East Africa and Ghana in West Africa, collaborates on policy research, outreach and capacity building throughout the continent. ReNAPRI's senior program coordinator Dr. Nalishebo Meebelo, who was hired by ReNAPRI with PRCI financial support in December 2019, says three things were clear from the beginning of her time with ReNAPRI: "Firstly, there was an increasing demand for ReNAPRI's services on the continent. Secondly, we wanted to expand ReNAPRI's visibility as an agent for policy influence on the continent. And thirdly, we needed to be able to evaluate the impact of ReNAPRI's work. The best way to organize ourselves to achieve these goals and ambitions was through a strategic plan."

In early March of 2020, Meebelo traveled to Malawi to begin working with Dr. John Medendorp, the Director of Michigan State University's Borlaug Higher Education for Agricultural Research and Development (BHEARD) program, along with an institutional capacity development specialist in that program, Cait Goddard, to begin developing the strategic plan. Medendorp and Goddard were leading PRCI's institutional capacity strengthening efforts and as noted by Medendorp, "We, like ReNAPRI itself, recognized the immense potential in the ReNAPRI network and what it could mean for Africa if ReNAPRI could become a leading voice for food security and agricultural policy."

Working with PRCI's Medendorp and Goddard, Meebelo and ReNAPRI adopted a blended strategic planning process that included both online and offline activities; a hybrid approach would allow the planning process to be completed safely during the global COVID-19 pandemic. ReNAPRI used Zoom teleconferencing software to conduct the virtual meetings and used the program Smartsheet to assist with project management. Meebelo credits Medendorp and Goddard with helping ReNAPRI undertake a comprehensive self-assessment and develop a framework and implementation roadmap for the strategic plan and for training her on how to use the necessary technologies to make the planning process possible. Goddard notes that, "Not only has ReNAPRI developed the capacity to create a strategic planning process, they've also learned how to work in an entirely virtual environment. In some respects, they are leading the continent in this kind of work."

Among the plan's highlights are five pillars or intervention areas including project management, knowledge management, public relations and outreach, process management, and strategic partnerships and resources management. Meebelo says, "Every step of the way we ask ourselves, how do our actions reflect these intervention areas." In addition to the five pillars, the strategic plan defines ReNAPRI's five-year objectives and includes an action plan for 2021. According to Meebelo, "In year one, the action plan and objectives have been instrumental in navigating our

administrative and hiring needs, and ultimately developing the research and management capacity we need to achieve our policy goals."

ReNAPRI officially launched their strategic plan during the 16th ReNAPRI Board Meeting in May 2021. The strategic plan is already guiding ReNAPRI's path toward policy success and its activities and indicators are tracked regularly in close collaboration with the Policy Influence Capacity Advancement (PICA) Team at MSU.   With assistance from PRCI, ReNAPRI has begun fostering greater collaborative engagement among its policy centers in research and policy outreach. ReNAPRI centers have established a research agenda for the coming year and have published a multi-country research project on the impacts of policy responses to the COVID-19 pandemic on food systems in sub-Saharan Africa.

ReNAPRI has also begun taking on leadership roles, including through its selection by the African Union Commission to lead the next African Fertilizer Summit in collaboration with the Alliance for African Partnerships (AAP) at MSU and the International Fertilizer Development Center (IFDC). Most recently, ReNAPRI played a pivotal analytical and writing role in AGRA's 2021 Africa Agricultural Status Report. Additionally, ReNAPRI, together with IFPRI, co- Chairs the Task Force on Food Security and Nutrition Data and Hunger Hotspots in Africa during the COVID -19 pandemic and serves as a member of the Steering Committee under the Regional Food Trade Coalition hosted by AGRA.

Finally, as PRCI's Year 2 was drawing to a close, ReNAPRI was enlisted, along with AKADEMIYA2063, to lead a continental effort in collaboration with the African Union Commission to develop high quality country-level policy and investment plans around Nationally Declared Commitments (NDCs) and National Adaptation Plans (NAPs) under the Paris Accord. Since named CACCI – Comprehensive Africa Climate Change Initiative – this effort is at the forefront of USAID and AUC priorities in the coming years.

In the months ahead, ReNAPRI plans to continue engaging its individual policy research centers in their own capacity development efforts through the PICA process. Additionally, ReNAPRI is looking to enhance its outreach and communications capacity to further enhance the network's engagement with policymakers, donors, stakeholders, and private enterprises.

For Medendorp, "the most gratifying part of this was the growing sense of ownership of the process on the part of ReNAPRI. A strength of ReNAPRI has been and will always be the initiative of its member centers. Additionally, we are also seeing effective coordination and leadership from the centers. This will generate a really high payoff for the network and its members over time." Observing the outstanding progress that ReNAPRI has made since finalizing its plan and its rapidly growing continental profile, PRCI Director Dr. David Tschirley says "This entire process shows what can be accomplished when strategic support through a true partnership allows a motivated local organization to refine and pursue its vision for impact. It is extremely gratifying to see this process unfold and I'm tremendously optimistic about the future as ReNAPRI and its centers continue to build their capacities around their own home-grown vision of what their countries, and Africa as a whole, needs in the area of food and nutrition policy."

Success story #2: STAAARS+ Mentoring the Next Generation of Agricultural Policy Researchers

In 2020, under the guidance of the Feed the Future Innovation Lab for Food Security Policy, Research, Capacity, and Influence (PRCI) the Structural Transformation of African and Asian Agriculture and Rural Spaces (STAAARS+) Fellows program selected 10 early career researchers in Africa to participate in an 18-month training and mentorship program. The STAAARS+ program is built on the model of Cornell University's STAARS fellowship program but, in keeping with PRCI's focus, requires that fellows have a solid institutional affiliation and the support of their institutional leadership in doing the work of the fellowship.

STAAARS+ fellows were competitively selected as teams of 2-3 researchers from four African policy research centers: Bureau d'analyses macro-économiques (Senegal), Economic Policy Research Center (Uganda), Institute of Disaster Risk Management & Food Security Studies at Bahir Dar University (Ethiopia), and African School of Economics (Benin). During the training program each team received research training and mentorship by researchers from Cornell University, Michigan State University (MSU), and the International Food Policy Research Institute (IFPRI). As part of the fellowship program each team developed and conducted a research project related to the themes of PRCI, which include inclusive agriculture and rural transformation, development of healthy food systems, and resilience.

Reflecting on the success of the first round of STAAARS+ teams, Chris Barrett, the PRCI STAAARS+ Lead and Stephen B. and Janice G. Ashley Professor of Applied Economics and Management at Cornell University says, "The STAAARS+ teams brought great ideas and work ethic, which when combined with the skill and dedication of their mentors, resulted in a set of high quality policy research manuscripts, deeper and broader collaborative research networks for the Fellows and their home institutions, and enhanced professional skills."

2020 STAAARS+ Fellow Nathan Sunday, from the Economic Policy Research Center in Uganda, feels he has benefited greatly from his time in the program, saying, "The STAAARS+ program had a significant impact on my career as a researcher. The trainings and the mentorship program greatly improved my writing skills. […] there was a lot of learning from the mentors. The program also gave us a platform to present our work to a wider international audience and receive feedback, which was helpful in improving our thought process and our research work."

2020 STAAARS+ Fellow Karim Nchare Fogam from the African School of Economics in Benin says, "The program is a unique opportunity to benefit from the experience of senior researchers and build a strong research network that later facilitates research collaboration and gives access to professional opportunities." Additionally, Fogam believes the program will help him increase his influence in the policy sphere noting, "I have learned outreach strategies towards policymakers and stakeholders and how to influence evidence-based policymaking."

PRCI Director and Professor at MSU, David Tschirley, says, "I've been very impressed with the research efforts of the 2020 fellows. We are already seeing their efforts solidified as working papers and policy briefs, and hopefully very soon peer-reviewed journal articles. I'm confident that these researchers will have a lasting impact on agricultural policy and decision making in the years ahead."

Now that the first group of STAAARS+ Fellows have completed the program, a second set of

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fellows has been selected and begun the mentoring process. The second iteration of the program has expanded to include researchers from Asia as well as Africa and is already well underway.

Success story #3: A Holistic Approach to Policy Change in Nigeria's Agri-Food Value Chain

The University of Ibadan (UI) is Nigeria's first and still leading university, with a strong faculty of agriculture and school of economics. Though petroleum dominates the country's economy, agriculture – and especially the food system writ more broadly including the rapidly growing value added needed to feed rising urban populations – remains central to inclusive growth and poverty reduction. Yet UI has never had a unit focused on issues of the country's food economy and the policies and investments that make it work – or that undermine it and prevent it from reaching its potential. With the help of the Feed the Future Innovation Lab for Food Security Policy Research, Capacity, and Influence (PRCI), UI has now changed that. Working with the University's Department of Agricultural Extension and Rural Development (DAERD) and the Centre for Petroleum, Energy Economics and Law (CPEEL) and drawing on the financial and organizational assistance of PRCI, Dr. Ogunbayo Iredele, a Professor of Extension and Agriculture at UI, and his colleagues have established the Innovation Lab for Policy Leadership in Agriculture and Food Security (PiLAF) to focus on the food system challenges that the country faces.

According to Dr. Ogunbayo, Nigeria faces many challenges across it's agri-food value chain, including a shortage of youth farm labor, a lack of food processing and storage facilities, poor transport and marketing infrastructure, and the devastating impacts of climate change. To tackle these compounding challenges Dr. Ogunbayo and his colleagues identified the need for a holistic approach to evaluating, reforming, and implementing agricultural policies that could foster a resilient food system. Dr. Ogunbayo says, "The goal of PiLAF is to be a major player and influencer of agricultural policies in Nigeria. The problems we are facing are enormous and the country is undergoing a tough time and all sectors are affected."

PiLAF's establishment was delayed by the COVID-19 pandemic, but the center was officially launched in late 2020. To achieve their mission of policy influence, PiLAF is using a bottom-up approach that directly engages with the needs of stakeholders. Research topics are defined in consultation with stakeholders, and results are fed back to them and discussed for their policy implications. Ogunbayo's colleague at UI, Dr. Adegbenga Adekoya, a Professor of Extension and Agriculture at UI says, "We want the stakeholders across the entire agricultural value chain to be involved in shaping the policies that touch them. We interact with producers, processors, creditors, consumers and policymakers. It is very important that we represent our stakeholders' interests to policy makers and that our stakeholders understand our policy recommendations." In particular, Ogunbayo and Adekoya see a need to improve outcomes for smallholder farmers and small and medium enterprises in the country's food value chains, noting that they often lack access to value added opportunities and to proper food storage, leading to unnecessary food waste.

PiLAF chose Nigeria's rapidly growing poultry value as its first focus to apply its interactive approach to research and policy definition. The center began almost immediately with a major stakeholder engagement initiative with the value chain, then began collecting data from poultry and maize farmers. Adekoya notes that "the fate of the poultry industry is closely linked with the fate of

maize industry" since the grain provides the base for the feed industry on which the poultry sector depends. In the coming year PiLAF hopes to expand its research and outreach to include rice, cocoa, and cassava producers; these three crops are vital to Nigeria's agricultural sector.

Oguynbayo and Adekoya credit PRCI for making PiLAF possible. Adekoya says, "From the inception, PRCI has trained us in its approach to systematically building institutional capacity, which has enabled us to plan, assign duties and responsibilities, and execute our mission. Working with PRCI has been a wonderful experience: the mentorship, the trainings, the capacity development." Ogunybayo adds that PiLAF is already applying for funding opportunities beyond PRCI.

Reflecting on the development of PiLAF, PRCI Director David Tschirley says, "From the very beginning, the PiLAF team have taken ownership of the process. They have created a new innovation lab that is already engaging with stakeholders, generating evidence-based research, and laying the groundwork for policy formation and influence. PiLAF's early success illustrates PRCI's commitment to creating sustainable policy research centers throughout Africa."

