

Toward Sustainable Agricultural Pathways in Malawi

Impact Report of the Agricultural Transformation
Initiative Fellowship and Scholarship Fund

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**Agricultural
Transformation
Initiative**
Fellowship and Scholarship Fund



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Introduction

Program Background

The Agricultural Transformation Initiative Fellowship and Scholarship Fund (ATI FSF), funded by the Foundation for a Smoke-Free World (FSFW) through its affiliate, the ATI, and administered by the Institute of International Education (IIE), aimed to strengthen the capacity of researchers and professionals in Malawi to reduce the country's reliance on tobacco exports. Funded from 2019 to 2023, ATI FSF Scholars and Fellows enrolled in degree programs and conducted research in high-priority areas, including agriculture, business, data science, ecology/environment, and economics. Over the lifetime of the Program, ATI FSF funded scholarships to 17 master's Scholars and six postdoctoral Fellows.

ATI FSF Program Goals

The mission of the Agricultural Transformation Initiative, an affiliate of the Foundation for a Smoke-Free World, is to prepare smallholder tobacco farmers for an era of significantly reduced demand for tobacco, focusing first on populations with the greatest need. To achieve this, the ATI employs a systems approach to understanding local contexts and potential intervention points, coupled with an investment-oriented action model. The ATI also builds sustainable capacity for local involvement and ownership in seeking solutions for agricultural transformation, growth, gender equality, and development; and engages local policy processes and knowledge systems across sectors, leveraging our expertise in international education and training. Within the broader Initiative, the ATI FSF Program specifically contributed to two goals:

Enhancing knowledge capacity of local professionals and scholars in Malawi

Fostering international collaborations in agriculture-related development

Methodology

IIE's Research, Evaluation, and Learning (REL) team collected data from ATI FSF Scholars and Fellows in a mixed-methods study to evaluate the ongoing implementation and outcomes of the Program. The following lines of inquiry guided the methodology: (1) Evaluating the Program's progress in enhancing the knowledge capacity and networks of ATI FSF Scholars and Fellows; (2) Evaluating the sustainability of the ATI FSF Program; and (3) Providing recommendations to the Program on how to strengthen activities to add more value and catalyze Program impact. Please see [Appendix A](#) for further details about the evaluation questions.

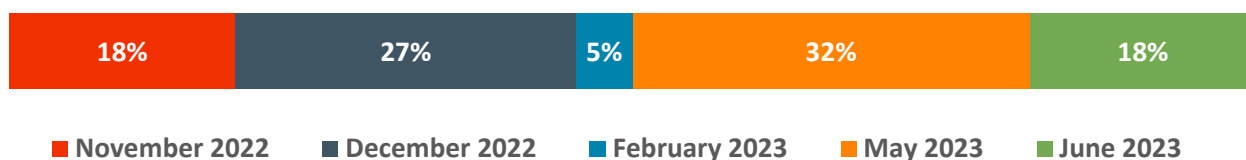
Throughout the three years of the Program, the REL team collected online survey instruments from ATI FSF Scholars and Fellows. The surveys were supplemented by interviews and focus groups to provide more nuanced information and to triangulate data. The REL Team used photovoice to examine themes emerging from Scholars' and Fellows' experiences throughout the study.

Survey Administration

Survey	Timeline	Response Rate
Baseline	November 2020	100%
Annual	June 2021	100%
Annual	June 2022	74%
Final and Impact	July 2023	96%

ATI FSF Scholars and Fellows completed their grants throughout 2022 and 2023, and the completion span ranged from November 2022 to June 2023. The REL team compared outcomes and impacts for those who completed the Program earlier and closer to survey administration.

Figure 1. ATI FSF Program Completion



Further details about the final survey respondents can be found in [Appendix B](#).

About this Report

This report is organized into four main sections:

- **Host Institution Experiences** details ATI FSF Scholars' and Fellows' satisfaction with their host institutions and faculty advisors and their progress in their studies and research.
- **Knowledge, Skills, and Attitudes** highlights ATI FSF Scholar's and Fellows' self-reflections on skills and beliefs related to their work and the goals of the Program.
- **Networks and Collaborations** discusses the internal and external networks of ATI FSF Scholars and Fellows, new networks created with those outside the Program, and collaborative projects conducted with key stakeholders.
- **ATI FSF Program Impact and Sustainability** includes knowledge products created by ATI FSF Scholars and Fellows, their current status post-program and professional achievements, and the Program's sustainability through ATI FSF participants' work and activities.

Quotes are lightly edited for readability. Photos are highlighted throughout the report to illustrate the work and projects of ATI FSF Scholars and Fellows during the Program, highlighted in photovoice sessions.

