**Flagship Annual Report - 2018**

**FP1 – Priority Setting & Impact Acceleration**

Progress towards outcomes

The Economic, social, and environmental impacts of GLDC research can be enhanced through inclusive and demand-driven research that responds to smallholder farmer needs, market demand, and local and national priorities. Flagship 1 on Priority Setting and Impact Acceleration aims to enhance the relevance and impacts of GLDC research through improved targeting and priority-setting, learning from adoption and impact studies, strategic gender research, and supporting scaling efforts.

Building on the earlier ex-ante economic impact evaluation which was carried out to guide priorities across crops, countries, and the major technical lines of research, an expanded ex-ante poverty impact study was conducted to assess GLDC research priorities based on potential impacts on poverty reduction. In West Africa, the research and technology options with the greatest potential for poverty reduction (each lifting over 250,000 people) are: (1) early-maturing sorghum varieties and hybrids with tolerance to drought; (2) early-maturing and drought-tolerant pearl millet hybrids with resistance to downy mildew and blast; and (3) insect-resistant and drought-tolerant cowpea varieties. In Eastern Africa, the research and technology options with the greatest potential for poverty reduction (each lifting over 120,000 people) are: (1) early-maturing sorghum varieties and hybrids with tolerance to drought and Striga; (2) medium- to late-maturing anthracnose-resistant sorghum cultivars; and (3) sorghum varieties and hybrids with resistance to Striga and stem borer. In Southern Africa, the research and technology options with the greatest potential for poverty reduction (each lifting over 60,000 people) are: (1) rosette-resistant groundnut varieties; (2) early-maturing and drought-tolerant groundnut and sorghum varieties; and (3) drought-tolerant soybean varieties and crop management practices. In South Asia, the research and technology options with the greatest potential for poverty reduction (each lifting over 125,000) are: (1) chickpea varieties resistant to Fusarium wilt, root rots, and gray mold; (2) drought-tolerant lentil varieties; and (3) dual-purpose pearl millet hybrids with high and stable yields and resistance to downy mildew and blast.

Researchers in Flagship 1 updated the GLDC database of the International Model for the Policy Analysis of Agricultural Commodities and Trade (IMPACT) for foresight modeling and ex-ante analysis for priority setting. The activity involved estimating the coefficients needed to update the production and consumption values for GLDC crops in sub-Saharan Africa (SSA) and south Asia between 2005 and 2015. Results showed that adjustments were needed only for soybean and chickpea in sub-Saharan Africa (SSA). Adjusting the yield coefficients in IMPACT increased the estimated production values of soybean and chickpea in SSA and successfully brought these values closer to the actual values from FAOSTAT.

Understanding the drivers of adoption and identifying producer and end-user preferences is crucial for ensuring alignment between end-user demand and breeding targets and facilitate scaling of GLDC innovations. Understanding farming households’ technology choices remains one of the most critical aspects of agricultural research in rural areas, but many technologies that are known to be effective and potentially highly beneficial have not been adopted widely. Researchers in Flagship 1 conduct research aimed at enhancing and deepening our understanding of all aspects of end-user demand including consumer demand for GLDC food crops, technology demand by rural farming households, and an analysis of wider potential to change consumer behavior. A study on rural aspirations showed that human aspirations have a much greater influence on technology choices, and a better understanding of aspirations can improve the targeting of technology development by researchers. Another study showed that rural households in Kenya have different aspirations and income portfolio strategies, including agricultural intensification and income diversification. Although few households specialized in farming, many households self-identified as farmers and aspired to increase their agricultural income. Despite the prevalence of agricultural aspirations, few aspired for their children to have a future in farming. Combining aspirations with potential to invest, the study provides recommendations for targeting agricultural interventions with emphasis on the need to start listening better to “farmers” to develop and offer innovations that meet their realities.

Gender research teams identified the roles of gender norms and social change in adoption and benefitting from improved varieties and the means to strengthen women’s and men’s adoption and benefits from new varieties. A study conducted in rural communities in India examined how the adoption of pro-poor innovations—improved barley varieties and Marwari goats—and their benefits are affected by gender, class, and age.  Given the finding that women who adopted Marwari goats with higher milk yield and fertility sold milk from their homes and earned higher incomes, the study showed the potential for improved technologies to bring about women empowerment even in communities where there is female seclusion.

