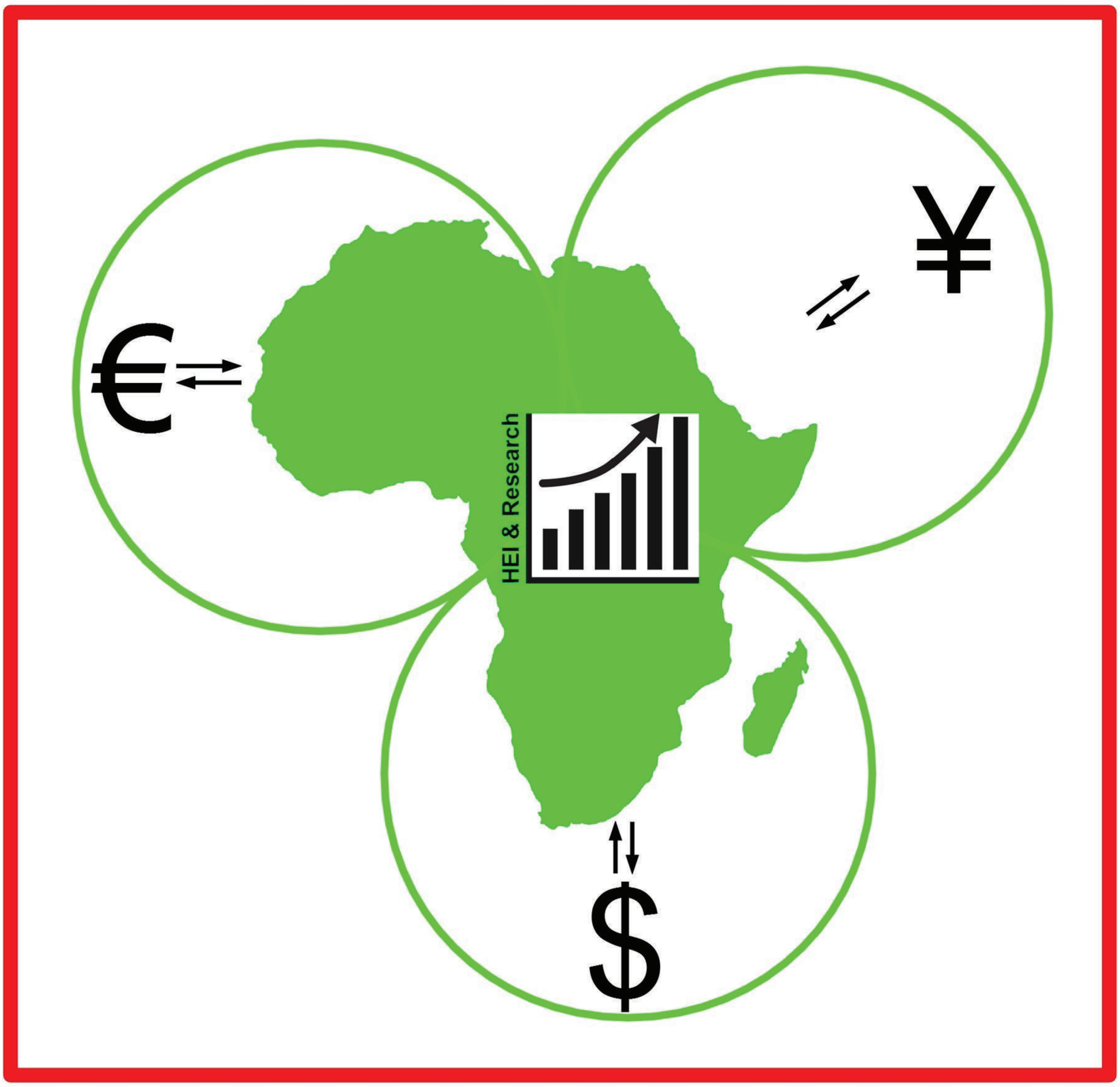
South Africa

To Improve Higher Educational Institutions & Research in Africa, there is need for Localisation and Sustainable Development of International Funding Structures



Study highlights…

- A lack or shortage of funding for PhD scholarship and institutional research in higher educational institutions (HEIs) based in Africa is identified.
- Some fallouts such as brain drain, poor research output and depreciating PhD supervisory capacity are prioritised and discussed.
- One recommendation is that, existing huge research funding potentials from willing international funding agencies should be aligned to local political mandates and societal needs to promote the sustainable development of HEIs and research in Africa.

crest Centre for Research on Evaluation, Science and Technology

#K4SD 2019 GLOBAL DEVELOPMENT CONFERENCE Knowledge for Sustainable Development: the Research-Policy Nexus Bonn, Germany | 23-25 October 2019

UNIVERSITEIT iYUNIVESITHI STELLENBOSCH UNIVERSITY 100 1918·2018

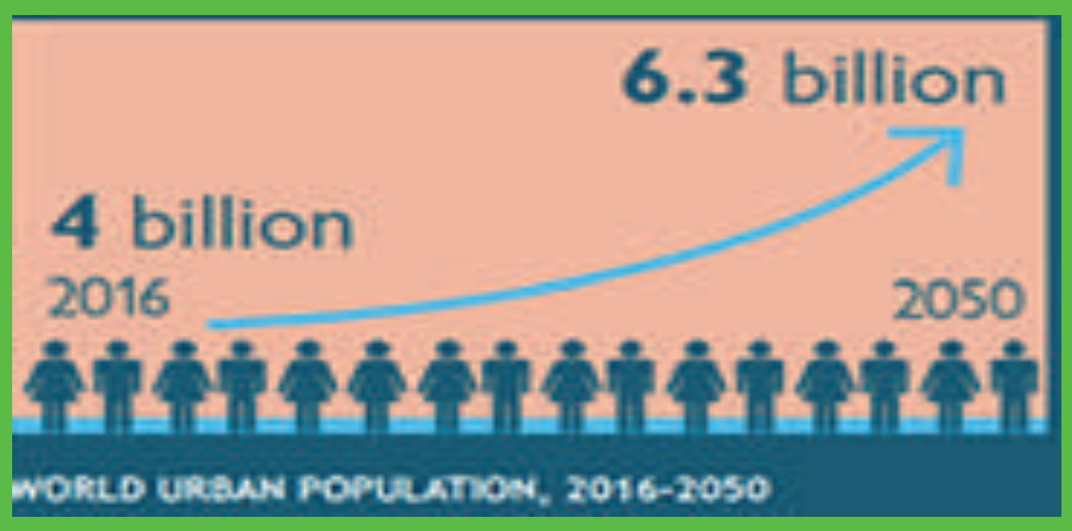
University of Nigeria to restore the dignity of man

Akuru, Udochukwu Bola. 2019. "Research Funding Issues in African Universities: Penalties and Pathways." A paper presented at the 19th Global Development Conference on 'Knowledge for Development: The Research-Policy Nexus', Bonn, Germany, 23-25 October. The author is currently at Stellenbosch University, South Africa, on leave from University of Nigeria, Nsukka.

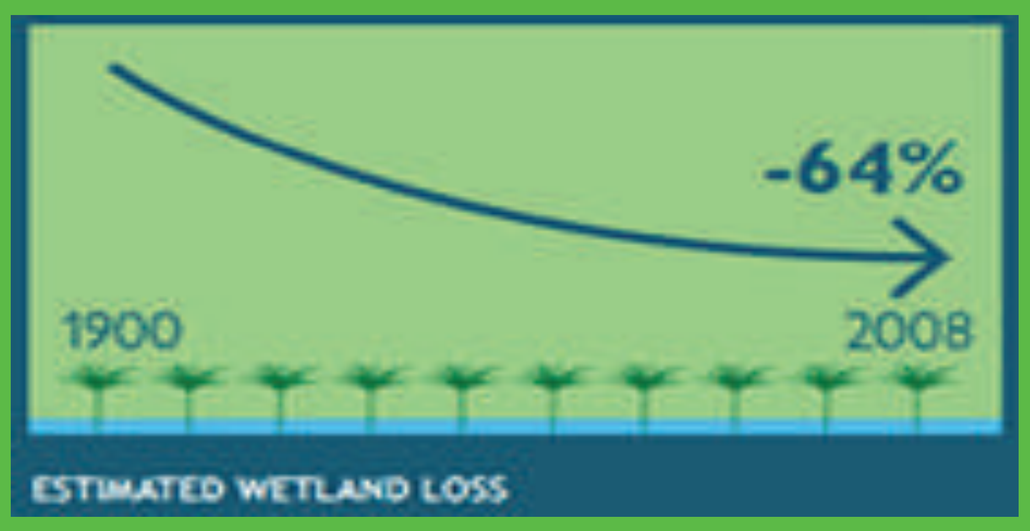
ZIMBABWE

Urban Wetlands: Prized land not Wastelands

While cities are GROWING
More than 60% population live in urban areas today.



Wetlands are DECLINING
More than 70% of the world's wetlands have been lost



As demand for land increases, institutions (Governments) tend to encroach wetlands despite environmental policies to conserve them

Filling in wetlands disruptsnatural water provision

Burning or draining wetlands releases CO2

Dumping rubbish degrades natural green spaces

Clearing wetlands exposes city coastlines to storms and floods.

To make cities sustainable in the future: retain, restore and conserve wetlands

- **Include wetlands in urban land use planning**
- **Involve local residents in wetland management**
- **Institutional reform by creating conversations between governments and environmentalists to facilitate wetland conservation while building new urban spaces.**
- **Conserve and restore urban wetlands**

Trish Gombe, "Profit versus environmentalism: A study of Policies and Institutional framework affecting wetland management and conservation in Harare," University of Zimbabwe.

Image credits: Trish Gombe; www.flicker.com; www.pindula.com

Exploring the feasibility of private micro flood insurance provision in Bangladesh

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Bangladesh

Introduction

Disaster Insurance is now recommended as an effective risk sharing tool in both developed and developing countries. As Bangladesh is one of the most flood prone country, this study evaluates the institutional and organizational framework for implementation of such flood insurance in insurance market of Bangladesh.

- Aims to illustrate the feasibility of the provision of micro flood insurance in Bangladesh and evaluate the institutional and organizational framework towards implementation

Methods

A Sociological triangulation method was followed to complete this study. Both qualitative and quantitative as well as primary and secondary data were used.