Host Institution Experiences

Throughout the ATI FSF Program, participants had the opportunity to collaborate with host institutions in their field of expertise. While ATI FSF Scholars and Fellows began their engagements virtually amid the COVID-19 pandemic, by 2022, all participants were participating in in-person programming. ATI FSF Scholars participated in courses at universities in the United States and South Africa. ATI FSF Fellows partnered for their post-doctoral programs at universities and institutions in Malawi, South Africa, and the United States. These spaces offered ATI FSF participants and host institution colleagues opportunities to share global perspectives and experiences.

Host Institution Reflections

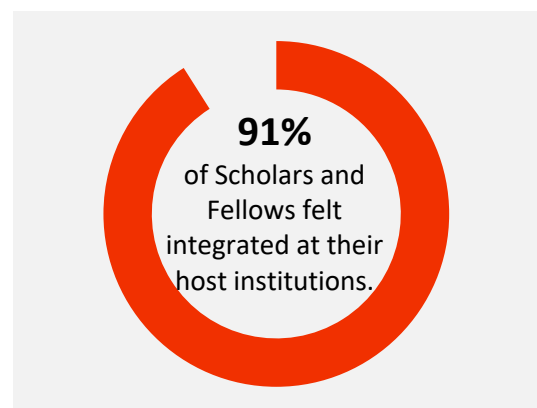
Access to resources and facilities. ATI FSF Scholars and Fellows were highly satisfied with their host institutions. 100% were happy with the resources offered at their host institutions, including libraries and internet access. This increased from 90% in previous years. Almost all respondents (96%) were also satisfied with host facilities such as research labs, up from 91% in 2021 and 95% in 2022. As Scholars and Fellows attended and integrated into their host institution's environment, their satisfaction with what the hosts had to offer steadily increased. 83% felt that they had received an adequate workspace during their experience.

Feelings of integration. A critical part of any host institution experience is feeling integrated, and findings from the 2023 survey indicate that respondents felt integrated into the academic (91%) and social life (91%) of their host institutions, as well as with their peers and colleagues. Most ATI FSF Scholars and Fellows (91%) felt that they were integrated into the social life of their host institutions, up from 87% in 2021, when the Program was conducted virtually. This is a testament to the importance of in-person experiences and how traveling to their host institutions furthered respondents' connection to their hosts.

Connection to peers and colleagues. Another critical aspect of ATI FSF participants' experience at their host institutions was their connection and relationship with their peers. In 2023, 96% felt that their host institution peers had made an effort to integrate them into the department or campus, and an equal amount (96%) indicated that their peers shared their culture with them.

[My host institution] has facilities and programs that gave me exposure to innovative, critical thinking, and entrepreneurial mindset that focus on unlocking unconventional solutions to identified problems. The knowledge and experience from these facilities, including the classroom learning, have given me a new mindset of approaching and tackling problems through sustainable models.”– ATI FSF Scholar

“I have been exposed to productive research and innovation ideas, methods, and systems, which has overall impacted my line of thought and way of doing things.”– ATI FSF Scholar



“The culture at [host institution] is so welcoming and professors work in the best interest of the student.” – ATI FSF Scholar

Faculty Advisors

ATI FSF Scholars (17) were matched with Faculty Advisors that supported them academically and professionally. Since Scholars were master's students primarily located at U.S. institutions, the Faculty Advisors were to support them in academics, research projects, and overall professional support. All Scholars' Faculty Advisors matched their professional interests, while 93% of Advisors contributed to their Scholars' grant projects (teaching, research, or otherwise) and made time for regular meetings with them. Besides academic support, 53% of Faculty Advisors supported Scholars with grant logistics, including finding housing, health care, and other support. One Scholar noted, "My host supervisor supplemented my funds to enable me to stay in his lab."

Figure 2. Collaborations with Faculty Advisors



Host Activities and Learning

ATI FSF Scholars and Fellows reflected on how the courses and peer interactions at their host institutions impacted their knowledge and learning. Most respondents (96%) felt that interactions with peers at their host institutions impacted their overall learning, a positive outcome that speaks to the networks built during the Program (see the [Networks](#) section). Reflections on the utility of host institution courses differed for Scholars and Fellows. This is unsurprising as Fellows were postdoctoral researchers and less likely to attend courses regularly. For example, all respondents who did not think courses helped their learning were Fellows (sig <.001). For Scholars, the responses reflected high utility across courses attended for research or data collection, understanding of agricultural development, and overall learning.