A study was conducted to assess the effects of migration on the ‘feminization of agriculture’ in dryland areas where women do more agricultural work but at lower wages and under more precarious working conditions than men. The findings showed that women perform more farm labor in agrarian societies due to the increasing outmigration of men. The findings also showed that generational, socioeconomic and sociocultural factors, as well as economic and social remittances affect migration-related agricultural feminization. The results point to the need for increased technological and policy interventions to improve agricultural productivity for women who take over farm tasks in the absence of men.

To support technology development and adoption, the work in Flagship 1 analyzes the policy and institutional environment and identifies the enabling conditions for successful scaling and impact of GLDC technologies. A review and synthesis of 18 past GLDC impact studies is on track for finalization by the end of March 2019. Similarly, a final report on the main scaling approaches used in four large GLDC scaling projects will be completed in March 2019. The projects include Malawi Improved Seed Systems and Technologies (MISST), Harnessing Opportunities for Productivity Enhancement -Phase 2 (HOPE 2), Tropical Legumes-Phase III (TLIII), and Feed the Future Kenya (FtF-Kenya). Researchers reviewed the scaling literature and the scaling approaches used in these four projects, which included field visits to sites in both Kenya and Malawi. A draft 'idealized' scaling framework has been developed to structure the review of the GLDC scaling projects.

A study was conducted to assess the adoption and farm level impacts of improved cowpea varieties in Nigeria. Using a nationally representative survey data from a sample of over 1500 cowpea growing households cultivating over 1000 plots, the study assessed the adoption and impacts of improved cowpea varieties on cowpea yields and net crop incomes using the control function approach as well as endogenous switching regression and marginal treatment effects models. The results showed that 29% of the cowpea area was planted to improved varieties and 38% of the sample households adopted these varieties. The most widely adopted cowpea varieties are IT89KD-288 (*Sampea 11*) and IT99K-216-24-2 (*Kwankwaso*) followed by UAM09-1055-6 (*Fuampea 1*) and IT90K-277-2 (*Sampea 9*). The results further showed that adoption of improved cowpea varieties increased cowpea yields by 29–40% and incomes by 26–28%.

Variance from Planned Program for this year

There were no research areas that have been significantly expanded or that have been dropped or significantly cut back. Given that 2018 was the first year of GLDC, no Flagships or specific research areas changed direction.

PARTNESHIPS: ACHIEVEMENT AND CHALLENGES

Highlights of External Partnerships

The work on household aspirations involved collaboration with the Cynefin centre with co-funding received from the center in the form of free staff time and follow up workshops. The sensemaker method used and adjusted for the agricultural setting has been popularized and is being used in other GLDC activities. One proposal is under development for bilateral funding. The team working on gender and youth established partnerships with Makerere Univeristy in Uganda, Haramaya University in Ethiopia, Sokoine University of Agriculture in Tanzania, and University of Nairobi in Kenya. The work on synthesis of impact studies and scaling approaches in GLDC projects involved a partnership with University of Wisconsin through the exchange visits of the two PhD students. The cowpea adoption and impact study was conducted in partnership with cowpea breeders and agronomists at IITA and Nigeria’s Institute of Agricultural Research. Through constant interactions and consultations, the study benefited from technical inputs from breeders and agronomists who were involved in the development and dissemination of improved varieties and agronomic practices. There were some challenges regarding new partnerships outside the traditional CGIAR types of partners as a mutual understanding of operational and methodological approaches and implementation arrangements had to be set up.

Cross-CGIAR Partnerships

A partnership with PIM has enabled researchers in Flagship 1 to update the GLDC database of the International Model for the Policy Analysis of Agricultural Commodities and Trade (IMPACT) for foresight modeling and ex-ante analysis for priority setting. Researchers in Flagship 1 work closely with the CGIAR Collaborative Platform for Gender Research. A number of gender researchers from CGIAR (plus an equal number from outside the system) attend the platform’s scientific conference and capacity development workshops. In 2018, gender researchers in Flagship 1 attended the Annual Scientific Conference and Capacity Development Workshop on 25-28 September 2018 in Addis Ababa, Ethiopia. A new partnership between ICRAF, ICRISAT and the Cynefin Center is shedding light on how multiple income streams interact and the role they play in determining household aspirations. The combination of Cynefin Center’s distributed ethnography tools and ICRAF and ICRISAT’s deeper understanding of the farming system in developing countries now allows the team to conduct ethnography at scale.