XVI. Annexes

Annex A: First pages of CPL strategic planning narratives and budgets (full documents available upon request)

STRATEGIC PLANNING NARRATIVE OUTLINING THE 3-Year Strategic
Plan Under PRCI

DUE DATE: AUGUST 31, 2021

Centre Name	*Economic Policy Research Centre*
Names and Titles of Centre Members Contributing to this Narrative	*Sarah N. Ssewanyana, Executive Director; Mary T. Kivunike, Director Finance and Shared Services; Swaibu Mbowa, Head-Sectoral Dept; Elizabeth A. Birabwa, Program Manager; Francis Mwesigye, Senior Research Fellow; Madina Guloba, Head-Microeconomics Dept.*

Goals of this narrative:
- Summarize the original vision for the Centre as indicated by the initial proposal submitted to PRCI
- Clarify how the vision may have changed due to the analysis done in the PICA Process
- Summarize how the vision will be practically realized, based on what was developed through the PICA process (action steps, activities to undertake, etc.)

Please use this template to provide detail on the PICA Process for your Centre. Please be as concise as possible but ensure that each of the elements requested below is addressed.

Introduction

Uganda's agriculture policy system (APS) is an open one that recognizes the dynamic interactions of the system actors and the fact that the system is influenced by many factors and players. However, the decision-making processes at all levels are influenced by social, economic, political and environmental factors – through formal and/or informal means. Such a process requires capacities/skills to manage it effectively for better development outcomes. Specifically, food security policy system is multi-sectoral in nature and guided by policy frameworks both at national and sectoral levels. However, these policies and strategies highlight several food security interventions – some have been implemented and others not.

The Economic Policy Research Centre (EPRC) is Uganda's leading economic and development policy think tank. Over time, EPRC has built its repute and credibility as a trusted knowledge generator to inform government policy processes. It has interacted with the APS in different capacities – such as membership to agriculture sector working group, technical working groups, accountability sector working groups; technical leadership of Strategic Economic Management (STEPMAN) forum under the Office of Secretary to the Treasury, Ministry of Finance, Planning and Economic Development (MoFPED); called up to provide critical reviews of several agricultural strategic plans, and through production of agricultural related research products including policy research series and user-friendly products, among others. Notwithstanding these strengths, the Centre needs to deepen its research and organizational capabilities on food and nutrition security (FNS) in Uganda and beyond. However, this can only be achieved by EPRC

STRATEGIC PLANNING NARRATIVE OUTLINING THE 3-Year Strategic
Plan Under PRCI

Centre Name	
Names and Titles of Centre Members Contributing to this Narrative	Dr Astou Diao Camara (Director of ISRA-BAME) Dr Cheickh Sadibou Fall (Researcher at ISRA-BAME) Dr Ndeye Fatou Faye (Researcher at ISRA-BAME) Dr Moussa Sall (Scientific coordinator of ISRA-BAME)

Introduction

ISRA-BAME is a cross-unit of the Senegalese Institute of Agricultural Research (ISRA). It is specialized in social sciences research in support of agricultural policies. ISRA-BAME is a team of researchers with diverse background, specifically, economics, econometrics, statistics, sociology, and geography.

ISRA-BAME has the ambition to be an actor of sustainable development thanks to research anchored in the culture of scientific excellence and efficiency attested by an international visibility and a strong national and international partnership and effective responses to the concerns of populations likely to improve their well-being.

ISRA-BAME is responsible for the program "Agricultural Policy and Socio-Economy" of ISRA. This program aims to generate knowledge that can help to better guide private or public strategies and agricultural policies. Its mission is thus, to produce tools for decision-making in agro-sylvo-pastoral policies to inform the current situation of the agricultural sector and to measure and evaluate the impact of agricultural projects, programs, and policies. Today, the major challenge for ISRA-BAME is to show the mechanisms and levers on which decision-makers, researchers and farmers can rely to reverse a regressive trend in competitiveness and sustainability of Senegalese agriculture. As such, it is highly engaged in the Program for the Acceleration of the Senegalese Agricultural Cycle (PRACAS), the agricultural component of the Emerging Senegal Plan (PSE) which is the main macroeconomic reference in Senegal.

STRATEGIC PLANNING NARRATIVE OUTLINING THE 3-Year Strategic Plan Under PRCI

DUE DATE: 29/10/2021

Centre Name	Innovation Lab for Policy Leadership in Agriculture & Food Security (PiLAF)
Names and Titles of Centre Members Contributing to this Narrative	Adeola Adenikinju Co-Principal Investigator, PiLAF Adegbenga Adekoya Co-Principal Investigator, PiLAF Elisa Olubusoye Director, CPEEL Iredele Ogunbayo Administrative Manager, PiLAF Olusegun Oyelami Communication Manager, PiLAF Oluwaseun Oyeranti Research Assistant, PiLAF Damilola Olajubutu Research Assistant, PiLAF Jeleelat Ogundiran Graduate Intern, PiLAF Godsave Kigbu Graduate Intern, PiLAF

Introduction

In August 2019, the Centre for Petroleum, Energy Economics & Law in collaboration with the Department of Agricultural Extension & Rural Development, University of Ibadan indicated interest to be considered as one of the three Centres for Policy Leadership under PRCI. The vision of the centre is to develop capacity to train and retain strong faculty members in the skills required to engage in agricultural and food security research and use the evidence generated to inform policy processes, thereby bridging the gap between policy makers and other actors along the agricultural food system. To this end, the centre would employ a mix of approaches including formal training, organizational strengthening and participation in collaborative research. To achieve this, an agricultural desk/community development unit within CPEEL/DAERD's framework would be created to drive the vision and the objectives. This was summarized in the proposal with a four-year plan;

- Achieve enhanced understanding of the state of the agricultural policy landscape in the country – including actors, issues and deficits
- Conduct extensive stakeholder consultations; implement interventions to develop the capacity of CPEEL/DAERD and other research and policy actors in technical areas; strengthen organizational capacity to provide future training in those areas
- extend capacity development to training in cross-cutting issues such as gender inclusion, agricultural policy communication and strengthen collaborations with regional and global partners

Annex B: CACCI Information Sheet

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Feed the Future Innovation Lab for Food Security Policy, Research, Capacity, and Influence   October 2021

Comprehensive Africa Agriculture Climate Change Initiative (CAACCI): Strengthening African Capacity to Respond to the Paris Agreement to promote Resilience, Food Security, and Inclusive Growth

Adapting and building resilience to climate change are critical for Africa. Africa has continued to show leadership in the global climate change arena under the guidance of the Committee of African Heads of State and Government on Climate Change (CAHOSCC). 54 countries in Africa have ratified the Paris Agreement, with the next steps being to implement their Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs). Despite the strong political will by countries to act on climate change, much work remains to be done – in particular implementation of the NDCs that countries submitted as part of their commitments to reduce emissions. For the implementation phase of the NDCs many countries would require technical and financial support as well as capacity building and technology to enable them to meet their obligations under the Paris Agreement.

In response to this need, and the White House Global Climate Ambition, USAID and The African Union Commission are partnering with two premier African policy research organizations to strengthen national, regional and continental capacity to implement National Determined Contributions (NDCs) and develop National Adaptation Plans (NAPs). Implemented through the Feed the Future Innovation Lab for Food Security Policy Research, Capacity, and Influence (PRCI), led by Michigan State University, RFS is engaging the Regional Network of Agricultural Policy Research Institutes (ReNAPRI) and AKADEMIYA2063 to carry out this work. The five-year vision for the work is for up to 25 African countries to have developed, officially approved, and begun to implement policy- and investment plans, based on the best available evidence, that will drive the adoption of practices throughout agricultural value chains that spur energy efficiency and forestall rapid rises in greenhouse gas emissions while promoting household resilience, food security, and inclusive growth. Doing this requires working intensively at country level while coordinating with Regional Economic Communities (RECs).

During the first year, ReNAPRI and AKADEMIYA2063 will develop a proof of approach to guide activities over the following four years. Working this first year in 1-2 countries each in West Africa and Southern Africa, these two organizations will work with local partners to build needed capacities for data and analytics together with technical and inter-ministerial coordination to facilitate implementation of and reporting against Paris Agreement NDCs, and facilitation of implementation of NAPs. Focusing on food systems, water, and natural resources, they will undertake joint stocktaking exercises, mapping of local policy priorities against Paris Agreement mandates, and ex-ante assessment of likely tradeoffs and outcomes of particular courses of action. ReNAPRI and AKADEMIYA2063 will work with national counterparts to develop metrics to monitor NDC benchmarks and will incorporate these into an online platform to track Paris Agreement implementation at country, regional, and continental level. They will develop metrics of household and community vulnerability and resilience and build these also into this platform, to inform the design of NAPs. Based on their extensive experience in CAADP and development of National Agricultural Investment Plans, our two lead African partners will work with local partners to develop coordination modalities to facilitate incorporation of best evidence into officially approved policy and investment programs for NDCs and NAPs and to monitor and evaluate their implementation.

Based on the first-year experience in 2-4 countries, ReNAPRI and AKADEMIYA2063 will adapt and roll out their approach in up to 25 additional countries over the next four years of the five-year effort. The result will be a critical mass of countries able to respond to their commitments under the Paris Agreement in a manner that improves household and community level resilience and food security together with robust inclusive growth.

Annex C: First page of Malawi Mission buy-in to PRCI (Full document available upon request)

USAID/Malawi Buy-In to the Food Security Innovation Lab for Policy, Research, Capacity and Influence (PRCI)

Goals and Objectives of the Buy-In and It's Relationship to PRCI's Goals and Objectives

The purpose of this activity is to build the capacity of a Malawian policy research think tank, MwAPATA Institute (known as MwAPATA hereafter); as well as that of the Ministry of Agriculture and Food Security (MoAFS) to carry out high-quality research and analysis; produce practical recommendations on policy implementation in consultation with a wide range of private and public stakeholders; strengthen a country-led network designed to positively impact policy and programmatic decision; and ultimately, produce high-quality food security and rural economic growth policy research that is acted upon by the GOM and Malawian stakeholders. The intent of the activity is to partner with centers and networks that already have strong relationships with policy makers.

MwAPATA is currently receiving technical support from Michigan State University (MSU), with funding from the Agriculture Transformation Initiative, and have worked in a close policy research partnership over the past three years, which includes a capacity building strategy for the MoAFS to expand their own capabilities. MwAPATA has increasingly been asked by the GOM to produce evidence-based policy recommendations that are practical and help further policy implementation. The GOM is at a critical juncture in its desire for agriculture and private sector-related policy guidance, and is seeking evidence- based research from a Malawian institution. MwAPATA Institute is well-placed to provide this service, and have already been called upon to do so.

As USAID/Malawi's Sustainable Economic Growth (SEG) Office analyzed and considered next steps in its policy activity development, it noted the absence of a Malawian-led policy think tank to lead, create and develop cutting-edge research to guide and inform relevant stakeholders and key policymakers.
Understanding this and the difficulty in achieving timely policy and legislation approval within the existing Malawian political process, the SEG Office saw the need to move quickly in accessing a mechanism to address these concerns.

The SEG Office proposes to buy into the Feed the Future Innovation Lab for Food Security Policy Research, Capacity, & Influence (PRCI) for one year, initially, while designing a more comprehensive five-year program through the same mechanism. PRCI's approach is fully aligned with USAID/Malawi's objectives. By building the research capacity of MwAPATA, connecting research to policy priorities, and funding its institutional strengthening, PRCI helps enhance MwAPATA's reputation as a source of solid, evidence-based policy thinking. It further expands the influence that it can exert. The goals and objectives, of supporting MwAPATA activity are well-aligned with the PRCI's scope and objectives.