Figure 3. Utility of Host Institution Courses and Peer Networks

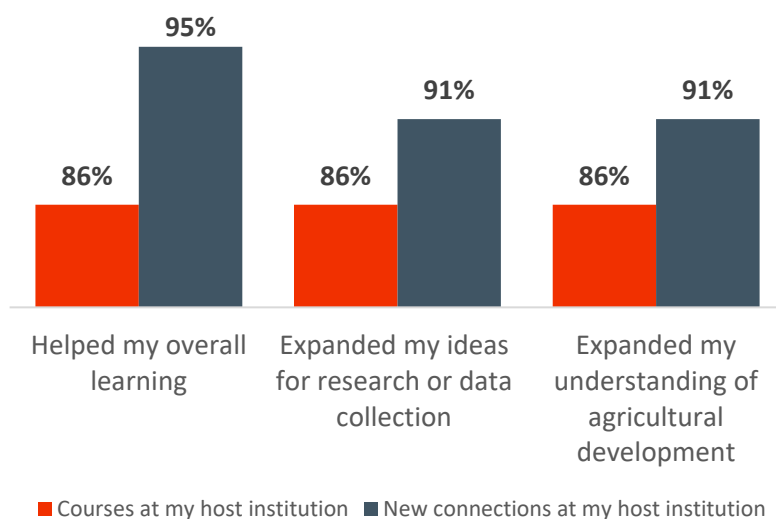


Photo credit: Amina Twaibu, ATI FSF Scholar

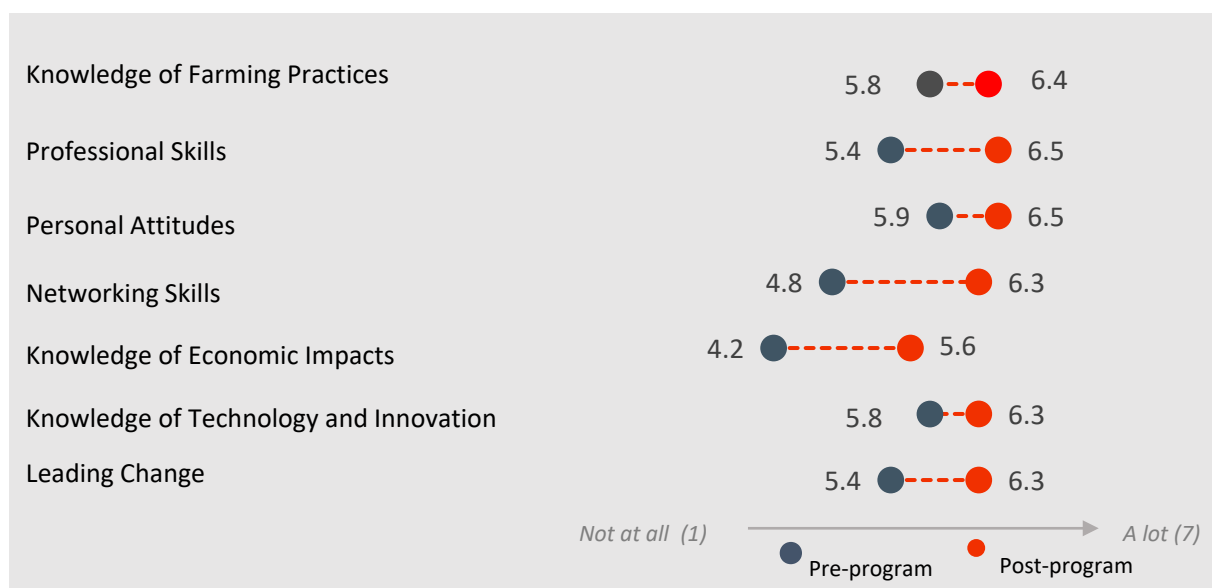
Knowledge, Skills, and Attitudes

In support of ATI FSF's first goal of enhancing the knowledge capacity of local professionals and scholars in Malawi, the research team assessed the change in the knowledge, skills, and attitudes of ATI FSF Scholars and Fellows throughout their Program experience. The following section highlights analyses of pre- and post-program assessments of critical indicators related to personal and professional skills and knowledge of key areas related to agricultural practices, economic impacts, and technology and innovation. To further learning into action, each section also examines how ATI FSF Scholars and Fellows reflected on the utility of what they learned in their current context and how they plan to use what they have learned in their work moving forward.

Overall Development

ATI FSF Scholars and Fellows have grown in networking and professional skills, increased their awareness of economic and farming practices, learned about technological innovations in agriculture, and developed as leaders. Underscoring Scholars' and Fellows' growth, their attitudes towards tobacco cessation and alternative livelihoods for Malawian farmers became more aligned with the goals of the ATI FSF Program.

Figure 4. Overall Skill Development



At the end of the Program, ATI FSF Scholars and Fellows noted their greatest strengths in their personal attitudes and professional skills. 95% of respondents felt that their attitudes have changed due to the Program. Respondents also reported the most significant change in networking skills and knowledge of economic impacts. There were statistically significant differences from Program start to end in all skill areas, with the most significant changes taking place in networking skills and professional skills (both $p < .001$), followed by personal attitudes and knowledge of technology and innovation ($p < .005$). The only skill group that did not have significant change was leading change, and this could be because Scholars and Fellows already scored relatively higher on this characteristic at the start of the Program.

