The 23rd Annual

STUDENT MULTIDISCIPLINARY APPLIED RESEARCH TEAMS (SMART) SYMPOSIUM

TUESDAY • APRIL 16 • 2024
5:30PM
STATLER HOTEL - TAYLOR & ROWE ROOM
ABOUT SMART

The Student Multidisciplinary Applied Research Teams (SMART) Program is an international community-engaged learning program. SMART brings undergraduate and graduate students from various departments and programs across the university to solve a real-life challenge faced by SMEs and community organizations in emerging market economies around the world. Over the last 22 years, SMART has engaged students in 131 projects across 27 countries and 107 community partners.

PROGRAM OBJECTIVES

- Provides students with innovative, immersive learning experiences working with underserved businesses and community organizations in developing economies and emerging markets.
- Promotes greater student understanding of the challenges faced by emerging markets and SMEs and the role of business and business tools in private and public sector-led economic development.
- Improves students’ analytical, problem-solving, and research abilities.
- Provides technical and analytical assistance to underserved businesses and communities, stimulating grassroots business success that furthers sustainable, macroeconomic development.

HOW DOES SMART WORK?

SMART projects are anchored in a year-long curriculum that includes training and mentoring in field research methods (AEM 4415/5415), Research and strategy (AEM 4421/5421). Starting with a specific need (SMART challenge) identified by an international partner, SMART fellows work on well-defined assignments that challenge them to apply classroom knowledge and skills in real-world international development settings. Beyond providing technical assistance, the teams develop publishable case studies, policy briefs, and other materials that enrich learning in university classrooms and executive education programs. Students contribute technical assistance and analytical support, present their research and analyses, and then return to Cornell to develop publishable case studies, research papers and other materials to enrich learning in university classrooms and executive education programs.

LEARN MORE ABOUT SMART

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https://emergingmarkets.dyson.cornell.edu/smart/
E&E Green Farm is a new woman-owned seeds company engaged primarily in seed production, distribution, and extension. The company is registered under the Rwanda Development Board (RDB) and licensed by the Rwanda Inspectorate Competition and Consumer Protection Authority (RICA). The company currently operates two farms located in Gatsibo District (about 65km from Kigali) and Nyagatare District (120km from Kigali) and specializes in the multiplication of hybrid maize, soybean, high iron beans, and other biofortified seeds that are sold in both local (Farmers, Agro-dealers, NGOs, and farmer cooperatives) and export markets (Tanzania and other African countries).

The SMART Challenge

As a woman and youth development-focused company, E&E Green Farms works with various partners, such as the Rwanda Ministry of Agriculture, Rwanda Agriculture Board, National Agriculture Export Board, Clinton Development Initiative, CIAT, Western Seeds, African Improved Food, and Agro-processing Industry. Likewise, it offers extension services that support seed production and distribution. As a young organization with limited personnel, the founder is looking to engage other youth innovatively through the use of social media and a company website. Building on last year’s SMART project which developed E&E Green Farm’s Social media marketing plan, this year’s team needs to:

1. Develop social media content that promotes knowledge on basic and certified seed production, standards, and policies
2. Design and roll out a website that promotes company awareness and engagement

SMART Fellows

Muhammad Hani Ahsan  
Master of Public Administration  
Brooks School of Public Policy

Stephy Chen  
Bachelor of Arts in Information Science and Government  
College of Arts and Science

Abbie Jobe  
Bachelor of Arts in Agricultural Science  
College of Agriculture and Life Sciences

Lucas Yu  
Master of Science in Applied Economics and Management  
Dyson School of Applied Economics

Faculty & Project Leads

Dr. Fridah Mubichi-Kut  
Executive Director SMART (Student Multidisciplinary Applied Research Teams)  
Dyson School of Applied Economics and Management  
Cornell University

Hongdi Zhao  
PhD Student  
Dyson School of Applied Economics and Management
Apiculture is promoted as an important sustainable income diversification enterprise that complements crop and livestock farming in Rwanda. Rwanda is among the largest producer of honey in Africa and yet its production remains limited primarily due to limited information, resources, and practices. The Rwanda Agriculture and Animal Resources Development Board (RAB), Department of Animal Resources Innovation and Technology Transfer has established a national beekeeping program with the aim of promoting sustainable beekeeping practices to smallholder farmers. Building on a January 2023 pilot study that assessed information networks for beekeepers in eastern Rwanda, and a recent value chain assessment that further suggests that beekeeping practices and adoption of modern technologies are slowed by limited access to knowledge, this year's project team needs to collect information that empirically informs the development of farmer field schools and resources.