Also,the PRCI Lab offers an opportunity to tap into an emerging infrastructure of local think tanks, institutes, and networks to sustainably produce food security policy research that is responsive to local needs and informed by themes relevant at regional and global levels, and its current consortium network of partners includes Michigan State University (MSU) and the International Food Policy Research

Annex D: Indicator targets and actual

#	Indicator ID in FTFMS	Indicator title	Baseline	Y2			
				Target	Actual	% diff	Explanation
1	Custom	Number of individuals from partner countries participating in mentored research (e.g., through STAARS+ fellowship and other joint research activities)	0	15	40	167%	A wider group than just the official mentees ended up taking the training. This shows the keen interest in the training
2	Custom	Number of policy research and best practice papers authored or co-authored by partner organization researchers	0	5	7	140%	Teams were successful in turning out policy briefs from the work.
3	Custom	Number of stakeholder learning forums (national, regional, or global) where findings/best practices are presented	0	4	23	575%	The project has capitalized on the growing use and acceptance of web-based forums.
4	Custom	Number of Requests received by PRCI Researchers/Partners from National/Regional/Global Organizations/Entities for Information, Consultation, Data, and Presentations	0	5	44	880%	The PRCI team is becoming a much appreciated source of empirical information.
5	CBLD-9	Percent of USG-assisted organizations with improved performance	0	33% (2/6)	50% (3/6)	152%	This reflects the increase in the Asian Institutional component.
6	EG3.1-d	Milestones in improved institutional architecture for food security policy achieved with USG support	No targets, just reporting	Indicator being defined by end November 2020			
7	EG3.2-7	Number of technologies, practices, and approaches under various phases of research, development, and uptake as a result of USG assistance	NA	TBD	Phase 1: 18 Phase 2: 11	--	Indicator added at end of Year 1. Currently setting equal to number of studies launched and in various stages of consideration for policy change. This is in keeping with instructions in the Research Rack-up, where numbers there need to match numbers in EG3.2-7. Could be modified depending on further guidance from AOR. Note that indicator C2 refers to studies finished and published.

Annex E: Learning Forums (C3)

Learning Forum Type	Learning Forum				Maintype of stakeholder Audience
	Title	Presenter(s)	Date	Location (Country)	
Regional	PRCI workshop on research-to-policy influence - February 8	Danielle Resnick, PRCI/IFPRI	2/8/2021	Virtual	1
National	Rethinking Sugarcane Governance Structures to Fight Poverty and Food Insecurity	1. Hon. David Bahati, 2. Hon. Robert Kasule Ssebunya, EX Chairperson, Committee on Trade and Industry, Parliament of Uganda 3. Jim Mwine Kabeho, Chairman Uganda Sugar Manufacturers Association 4.Dr. Michael Mugabira, Coordinator, Greater Busoga Sugarcane Growers Cooperative Union Ltd	8/25/2021	Uganda	Parliamentarians and Private sector
National	Formulation, Review and Analysis – Kathmandu Nepal – Virtual	Suresh Babu, PRCI/IFPRI	2/8/2021	Nepal	1
National	Priorities for evidence-based agricultural policies in Nepal: A priority setting webinar	Suresh Babu, PRCI/IFPRI	6/10/2021	Nepal	1,2,3, 4
National	Policy priority setting workshop meetings	Suresh Babu, PRCI/IFPRI	3/29/2021, 5/17/2021, 8/10/2021	Virtual	1,2
Regional	Regional Food Trade Coalition: COVID 19 and related responses	Suresh Babu, PRCI/IFPRI	6/30/2021	Virtual	?
Regional	Regional Food Trade Coalition: 2nd Side Event- Open to the public	Suresh Babu, PRCI/IFPRI	6/30/2021	Virtual	?
Regional	Dissemination workshop on trade flow patterns in Nepal	Suresh Babu, PRCI/IFPRI	9/13/2021	Nepal	1,2,3
Regional	PRCI technical meeting on Identification of policy gaps on food system transformation in Nepal	Suresh Babu, PRCI/IFPRI	9/13/2021	Nepal	1,2,3

Learning Forum Type	Learning Forum				Maintype of stakeholder Audience
	Title	Presenter(s)	Date	Location (Country)	
National	Policy analysis training workshop meetings (Nepal)	Suresh Babu, PRCI/IFPRI	1/26/2021	Virtual	
National	Policy analysis training workshop (Nepal)	Suresh Babu, PRCI/IFPRI	Mar 8 - 12, 2021	Nepal+ Virtual	1,2,3, 4
Regional	International Agricultural Trade Flow Analysis Training -co-organized by KU	Suresh Babu, PRCI/IFPRI	Oct 13, 20, 27, 2021	Virtual	1,2,3
Regional	Regional Needs asssessment Meeting (with KU)	Suresh Babu, PRCI/IFPRI	10/13/2021	Virtual	1, 2
Regional	2022 International Seminar on Sustainable Food System in South East Asia	Suresh Babu, PRCI/IFPRI	10/15/2021	Virtual	1,2,3
National	International Agricultural Trade Flow Analysis meetings (with KU)	Suresh Babu, PRCI/IFPRI	9/29/2021	Virtual	1,2
Regional	Regional PRCI Trade Flow Analysis Consultative Meeting	Suresh Babu, PRCI/IFPRI	3/4/2021	Virtual	1,2
Global	ReNAPRI Conference-Side Event	Various	11/20/2020	N/A	1,2,6
Global	ReNAPRI annual conference: Side event on policy successes	Researchers from four core centers for cohort 1	11/19/2020	N/A	1,2,7
Global	AGRF	Multiple ReNAPRI representatives and presentations	9/1/2021	Rwanda	1, 2, 3, 4
Global	ReSAKSS Conference	Various	11/4/2020	Virtual	1, 2, 3
Global	CAADP XP4 AIS-PPI Training (Ag Innovation Systems - Policy Practice Index)	Emmanuel Mwakiwa, Jackson Langat, Shephard Siziba, Nalishebo Meebelo, Kwaku Antwi, Baitisi Podisi	13-16/09/2021	Virtual	1, 2, 3

Annex F: Requests from Stakeholders (C4)

#	PRCI researchers/partners approached for information				Entity & Person Making the Request				Date of request	Please briefly describe the request	How did the person/ organization respond to the request? (briefly explain)
	Partner Org Name	Researcher approached			Requestor's name & position	Organization Name	Type of Org	Level of Org			
		first name	last name	M/F							
1	ReNAPRI	ReNAPRI Secretariat			Kristy Cook	USAID	PUB	G	Feb-21	ReNAPRI Participation in a Virtual Field Visit under USAID's Policy Training	ReNAPRI prepared presentations and shared them during the field visit. ReNAPRI members answered questions from the audience.
2	IFPRI	Danielle	Resnick	F	Sharelle Pollack, Urban Governance for Nutrition Lead; Ann Trevenen-Jones, Urban Governance for Nutrition co-lead	GAIN	NGO	G	1-Oct-20	Serve on Expert Advisory Panel for GAIN's "Keeping Informal Markets Working during COVID-19"	Accepted
3	IFPRI	Suresh	Babu	M	Alexis Ellicott, Chief of Party, Feed the Future KISAN II, Winrock International	Winrock International	NGO	G	18-Jan-21	To serve as Resource Persons for USAID's KISAN II policy training for Ministry of Agriculture officials	Responded by serving as Resource Persons for the training--Suresh Babu (IFPRI), Danielle Resnick (IFPRI), Anjani Kumar (IFPRI), Dave Tschirley (MSU), John Medendorp (MSU) and Cait Goddard (MSU) made presentations at the policy analysis training for government officials in Nepal which was conducted in March 2021
4	CPEEL/Pi LAF	Iredele	Ogunba yo	M	Ben Belton	World Fish	NGO	G	8/1/20 21	Request to conduct second round of survey on fish value chain in Nigeria	Accepted

#	PRCI researchers/partners approached for information				Entity & Person Making the Request						
		Researcher approached									How did the person/ organization respond to the request? (briefly explain)
	Partner Org Name	first name	last name	M/F	Requestor's name & position	Organization Name	Type of Org	Level of Org	Date of request	Please briefly describe the request	
5	ReNAPRI	ReNAPRI Secretariat			Angela Thomas	Namibia University of Science and Technology	PUB	N	Mar-21	Requested information on process for joining ReNAPRI	ReNAPRI provided the required information
6	BAME	Cheickh Sadibou	Fall	M	Ibrahima Mendy, Director of DAPSA, Ministry of Agriculture and Coordinator of PNIASAN in Senegal	Ministry of Agriculture	PUB	N	22-Apr-21	Meeting to prepare for UN Summit on Food Systems	Accepted
7	BAME	Cheickh Sadibou	Fall	M	Ibrahima Mendy, Director of DAPSA, Ministry of Agriculture and Coordinator of PNIASAN in Senegal	Ministry of Agriculture	PUB	N	May 4th 2021	Meeting to validate approach and agenda for Senegal's contribution to UNFSS	Accepted
8	BAME	Cheickh Sadibou	Fall	M	Ibrahima Mendy, Director of DAPSA, Ministry of Agriculture and Coordinator of PNIASAN in Senegal	Ministry of Agriculture	PUB	N	June 1st 2021	National consultation for UNFSS	Accepted
9	BAME	Cheickh Sadibou	Fall	M	Ibrahima Mendy, Director of DAPSA, Ministry of Agriculture and Coordinator of PNIASAN in Senegal	Ministry of Agriculture	PUB	N	June 3rd 2021	Second national consultation for UNFSS	Accepted
10	Tegemeo	John	Olwande	M	Saitoti Torome, CBS, Principal Secretary	The National Treasury and Planning, State Department for Planning	PUB	N	Mar-21	Invitation to present on "*Impact of Covid-19 pandemic on poverty*" at 9th National Monitoring and Evaluation (M&E) Conference	Request accepted
11	MSU	John	Medendorp	M	Dr. Rudra B Shrestha, Enabling Environment Director, USAID's FTF Nepal Knowledge-based Integrated Sustainable Agriculture in Nepal	Kisan II project implemented by Winrock International – funded by	PUB	N	5-Feb-21	Present PICA process to attendees to increase understanding and assess their interest in participating	Presentation made 8 Mar 2021 by John Medendorp, Cait Goddard, John Bonnell

#	PRCI researchers/partners approached for information				Entity & Person Making the Request						
	Partner Org Name	Researcher approached			Requestor's name & position	Organization Name	Type of Org	Level of Org	Date of request	Please briefly describe the request	How did the person/ organization respond to the request? (briefly explain)
		first name	last name	M/F							
					(KISAN) II Project. Sanepa, Lalitpur, NEPAL. Tel: +977 (0) 1 5541961, 5544962, 5543861, 5543961	USAID					
1 2	Tegemeo	John	Olwand e	M	John Mburu, Chairman of Department	University of Nairobi, Department of Agricultural Economics	UNI	N	May-21	Invitation to provide keynote on "*Effects of Covid-19 Pandemic on smallholder farmers' livelihoods*" at webinar on "Adaptations in Agricultural Training and Value Chain Practices in response to COVID-19 Pandemic Disruptions"	Request accepted
1 3	Tegemeo	John	Olwand e	M	Florence Opondo, Research Fellow/Mentor	Laikipia University	UNI	N	Jul-21	Invitation for keynote address on "*The reality of Covid-19 pandemic on food systems*" at Early Career Research Leader Fellowship Conference.	Request accepted
1 4	IFPRI	Suresh	Babu	M	Jeevika Weerahewa, Professor of Agricultural Economics University of Peradeniya, Sri Lanka	University of Peradeniya, Sri Lanka	PUB	N	16-Mar-21	Deliver module on policy communication for senior gov officials attached to Agriculture Service	Consent given
1 5	SUA	Daniel	Ndyeta bula	M	Mariam Kadzamira	Ministry of Finance	PUB	N	20th October , 2020	To Draft the 5 Year National Plan Phase II	Invited CASA to Stakeholders' Conference 18-20 November 2020
1 6	IFPRI	Suresh	Babu	M	Priyadarshi Das, Asscociate Professor, RIS	Research and Information System for Developing Countries (RIS)	UNI	N	28-Jan-21	RIS plans to conduct a regional policy dialogue on trade flow in BIMSTEC region	Consented to provide organizational and resource support