Knowledge Growth

The ATI FSF Program built Fellows' and Scholars' awareness of knowledge related to transformative agriculture practices, the role of technology and innovation, and economic impacts. 86% of Scholars and Fellows noted that they increased their knowledge in these topics, and in a pre/post assessment, understanding of all issues improved. The most significant growth was in participants' knowledge of food security and nutrition in Malawi and globally. Scholars' and Fellows' most vital skill in their understanding of farming practices was their acknowledgment of the economic needs of smallholder farmers in leading agricultural development. As most Scholars and Fellows work closely with farmers in Malawi, they are aware of the needs and challenges that underpin leaving tobacco cultivation.

Figure 5. Knowledge Growth in Farming Practices



The knowledge shared through the ATI FSF Program directly applies to Scholars' and Fellows' work after the Program. 79% of respondents indicated that they have been able to apply this knowledge in their organization or work since the ATI FSF Program. This was more so for Scholars and Fellows who had completed the Program earlier, indicating that applying this knowledge will likely continue as more Scholars and Fellows return to Malawi and proceed in their work or studies.



"I found tobacco farmers to be less food secure and also found a correlation between tobacco farming and forest loss. While these relationships were confirmed statistically, I understand that tobacco farming is entrenched in contemporary culture in Malawi and similar places. My attitude is now inclined towards indeed reducing the tobacco footprint, but also ensuring that the fairness and the rights of farmers are protected while the production of the crop is gradually curtailed." ATI FSF Fellow

Professional and Networking Skills

Scholars and Fellows shared their professional and technical skills gained through their ATI FSF Program experience. For Scholars, who mainly were master’s students, critical skills such as analysis for carrying out research were necessary. Fellows were more confident in their networking skills. They reported a stronger sense of their ability to identify key stakeholders, know where to meet new contacts, and feel they had access to more extensive networks. 95% of respondents noted that they have been able to apply their new professional and networking skills since the ATI FSF Program.

Figure 6. Growth in Networking Skills

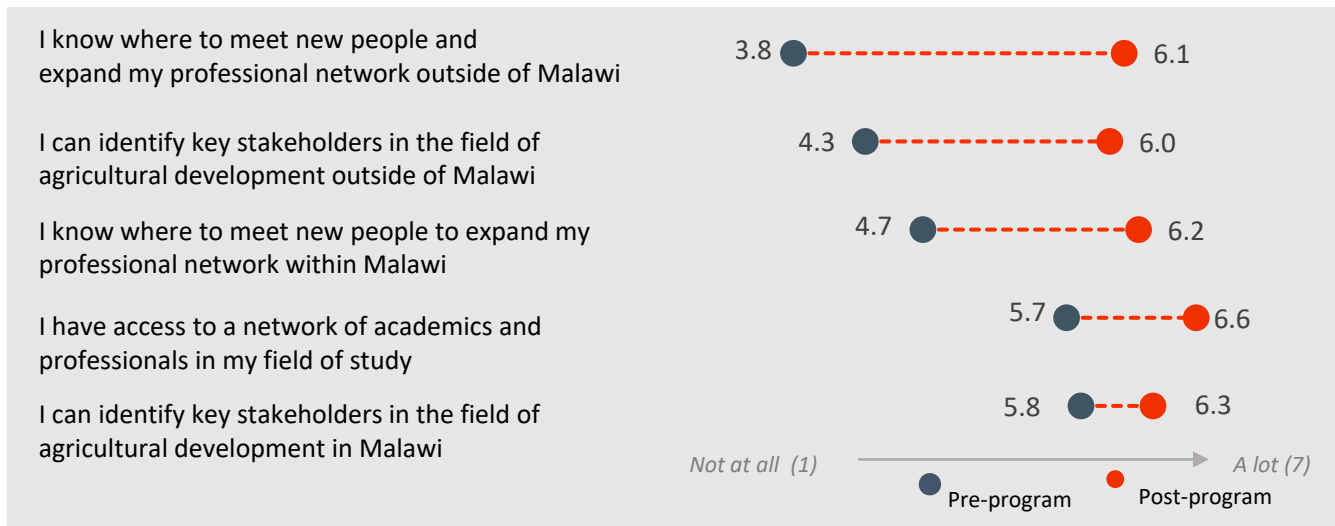


Photo credit: Mervis Chikafa, ATI FSF Scholar

“The network connections established during my master’s scholarship program will open doors to various professional opportunities. These connections including professors, industry experts, fellow scholars, and alumni who provide valuable insights, advice, and potential collaborations. Such connections will lead to research partnerships, and participation in conferences or workshops, enhancing one’s professional growth and career prospects”.—ATI FSF Scholar