Primary Data

- A household survey was conducted and 2,400 household was interviewed aiming to know the sufferings and perception to micro-insurance.
- FGDs, KIIs and Case studies for To determine the features of insurance

Secondary data

- Investigating the existing literature.

Geographic location of Study area
(Most flood affected 5 district of Bangladesh

Data Analysis

Significant positive relationship (Chi square = 23.28, p<0.001) between respondents' level of insurance familiarity and their decision to participate in the insurance scheme [See Figure A]-

In Figure A-

- There is a significant positive correlation between education and insurance familiarity (r = 0.216; p<0.001)
- Respondents refuses to participate in the insurance scheme due to income constraints earned $822/year.
- Respondents refuses to take part for other reasons- yearly income USD 1,601.

Note: Income group will be shown by additional document

Chart A – Cross tabulation: familiarity vs decision

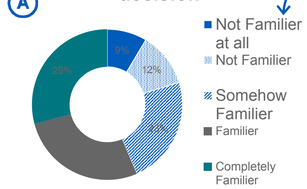


Figure A: Respondents who WTB insurance are 22% not familiar

Chart B - Mean WTP of for three insurance schemes

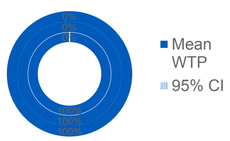


Chart C – Commercial Viability

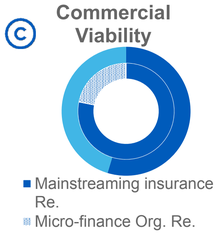
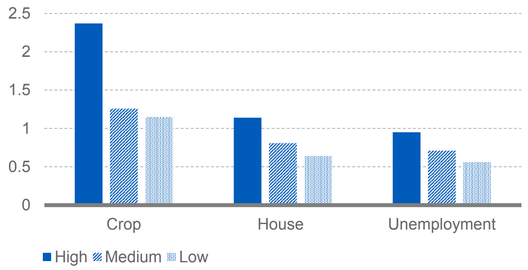


Table-A: Financial Viability under PA Model

Flood probability		High		Medium		Low	
Interest rate		5%	10%	5%	10%	5%	**10%**
		(A+I)/P	(A+I)/P	(A+I)/P	(A+I)/P	(A+I)/P	**(A+I)/P**
Insurance product property	Crop	2.24	2.03	1.32	1.12	1.02	**0.82**
	House	0.97	0.88	0.60	0.51	0.47	**0.39**
Unemployment		0.77	0.71	0.48	0.42	0.39	**0.32**

A+ $2
PA= Partner-Agent [Insurance companies and microcredit providers collaborate to offer the insurance schemes jointly. Generally, insurance companies bear the full risk, while micro-credit providers carry out most of the field-level operational and administration work through their established client network (Cohen and McCord, 2003)]

Chart D – Financial Viability Under FS Model



Interest rate- 5%
Administrative cost- $6/year
Equitation- (A+I)/P

Results and Discussion

The in-depth interviews revealed that the majority of the key informants from both mainstream insurance companies and micro-finance organizations agreed that neither entity should offer micro-insurance on their own [See Figure-E].

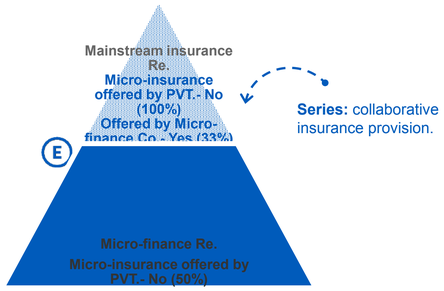
A. Floodplain residents' WTP is highest for crop insurance, followed by property insurance and then unemployment insurance. Mean WTP for crop insurance is USD 0.60 per household per week, USD 0.45 per week for house insurance and USD 0.43 per week for unemployment insurance [See Figure-B].

B. Several micro-credit providers said that they had been thinking about providing micro-insurance for crops even If premium rate for such insurance is too low to ensure financial viability. In contrast, the mainstream private insurance companies pointed to a classic motivation of profit maximization [See Figure-C].

C. Finally, it appeared that the two players, micro-credit and private insurance were unwilling to cooperate with each other.

D. Mainstream private insurers have financial power whereas the micro-credit providers have access to a large client base. Combining these two strengths may result in a win–win situation.

E. Two main reasons why respondents refused to participate in the insurance scheme are due to income constraints was also less familiar with the concept of insurance than others



Note:
FS= full–service [insurers provide all kinds of services, such as risk bearing, design of the insurance product, distribution, premium collection, damage assessment and compensation disbursement (Cohen and McCord, 2003)]

Conclusion

Two key findings.

- First, the research reinforces the skepticism envisaged by Shiller (2003) about potential low effective demand for new insurance products. Only one-half of the sample respondents agreed to participate in the hypothetical flood insurance programme.
- Second, the research identified some important supply-side obstacles associated with private provision of insurance overlooked by Shiller (2003) and many of his critics.

Recommendations

- Should not underestimate the importance of sound actuarial analysis in providing a viable insurance scheme
- Government-directed and -facilitated process to settle and overcome the differences observed in this study

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3. Cohen, M. and M. McCord (2003) Financial Risk Management Tools for the Poor. Micro-Insurance Centre Briefing Note #6.http://www.microfinanceopportunities.org/docs/Financial_Risk_Management_Tools_for_the_Poor_%20CohenMcCorddec2003.pdf (accessed on 21 September 2010).

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Effects of Climate Change on the Long-run Crops' Yields in Nigeria

Solomon Abayomi OLAKOJO, Ph.D. and Olaronke Toyin ONANUGA, Ph.D.

Objectives: *To estimate the effect of climate change on the long-run yields of 10 selected food crops, and trace the channel of climate change impact on Nigerians welfare.*

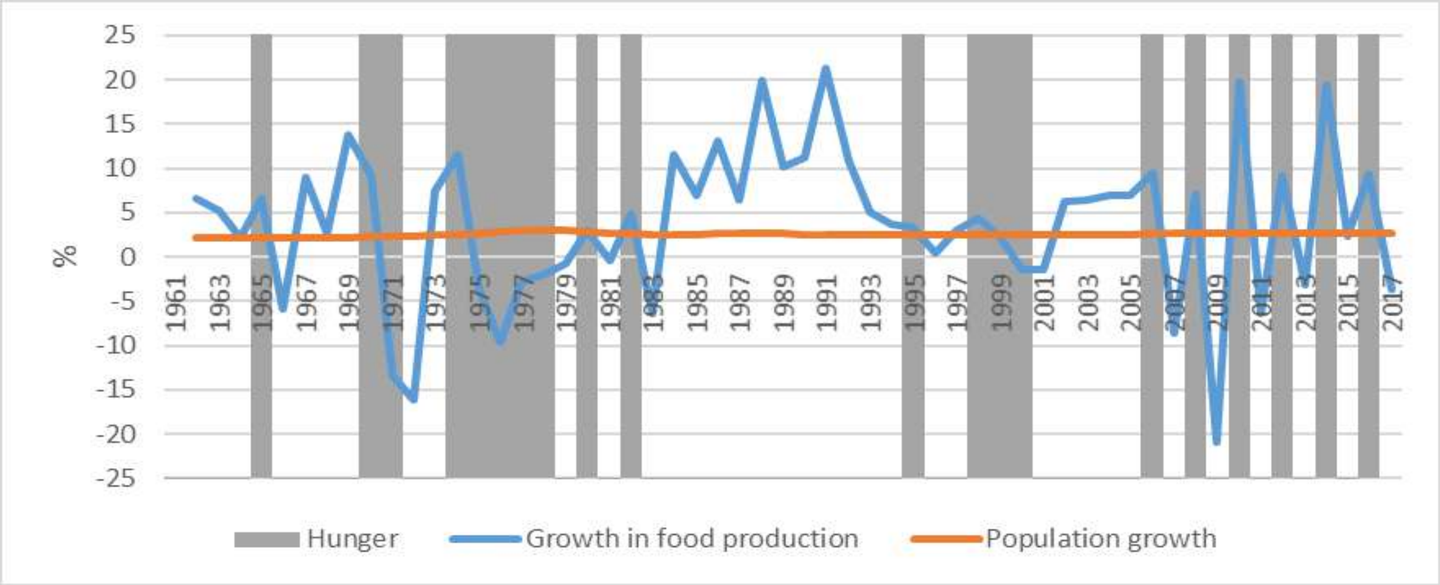
Methodology

The study estimated crop production function to include the dynamics of climate change. A long-run crops' yields models were estimated with Fully Modified Ordinary Least Square (FMOLS), while climate change transmission channel to real GDP per capita (a measure of welfare change) was estimated with Structural Vector Autoregressive (SVAR) model utilizing data between 1961 and 2016.

Stylized Facts

- Rainfall is marginally declining, characterised with high variability and inconsistency;
- Temperature demonstrates a rising trend; and
- Gaps between crop production growth and population growth depicts hunger periods (Figure 1)

Figure 1: Nigeria's Population and Food Production Growth %



Source: Computed from the FAOSTAT and World Bank's World Development Indicators

Discussion of Results

- Of the selected crops, only okra does not have a long-run relationship with climate change variables.
- Long-run causality was not rejected for all other crops, hence the impact of climate change may not manifest in the short run but in the long run.
- Existing farming skills and knowledge are less adequate to produce higher future crops' yields.
- On the average, increasing temperature leads to about 87% reduction in average food crops' yields
  - Nigerians welfare declines for about 3-4 years when there is a shock to rainfall or temperature.
  - Crop yields are more sensitive to rainfall in the short run while they are more sensitive to temperature in the long run.