#	PRCI researchers/partners approached for information				Entity & Person Making the Request						
	Partner Org Name	Researcher approached			Requestor's name & position	Organization Name	Type of Org	Level of Org	Date of request	Please briefly describe the request	How did the person/ organization respond to the request? (briefly explain)
		first name	last name	M/F							
18	IFPRI	Suresh	Babu	M	1) Binisha Nepal, Program Specialist, Institute for Integrated Development Studies (IIDS); 2) Permanent Secretary, Ministry of Agriculture and Livestock Development	Institute for Integrated Development Studies (IIDS)	UNI	N	12-Mar-21	Request co-organize technical meeting on September 13, 2021	Consented to provide organizational and resource support
19	IFPRI	Suresh	Babu	M	Md. Tanjil Hossain, Executive Director, Economic Development Research Organization (EDRO), Bangladesh	EDRO	UNI	N	28-Sep-21	Request to assist EDRO to organize national policy dialogue on policy priorities for food systems transformation	Responded by agreeing to provide support
20	IFPRI	Ruth	Meinzen-Dick	F	Sarah N. Ssewanyana, Executive Director,	EPRC	UNI	N	31-May-21	Request for more in-depth capacity strengthening on gender research and qualitative and mixed methods techniques	Met with group of EPRC staff to identify needs more specifically; Sorted and prioritized requests
21	IFPRI	Suresh	Babu	M	Jeevika Weerahewa, Professor of Agricultural Economics University of Peradeniya, Sri Lanka	University of Peradeniya, Sri Lanka	UNI	N	28-Jun-21	Request to develop policy brief on fertilizer policy reform	Consented to co-author brief and involved IPS
22	MSU	Thom	Jayne	M	Daniel Njiwa	AGRA	NGO	R	20-Oct-21	Request to participate in RENAPRI team commissioned by AGRA to produce report on COVID19 impacts on African food systems	Co-authored study and policy brief
23	ReNAPRI	ReNAPRI Secretariat			Mariam Kadzamira	Commercial Agriculture for Smallholders and Agribusiness (CASA)	NGO	R	Oct-20	Request to collaborate on policy research concerning smallholders in agribusiness along key commodity value chains	Met with CASA, invited them to Annual Stakeholders' Conference 18-20 Nov 2020
24	ReNAPRI	ReNAPRI Secretariat			Tsitsi Makombe	AKADEMIYA2063	NGO	R	Feb-21	Request to collaborate under a Memorandum of Understanding (MOU)	MOU shared with ReNAPRI for comments and

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#	PRCI researchers/partners approached for information				Entity & Person Making the Request						
	Partner Org Name	Researcher approached			Requestor's name & position	Organization Name	Type of Org	Level of Org	Date of request	Please briefly describe the request	How did the person/ organization respond to the request? (briefly explain)
		first name	last name	M/F							
										and to co-host a Webinar	finalization. Joint Webinar being considered
25	ReNAPRI	ReNAPRI Secretariat			Mariam Kadzamira	CASA	NGO	R	Mar-21	Request to register to provide Consultancy Services	ReNAPRI has registered to provide consultancy services
26	ReNAPRI	ReNAPRI Secretariat			Apollos Nwafor/Danielle Njiwa	AGRA	NGO	R	Jan-21	Request for ReNAPRI Chairman to be part of the Steering Committee for the Regional Food Trade Coalition	ReNAPRI agreed to be member of the Steering Committee
27	ReNAPRI	ReNAPRI Secretariat			Mumbi Gichuri	AGRF	NGO	R	July	Moderate a Panel, Participate in a Panel	Moderated session and participated as panelists in other sessions
28	ReNAPRI	ReNAPRI Secretariat			Tshilidzi Madzivanyika	FANRPAN	NGO	R	September	Participation as panelist	Dr Nalishebo Meebelo participated as a Panelist
29	ReNAPRI	ReNAPRI Secretariat			Maurice Lorka	CORAF	NGO	R	August	ReNAPRI invited to facilitate implementation of CAADSP XP4 Program in the CORAF member states	ReNAPRI and CORAF preparing to sign MOU
30	ReNAPRI	ReNAPRI Secretariat			Mumbi Gichuri	AGRA	NGO	R	June	ReNAPRI invited to participate and deliver presentations during the FTCA General Assembly	Nalishebo Meebelo and Andrew Agyei-Holmes delivered presentations
31	ReNAPRI	ReNAPRI Secretariat			Jose Malete-Jackson	AAP	NGO	R	August	ReNAPRI invited to participate in the AAP Consortium Meeting	ReNAPRI was presented by Alphonse Akouyu
32	ReNAPRI	ReNAPRI Secretariat			Task Force on Food and Nutrition Security and Hunger Hotspots at AGRA	AGRA	NGO	R	Aug-20	Request for a study of the impact of policy responses to COVID 19 implemented by national governments	Mobilized team of African experts and 1 international expert to work on study
33	IFPRI	Suresh	Babu	M	Joshua Ariga, Jeffers Murika. chief editor	African Association/ Journal of Agricultural	PRI	R	15-Nov-20	Share training material and outcomes from PRCI to improve journal's peer review	Material shared. Agreed to online workshop March 2021.

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#	PRCI researchers/partners approached for information				Entity & Person Making the Request						
	Partner Org Name	Researcher approached			Requestor's name & position	Organization Name	Type of Org	Level of Org	Date of request	Please briefly describe the request	How did the person/ organization respond to the request? (briefly explain)
		first name	last name	M/F							
						and Resource Economics (AfJARE)				process	
34	ReNAPRI	ReNAPRI Secretariat			Baitisi Podisi	CCARDESA	PUB	R	Feb-21	Request to undertake activities under the CAADP XP4 Programme	Recent request. ReNAPRI exploring possibilities to support it
35	ReNAPRI	ReNAPRI Secretariat			Joel Okwir	COMESA	PUB	R	Dec-20	Request for ReNAPRI's areas of interests to help in development of joint action plan to accompany MOU between 2 institutions	Shared areas of interest with COMESA Secretariat, awaiting opportunity to develop action plan
36	ReNAPRI	ReNAPRI Secretariat			Laila Lokosang	AUC DREA	PUB	R	Feb-21	Request to lead in the organization and technical work for the African Fertilizer Summit II	This process is ongoing. AAP, RENAPRI and IFDC backstopping AUC
37	ReNAPRI	ReNAPRI Secretariat			Baitisi Podisi	CCARDESA	PUB	R	July	Support implementation of CAADSP XP4 Program	ReNAPRI has launched this work
38	ReNAPRI	ReNAPRI Secretariat			Emily Weeks	USAID	PUB	R	September	Support implementation of NDCS and NAPs in Africa	Contributed to Concept Note, prepared SOW and Annual Work Plan
39	ReNAPRI	ReNAPRI Secretariat			Griffiths Mzwanele	UNECA	PUB	R	September	Participate as a panelist	Dr Nalishebo Meebelo participated as a discussant
40	ReNAPRI	ReNAPRI Secretariat			Chileshe Kapwepwe	COMESA	PUB	R	August	Invitation to attend the 3rd Joint COMESA-Development Partners Coordination Forum	ReNAPRI participated in the Forum
41	MSU	Thom	Jayne	M	Jose Malete-Jackson	AAP	UNI	R	20-Oct-21	lead platform on sustainable agricultural intensification with African partners from AAP consortium universities and RENAPRI	Accepted

#	PRCI researchers/partners approached for information			Entity & Person Making the Request						
	Partner Org Name	Researcher approached								How did the person/ organization respond to the request? (briefly explain)
		first name	last name	M/F	Requestor's name & position	Organization Name	Type of Org	Level of Org	Date of request	Please briefly describe the request	
42	ReNAPRI	ReNAPRI Secretariat			Commissioner, Department of Trade and Industry	African Union Commission	PUB	R	Feb-20	Request to contribute to African continental commodities strategy and AfCFTA	Agreed to participate in work around African Continental Commodities Strategy and AfCFTA
43	CPEEL	Iredele	Ogunbayo	M	Andrew Agyei-Holmes	AGRA/RENAPRI	NGO	R	Oct-20	Contribute to evidence synthesis on impacts of COVID-19 policies on food systems in SSA	Accepted
44	IFPRI	Danielle	Resnick	F	Clara Cohen, Executive Director	Board for International Food and Agricultural Development (BIFAD)	NGO	R	Aug-20	To present during World Food Prize awards on **October 13, 2020**	Accepted

Annex G: Factors determining CBLD-9 rating

The PICA process used organizational capacity building theory to craft five questions about organizational performance to drive the computation of this indicator. Positive responses are required on four of the five questions to consider that an organization's performance has improved. The questions are:

- Were resources (human, financial, and/or other) allocated for organizational capacity development as reflected in the activity theory of change, award documents, work plan, or other relevant documentation?
- Was input obtained from the supported organization and/or any other relevant stakeholders to define desired performance improvement priorities?
- Were performance gaps analyzed and assessed?
- Were performance improvement solutions selected and implemented?
- Was the performance area monitored and measured using a performance metric or tool?

Annex H: Milestones in improved institutional architecture (EG3.1-d)

Milestone	Description / Current Status
A milestone is defined as a 'positive change' that marks a significant achievement in the development of better performing, more effective policy systems	*Add additional information to describe the milestone, such as the original state of the process before the milestone was achieved or the current situation that is being targeted*
Emergence of ReNAPRI as a major actor at regional and continental level on evidence-based food and agricultural policy in Africa	Prior to PRCI's support, ReNAPRI had no full-time staff for a secretariat and thus struggled to project its work and voice beyond holding successful annual stakeholder conferences. With PRCI support, ReNAPRI now has two full-time staff for its secretariat and is set soon to hire at least one more. They have a five-year strategic plan and a 2-year research strategy that PRCI directly facilitated. Due to this support and to the very high quality of the two hires into the Secretariat, ReNAPRI has become an increasingly important player at regional and continental level in food and agricultural policy. Evidence of this vastly expanded role and visibility include (1) acting as co-technical lead on AGRA's 2021 African Agricultural Status Report (AASR), AGRA's flagship annual publication, (2) leading a continental report on responses to and impacts of COVID-19 commissioned by AGRA; (3) acting as co-chair of the Regional Food Trade Coalition for Africa, established by AGRA; (4) formalized engagement with the AUC, in particular the Department of Trade and Industry (DTI) and the Department of Agriculture, Rural Development, Blue Economy, and Sustainable Development (DARBE), and (5) teaming with AKADEMIYA2063 to lead, in response to AUC request, a major initiative - the Comprehensive African Climate Change Initiative - to drive strong NDCs (Nationally Determined Contributions) and NAPs (National Adaptation Plans) at country, regional, and continental level under the Paris Agreement. This effort will spur progress towards a net zero carbon Africa with citizens that are more food secure and resilient to climate change. By drawing on strong researchers within its network, and on the strong national and, in some cases, regional connections that member centers have, ReNAPRI is bringing a major new, evidence-based voice to policy systems in Africa.
Carefully designed strategic plans for three Centers for Policy Leadership, funding for those plans, and research and outreach mentorship that, together, should allow the centers to play a larger role in generating strong policy analysis and promoting evidence-based policy debate and design	Each CPL - ISRA/BAME in Senegal, CPEEL/PiLAF in Nigeria, and EPRC in Uganda - went through a highly participatory strategic planning process that resulted in a detailed narrative and 3-year budget for pursuing self-identified priorities. Key weaknesses of each CPL are addressed in the plan, for example staffing areas that are needed for effective analysis, strengthening communications, and improving project management through tools such as SmartSheets. Through research mentorship, the centers have strengthened their empirical research capacity. Through an explicit focus on desired policy outcomes and strategies to achieve them, centers are learning to think about policy from the outset of their research process. Stronger research capacity tied to an explicit focus on achieving policy results, together with flexible funding around center-defined priorities, should payoff in an additional strong voice in the policy process of each country.