Photo credit: Bernard Musewu, ATI FSF Scholar

“The ATI FSF Program has provided me with a valuable platform to engage academically with fellow scholars. Through this program, I have had the opportunity to interact with like-minded individuals, forging connections that I will truly treasure. The program’s emphasis on collaboration and intellectual exchange has enabled me to build a network of colleagues who share my passion for learning and research.” – ATI FSF Scholar

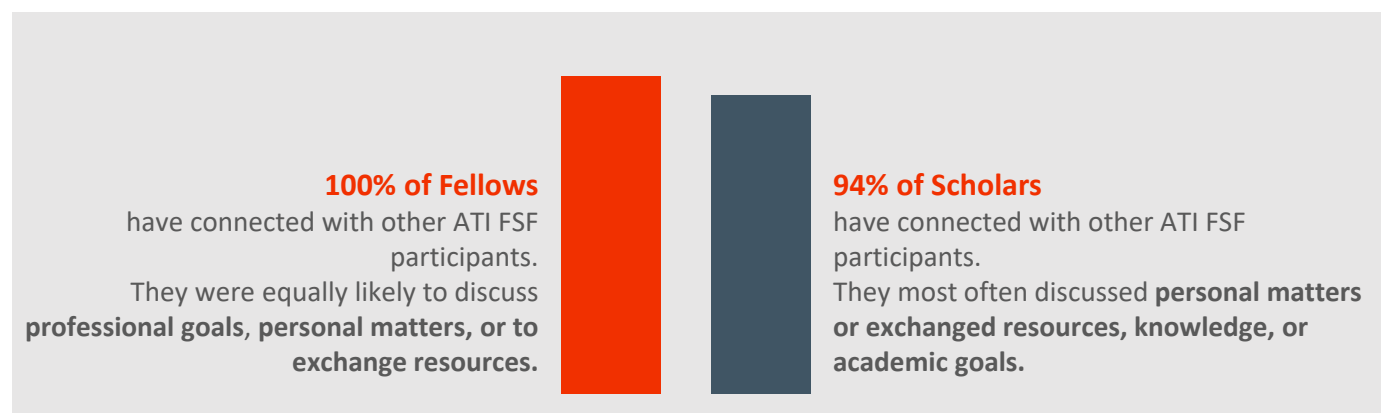
Networks and Collaborations

Approaching Malawi's dependence on tobacco through a systems-change strategy requires allocating resources across sectors, involving seasoned professionals, experienced academics, local populations, and emerging scholars. Collaboration is necessary to create and maintain sustainable and transformational change. The ATI FSF Program provided opportunities for Scholars and Fellows to engage in internal networks with peers in the Program and to build external networks with host institution colleagues and leaders in their fields.

Networks of ATI FSF Scholars and Fellows

Showing a significant increase from the ATI FSF Program's first year, 100% of Fellows and Scholars have connected with other participants since starting their experience. They equally discussed their personal matters and professional goals (86% each) and exchanged resources and knowledge (81%). Scholars most often reached out to each other to discuss personal matters (93%), exchange resources or expertise (87%), and academic goals (80%). Fellows were likely to connect to discuss academic or professional (100%) and personal matters (67%) and to exchange resources and knowledge (67%). Four Scholars applied for funding together, and 52% of Scholars and Fellows studied and worked on a project together (24%). Networks with other ATI FSF participants proved to be an area of potential for Scholars and Fellows to expand their networks and learn from one another. While 94% of Scholars had at least an acquaintance in the Program, 53% had one or more very close personal or professional relationships with other scholars, up from 38% in the Program's first year. All Fellows had relationships with each other, and 67% had at least an acquaintance among the Scholars.

Figure 7. Internal Networks and Topics of Connection



"The network connections I made during the ATI FSF experience are expected to have a positive and transformative impact on both my personal and professional life. They will open doors to new opportunities, foster knowledge sharing, provide support, and contribute to my overall growth and development. I am excited about the potential these connections hold and look forward to leveraging them to achieve my goals and aspirations. – ATI FSF Scholar

"Beyond my short-term engagements with the World Bank, I foresee myself securing a research/teaching position at a university and building a research group - particularly with regards to dealing with incomplete markets and information asymmetries that characterize tobacco farming in Malawi and beyond!" – ATI FSF Fellow

ATI FSF Impact and Sustainability

With the culmination of the ATI FSF Program, this section looks forward to the impact of ATI FSF's investment in individuals who are actively furthering sustainable agriculture pathways in Malawi. We discuss here knowledge products created by ATI FSF Scholars and Fellows and collaborations they are undergoing, their sustained work on research projects begun during the ATI FSF Program, and sustainable activities through their current status and next professional steps.

Knowledge Production

Since starting the ATI FSF Program, nearly three-quarters of Scholars and Fellows (71%) have collectively produced more than **75 knowledge products and projects** (see selection in [Appendix C](#)). All Fellows and more than two-thirds of Scholars have created at least one knowledge product or project. These have included articles, blog posts, conference presentations, academic lectures, workshops, project evaluation, and curriculum development. 60% of respondents indicated that they have continued to produce knowledge products since ATI FSF.