Policy Lessons

- Agricultural research on temperature resistant crops (especially for cowpeas and groundnuts) will help to minimize the effect of global warming on food crops.
- Modern irrigation technique that reduces the effect of rainfall variability would improve rice and yam yields in Nigeria.
- Minimising the impact of climate change on food crops will go a long way to improve Nigerians welfare

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How to get more evidence into Nigerian energy policy

1.1 billion people globally lack access to electricity

2.7 billion people globally lack access to modern cooking fuels

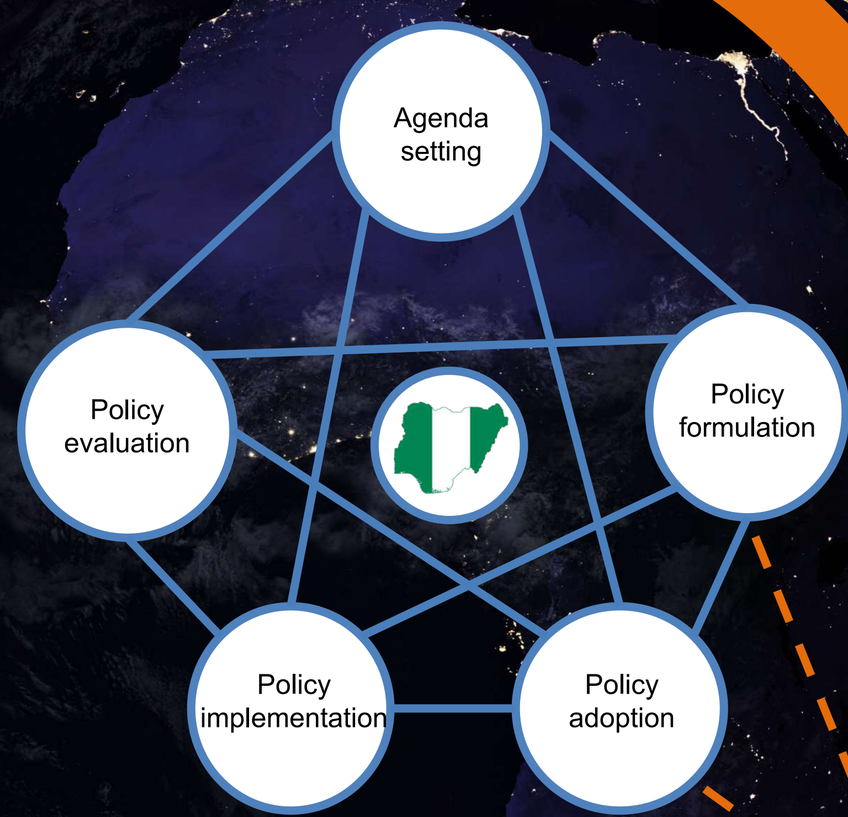
41 percent of Nigerians lack access to electricity

95 percent of Nigerians lack access to modern cooking fuels

2.0 megawatts = approximate electricity generation in Nigeria in 1999

4.0 megawatts = approximate electricity generation in Nigeria in 2019

THE "POLICY CYCLE"



National Energy Policy (2003)

National Energy Master Plan (2014)

National Renewable Energy and Energy Efficiency Plan (2015)

2 windows of opportunity

Window 1: The agenda-setting phase

The mix of technical expertise and contextual knowledge necessary to shape context-relevant policies can be achieved by expanding the role that local researchers play in the agenda-setting process. Involving local researchers in the problem-definition stages alongside government, business and development actors would broaden the range of policy questions that are asked, and this would, in turn, widen the reach of policy solutions that emerge.

Window 2: The adoption vs. implementation gap

Evidence can be used to emphasise the value of policies (e.g. cooking energy access) that may have been relegated in favour of others deemed to be more politically or economically expedient (e.g. electricity access). Given the dearth of institutional evidence-to-policy mechanisms in the context, this engagement will have to be led by researchers who understand the workings of the context well enough to make robust and realistic inputs to policy processes.

Authors: Sesan, T. & Adenikinju, A. (2019). "These are the realities": Insights from facilitating researcher-policymaker engagement in Nigeria's household energy sector.
Institution: Centre for Petroleum, Energy Economics and Law, University of Ibadan, Oyo, Nigeria

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Image credits
Earth at night: NASA (https://www.nasa.gov/specials/blackmarble/media/BlackMarble_2016_EuroAfrica_composite.png)

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INDONESIA

What Drives CO_2 Emission to Rise?

Decomposition Analysis of Carbon Emission from Energy Combustion

Introduction

Indonesia carbon emission derived from energy consumption is the highest in ASEAN countries and second highest in Asia-non-China region. Moreover, it grew much faster (230%) than global level (56.5%) (IEA, 2017). Thus, attaining Indonesia National Determine Contribution (NDC) to reduce GHG emission will give significant contribution to Global Climate Goal, *maintaining the earth temperature raise no more than 2%* [1]. In order to take appropriate measures in reducing emission, this study tried to find which **sectors and factors** that contribute the most to the energy-related CO2 emission change using Structural Decomposition Analysis (SDA) [2].

Results and Discussion

Driving Factors

Based on energy input-output and input-output table, emission change between 2010 and 1990 is decomposed into six factors: energy intensity, carbonization factor, technology, structural demand, demand allocation, and scale effect [3]. This model can identify the effect of energy consumption, energy mix and production efficiency as direct sources of emission without ignoring their link to the economic structure and the rise of final demand.

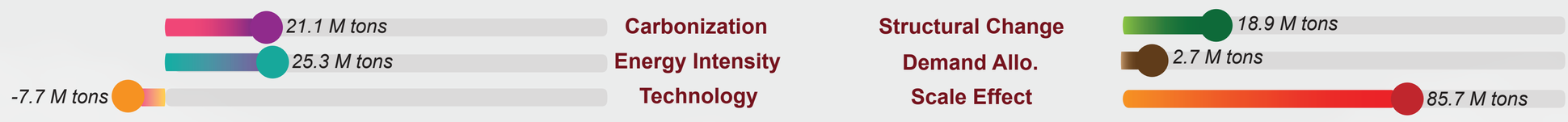

Fig 1. Decomposition Results : Contribution of Each Driving Factors to CO2 Emission Change Between 1990 and 2010

Fig 3 Power Generation Mix in 1990, 1995, & 2010

Fig 2. Analysis from Decomposition Results

Driving Sectors

Highest Carbon-Emission Contributor

Electricity

Even though efficiency in production had reduced 6 M tons potential emission, higher demand and worse energy mix had outmatched the effect

+35.9 M Tons

Construction

Greater construction demand drove construction sector to contribute more emission

+28.0 M Tons

Mining

Higher energy consumed for production per unit as well as rise in demand led mining sector to emit more CO2 emission

+27.8 M Tons

Policy Implication

Energy transition in electricity sector and **energy efficiency** in chemical, cement, and mining sectors may reduce emission growth significantly

Improving **technology** and research, primarily in the mining and construction sectors, to reduce input and emission emitted in production

[1] Paris Agreement, United Nations Framework Convention on Climate Change (UNFCCC)
[2] SDA is one of decomposition method which try to breakdown the growth rate of an indicator into contributions from the growth of its determinant. SDA based on Input Output Analysis (IOA).This study applied two polar decomposition analysis (Dietzenbacher & Los, 1998)
[3] Emission change was calculated from 17 types energy of 76 sectors. Using model from Cansino et al. (2016) and Nie et al. (2016), the emission growth is decomposed into (a) Carbonization effect : Effect of change in types of energy consumed, this mainly related to the change in energy diversification in each sector; (b) Energy Intensity : Effect of change in energy needed to produce one unit of output or the efficiency of production; (c) Technology : Derived from Leontief Matrix, the effect of change in input needed to produce output (efficiency in production); (d) Structural Demand : Effect of change in sector demand structur ; (e) Demand Allocation : Effect of change in allocation of final demand category; (f) Scale effect : Effect of change in total final demand
[4] Indonesia's GDP growth from 1990 to 2015 reached 8.9%, The growing demand of production eventually increases the energy demand as input materials in theproduction
[5] Technology/production efficiency had reduced potential emission but could not outweighted the effect of energy inefficiency.

Main References

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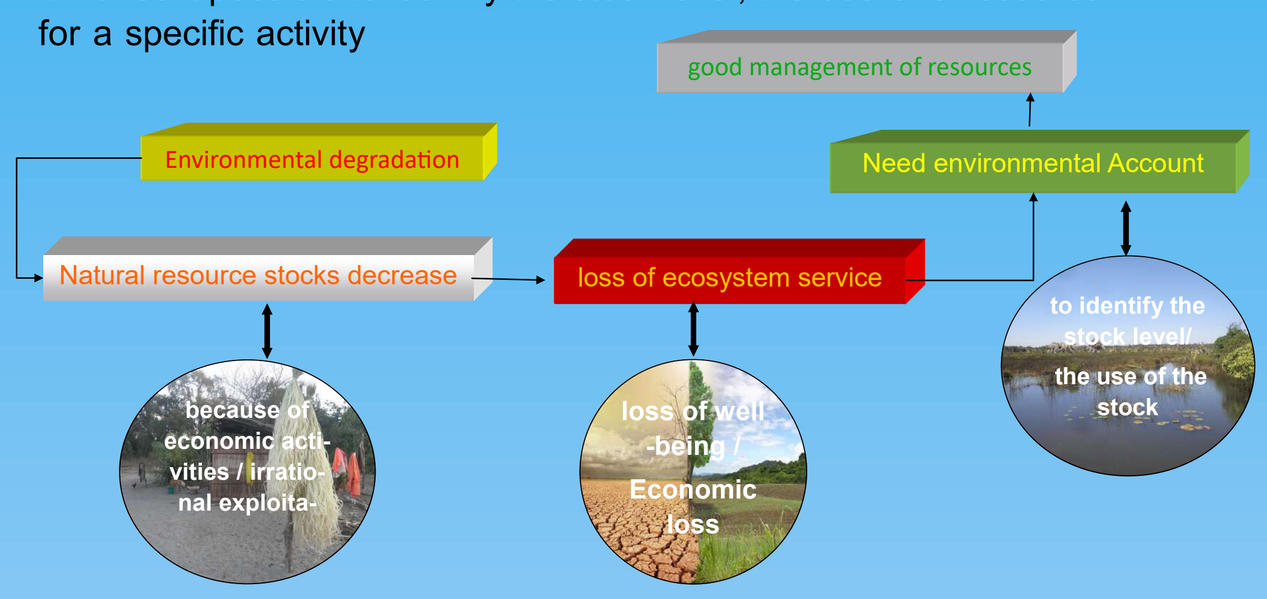
MADAGASCAR