Table 1: MILESTONEs TABLE 2018

Reference to the Milestone table related to this document.

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| --- | --- | --- | --- | --- | --- | --- |
| **FP** | **FP outcomes 2022** | **Summary narrative on progress against each FP outcome this year.** | **Milestone** | **2018 milestones status (complete, extended, cancelled or changed)** | **Main reason for changes in status (if not complete)** | **Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed.** |
| 1 | Outcome 1. Improved targeting and responsiveness of research to market and household demands in the face of climate change for greater technology adoption, food and nutrition security, resilience, and poverty reduction | With the priority GLDC crops and countries identified based largely on the initial foresight and ex-ante impact evaluation work, a sound foundation has been laid to enhance the targeting, responsiveness, and impacts of GLDC research | Expanded foresight and ex-ante evaluation of GLDC research and technology options conducted and preliminary results shared on the potential poverty reduction impacts | Complete  *Note: the work has been expanded in 2019 to include a nutrition impact dimension in addition to the planned ex-ante economic and poverty reduction impact assessment.* |  | Results of the ex-ante economic and poverty impact evaluation of GLDC research and technology options were shared with GLDC researchers and stakeholders at the annual review and planning meeting in 2018. A draft report is also available (Create link to the uploaded report) |
| 1 | Outcome 2. Market and household demand identified and trade-offs assessed for more inclusive value chains that improve income and nutrition status in target regions | Building on numerous past market and value chain studies documenting the market and household demands and preferences, the ongoing work introduces new dimensions such as household aspirations to better identify end-user demands and profiles. | Diversity of farm household preferences vis-a-vis market demand by context outlined in view of research in GLDC | Extended | Ongoing work | As 2018 was the first year of GLDC, the work started in March/April and the milestone was planned to be completed only in 2019 |
| 1 | Outcome 3. Inclusive and equitable technologies and innovation systems established for accelerated and broadened impact across the agrifood system | By enhancing our understanding of the participation of women and youth in GLDC value chains as well as in technology and support service delivery, the ongoing strategic gender research is generating insights that lead to inclusive and equitable technologies and innovation systems | Inclusive and equitable innovation system for accelerating impacts for women and young people designed and piloted underlying design principles proven | Extended | Ongoing work | As 2018 was the first year of GLDC, the work started in March/April and the milestone was planned to be completed only in 2019 |
| 1 | Outcome 4. Strong project design, execution, monitoring and evaluation systems and tools consistently applied in GLDC scaling projects, with demonstrable progress on enhanced adoption and impact | By identifying successful approaches to technology scaling and the underlying institutional and policy contexts, the ongoing review of scaling approaches and impact evaluations is generating useful lessons for increased technology adoption and impact | Joint systematic review with CoA 1.2 | Extended | Ongoing work | As 2018 was the first year of GLDC, the work started in March/April and the milestone was planned to be completed only in 2019 |
| 1 | Outcome 4. Strong project design, execution, monitoring and evaluation systems and tools consistently applied in GLDC scaling projects, with demonstrable progress on enhanced adoption and impact | By identifying successful approaches to technology scaling and the underlying institutional and policy contexts, the ongoing review of scaling approaches and impact evaluations is generating useful lessons for increased technology adoption and impact | Evaluation designed and implementation underway to evaluate current GLDC scaling approaches & associated impact evidence | Extended | Ongoing work | As 2018 was the first year of GLDC, the work started in March/April and the milestone was planned to be completed only in 2019 |
| 1 | Outcome 4. Strong project design, execution, monitoring and evaluation systems and tools consistently applied in GLDC scaling projects, with demonstrable progress on enhanced adoption and impact | By identifying successful approaches to technology scaling and the underlying institutional and policy contexts, the ongoing review of scaling approaches and impact evaluations is generating useful lessons for increased technology adoption and impact | Scaling toolkit for Design, Execution, Monitoring, and Evaluation (DEME) content agreed to support improved horizontal and vertical scaling of GLDC commodities and management practices | Extended | Ongoing work | As 2018 was the first year of GLDC, the work started in March/April and the milestone was planned to be completed only in 2019 |