**The SMART Challenge**

Design and conduct a multidisciplinary empirical study that will assist RAB in establishing: (I) a Rwanda beekeeping model, (II) a pilot apiculture farmer field school (FFS) that can be scaled nationally. To achieve this, the SMART team will need to:

1. Survey and model information networks accessed by beekeepers to identify prominent farmers who could be trained and supported as lead farmers
2. Identify and evaluate existing beekeeping training materials currently distributed and promoted by various stakeholders
3. Develop a Rwanda beekeeping model that promotes beekeeping versus bee hunting

### SMART Fellows

- **Rajat Acharjee**
  - Bachelor of Science in Applied Economics and Management
  - Dyson School of Applied Economics
- **Molly Corley**
  - Master of Public Administration
  - Brooks School of Public Policy
- **Bohua Duan**
  - Master of Science in Applied Economics and Management
  - Dyson School of Applied Economics
- **Yuhan Zhong**
  - Master of Professional Studies in Management
  - SC Johnson College of Business

### Faculty & Project Leads

- **Dr. Fridah Mubichi-Kut**
  - Professor of Practice
  - Executive Director SMART (Student Multidisciplinary Applied Research Teams)
  - Dyson School of Applied Economics and Management
  - Cornell University
- **David Sossa**
  - Technician IV, McArt Lab
  - Department of Entomology
  - Cornell University
The Rwanda apiculture sector has over the years been shaped by multiple stakeholders who often have varying goals. The Rwanda Agriculture and Animal Resources Development Board (RAB), Department of Animal Resources Innovation and Technology Transfer, has established a national beekeeping program with the aim of promoting collaboration with research institutions; facilitating more public-private research initiatives; identifying new business opportunities; and providing technical support among others.

The SMART Challenge

Working closely with ROBEEC (a private company) focused on the development of ethical beekeeping practices, SMART needs to identify and design a public-private partnerships (PPP) framework that RAB could use in harmonizing the various existing stakeholders to promote research, sustainable production and markets. To achieve this, the SMART team needs to:

1. Identify and map out key stakeholders in the apiculture value chain
2. Identify strategies that might be adopted to promote public-private partnerships (PPP)
3. Supports the development of extension, research, and training that promote ethical and sustainable beekeeping opportunities in Rwanda

SMART Fellows

- Grace Dorward
  Bachelor of Science in Global Development
  College of Agriculture and Life Sciences
- Rhealynn Tanwangco Ravarra
  Master of Professional Studies in Global Development
  College of Agriculture and Life Sciences
- Arya Shekarandaz
  Master of Public Administration
  Brooks School of Public Policy

Faculty & Project Leads

- Dr. Fridah Mubichi-Kut
  Professor of Practice
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  Dyson School of Applied Economics and Management
  Cornell University
- David Sossa
  Technician IV, McArt Lab
  Department of Entomology
  Cornell University
Rural Farmers Hub (RFH) is a private agriculture extension startup using innovative, web-based technology to fill the extension worker gap in Nigeria. The company developed a flagship product, known as CaptureTM, which processes satellite data using a proprietary algorithm to automatically generate personalized recommendations for farmers to improve their crop yields.

The SMART Challenge

RFH is struggling to meet its sales target and therefore the company executives are exploring strategies that can help increase sales and grow the company. More specifically, they need to know, what might be the most appropriate strategy for RFH to increase sales and grow the company’s revenue. To achieve this, the SMART team needs to assist in:

1. Developing the most appropriate strategy for RFH to increase sales and grow the company’s revenue
2. Determining the ideal prospect and strategy to entering a new emerging market(s) in Nigeria

SMART Fellows

Abdullah Jehanzeb  
Master of Professional Studies  
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Miranda Price  
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Faculty & Project Leads

José Miguel Maldonado  
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Dr. Edward Mabaya  
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Department of Global Development  
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John B. (JB) Babadara  
Fulbright Fellow  
Agrifoods System  
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Achieving gender equality and the empowerment of women and girls is an integral part of the Sustainable Development Goals (SDGs) agreed upon by governments across the world. However, evidence shows that there still exists a significant gender gap in the labor market including labor force participation and employment, as well as earnings, across most developing countries, particularly the Sub-Sahara Africa (SSA) region. In recent ILO studies (2022 & 2023), the gender gap in labor force participation for individuals aged 25-54 years was 29.2 percentage points. Female participation was much lower (61.4%) compared to male participation (90.6%) primarily due to early marriage.