Environmental accounting: valorization of the natural capital case of the Mahavavy-Kinkony complex

Introduction:

- Environmental accounting is an environmental management tool.
- It highlights the flow of natural resources in a given activity.
- it makes it possible to identify the stock level, the use of a resource for a specific activity



Situation of new protected Area:

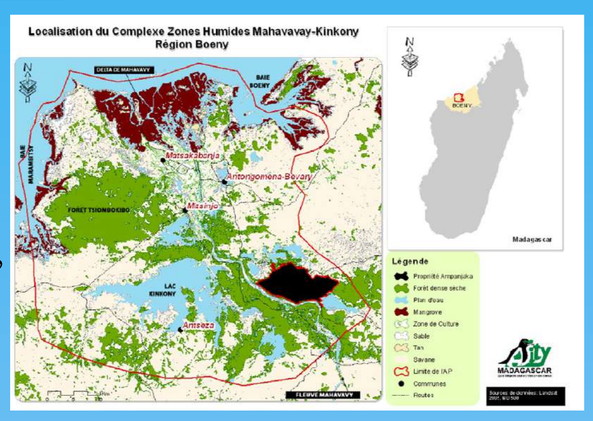
302,400 ha Area composed:

77,900ha (dense dry forests)

18,200 ha (mangroves)

17,500ha marine&coastal space,

9,000ha (rivers and lakes)



the Mahavavy-Kinkony complex is an IUCN category V protected area

Methods:

- The environmental accounting is used here to link economic and environmental developments (SEEA, 2012). in this context, the total economic value method was used to determine in monetary terms the valuation of stocks and resource flows between 2013 and 2018.
- In the case of the Mahavavy-Kinkony complex, 3 types of accounts were considered

1. **WATER**

Step 1: Consideration of economic activity → Step 2: Evaluation of biophysical stocks in monetary terms → Step 3: Subtract the consumption from the input stocks to obtain the final stock.

2. **LAND USE:**

Step 1: From the biophysical accounts, we take into account the elements that interest the economy. → Step 2: A monetary value is associated with these elements → Step 3: The quantities of environmental elements used to produce or for consumption are reported.

3. **FOREST PRODUCTS :**

Step 1: focus on the products provided by the forest and their use → Step 2: we consider the supply in physical and monetary units, then consumption and gross value added. → Step3: We are interested in the sources of wood in terms of surface area and volume

Resultats

Estimated loss / gain		Resultats	Interpretation
Water account	Lake and reservoirs	25 000 000 $	• water has decreased in volume this is mainly due to the decrease in rainfall in northwest Madagascar • the estimate of water loss is higher than other ecosystems because water is considered as a vital asset for the population's survival
	Ground water		
	Total loss		
Land use account	Cultures	42 777 $	• the expansion of agricultural areas is to the detriment of forest areas, • agriculture is a main activity in the area and it remains very undervalued
	raphiales	-713 $	CMK has a potential in raffia but remains under-exploited
	Grasslands	-2 054 700 $	the loss of grazing land is mainly due to the development of agriculture
	Wooded areas	-7 034 979 $	the loss in forest is mainly due to agricultural development and forestry exploitation
	Mangroves	-244 161 $	• Compared to the forest, the change in mangroves is minimal • their exploitation is very controlled and the inhabitants • And generally fishermen, are aware of the importance of mangroves for their activities.
	Total loss	-5 180 876 $	• the change in land cover results in the loss of biodiversity • agricultural development and forestry are the main reasons
Forest product account			• The calculation was made by looking for the supply and consumption of forest products

Conclusion

The role of environmental accounts

↓

Identify the existing natural resources

↓

Thus, through these accounts, the best possible decisions can be made about the effective management of natural resources.

Recommondation

- agriculture must be developed and modernized to preserve biodiversity
- create economic activities that sustainably exploit the forest how the exploitation of forest products
- structure existing subsidiaries to better share benefits and optimize operations

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Kenya

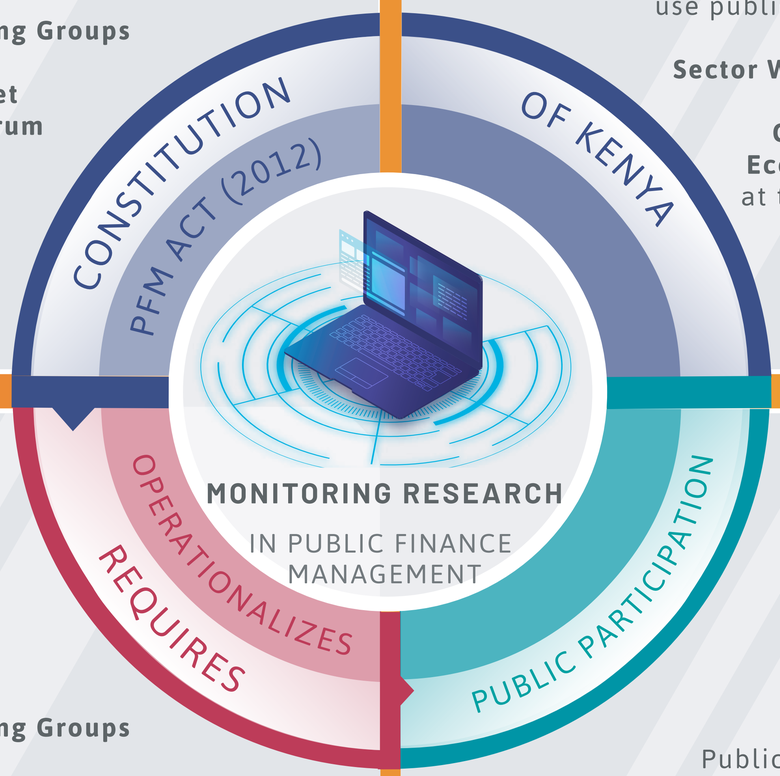
EMBEDDING RESEARCH IN PUBLIC FINANCE POLICY IMPROVES DECISION MAKING AND SERVICE DELIVERY

PLANNING & BUDGET PRIORITIZATION

Through **Sector Working Groups** and **County Budget Economic Forum**

MAKUENI COUNTY

Makueni County was found to effectively use public participation through the **Sector Working Group** and the **County Budget Economic Forum** at the ward level.



Through **Sector Working Groups** and **County Budget Economic Forum**

MONITORING & EVALUATION

Public Participation conducted at the sub-county level through **Sector Working Groups.**

NYAMIRA COUNTY

SERVICE DELIVERY OUTCOMES

	MAKUENI COUNTY	NYAMIRA COUNTY
Absence from Facility %Providers	25	48
Management of Maternal & Neonatal complications % Clinical Cases	51	41
Drug Availability % Drugs	56	59
Equipment availability % Facilities	50	45
Infrastructure availability % Facilities	58	41

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Omolo , M.W.O "PUBLIC FINANCE MANAGEMENT AND SERVICE DELIVERY IN KENYA: THE RESEARCH-POLICY NEXUS" The African Policy Research Insitute, Nairobi Kenya

GENDER, TECHNOLOGICAL INNOVATION DEVELOPMENT AND UTILIZATION IN GHANA

KNUST, KUMASI
www.knust.edu.gh

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1 INTRODUCTION

Background

- Gender affects family well-being, household security and socio-economic development of societies (Bravo-Baumann, 2000).
- It is a social construction of the context in which the livelihoods improvement targets of agricultural research occur (Feldstein, Butler and Poats, 1989)
- Due to its importance, there has been a call for the research institutions to recognize the gender specificity attached to innovation within a specific social context (Meinzen-Dick at al. (2010)
- Gender consideration in agricultural research activities is seen as an important step to address target group needs and concerns (True, 2003)
- So far, the interface between gender, development and uptake of technological innovations has hardly been explored by researchers, especially in Ghana
- Thus, there is the need to identify the current role of gender in the development and utilization of agricultural innovations (Spielman et al., 2008)
- Researchers and policy makers need to understand how research institutions factor gender issues into research activities because a gender neutral approach does not generate gender neutral outcomes
- Against this backdrop, the study was undertaken to investigate whether gender perspectives are central to the development and utilization of agricultural innovations in Ghana

Objectives

1. To investigate gender inclusion in the development process of technological innovations in Ghana; and
2. To assess gender needs and concerns with regards to a selected technological innovations promoted and disseminated in rice sector of Ghana

2 METHODOLOGY

Research Design:
An exploratory research design was employed for the study

Sampling technique:
Purposive sampling of two research institutions (SARI & CRI) and a district (Nwabiagya district) in Ashanti Region

Sample size:
A random sampling of 20 rice scientist from the research institutions and 46 discussants from the selected district

Methods of Data collection:
Sample survey was conducted to collect qualitative data from Key informants and focus groups.

Methods of data analysis
- Thematic content analysis method (using quotes from the key informants) and the use of the Nvivo, a qualitative data analysis software package, to analyse the data generated from the focus groups.

Plate 1: Focused group discussion with male rice farmers

Plate 2: Focused group discussion with female rice farmers

Plate 3: Paddy rice ready to be harvested

3 RESULTS

Theme 1: Gender consideration in technological innovation development

Question: what are the key issues taken into consideration in technological innovation development in Ghana?

Response:

"The key informants in a consensus manner ranked as follows: the environmental adaptability (I); high yielding (II); lodging resistance (III); and diseases and pest resistance (IV) (consistent with that of Tester and Langridge (2010) and Cattivelli et al. (2008)"

Question: why is gender not considered as one of the key issues?

Response:

"Although there has been an on-going discussion on gender mainstreaming in research activities, gender issues are still not factored into technology development at the initial stage. However, as technologies are developed for all the stages of rice value chain, gender issues are automatically addressed. This is because women are mainly involved in the post-harvest activities" (SARI 43 year old rice scientist)"

Question: how do rice scientists address target group needs and concerns if gender consideration in research is more theoretical than practical?