Most Scholars and Fellows have collaborated with colleagues at their host institutions, academics, and professionals at other institutions to produce these works.

Products	
Reports	13
Conference presentations (panels, posters)	8
Non peer-reviewed articles	8
Peer-reviewed academic articles	9
Project evaluations	4
Curriculum development projects	3
Blog posts published	3
Patents	1
Policy papers	1

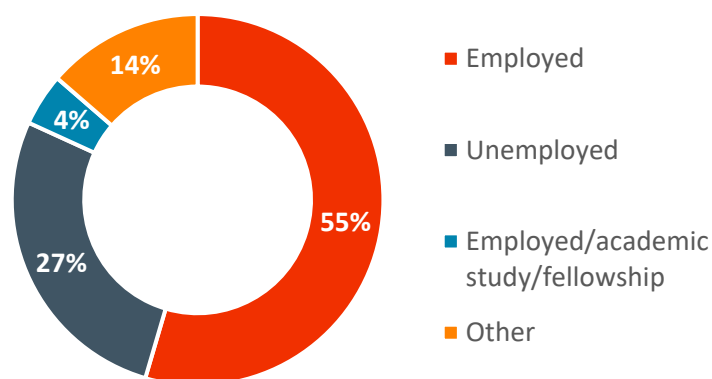
Outside of the categories explicitly queried in surveys, Scholars and Fellows also detailed further collaborations with their host institution colleagues, schools, and university students. These collaborations ranged from research projects to trainings or talks about the future of the field of agriculture. Scholars and Fellows also delivered non-academic lectures, supported efforts of local communities to move away from tobacco production, and produced community resources in Malawi (e.g., informational pamphlets, handouts, and communications). Besides producing knowledge and training farmers to transition from tobacco production, some Scholars and Fellows have also advocated for policy change regarding agricultural transition away from tobacco production, consulting and advocating with government agencies and non-profit organizations.

67% of ATI FSF Scholars and Fellows pursued research projects as part of their Program, and 43% of respondents noted that they have continued these projects since Program completion. The ATI FSF Program paved the way for Fellows and Scholars to make new connections with other peers in their field of expertise inside Malawi and outside where they were doing their Fellowship and Scholarship. This opportunity allowed them to build and expand their collaborations with other researchers.

Activities Since the ATI FSF Program

The ATI FSF Program provided opportunities for Scholars and Fellows to further their professional pathways. Since Program completion, 55% of ATI FSF Scholars and Fellows reported being employed. All Fellows and 44% of Scholars were employed, indicating a difference among those who received the Scholarship or Fellowship. ATI Scholars were pursuing master's degrees, and as the survey was administered in June 2023, shortly after their studies ended, their employment status will likely change as they seek full-time employment. Four ATI Scholars reported continuing to full-time doctorate studies. Of the employed respondents, 75% returned to their former place of work.

Figure 8. Current Status of ATI FSF Scholars and Fellows



Employment during ATI FSF Program. Most ATI FSF Scholars and Fellows were employed throughout their experience, ranging from 1 job (14) to 2+ jobs (4). Most were graduate teaching assistants (67%), while a lesser percentage had an additional job outside the host institution location (22%). Interestingly, most respondents pursued this employment to gain work experience in their field (72%). Still, an equal amount felt that this employment was essential to supplement their ATI FSF stipend (61%).

Professional Successes

As mentioned, it is plausible that the impacts of the ATI FSF Program will continue to grow as Scholars and Fellows return to their organizations and new ones, and begin to apply the knowledge, skills, and research they completed during the Program. There is preliminary evidence of the professional impacts of the ATI FSF Program on Scholars and Fellows, particularly those who completed the Program in 2022:

- **81% of respondents** mentioned the ATI FSF Program on their CV or resume
- **3 respondents** have been awarded a new research program or grant
- **2 respondents** have been awarded an additional fellowship or scholarship
- **1 respondent** received an honor or award in their areas of expertise or field

Most notably, Scholars and Fellows have shared how they are continuing and contributing their work to support sustained agriculture pathways in Malawi. Several of these alumni impact stories are included on the next page.



“Sweet potato is among the most important food crops in the world and an extremely important food crop for subsistence farmers in sub-Saharan Africa (SSA) including Malawi...It is... neglected but essential in addressing food insecurity issues in Africa and low-income countries...I am interested in working on the sweet potato to produce high-value food ingredients/products using advanced low-cost food processing technologies. By doing so, the aim is to increase utilization of sweet potatoes and offer the growers a market for sweet potatoes while providing food companies and consumers with a premium sweet potato flour that is nutrient-rich, shelf-stable, and functional.”