Milestone	Description / Current Status
Creation of a new center - PiLAF - in Nigeria focused on food and agricultural policy	CPEEL's original proposal to PRCI outlined a vision to create a new unit to expand the center's range of engagement from its established focus on energy and environment to the ag and food system. Through the PICA process, CPEEL pursued this vision and formed PiLAF, the Innovation Lab for Policy Leadership in Agriculture and Food Systems. PiLAF has since established itself in the Nigerian policy space through a major series of engagements with poultry sector stakeholders in preparation for studies of that sector; and through a series of training sessions that strengthened PiLAF researcher's skills and
Major stakeholder engagement activity in Nigeria's food sector by new center focused on food and agricultural policy	PiLAF in Nigeria identified the poultry sector as its first focus of research and outreach. Following the launch of the center, PiLAF leadership
Major stakeholder engagement activity in Uganda built around PRCI-supported study of the sugarcane sector and carried out	PRCI, through its Core Center Research program and supported by R2P for policy outreach, is supporting EPRC's study of the sugarcane sector in Uganda. EPRC used its 8th Annual National Agriculture Forum to focus on this study, with national television programs and in-person seminars. This event was held midway through the study, after initial work on policy issues and design of empirical research, but before data collection. This practice of engaging with stakeholders in a structured manner prior to final results, to solicit input and generate interest, can greatly enhance the policy impact of research that gets done.

Annex I: Details on policy studies in various phases of policy consideration (EG3.2-7)

	Research Title	Category	Phase	Institutions invovled	PRCI Component	Researchers Involved
1	Systematic review of empirical survey-based studies of investments in climate change adaptation and mitigation	SOC	1	MSU, UC-Berkeley	Climate Change	Thomas Reardon, Saweda Liverpool-Tasie (MSU), David Zilberman (UC-Berkeley)
2	Deep dive modeling of policy and program impacts on climate resilience in Malawi and Nigeria	SOC	1	IFPRI	Climate Change	James Thurlow, Keith Wiebe
3	Trader experience with climate shocks and policy response	SOC	1	MSU, UC-Berkeley	Climate Change	Thomas Reardon, Saweda Liverpool-Tasie, David Tschirley (MSU)
4	Deep Dive Analysis for Cashew Nut Value Chain with Gender Lens. CORE CoHort1	SOC	1	SUA, MSU, IFPRI	Core Center	David Mather (MSU), Elizabeth Bryan (IFPRI)
5	Effects of Sugarcane Production on household food security and welfare in Uganda. CORE CoHort2	SOC	1	EPRC; MSU; IFPRI	Core Center	Francis Mwsigye, Swaibu Mbowa, Madina Guloba, Mildred Barungi, Umar Kabanda (all EPRC), David Mather (MSU), Elizabeth Bryan (IFPRI)
6	Energy access, food security and diet-related health outcome nexus CORE CoHort1	SOC	1	CPEEL, MSU	Core Center	Nicole Mason-Wardell (MSU), Saweda Liverpool-Tasie (MSU)
7	Structure of fruits and vegetables consumption in Senegal: an empirical analysis. CORE CoHort1	SOC	1	BAME, MSU	Core Center	Tom Reardon (MSU), Veronique Theriault (MSU)

	Research Title	Category	Phase	Institutions invovled	PRCI Component	Researchers Involved
8	Wholesaling and processing cereals in Senegal: a rural and urban empirical analysis. CORE CoHort2	SOC	1	BAME/Senegal, MSU	Core Center	Ndèye Fatou Faye (lead), Cheickh Sadibou Fall, Diatou Ndiaye (all BAME), Thomas Reardon, Veronique Theriault (MSU)
9	A generic methodology for assessing the policy enabling environment for large-scale food fortification programs in Africa. CORE CoHort2	SOC	1	Tegemeo Institute, MSU	Nutrition	Lilian Kirimi (Tegemeo), Veronique Theriault, Ayala Wineman, David Tschirley, Mywish Maredia, Thomas Reardon (MSU)
10	An Assessment of Kenya's large-scale food fortification (LSFF) program. CORE CoHort2	SOC	1	Tegemeo Institute, MSU	Nutrition	Lilian Kirimi (Tegemeo), Veronique Theriault, Ayala Wineman, David Tschirley, Mywish Maredia, Thomas Reardon (MSU)
11	What's the food environment got to do with it? CORE CoHort2	SOC	1	Tegemeo Institute, MSU	Nutrition	Tim Njagi, Lilian Kirimi (Tegemeo), David Tschirley, Mywish Maredia, Thomas Reardon, Veronique Theriault, Ayala Wineman (MSU)
12	Land Market Responses to Weather Shocks: Evidence from rural Uganda and Kenya. STAAARS CoHort2	SOC	1	University of Buea, MSU	STAAARS+	Rayner Tabetando (UB), Raoul Fani Djomo Choumbou (UB), Catherine Ragasa (IFPRI), Aleks Michuda (IFPRI)
13	Biomass energy dependency and implications for forest conservation policies in Malawi. STAAARS CoHort2	SOC	1	LUANAR, MSU	STAAARS+	Robertson Khataza, Jabulani Nyengere (LUANAR), Bill Burke, Joey Goeb (MSU)
14	Domestic or imported rice: An empirical analysis of consumer choices in Senegal. STAAARS CoHort1	SOC	1	BAME, MSU	STAAARS+	Ndèye Fatou Faye (ISRA), Amy Faye (ZEF), Mouhamed Rassoul Sy (FAO), Seungmin Lee (Cornell)

	Research Title	Category	Phase	Institutions invovled	PRCI Component	Researchers Involved
15	Dynamics of agricultural heterogeneity, productivity and technical efficiency in sub-Saharan Africa: A geometric approach. STAAARS CoHort1	SOC	1	African School of Economics, Cornell	STAAARS+	Karim Nchare (ASE), Marcel Vitouley (ASE), Yanyan Liu (IFPRI)
16	Indian Institute of Technology Kanpur (IIT), A home-production based approach to improve nutritional outcomes of children in rural areas. STAAARS CoHort2	SOC	1	Indian Institute of Technology/Kanpur, Cornell U.	STAAARS+	Debayan Pakrashi, Sounak Thakur, Chitwan Lalji (IITK), Carolina Castilla, Andaleeb Rahman (Cornell)
17	Measuring the distributional effects of fertilizer subsidies on young female and male farmers in Malawi. STAAARS CoHort2	SOC	1	MwAPATA Institute, Cornell	STAAARS+	Christone Nyondo, Maggie Munthali, Zephania Nyirenda (MwAPATA), Brian Dillon, Sergio Puerto (Cornell)
18	Resilience to climate shocks and its implications for food security: Evidence from Uganda. STAAARS CoHort1	SOC	1	EPRC, Cornell	STAAARS+	Nathan Sunday (EPRC), Rehema Kahunde (EPRC), Blessing Atwine (EPRC), Adesoji Adelaja (MSU), Justin Kappiaruparampil (MSU)
19	Reforming Fertilizer Import Policies for Sustainable Intensification of Agricultural Systems in Sri Lanka: Is there a Policy Failure? **Policy Research Note # 3**	SOC	3	IFPRI, MSU, CPS/Sri Lanka	Asia	Jeevika Weerahewa, Athula Senaratne, Suresh Babu
20	Proof of approach: Achieving policy and programmatic	SOC	3	ReNAPRI, AKADEMIYA2063	CACCI	Final authors TBD, for now: Nalishebo Meebelo

	Research Title	Category	Phase	Institutions invovled	PRCI Component	Researchers Involved
	change in response to the Paris Agreement					(ReNAPRI), Ousmane Badiane (A2063)
21	Climate shocks and resilience in rural Ethiopia. STAAARS CoHort1	SOC	3	IDRM, Cornell	COVID	Birhan S. Demissie IDRM), Tesfahun A. Kasie (IDRM), Joanna B. Upton (Cornell), and Sylvia A. Blom (Cornell).
22	Early Impacts of COVID 19 on Household Incomes and Food Consumption - the Zambian Case. **Policy Brief No. 2**	SOC	3	IAPRI, MSU	COVID	Mulako Kabisa, Mitelo Subakanya, Miyanda Malambo, Antony Chapoto, Mywish Maredia, David Tschirley
23	Early Impacts of COVID-19 on Household Incomes and Food Consumption – The Kenyan Case. **Policy Brief No. 3**	SOC	3	Tegemeo, MSU	COVID	John Olwande,Timothy Njagi, Miltone Ayieko, Mywish K. Maredia, and David Tschirley
24	Economic impacts of COVID-19 in urban and rural Africa: Surprising results from five countries . **Policy Brief No. 1**	SOC	3	IAPRI, MSU, CPEEL, ISRA, Tegemeo	COVID	M. Maredia, A. Adenikinju, B. Belton, A. Chapoto, N. F. Faye, S. Liverpool-Tasie, J. Olwande, T. Reardon, V. Theriault, & D. Tschirley
25	Impact of COVID-19 on Household Incomes and Food Consumption – The Zambian Case.**Policy Research Note #1**	SOC	3	IAPRI, MSU	COVID	Mulako Kabisa, Mitelo Subakanya, Miyanda Malambo, Antony Chapoto, Mywish Maredia, and David Tschirley
26	Les impacts économiques du COVID-19 en Afrique urbaine et rurale: Des résultats inattendus dans cinq pays. **Policy Brief No. 1**	SOC	3	MSU, IAPRI, Tegemeo, CPEEL, ISRA	COVID	M. Maredia, A. Adenikinju, B. Belton, A. Chapoto, N. F. Faye, S. Liverpool-Tasie, J. Olwande, T. Reardon, V. Theriault, & D. Tschirley
27	The Effects of COVID-19 on Food Security in Urban and Rural Mali. **Policy Research Note # 4**	SOC	3	MSU	COVID	Veronique Theriault, David Tschirley, Mywish Maredia

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	Research Title	Category	Phase	Institutions invovled	PRCI Component	Researchers Involved
28	Urban and Rural Areas Have Seen Similar Impacts From COVID-19 in Kenya. **Policy Research Note #2**	SOC	3	Tegemeo, MSU	COVID	Olwande J., Timothy, N., Ayieko, M., Maredia, M., & D. Tschirley,
	Sub total	Phase 1	18			
	Sub total	Phase 3	10			
	Total		**28**			

Annex J: Approach to context monitoring

Statement of Work to Inform PRCI Learning Agenda
Assessing How Context Affects Pathways to Policy Influence

Overview

The theory of change underlying PRCI is that technical training, co-creation and co-authorship of research, well-crafted outreach strategies, and institutional capacity strengthening will help local research organizations in Africa and Asia do better research, exert more influence on national and regional policymakers and do so in more sustainable fashion. This may lead to a greater inclination by decisionmakers to pursue policies that are evidence-based. However, the context within which these activities take place – specific features of the policy systems in which PRCI's centers for policy leadership (CPLs), ReNAPRI, ReNAPRI members, and Asian partner centers are operating—may facilitate or undermine the realization of the project's ambitions.