Response:

"We have what we call the Sensory Evaluation where we take samples of different varieties to prepare our local delicacies and allow the consumers to taste and score. Based on consumers' preferences, we try to develop and introduce the preferred varieties. The release of Jasmin 85 seems to meet both the preferences of producers, processors and consumers. All stakeholders have embraced it because of the aroma. So finally, we have been able to incorporate targets group needs and concerns into our research activities, which is a major breakthrough for we Scientists" (SARI 53 year rice Scientist)"

Question: what are the main constraints to gender consideration in Agricultural research and development (ARD) activities.

Response:

"The constraints include lack of mandate, low appreciation of the relevance of gender issues among many ARD organizations and lack of gender training and capacity building for scientists and research managers." (CRI 56 year rice Scientist)

Theme 2: Assessing gender needs and concerns

The Nvivo analysis focused on generating word cloud of the issues stretched by the discussants (see Figures 4 & 5).

Figure 4: Word cloud from men during focus group discussions

3 ... RESULTS

Figure 5: Word cloud from women during focus group discussions

4 CONCLUSIONS AND RECOMMENDATIONS

Conclusions:

- Gender consideration in research activities is more theoretical than practical.
- The research institutions lack the requisite mandate, capacity and resources to mainstream gender issues in research activities.
- The varietal preference of male rice farmers is marketability whereas that of their female counterparts is early maturity, suggesting differences in gender needs and concerns.
- The differences in varietal preferences support the societal expectations of men as the bread winners and women as the home makers.

Recommendations:

- Policy makers should formulate gendered "innovation" policy in Ghana
- Government should invest in the development and promotion of gender sensitive "innovations" for inclusiveness, equity and sustainability of rice sector.

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6 ACKNOWLEDGMENT

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THANK YOU

Youth and Young Adults Livelihood Choices in Kenya and Tanzania

Milu Muyanga (MwAPATA Institute, Malawi/Michigan State University, USA), Chalmers Mulwa (University of Cape Town, South Africa), T.S. Jayne (Michigan State University, USA)

Introduction

While population growth has slowed down in other parts of the world, in sub- Saharan Africa, it is projected to double from 0.95 to 2.1 billion people between 2015 and 2050 (Jayne et al., 2016). Closely associated with mounting population density is the *youth bulge*.

About 62 percent of Africans are below the age of 25. Every year, about 11 million young Africans are entering the labor force.. It is estimated that only 25 percent of them will find non-farm wage employment (Filmer and Fox, 2014). This means 75 percent will depend on agricultural related jobs for their livelihoods.

Study Objective

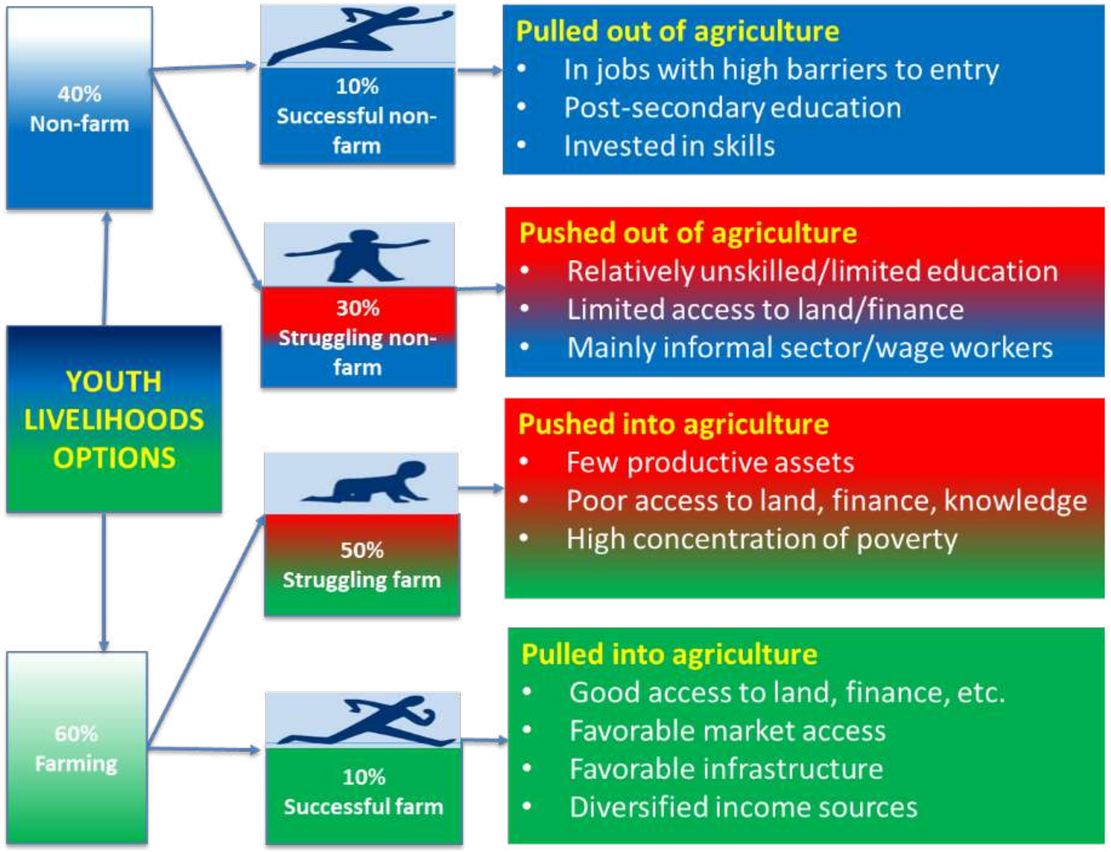
The study investigates youth (15-24 years) and young adults (25-35 years) livelihood options in Kenya and Tanzania. Specifically, it examines potential employment options open to the youth and young adults and the required investments for the options to be viable.

Methods and Data Sources

Panel econometric techniques are used. We use six waves of panel data from Tegemeo Institute in Kenya and four waves of the World Bank LSMS data in Tanzania. Long panels make it possible to detect long-term trends that are likely to influence youth and young adults' livelihood choices.

Email: muyangam@msu.edu

Figure 1: Livelihood Options



Livelihood Options

Performance of farming will influence the pace of growth in non-farm jobs. Support interventions that raise agricultural productivity growth. Create new opportunities in farming.

Farm employment

- Performance of farming will influence the pace of growth in non-farm jobs.
- Support interventions that raise agricultural productivity growth.
- Create new opportunities in farming.
- Governments must: (1) Anticipate and respond to resources needed for youth to succeed in farming (e.g. access to land & finance). (2) Distinguish between "trying to keep youth in agriculture" vs. "giving youth viable choices"

Non-farm employment

- Invest in education and skill development. Prepare youth to "spot" and take advantage of new job opportunities.
- Regular update of educational curriculum and approaches.
- Invest in actionable research to address the data gaps on labor market issues and impact evaluation.
- Strengthen youth voice on decisions concerning them.

Conclusion

African leaders may soon perceive that political stability will depend on exploiting the potential for profitable family farming and non-farm employment to shrink the numbers of disillusioned and unemployed youth and young adults that are already rising in much of the region as the labor force rapidly expands.

Sustaining Pro-poor Interventions for the Marginalized in Ghana

GHANA

RECOMMENDATION

It appears the Ghana Partnership for Education (GPE) Grant does not have an exit plan capable of sustaining the short term gains made through its interventions. The study therefore strongly recommends that the GPE should incorporate measures of sustainability into the education for all programme.

How the Programme Avoided Resource Capture:

- strict adherence to implementation approved by GPE
- strict adherence to the implementation manual served as a mechanism for transfer trigger
- deployment of decentralisation, local level participation, transparency and accountability measures by implementers

KEY FINDINGS

>60% Beneficiary districts were found in the 3 poorest regions;
36% Average benefit received in the 3 poorest regions;
25% Average benefit received in 6 wealthy regions

In Conclusion...

Progress made with the programme is rolled back once it ends and donors exit.

Study By
Maliha Abubakari (Ph.D)
University of Education, Winneba

Picture of Likpe R/C Primary School in Volta Region was published by Pencils of Promise (Flickr), 2nd July, 2013. Photo Credit: Pencils of Promise

P-Tracking helps citizens and governments prioritize and monitor village development plans.

Evidence-based policy making needs
a strong system of data collection.

Participatory Tracking in Tamil Nadu
- Digital collection of data
- Resource mapping with GPS stamps
- Data visualization tools

The action research covers
2 Districts > 5 Blocks

48 Villages > 10 selected for RCT

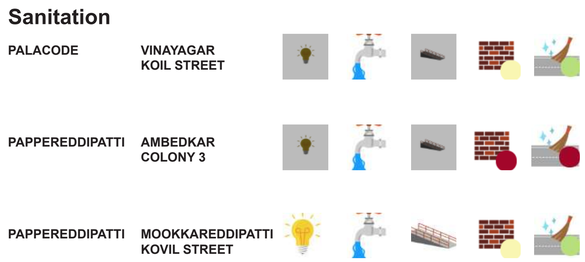
49,570 households

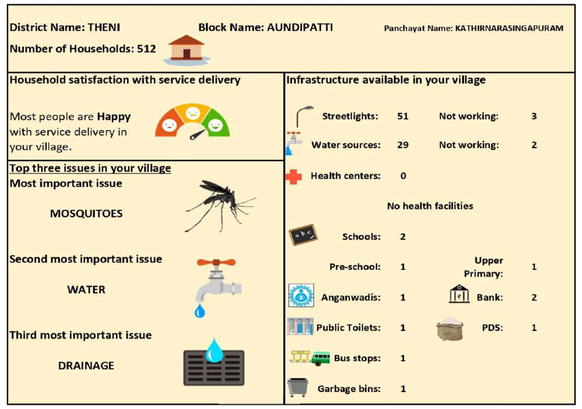
Participatory
- Community SHG trainers and women functionaries of SHGs collected data using Tablets.
- Rural citizens use icons, images, and data visualization tools to prioritize local planning (sanitation, transport, drinking water, health).
- Use of citizen-validated data reduces biases in local planning.

With a few clicks, both government and citizens can access the data. The geo-tagged, high-frequency data can also be used to benchmark and evaluate the progress of SDGs at the grass roots.

Key Outcomes
- Greater participation of women, youth and elderly.
- Agenda driven by data, not officials.
- Corrects drawbacks of regular CGD models.