- Peter Ephraim, ATI FSF Scholar

Photo credit: Peter Ephraim, ATI FSF Scholar.

“Agricultural commercialization, mechanization, and access to farm inputs are challenges farmers face leading to low agricultural production. This has led to increased levels of food insecurity and poverty. The picture was captured during my field visit to one of the rice irrigation schemes in Malawi. It shows a smallholder farmer cultivating a rice field using drought animals. The picture tries to capture problems with mechanizing agricultural farming in Malawi that have led to low production.”

- Bernard Musewu, ATI FSF Scholar



Photo credit: Bernard Musewu, ATI FSF Scholar.



Photo credit: Kenani Chiwina, ATI FSF Scholar.

These photos were taken during a Field Supervision of some farmers I have been working with before, during, and after the ATI FSF Program. These farmers changed their enterprise from tobacco to horticultural crop production two years ago. I started implementing a sustainable horticultural production program supported by the Ministry of Agriculture in 2020, in which I trained some farmers on various horticultural value chains, including banana production. We started with one individual farmer, and one farmer club was supported with 200 banana seedlings. There is progress because these farmers have expanded their banana orchards, and they have almost 2 hectares of bananas.”

- Kenani Chiwina, ATI FSF Scholar

Conclusion

The ATI FSF Fellowship and Scholarship Fund provided meaningful opportunities for emerging African researchers to develop their skills and practice in the field of agricultural transformation. For Scholars, the chance to study at institutions in the United States and South Africa exposed them to new cultures, ideas, innovations, and ways of approaching challenges. For Fellows, the opportunity to conduct research with host institution supervisors built upon their networks and enabled them to deepen their knowledge in niche fields of study. Participants increased technical skills related to conducting research and analysis, writing reports, and engineering data collection instruments. They also increased their confidence and solidified their beliefs in supporting smallholder farmers in shifting away from tobacco production. The combination of experience, skill growth, and networking set Scholars and Fellows up to enact systems-level change at the core of the Agricultural Transformation Initiative.



Photo credit: Rachel Mthiko, ATI FSF Scholar

Acknowledgments

IIE would like to thank the Foundation for a Smoke-Free World and its affiliate, the Agricultural Transformation Initiative, for supporting and collaborating with us on the ATI FSF Program and this evaluation. At IIE, the Program was overseen by Jeremy Coats and Mary McKey, who provided ongoing programmatic support to the ATI FSF Scholars and Fellows and the REL team. Evgenia Valuy and Mirka Martel oversaw the evaluation work with support from team members Shanna Kirgan, Shelby Andersen-Holt, and Ayoub Zareie. We want to thank our colleagues and the ATI FSF Scholars and Fellows who contributed to the evaluation through their surveys, interviews, and focus groups.

Appendix A

ATI FSF Program Evaluation Questions

Goal	Selected Questions
1. Evaluate the Program's progress in enhancing knowledge capacity and networks of ATI FSF Scholars and Fellows.	How has the Program supported ATI FSF Scholars and Fellows gaining new technical knowledge and skills? What knowledge and skills did they gain or improve in?
	How did the Program support network development of ATI FSF Scholars and Fellows with each other, other ATI FSF-supported organizations, and other organizations in agriculture-related fields?
2. Evaluate the sustainability of the ATI FSF Program impact.	What was the value of the ATI FSF Fellows' postdoctoral research to Malawi's ability to transform its agriculture to move away from tobacco production?
	How, if at all, have ATI FSF Scholars and Fellows been able to transfer their knowledge, skills, and networks to their institutions or organizations during or after Program completion? How did the institutions and organizations change their practices as a result?
	How did ATI FSF Scholars and Fellows maintain their communication with each other upon completion of their respective Programs? What was the value of the communication to them and to the Malawi agriculture field?
	How did ATI FSF Scholars and Fellows work with other organizations and projects supported by the ATI FSF? Were ATI FSF Scholars and Fellows able to form long-term partnerships, such as research or project collaborations, with these organizations or other organizations related to the Program mission?
3. Provide recommendations to the ATI FSF Program on how to strengthen Program activities to add more value and catalyze greater Program impact.	Which specific aspects of the Program were most successful?
	Were there any challenges that arose during Program implementation and if so, how were they addressed?
	Which Program aspects could be improved? What were the missing components or gaps that should be addressed or strengthened?
	Which success factors could serve as a model for other programs with similar goals, and what factors should be accounted for in advance when implementing a similar program?