To account for the influence of these contextual factors and better understand the reasons for any success, or lack thereof, that PRCI achieves, we propose tracking the policy system in a comparative way in the countries where PRCI is working. Three complementary methods are proposed below.

1. **Compile and track existing secondary data on an annual basis that are relevant to the four dimensions of PRCI's theory of change:** By drawing on a range of World Bank, IFAD, Bertelsmann Transformation, and Varieties of Democracy databases, information about the following dimensions can be gathered.

    a. Support for evidence-based policymaking
    b. Spaces for engagement and discussion
    c. Political and institutional stability
    d. Public sector capacity to formulate and implement policies

    This secondary data will be collected for all the countries where PRCI is active, including the four centers with which PRCI is conducting collaborative research (Senegal, Nigeria, Tanzania, and Uganda), additional countries within the ReNAPRI network (Ghana, Kenya, Mozambique, South Africa, Malawi, DRC, Zambia, and Zimbabwe), and a select group of Asian countries that are still being identified.

2. **Conduct a stocktaking of the range of research providers in the PRCI partner countries and how they operate:** The purpose for this activity would be to determine whether, in contexts with more crowded research landscapes and more research providers, the ability of PRCI centers may have less space to exert an identifiable policy influence. As part of this approach, attention would be given to both the presence of international (McKinsey, Dalberg, etc.) and local research providers. For the latter, there will also be an assessment of the operational modalities of local research institutes, including whether they are government-funded, attached to universities, or entirely independent. The type of operational modality may affect their level of influence on policy actors. The policy systems assessments conducted under the PICA process can partially inform this stocktaking exercise while desktop searches, a review of the Global Think Tank surveys, and the IDRC Think Tank project would be other valuable sources.

    Initially, this stocktaking will be collected in the four countries where PRCI is conducting

collaborative research (Senegal, Nigeria, Tanzania, and Uganda). Gradually, however, it could be expanded to the countries where the ReNAPRI centers are based as well as the select group of Asian countries that will be partner centers under PRCI.

3. **Conduct short, semi-structured interviews with policymakers in the countries where the African PRCI partner research institutes are based as well as at the continental level:** The aim of this assessment would be to identify the degree of support for evidence-based policymaking as well as who policymakers turn to when they need advice for agriculture and food policies and why. At the national level, approximately 15 policymakers in each country where the African PRCI partner centers are based (Senegal, Nigeria, Tanzania, and Uganda) would be targeted for interviews in 2021 and 2023. Instead of targeting people, those in the same policy positions would be interviewed at each interval (e.g. Permanent Secretary for agriculture). Therefore, even if there is turnover and change of individuals, the sources of evidence and research demanded by high-level policymakers in the same positions could still be determined. This would be a valuable way of determining whether the PRCI partner centers have become more capacitated and visible to policy makers over time while also revealing to the centers the characteristics policymakers feel make research institutes more effective, trusted, and credible. A similar approach could be rolled out to Asia in 2022, with a follow-up in early 2024.

At the continental level, interviews will be conducted with relevant policymakers within the African Union, the African Development Bank, and four main regional organizations (Common Market for Eastern and Southern Africa (COMESA), Economic Community of West African States (ECOWAS), Southern African Development Community SADC, East African Community (EAC)) to identify who policymakers turn to at this level when they seek evidence on agriculture and food policies. This assessment would be especially valuable to ReNAPRI, which aims to have a stronger impact on regional and continental policy processes. Similar to the country-level interviews, the continental ones would occur in 2021 and 2023.

Timeline for 2021

Activity	June	July	Aug	Sept	Oct	Nov	Dec
1.Track secondary data for all PRCI countries							
• *Refine metrics*	▓						
• *Collect data and integrate into indices*		▓	▓				
• *Validate assessment with PRCI ExComm & CPL directors*				▓	▓		
• *Disseminate findings at annual side event at ReNAPRI conference*						▓	
• *Integrate context indices in PRCI annual MEL plan*							▓
2.Stocktaking of research providers in PRCI countries							

Activity	June	July	Aug	Sept	Oct	Nov	Dec
• *Identify data sources available from PICA process, Global Think Tank Survey, IDRC Think Tank project*	▓						
• *Supplement with desktop searches and select interviews with CPLs*		▓					
• *Create mapping of research providers*			▓	▓	▓		
• *Disseminate mapping at annual side event at ReNAPRI conference*						▓	
• *Refine mapping and integrate into PRCI annual MEL plan*							▓
3.Interviews with policymakers in African PRCI countries CPL countries							
• *Identify and contract consultants*	▓	▓					
• *Draft questionnaire*	▓	▓					
• *Program questionnaire into SurveyCTO*			▓				
• *Consultants conduct interviews*			▓	▓			
• *Compile and analyze results*					▓		
• *Disseminate findings at annual side event at ReNAPRI conference*						▓	
• *Refine findings and integrate into PRCI annual MEL plan*							▓

Outputs
- By the end of 2021, we envision a variety of outputs:
  - A series of context indices of the policy system that can be replicated annually during the life of PRCI and expanded to new countries that may become part of the project.
  - A mapping of research organizations within the PRCI countries that will be updated annually.
  - Assessment of policymakers' views on local research institutes that can inform PRCI partner centers in Senegal, Nigeria, Tanzania, and Uganda as well as the ReNAPRI network. These will be updated towards the end of the project as one of many ways to assess centers' capacity and visibility within the policy system.

First page of questionnaire for assessing research landscape – full document available on request

Assessment of Research Landscape in Select African Countries

Stakeholder survey, 2021

Consent Statement

The USAID-supported Innovation Lab for Food Security Policy, Research, Influence and Capacity (FSPRCI), led by Michigan State University, is undertaking a short survey of public, private, and civil society actors to better understand the research landscape in select African countries where the Lab is working. We are interested in determining which organizations are viewed as the most authoritative for information about economic development, agricultural transformation, and food security in your country or at regional/continental level. We would be very grateful if you could take 20 minutes of your time to help complete this survey. No personal information (other than the optional email id and phone number) will be collected so, please feel free to share your honest opinions.

You are free to voluntarily choose to participate in this survey or stop participating at any time without any loss or harm to you. You may choose not to answer specific questions. If you choose to participate, your help in answering these questions is greatly appreciated. Your responses will be kept confidential. Only general averages from the analysis will be reported in any written outputs. In case of any questions or concerns regarding the survey, please contact Professor Mywish Maredia (maredia@msu.edu), ph: 517-353-6602. An anonymized summary of responses will be shared with participants (who provide contact information) by November 2021.

By continuing with this survey, you indicate your voluntary consent to participate in this study.

A. Background Information

A1.	**Sex**	1-Male 2-Female 3-Prefer not to say	
A2.	**In which country are you currently based?**	1 – Nigeria 2 – Senegal 3 – Tanzania	4 – Uganda 5 – Other (specify)_____
A3.	**What is your main sector of employment?**	1– National government 2– Local government 3– Private sector (incl. farmer/trade associations, cooperatives) 4– Academia/Research institute 5– Non-governmental organization/Civil Society organization 6– International donor organization 7—Regional/Continental organization 8– Other (specific)_____	

Annex K: SOW for Center for Nutrition Buy-in

Buy-in Policy Engagement and Analytics Division - Collaboration with the Innovation Lab for Food Security Policy Research, Capacity and Influence (PRCI)
Prepared by: Lourdes Martinez Romero (BFS/CN) Date: May 4, 2021

Objective

The Bureau for Resilience and Food Security (RFS) is a global leader in policy research and change. Under this collaboration, we seek to partner with the Innovation Lab for Policy Research, Capacity and Influence (PRCI) to:

(a) Establish the Bureau as a global leader on research-for-policy in food systems
(b) Build policy coherence and evidence on food system transformation based on research that includes the full continuum of policy work -- analysis, formulation, implementation, enforcement, and evolution
(c) Support the evidence on effective LSFF policy benefits, and contribute to its successful implementation with Global Food Security Strategy (GFSS) partner countries
(d) Build the capacity of established local partners to conduct food systems policy research, bringing it to the forefront of policy processes in their countries

Background

In 2020, RFS launched its Food Systems Conceptual Framework (Annex 1) to guide USAID's investments towards effectively achieving the GFSS goals. The conceptual framework was also developed in response to the rapid food transformation observed around the world, but particularly affecting Low- and Middle- Income Countries (LMIC). The food systems framework clearly identifies diets, income, health, and nutrition, as well as environmental sustainability and resilience, as priority development outcomes.

Policy is an area of action or influence to achieve these development outcomes. Guided by the Food System Conceptual Framework and the GFSS, PRCI will contribute to build wide-ranging evidence in support to local government and research institutions, working together with the Center for Nutrition (CN) to discuss and make final decisions about best ways to implement results and recommendations.

Two main consequences of the food system transformation have been a rapid change in diets and the surge of longer supply chains. Rapidly changing diets in LMIC affect how people consume and purchase their food. Currently, in urban and rural areas in LMIC, a large proportion of consumers rely on markets for their food acquisition. In turn, this has influenced the type of food consumer purchases, which tend to be more processed, more perishable, and more prepared. Another consequence of food transformation has been longer supply chains. Currently, large urban populations demand more food and a greater variety of it. Similarly, rural population shifts toward market purchases continue, contributing to the need to draw from ever-widening production areas and longer value chains to satisfy demand.

In most LMICs, rapid food system transformation is driven in part by urbanization, income growth, and globalization of food markets. This transformation has had major implications for nutrition and human health. Although the challenges are numerous, we have evidence that using LSFF to decrease dietary micronutrient inadequacies is a cost-effective and proven technology to reach out to larger populations still struggling with malnutrition. Access to more processed and prepared food can contribute to the availability of fortified foods to a larger segment of the

population. Similarly, accessing a diverse diet requires an enabling environment that supports all participants in the supply chain from farm to fork. Although policy is an important tool to address availability and affordability of healthy, nutritious diets, consumers and policymakers still face a critical lack of sound data and appropriately analyzed information on which to make their decisions.

Scope of Work

In close collaboration with the CN, PRCI will contribute to a results framework for LSFF efforts. Based on an existing framework developed by the CN (Annex 2), PRCI will propose the areas of policy research that best align with their work to successfully address LSFF efforts.

In addition, PRCI will contribute to provide data and outreach information needed to guide policy action with governments and main local research institutions. The two main types of necessary data and information that PRCI should focus on are:

i) conceptually sound and empirically rigorous assessments of the kinds of food environments consumers face when they make their food choices. Some questions to be addressed include: What is the relative abundance and cost of different types of healthy and unhealthy foods on offer? What kinds of outlets is this food available in, how accessible are they, and what kinds of messaging (both private promotional messaging and mandated labeling and public interest messaging) are consumers exposed to, for what kinds of foods? There is a critical lack of this kind of basic information and a gap in the capacity of consumers to process and interpret the information due to a lack of basic dietetics and nutrition education in developing country food systems.

ii) individual level, sex- and age-disaggregated data on food consumption in- and out of the home. Existing, Living Standards Measurement Study (LSMS)-style consumption surveys are deficient in this regard, for two reasons. First, they quantify only "household" consumption, thus not reflecting potentially major variation in consumption across individuals in the household. Second, they use under-developed and inconsistent methods to capture food consumption away from home, which we strongly suspect results in major under-counting of this kind of consumption. PRCI will focus on individual consumption in this work, while collecting sufficient information about the individuals' households to understand how they affect consumption.

Although the CN is currently addressing some of these research questions within our flagship program Advancing Nutrition, our focus has been to inform mission programming. In the future, we expect to build a solid research agenda around food systems with local institutions and expect the collaboration with PRCI to support this effort. Some of the questions the CN would like to address include: What is the national policy link? How do we expect policy makers to use this information and recommendations?