Data Visualization





Collaboration between
Government of Tamil Nadu, the World Bank, & Madras Institute of Development Studies.

Kripa Ananthpur
Madras Institute of Development Studies, Chennai

Participatory Tracking for Local Development
An innovative experiment converging technology with participation through Decentralized Planning in rural Tamil Nadu, India (2018).

Blockchain: A game changer in electronic waste management in India

Headline

The study proposes a Blockchain platform **"E-waste lens**" using Ethereum Smart Contracts for efficient e-waste management in India to bring in Transparency, Accountability and Traceability.

Problem

Figure 1: The picture

- India 5th largest producer of e-waste
- 95% is routed to unorganized sector
- Roadblock to achievement of SDGs

Figure 2: The problem

Challenges

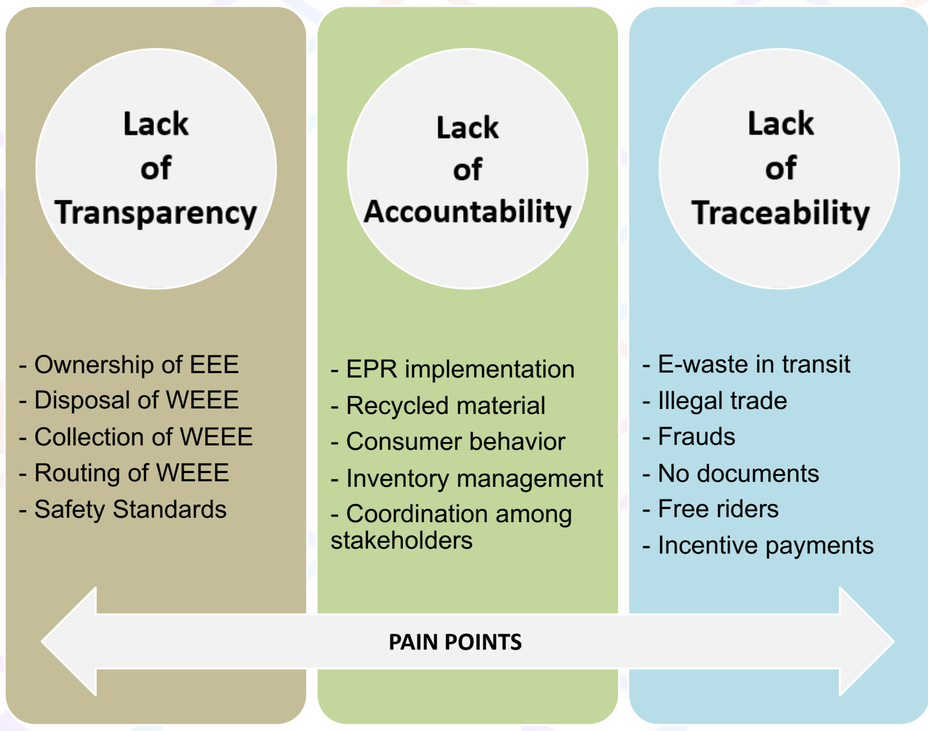


Figure 3: The challenges

Solution

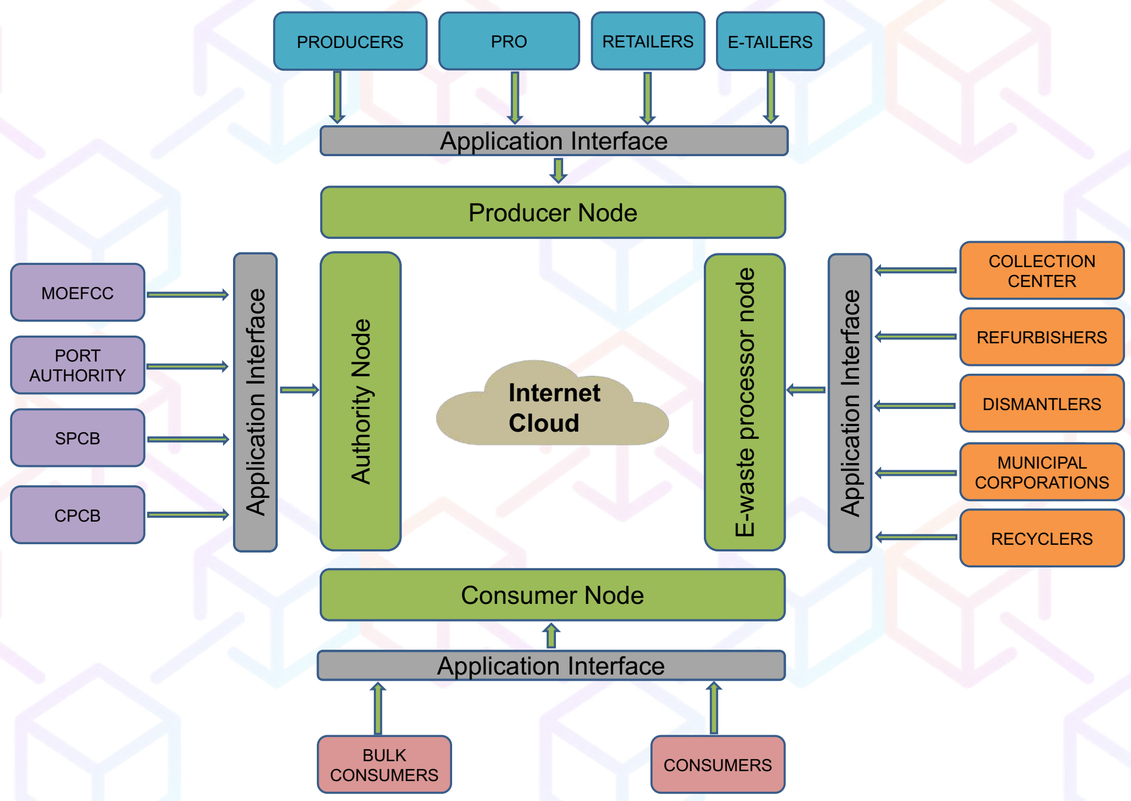


Figure 4: E-waste lens

Conclusion

- In the proposed system, each stakeholder will have their own internal systems to manage the information which can be authorized and authenticated by different stakeholders involved.
- E-waste lens enables digital collaboration across the multiple parties involved, enabling a transparent and robust system eliminating the main data gaps and help measure the effectiveness of legislation.

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Key elements to connect health systems innovation with sustainable development

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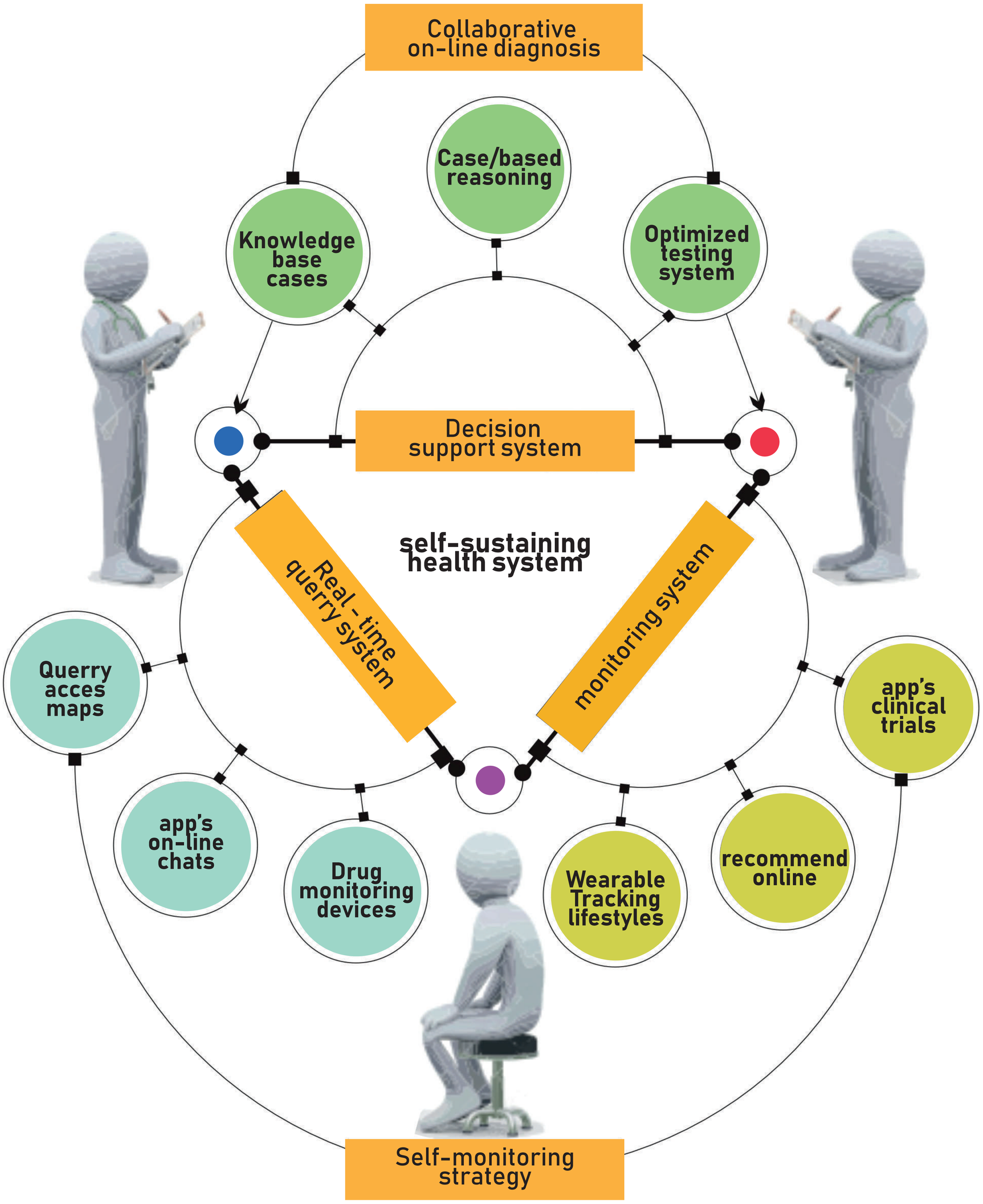
Abstract:

This study focused on analyzing the structural elements of health systems as a whole, investigating how the system responds to the challenges posed by the context in which it is inserted. The analysis indicates that the health systems have demonstrated progress in terms of the Millennium Development Goals, such as reducing infant mortality and controlling infectious diseases. Health systems are organized to provide acute care, but not to respond to a continuum of care in diseases that need coordination of care. In Colombian the health system expresses failures in the distribution of resources, an incomplete mandatory health plan, the inequitable distribution by salary, the subjective dimensions of perception of the state of health in the face of real demands for health services, the difficulties in affiliation and coverage, the financial burden of the system on public resources and out-of-pocket spending, there is also a lack of user ownership and participation in the processes of regulation and empowerment over the effective use of the system's resources. For the development of innovations in health systems, it seems necessary to identify and represent the complex variety of situations generated by three elements: nodes, links and interactions.