Investigating the Effects of Child Brides in Nigeria’s Labor Market

The SMART Challenge

Nigeria has the highest number of child brides in Africa with about 22 million girls getting married before the age of 18. This is of increasing concern as evidence shows that girls who get married before the age of 18 are more likely to be out of school, experience domestic violence, and have an increased likelihood of complications from pregnancy and childbirth (a leading cause of death for girls aged 15-19 years). However, knowledge of the effects of early marriages on women’s participation in Nigeria’s labor market remains limited. Dr. Osadolor is currently looking to develop a community-based intervention along with policy recommendations that her NGO, Girls’ Power Initiative (GPI), can adopt. To achieve this, the SMART research team needs to assist in:

1. Conducting a comprehensive literature review to understand the existing research on early marriage, gender equality, and labor market outcomes in Nigeria and other emerging economies
2. Reviewing existing policies and legal frameworks related to child marriage in Nigeria
3. Data mining, cleaning, modeling, and analysis of the 2013 and 2018 Demographic and Health Surveys for Nigeria to analyze the relationship between the age of marriage and three primary labor market outcomes
4. Formulating policy recommendations, e.g. education programs, community engagement strategies, and economic empowerment initiatives that GPI could adopt to address early child marriage in Nigeria
Ghana, a Low-Income Developing Country, had a rural population of 43% in 2020 with a ratio of 1:18, 257 doctors to patients in rural areas compared to 1:4, 099 in urban regions. The OKB Hope Foundation (OKB), was founded by Osei K. Boateng, a Cornell alumnus and recently nominated as a CNN Hero. Osei is keen on improving healthcare outcomes in rural areas of Ghana by increasing access to quality healthcare services. In February 2022, OKB launched its first Hope Health Van equipped with medical equipment and supplies, an electronic medical record system, and five healthcare providers to provide healthcare services to low-income communities. Today, the Health van has served over 5,000 individuals in 52 rural communities by providing them with health assessments and medications.

The SMART Challenge
Access to finance alone slows individual ability to seek and access medical services. To address this, OKB is interested in developing a community-based health insurance (CBHI) for rural households in Central Ghana. The desired CBHI product will be a micro health insurance that would enable community members to pool funds that will offset costs for basic healthcare services and cover out-of-pocket costs. Knowing that introducing health insurance can be a complex process consisting of several phases, OKB needs assistance in developing a baseline study that will determine:

1. Community members’ perceptions regarding CBHI
2. Willingness to participate in a CBHI scheme
In Ghana, the pursuit of good health often entails engaging with a variety of healing approaches, which encompass indigenous beliefs, faith-based practices, and modern biomedical healthcare systems. Recognizing the important role faith healers play in the promotion of public health, OKB Hope Foundation is keen to identify strategies through which they can collaboratively work with faith healers to promote access to medical care to lower mortality rates that arise from chronic non-communicable diseases (e.g., Strokes, diabetes) and infections (e.g., Malaria, respiratory disease & HIV).

The SMART Challenge
OKB needs assistance in designing and conducting a field study that will allow the organization’s leadership and care providers to answer the following questions:

1. What are the community members’ health-seeking behaviors in Kumasi?
2. What role faith healers play in promoting access to medical care, as well as their perceptions towards use and adoption of community-based health insurance (CBHI)?

SMART Fellows

Caled Al-Adsani
Master of Public Administration
Brooks School of Public Policy

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College of Veterinary Medicine

Sierra Kinsler
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Inspired by the 1955 Bandung Conference, the first Asian-African conference, Cornell professors of emerging markets, private sector players, and Indonesian government officials are planning to organize an international conference to facilitate a South-South dialogue across national and continental boundaries to explore ways in which small and medium enterprises (SMEs) in the Global South can engage with each other and more fully participate in the benefits of global markets. International organizations have long used the term “South-South cooperation” to refer to collaboration among developing countries. Under the aegis of South-South cooperation, many laudable initiatives involving collaboration between governments, government agencies, and public institutions have emerged. South-South interactions and transactions in various private sector industries, particularly amongst SMEs, are taking place every day but with less fanfare in the media, in policy circles, and in academic research. The Future of SMEs: A South-South Dialogue is intended to be a forum to highlight private sector South-South interactions and trends, focusing on the food, natural resources, service, and tech industries. The event is designed to acquaint SMEs to growing South-South market opportunities; to extend the conversation about African-Asian economic connections beyond bilateral treaties and relationships; to draw attention to the underlying forces and trends in South-South trade; and to facilitate dialogue among entrepreneurs and policymakers on how best to influence regional cooperation to enhance economic development.

The SMART Challenge

With the goal of hosting an international dialogue in Indonesia in late 2024 or early 2025, a major effort is needed to organize the participation of international agencies and private sector players. A secretariat (or some other organizational model) will need to be established to implement day-to-day activities. Students will be tasked with researching and writing a report that addresses the following questions:

1. What organizational models are available for planning and implementing such a South-South conference?
2. What are the underlying trends in SME contribution to economic development in selected Asian and African countries?
3. What are the best practices in creating an enabling environment for SMEs?
4. Who are the innovators in South-South cooperation, product development, and knowledge exchange?