How can we use evidence-based policy processes around food systems, diets, food safety and nutrition? (among others).

Deliverables

Final decisions on studies and their locations will be made in consultations with RFS/CN. PRCI will generate well-packaged policy outreach products with local research centers and present a set of options for such policy-engaged research to Missions and governments. An important aspect

of this activity will be to show how needed data can be collected cost-effectively (thus, done at scale at reasonable cost so that policy makers elsewhere can have the needed information) and in a way that builds local capacity for such research.

Products would focus on <u>consumers and food environments</u>. These products should address the following areas of research:

➢ LSFF expected results that can inform later implementation and monitoring. Innovative, cost-effective and sustainable approaches to collect individual consumption data (stratified by geography, season, age and sex), ensuring that the activity captures aspects such as consumption by adolescents and by spouses outside the house and their actual consumption in the home, cost of an adequate diet, etc.;

➢ Food environments and availability of safe, nutritious foods. Surveys could include an inventory of retailers and prepared food businesses, quantification of shelf-space devoted to healthy and unhealthy foods, and prices of these foods.

In each case, we would look to collect data in three different locations of a given country representing gradation in the level of food system transformation, e.g., in a large city, a small city, and a nearby rural area to one or both.

PRCI should focus on countries with strong current and ongoing working relationships conducting research, building capacity, and working explicitly to bring research to bear on policy deliberations. The candidate countries and centers are Senegal, with ISRA-BAME; Nigeria, with the Center for Policy Leadership at University of Ibadan; Uganda, with the Economic Policy Research Center (EPRC); Tanzania, with Sokoine University of Agriculture (SUA) department of Agricultural Economics and Agri-business.

Table 1. Plan for Activities and Deliverables

Activity	Deliverable	Time
Detailed work plan	Selection of areas for LSFF results focus; locations; targets;	May 2021
Outreach materials	short blogs,	
Publications	Journal?	
Draft report	LSFF and long value chains for diets research	April 2022
Final report	Detailed report with findings finalized with all revisions	May 2022

Annex L: SOW for Center for Resilience buy-in

An Integrated Approach to Climate Policy Impact Modeling and Assessment for Resilience
Statement of Work (20 September 2021)
Feed the Future Innovation Lab for Food Security Policy Research, Capacity, and Influence (PRCI)

A. Overview

Long-term climate change and short-term climate shocks affect rural and urban food security in developing regions in several ways. First, climate change and shocks put at risk the enormous but fragile and vulnerable food supply chains (FSCs) that are the only conduit of food to cities and the conduit of half the food consumed in rural areas. Overall, about 80% of food consumption in Africa and Asia is dependent on these FSCs which are, moreover, major employers of women and youth. Second, climate change and shocks disrupt FSCs directly through damage to infrastructure and creation of disease and indirectly by disrupting farming itself and supply chains of inputs to farms. The result is disruption of both productivity, livelihoods, and resilience throughout the FSCs. Third, the viability and effectiveness of FSCs crucially condition the ability of farmers to manage risk and cope with climate change, so the two themes are inextricably linked.

Making policy and investment decisions to deal with these disruptions while also anticipating future climate change, is a major challenge for policymakers and for USAID programming, especially in developing countries where the data and tools needed to analyze climate risks to supply chains and farms are often lacking. Within agriculture, it requires information on how climate conditions affect biophysical outcomes (e.g., crop and livestock productivity or land use change) under alternative policy and investment options (e.g., with or without improved farm inputs, management practices, or irrigation infrastructure).

More broadly within agri-food systems, decision-making under these conditions requires information on the behavior of the pre-farm and post-farm value chains that create more than half the value-added in agriculture, that provide crucial livelihoods to millions of people, and that are transforming rapidly under the force of urbanization, income growth, and global markets. Current USAID programming includes investments that are likely to make farmers and post-farm value chains more resilient to climate risks and make agricultural transformation more sustainable. These include improved natural resource and disaster risk management and the dissemination of "climate smart" technologies to farmers. However, what remains unclear is how many poor farmers and consumers benefit from these interventions within target countries; how these farmer and consumer benefits are influenced by the reaction to climate change and investments of the vast midstream (and its millions of SMEs) that links them; how livelihoods within this vast midstream and downstream of FSCs are affected; what the contribution of these investments is to building resilience across national agri-food systems; and whether the current set of interventions is the most effective at reducing climate vulnerability?

B. IFPRI's Flagship Modeling Systems

Integrated models are regularly used to assess the impact of climate risks across population groups and national economies, and to evaluate the potential of alternative policies and investments to reduce vulnerability and promote resilience. IFPRI maintains a sophisticated suite of biophysical and economic models that, when used together, provide a simulation laboratory for experimenting with different climate and weather conditions and estimating their impact on a wide range of environmental and socioeconomic outcomes. The International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT) and Rural Investment and Policy Analysis (RIAPA) are IFPRI's two flagship data and modeling systems:

> The **International Model for Policy Analysis of Agricultural Commodities and Trade** (IMPACT) is a set of linked economic, water and crop models (see Figure 1). At its core is a partial equilibrium multi-market model that simulates national and international agricultural markets. IMPACT separates global agriculture across 159 countries and 154 water basins (for a total of 320 regions) and tracks 62 agricultural commodities (based primarily on data from Food and Agriculture Organization Corporate Statistical Database (FAOSTAT)). The

link to water models allows IMPACT to analyze environmental outcomes, and the link to pixel-level crop simulation models allows it to evaluate the productivity implications of alternative farm technologies and management practices taking account of agroecological and climate conditions. IMPACT tracks a range of outcomes, including crop yields and harvested areas, agricultural production and food consumption levels, commodity prices and international trade, household hunger and welfare, and greenhouse gas emissions from land use change in agriculture. IMPACT is IFPRI's primary tool for evaluating the long-term environmental and economic impacts of climate change on global agriculture and food security.

Figure 1: IMPACT Data and Modeling System
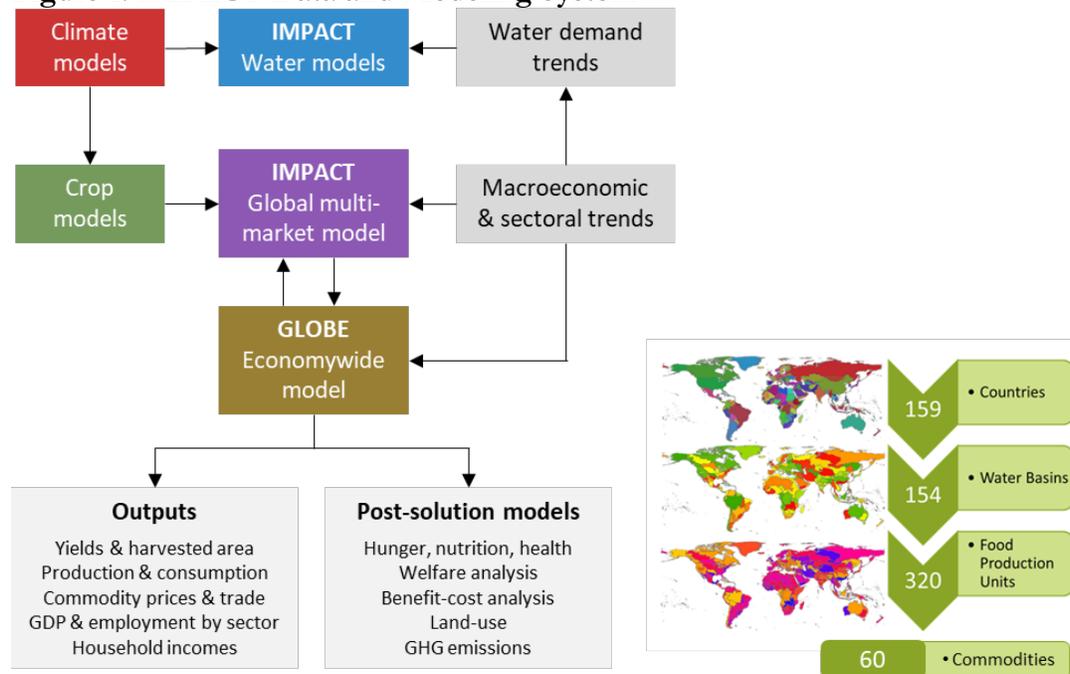
The **Rural Investment and Policy Analysis modeling system** links country-level economic models to forward-looking planning tools for evaluating policy and investment costs and benefits, and to survey-based modules for tracking household level outcomes (see Figure 2). Like IMPACT, RIAPA can be disaggregated across subnational regions. RIAPA's core economywide model separates national economies across 86 sectors or products (35 within agriculture). RIAPA is based on IFPRI's Nexus Social Accounting Matrices that were updated to recent base years with financial support from USAID. There are currently over 30 countries with RIAPA models, including all GFSS focus countries and most of the aligned countries.[4] RIAPA's economywide models report changes in GDP and employment within, across and beyond agri-food systems (e.g., Ag GDP+ and Ag Employment+). This model is also linked to survey-based microsimulation models that track household poverty and inequality, as well as specialized indicators, including Women's Inclusion in Structural Transformation (WIST), and Recommended Diet Deprivation (ReDD). The latter module was recently developed with USAID funding for selected countries, and a new module is being

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[4] Focus countries with RIAPA models: Bangladesh, Ethiopia, Ghana, Guatemala, Honduras, Kenya, Mali, Nepal, Niger, Nigeria, Senegal, and Uganda. Aligned countries with models: Cambodia, DRC, Egypt, Liberia, Malawi, Mozambique, Myanmar, Pakistan, Rwanda, Sudan, Tanzania, and Zambia. Other countries with models: Burkina Faso, China, India, Indonesia, Philippines, South Africa, Tunisia, Vietnam, and Yemen.

piloted that tracks changes in agri-food system water consumption (Ag Water+). RIAPA is IFPRI's primary tool for evaluating the social and economic impacts of policies and investments on national agri-food systems and population groups.

Figure 2. RIAPA Data and Modeling System
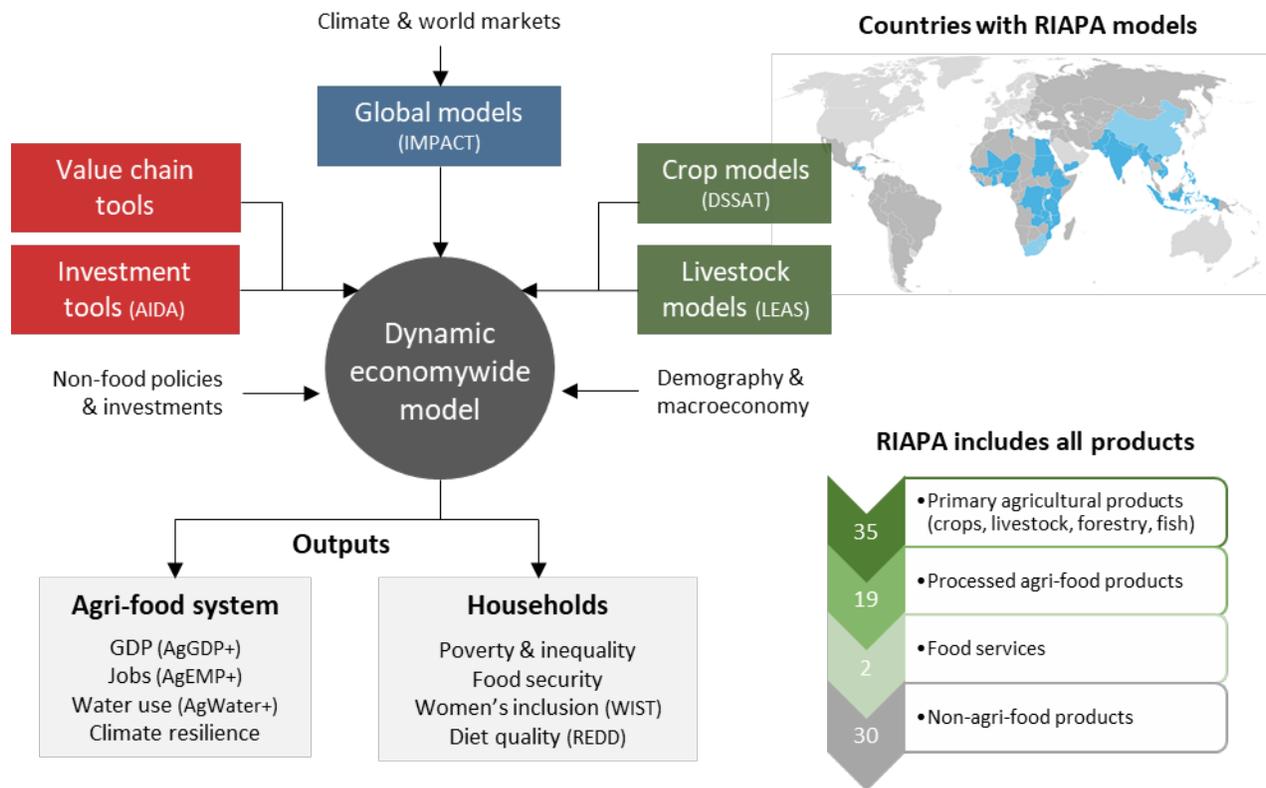
C. MSU's Value Chain and Midstream Expertise