CONFLICT AND HEALTH AS CHALLENGES OF SUSTAINABLE DEVELOPMENT IN NIGERIA: THE FULANI HERDSMEN/FARMERS CRISIS IN VIEW

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INTRODUCTION

Sustainable development in Nigeria is under severe threats due to conflict and health challenges. Conflicts as a result of Fulani herdsmen/farmers clashes have ravaged a lot of communities where lives were destroyed with property worth millions of naira. Discussions on sustainable development have not put much consideration to the effects of conflict and seemingly overzealous attention to other ailments such as HIV/AIDs with little concern over other aspects of health.

OBJECTIVES

The study aims to:

(i) ascertain the effect of the recent herdsmen/farmers conflict on sustainable development in Benue State Nigeria and (ii) examine the health situation of the IDPs on sustainable development in Benue State Nigeria.

METHODOLOGY

The trend theory provided the theoretical framework for the study. The research design is cross-sectional descriptive.

A total of two hundred and fifty (250) copies of questionnaire were distributed to randomly selected respondents which included IDPs in camps and health officials working in IDPs camps in Benue State, Nigeria.

Data were collected using 7 self-structured questions using a Likert Scale of 1-5 ranging from ineffective to very effective.

A total of 200 copies of questionnaire were retrieved and analysed using frequency table and Pearson correlation with the aid of SPSS version 22.0. This correlation was used to determine the relationship and effect of conflict and health on sustainable development in Benue State, Nigeria.

RESULTS

Table 1: Profile of the Respondents

Nomenclature	FIGURE	%	MIC	FIGURE	%
NGO Staff	12	6	**0-5**	10	5
SDG Staff	8	4	**6-10**	27	13.5
IDPs	160	80	**11-15**	23	11.5
Security Personnel	20	10	**16-20**	140	70
Total	**200**	**100**		**200**	**100**

***MIC (Months in IDP Camp); SDG (Sustainable Development Goals), IDPs (Internally Displaced Persons) and NGO (Non-Governmental Organisation).**

Most of the respondents were Internally Displaced Persons IDPs who are more exposed to the herders-farmers conflict. Majority (70%) has also spent more than a year at the IDPs camp. This implies that majority of the respondents have the required knowledge on how conflict affects sustainable development in the affected areas.

Table 2: Descriptive Statistics for Standard Deviation

Variables	Mean	Std. Deviation	N
Sustainable development	1.7150	.55254	200
Conflict	1.7550	.73326	200
Health	1.4250	.49558	200

RESULTS (CONT'D)

The mean score of 1.7150 reveals that the respondents were of the opinion that the sustainable development agendas in the area of health facilities, education, economic and other social amenities have been effective though on a low level in the post Fulani herders/farmers conflict.

The mean score of 1.7550 for responses on conflict indicates that all the security measures and peace efforts put in place by the government in ensuring that the conflict is put to rest has been abortive.

On the state of the health of the victims of the conflict the mean value of the response (1.4250) indicates that the health facilities available to them are poor, the health care provided is ineffective in tackling the health challenges experienced by the IDPs.

Table 3: The Pearson Correlation Test

		Sustainable Development	Conflict	Health
Sustainable Development	Pearson Correlation	1	.546**	-.675**
	Sig. (2-tailed)		.000	.000
	Sum of Squares and Cross-products	60.755	44.035	-36.775
	Covariance	.305	.221	-.185
	N	200	200	200
Conflict	Pearson Correlation	.546**	1	-.348**
	Sig. (2-tailed)	.000		.000
	Sum of Squares and Cross-products	44.035	106.995	-25.175
	Covariance	.221	.538	-.127
	N	200	200	200
Health	Pearson Correlation	-.675**	-.348**	1
	Sig. (2-tailed)	.000	.000	
	Sum of Squares and Cross-products	-36.775	-25.175	48.875
	Covariance	-.185	-.127	.246
	N	200	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

TEST OF HYPOTHESES

H_1: Conflict has no significant effect on sustainable development in Benue state Nigeria.

Form the results above, conflict has a significant relationship with the sustainable development at 54.6% (Correlation) and (0.000) level of significance. Therefore, we accept the alternative hypothesis which states that conflict has a significant effect on the sustainable development of areas affected by the herders-famers crises in Benue state Nigeria.

H_2: Health has no significant effect on sustainable development in Benue state Nigeria.

Form the results above, health has a negative significant relationship with the sustainable development at 67.5% (Correlation) and (0.000) level of significance. Therefore we accept the alternative hypothesis which states that health has a significant effect on the sustainable development of areas affected by the herders-famers crises in Benue state Nigeria.

CONCLUSION & RECOMMENDATION

Conclusion: Increased poverty among IDPs, intense hunger, lack of medical supplies and access to health facilities, poor government policies on conflict resolution and dysfunctional emergency management systems have negative effects on the achievement of SDGs

Recommendation: The study recommends that, conflict resolution should be given utmost attention in the agenda for sustainable development. Focus should also be on improving government policy and interventions for the welfare and resettlement of IDPs with a functional health system.

Impact of Post-harvest Loss Interventions on Post-Harvest Losses of Maize among Small Holder Farmers in Tanzania: A Difference in Difference (DID) Analysis

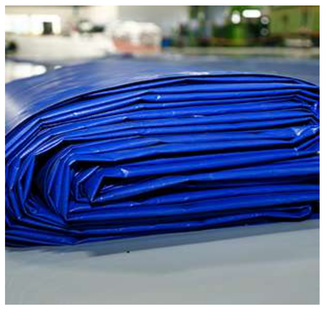
By Joy Kiiru University of Nairobi

US$ 2.6 trillion annual food loss or waste globally

US$ 700 billion in environmental costs

US$ 900 billion in social costs

- In Tanzania, post-harvest loss at 30-40% of produce (Kalita & Kumar, 2017).



We conducted a randomised controlled trial in Tanzania to evaluate the impact of three simple and cost effective post-harvest loss prevention innovations: Tarpaulins, Mechanised shellers and hermetic bags

We used propensity score matching (PSM) and difference in difference (DID) method to empirically evaluate impact

$$Y_i = \alpha + \beta T_i + \gamma t_i + \delta(T_i . t_i) + \varepsilon_i$$

δ true effect of treatment group, while β is treatment group specific effect.

Findings: **Combined use of the innovations reduced post harvest loses by 273.6 Kilos of maize per household (About 3 bags**).

Conclusion: **simple cost effective postharvest loss mitigation innovations could go along way in combatting food insecurity and increase household incomes.**

d·i·e

Deutsches Institut für Entwicklungspolitik

German Development Institute

The Role of Alumni Work for Transnational Knowledge Cooperation:
The Managing Global Governance Network as an Illustration

Dr Johanna Vogel – German Development Institute/ Deutsches Institute für Entwicklungspolitik DIE

Why Alumni Work in Transnational Knowledge Cooperation? – The Context

- Global challenges require transnational knowledge cooperation in networks so as to create sustainable solutions to support effective cooperation across nations and beyond state action only. Alumni work can be regarded as one instrument to support effective transnational knowledge cooperation.
- This paper focuses on the special role knowledge plays for transnational cooperation within networks and how alumni work strengthens collaboration, especially in the sense of equal knowledge production because knowledge has become one of the most essential resources within society and therefore an area for political and social struggles (G. Böhme & N. Stehr,1986).

Research Question

How does Alumni work in the context of transnational knowledge networks support cooperation?

Alumni Work as Transnational Knowledge Cooperation

Definition: Alumni Work

- Means nurturing networks in order to harvest fruits from prior investment.
- Aims at professionalizing and institutionalizing, intensification, enlargement and structuration of these networks.
- Means implementing tools and mechanisms to strengthen institutions' larger networks and benefitting on the long run from prior investments in human capacities.

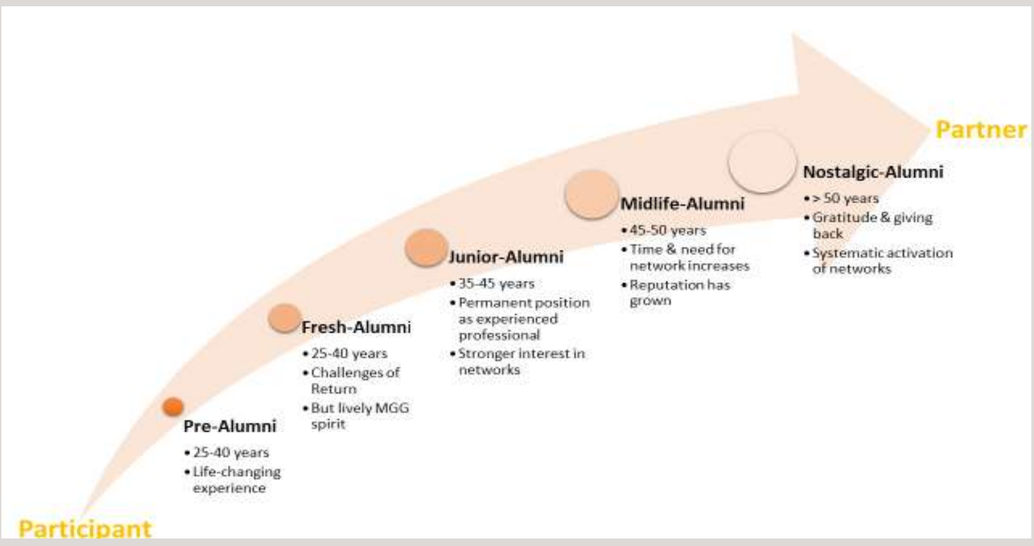
Conditions of successful Alumni Work

- Provide inspiration
- Create added value
- Establish management structures
- Design activities according to the Alumni life cycle (see graph below)