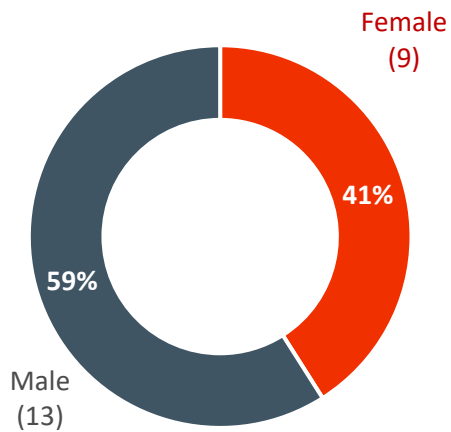
Appendix B

Respondent Profile

Program Type



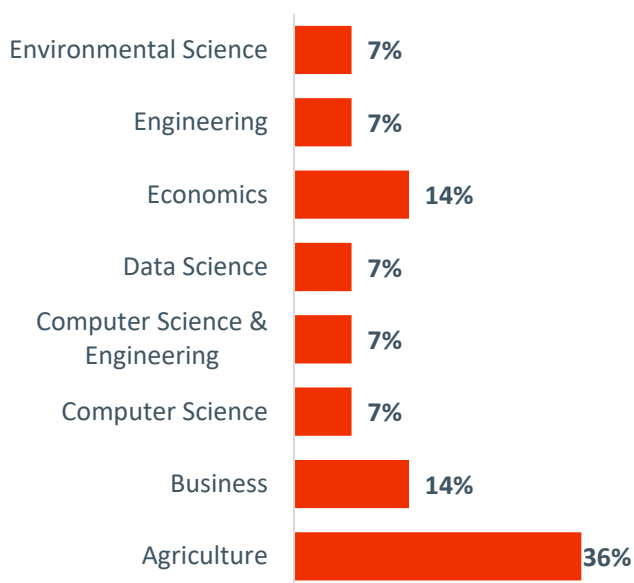
Gender



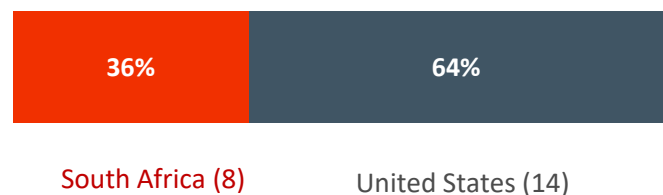
Host Institutions

Host Institution	n	%
Michigan State University	5	22.5%
Stellenbosch University	4	18%
University of Arkansas	4	18%
North Carolina State University	2	9%
Rochester Institute of Technology	2	9%
Centre for Agricultural Transformation	1	4.5%
University of Illinois-UC	1	4.5%
University of Kentucky	1	4.5%
University of Pretoria	1	4.5%
University of the Witwatersrand	1	4.5%

Program of Study



Host Country



Appendix C

Select Knowledge Products by ATI FSF Scholars and Fellows

Chikafa, M., Nejadhashemi, A. P., Moller, K., Razavi, H., Bizimana, J.C. (2023). Multidimensional evaluation of the impacts of agricultural interventions to achieve food security in Malawi, *Food and Energy Security*, 12(4). <https://doi.org/10.1002/fes3.486> [Peer-reviewed academic article]

Chingozha, T. (2021, August). *Climate shocks, food Security and tobacco farming in Malawi*. ResearchGate. https://www.researchgate.net/publication/353922547_Climate_Shocks_Food_Security_and_Tobacco_Farming_in_Malawi. <https://doi.org/10.13140/RG.2.2.25277.59360> [Non peer-reviewed academic article]

Chingozha, T.(2022, March). “It is no longer an auction”: Perspectives of Zimbabwean tobacco farmers on why they still grow tobacco. *Medium*. <https://medium.com/@tchingozha/it-is-no-longer-an-auction-perspectives-of-zimbabwean-tobacco-farmers-on-why-they-grow-tobacco-9512feccf56c> [ATI FSF-related blog]

Chunga, B. A., Marx, W., Cai, X., de Clercq, W., Watson, A., & Malota, M. (2023). Water allocation using system dynamic modeling in the aquaculture integrated with small-scale irrigation systems in Malawi. *Physics and Chemistry of the Earth, Parts A/B/C*, 129, 103355. <https://doi.org/10.1016/j.pce.2022.103355> [Peer-reviewed academic article]

Makawa P., Theresa, G.(2022, July 31). *Wide association study of yield-related traits in sugarcane*. American Society for Horticultural Science Annual 2022 Conference, Chicago, IL, United States. [Conference presentation]

Nkhata, G.(2023, April). *Movie reviews sentiment analysis using BERT*. The Fifteenth International Conference on Information, Process, and Knowledge Management eKNOW 2023, Venice, Italy. [Conference presentation]

Vellemu, E. C., Katonda, V., Yapuwa, H., Msuku, G., Nkhoma, S., Makwakwa, C., Kingston,S., & Maluwa, A. (2021). Using the Mavic 2 Pro drone for basic water quality assessment. *Scientific African*, 14. <https://doi.org/10.1016/j.sciaf.2021.e00979> [Peer-reviewed academic article]