Post-farm and pre-farm value chains are growing extremely rapidly as urbanization and income growth drive demand for inputs and services at farm level and for value-added processing and food product diversification among consumers. Already these pre-farm and post-farm value chains provide well over half the value added in agri-food systems, with that share rising rapidly over time. Hundreds of millions of SMEs across developing countries, many owned by women and employing growing numbers of youth, populate these value chains and are heavily affected by climate change and by investments in climate resilience. MSU brings unrivalled expertise in the micro and meso level behavior of these actors and in methods for studying them across Africa, Asia, and Latin America. The set of knowledge and empirical research methodologies that MSU's Food Security Group has developed form an essential element in understanding how alternative investments will affect the livelihoods of all agri-food system participants, from farmers through midstream and downstream actors and consumers.

C. Scope of Work

IFPRI will use IMPACT and RIAPA to estimate the impact of climate variability and climate change on agri-food systems within specific country cases, and to analyze the effectiveness of alternative policies and investments to reduce vulnerability and build resilience to climate change. MSU will complement this by deploying and building on its survey-based knowledge of value chain behavior to understand how particular value chains and particular nodes in those value chains are likely to

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respond to climate change and to investments in climate change resilience.

Work Area 1: MSU will conduct an initial detailed and systematic review of empirical survey-based studies and existing policies and investments in Africa and Asia in the past several decades and the current situation, bearing on knowledge gaps identified above for the farm sector, and for input/ag service and crop FSCs. Specifically, this synthesis paper will : (1) review empirical evidence and case studies in Africa, Asia, Middle East and North Africa (MENA), and Latin America and the Caribbean (LAC) on climate change resilience of farms and food supply chains; (2) review policies and programs that have been put in place (and assessments of them) that condition that resilience; and (3) synthesize (1) and (2) to identify key considerations for policy and program design, and generates policy recommendations for governments and program strategy recommendations for missions.

There has been no such overview paper yet. MSU's review under PRCI would complement IFPRI modeling by focusing on climate resilience of the farm sector and of input and output supply chains and the segments within them. As about 80% of food consumption in Africa and South Asia moves through supply chains, supply chain actors including traders and processors and logistics firms condition the climate-related welfare impacts and coping and management investments of farmers in these regions.

Work Area 2: IFPRI will combine, adapt and enhance its modeling data and modeling systems to better reflect national and subnational agri-food systems in Malawi and Nigeria, and also better capture existing climate variability and the impact of future climate change on food systems on and beyond the farm (see Figure 3). IFPRI will use its integrated models to evaluate a broad range of policy and investment options in the two focus countries. For example, scenarios will evaluate and compare the potential effects of different on-farm infrastructure and technology investments (e.g., improved seeds, fertilizer, irrigation), as well as the effects of bundling these investments with supporting services (e.g., combing dissemination of improved inputs with farmer extension). The crop modeling analysis will also allow RIAPA to evaluate the benefits of climate information services, such as how farmers might benefit from improved seasonal forecast information by avoiding adverse climate effects. Water system models will allow for a more detailed analysis of watershed and groundwater management. The final shortlist of policies and investments to evaluate using the modeling tools will be decided in consultation with the Bureau and its country missions and may vary between Malawi and Nigeria. Finally, the time horizon for the modeling analysis may vary depending on which policies and investments are being considered. For example, investments with longer lifespans (benefit streams) might focus on returns by 2030 or beyond (e.g., roads or farming infrastructure), whereas policies and investments involving recurrent spending (e.g., extension services or promotion of technology adoption) would focus on a shorter timeframe.

Figure 3. An Integrated Modeling Framework for Capturing Agriculture, Water, Energy and Road Infrastructure Impacts.
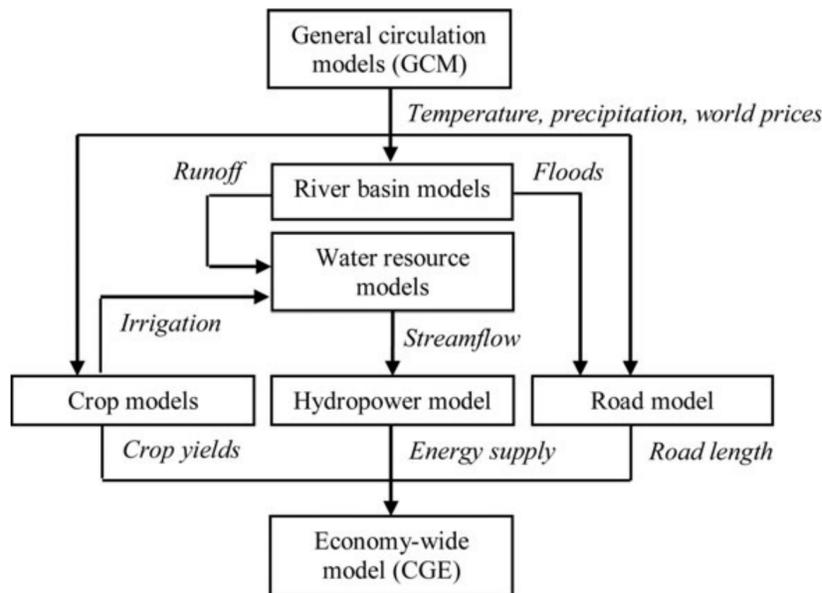
Depending on midstream progress and government/Bureau interest, IFPRI's modeling framework can be extended to cover a broader set of impact pathways linking policies and climate risks to agri-food system outcomes. As shown in Figure 3, this could include more detailed modeling of investments in river basins and water resources management, and detailed modeling of transport systems to track the impacts of infrastructure damages on market access and the downstream agri-food system. The list of policies and investments being analyzed and decisions to broaden modeling into new areas (e.g., water or road systems) will be re-evaluated at midstream in consultation with the Bureau.

Work area 3: MSU will leverage and add to other USAID-funded climate work (through the Rutgers consortium of which MSU was a member) to bring granular detail to the effects of climate change on midstream actors in Nigeria's food system. First, MSU will do additional analysis of the trader survey in Nigeria already funded by under the Rutgers consortium, focusing on questions that were added to that survey on climate shocks and trader responses. Second, MSU will survey a substantial sample of midstream (trader, logistics, and processors, as well as wholesale markets and trader associations) and farmers to undertake a best-worst analysis. We will focus on how product marketing and product procurement behavior, and service provision and service procurement behavior (such as long distance versus local sourcing; or use of third-party logistics versus reliance on one's own vehicles) are influenced by climate change and a number of climate-policy/investment related attributes. These attributes can include for example their assessment of the all-weather utility of roads using a particular channel; the adequacy of the size and performance of the vehicles hence service of third-party logistics providers compared with their own means (such as a farmer's own smaller vehicle), in the event of flooding; the adequacy of irrigation or other water access and control infrastructure in a supplying region), and so on.

These analyses will allow linking of policies and public investments, channel and market arrangement attributes relative to climate resilience, and market choices of actors in midstream and upstream. This will be invaluable as a way of showing governments and other food system actors (such as trader associations and wholesale market management) how their policy and investment choices affect the vital midstream and upstream actors. For instance, actors may be avoiding

investing in long distance supply chains because they judge them more risky and costly than shorter distance arrangements that are also less efficient (for overall food security). The analysis will help illustrate what regulations and public infrastructure investments or lack thereof are impeding the longer distance marketing strategy. We will generate hypotheses to test during the initial (January) report writing based on the past literature and careful consideration of the existing and potential array of regulations and investments relevant to climate risk mitigation and adaptation in Africa.

Key midstream outputs :

- Systematic review of empirical survey-based studies of investments in climate change adaptation and mitigation (MSU; January 2022)
- Technical brief based on the systematic review (MSU; February 2022)
- Report on analysis of trader survey data on climate shocks and responses, with policy implications (MSU; April 2022)
- Technical brief that summarizes different approaches to modeling policy impacts on climate resilience, and) describes the modeling approach used by IFPRI to measure climate risks and policy impacts in Phase 1, including limitations (IFPRI; April 2022)
- Summary report describing the modeling approach and key findings for the selected pilot countries (written for a general audience) (IFPRI; April 2022)

Key end of project outputs (December 2022):

- Project report(s) (i) describing the extended "deep dive" modeling approach; (ii) describing the field research methods used for the midstream studies in Nigeria, (iii) presenting detailed modeling results for each case study country; (iv) presenting detailed midstream study results for Nigeria, and (v) synthesizing key findings across the modeling and midstream studies in all case study countries, including recommendations for future BRFS programming around climate resilience (IFPRI and MSU; December 2022).

IFPRI-Specific Deliverables (drawn from list above)

- Technical brief that summarizes different approaches to modeling policy impacts on climate resilience, and) describes the modeling approach used by IFPRI to measure climate risks and policy impacts in Phase 1, including limitations (IFPRI; April 2022)
- Summary report describing the modeling approach and key findings for the selected pilot countries (written for a general audience) (IFPRI; April 2022)
- Project report(s) describing the extended "deep dive" modeling approach; presenting detailed modeling results for each case study country; synthesizing key findings across the case study countries, including recommendations for future BRFS programming around climate resilience.

Timeline

Date	Deliverable
15 April 2022	Technical brief and summary report describing modeling approach and preliminary findings for Malawi and Nigeria
15 December 2022	Final project report synthesizing modeling approach and findings for Malawi and Nigeria

IFPRI Budget Estimate

The project team includes Dr. James Thurlow (Senior Research Fellow, economic modeling), Dr. Tim Thomas (Research Fellow, climate/weather analysis), Dr Jawoo Koo (Senior Research Fellow, crop modeling), and Mr Angga Pradesha (Senior Research Analyst, economic modeling).

	Year - 2022: EPT	Year - 2022: DSG
Labor/Fringe	92,024.31	57,405.63
- Comm/Misc [HQ/field]	17.53	26.73
Service Center	34,540.44	26,955.83
TOTAL, direct cost	126,582.28	84,388.19
Indirect Cost/G&A	23,417.72	15,611.81
TOTAL	$ 150,000.00	$ 100,000.00
Estimated hours		
Tim Thomas	657.60	
Jawoo Koo	164.40	
James Thurlow		211.70
Angga Pradesha		429.81