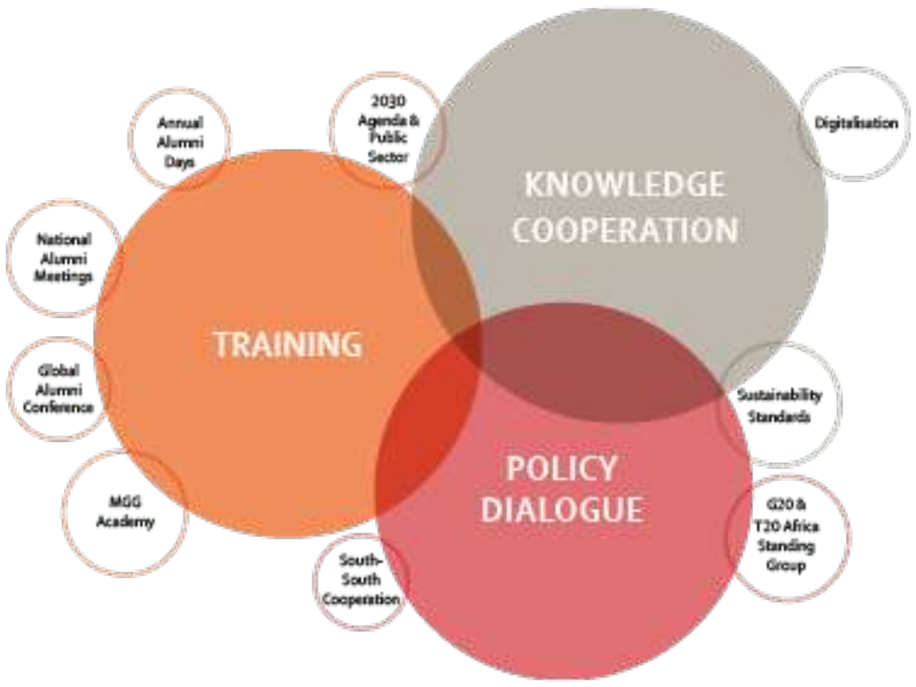
The MGG Alumni Work – Activities

- Issue-driven national and global meetings
- Network Days
- Innovation support
- Research stays for alumni
- Social media

Graph: Alumni Life Cycle



Case Study: Managing Global Governance (MGG)

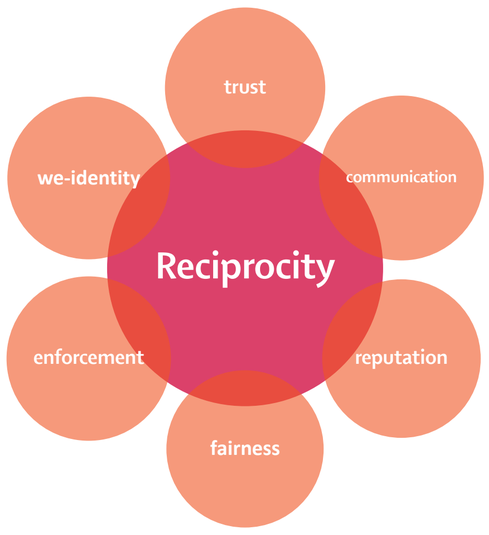


- MGG is transdisciplinary and transnational: consist of actors of governmental organisations, science, civil society and economy from the Global South and the Global North.
- MGG postulates that collaboration and equal knowledge production contribute to the reduction of historical inequalities between the Global South and the Global North.
- The MGG Network illustrates on an interpersonal level which conditions are necessary to achieve transnational knowledge cooperation.

Framework: Cooperation Hexagon

(Messner, Guarín, & Haun, 2016)

- Functional global collective action is more likely if it is knowledge-based, trustful, fair, mutually benefitting and emerges from dialogue.



Alumni Work benefits Cooperation, because it....

1. **Fosters reciprocity within a network** through research exchange, face-to-face meetings, joint knowledge creation projects
2. **Provides structures and spaces for communication** through fostering dialogue to overcome difference, face-to face meetings, intranet, alumni portal
3. **Fosters reputation through the creation of output** (e.g. issue-specific platforms, T20 process)
4. **Creates spaces in which trust can be nurtured and further developed** through symbolic management, innovation support
5. **Supports an equal and fair inclusion of all members (**e.g. joint agenda setting, equal inclusion)
6. **Enables upholding and nurturing established we-identity** (e.g. network days, joint elaboration of principles, memorandum)

Future Work

How can alumni work be used to promote transformation towards sustainability?

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pep partnership for economic policy

BRAZIL

DIVERSITY TO FOSTER INNOVATION: USING THE LENS OF BRAZILIAN MICRODATA

Glaucia Ferreira[1] ; Filipe de Sousa[2] ; Leandro Veloso[3] ; Synthia Santana[4]

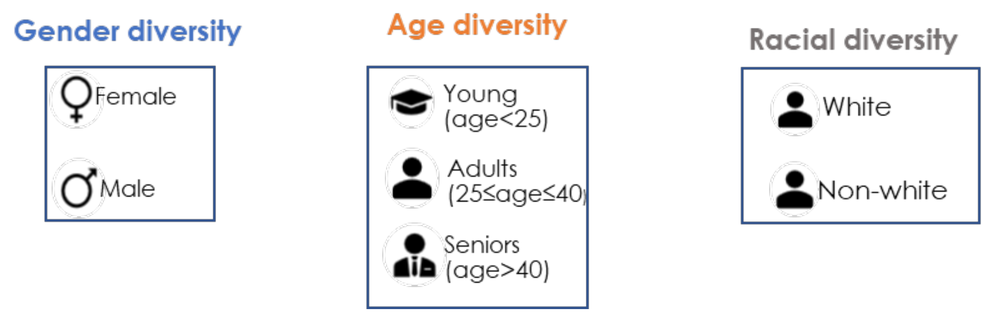
The contribution of workforce diversity to innovation is a venue under-explored in earlier empirical work. **The main objective is to highlight the relationship between innovation in the Brazilian private sector and worker's diversity within the firm, measured by different angles, including gender, age and race.** Using detailed firm-level data from Manufacturing Survey (PIA/IBGE), Innovation Survey (PINTEC/IBGE) and employer-employee administrative record (RAIS/Ministry of Economy), our results suggest that despite the costs, the benefits of workforce diversity can offset them in most innovation outcomes. Gender diversity helps improving marketing innovation, while age diversity foments both product and marketing innovation.

Methodology

1) Diversity measurement - We choose the Shannon and Weaver (1949) diversity index to measure how the workforce within the firm is diverse, because the attributes investigated in this research are categorical variables. This index is defined as:

$$s_i = -\sum_{r=1}^{R_i} p_{i,r} \ln(p_{i,r})$$

Where s_i is the Shannon-Weaver diversity index of firm i, and $p_{i,r}$ is the proportion of the category of firm i, and R_i denotes the number of categories in firm *i*.



2) CDM Model - Crépon, Duguet, and Mairesse (1998) is a standard model on innovation literature for investigating how innovation inputs, innovation outputs and productivity are linked. CDM Model states that firms invest in knowledge inputs which are transformed into innovation outputs (product, process, organizational and marketing innovations) according to the efficiency of their innovation function. In the last channel, these innovation outputs are able to promote productivity gains.

Input (innov) (1st stage)

$$E_{it} \begin{cases} E_{it}^* = x_{1it}\beta_1 + \tau\beta_2 + \upsilon\beta_3 + \varepsilon_{1it}, & if\ D_{it} = 1 \\ 0, & if\ D_{it} = 0 \end{cases}$$

Dummy variable for those who invested or not in innovative activities

Output(innov) (2nd stage)

$$Innov_{it} = \widehat{E}_{it}\gamma_1 + s_{it}\gamma_2 + x_{1it}\gamma_3 + \tau\gamma_4 + \upsilon\gamma_5 + \varepsilon_{2it}$$

Productivity (3rd stage)

$$Prod_{it} = \widehat{Innov}_{it}\delta_1 + x_{3it}\delta_2 + \tau\delta_3 + \upsilon\delta_4 + \varepsilon_{4it}$$

1st stage - x_{1it} corresponds to independent variables (such as firm's size, export status and others) that explain knowledge inputs investments E_{it}^*. **2nd stage -** $Innov_{it}$ is a dummy for output innovation and $\widehat{E}_{it}$ is the predicted value of innovation input. Instrumented endogenous workforce diversity s_{it} is included as independent variable. **3rd stage -** estimates the impact of innovation on productivity. In all equations τ and υ are sector and time dummies.

Endogenous variable (s_{it})	Instrumental Variable
Gender diversity	• Maternity leave extension program (2008) • Daycare coverage ratio (at state level) • Divorce rates (at municipality level)
Age diversity	• Vocational training - Brazilian Apprenticeship Policy (2005)
Racial diversity	• Sector and Region Dummies

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[2] Sousa, Filipe Lage de; *Professor at Department of Economics at Federal Fluminense University*
[3] Veloso, Leandro Justino Pereira; *Research Assistant at World Bank*
[4] Santana, Synthia Kariny Silva de; *Economist at the Brazilian Institute of Geography and Statistics (IBGE)*

Results – Multivariate Probit Model using Maternity leave extension as instrument for gender diversity

Gender	(1)	(2)	(3)	(4)
Dependent Variable	Product	Process	Org.	Marketing
Gender Diversity IV (by maternity leave)	0.101	-0.331*	-0.526**	0.516*
	(0.318)	(0.198)	(0.213)	(0.299)
Age Diversity (by Apprenticeship program)	1.061**	0.163	0.386	0.832
	(0.473)	(0.438)	(0.316)	(0.508)
Racial Diversity (by sector and region dummies)	-0.182	-0.284***	-0.204**	-0.136
	(0.158)	(0.0922)	(0.0933)	(0.167)
Sector, Year Dummies + Controls	Yes	Yes	Yes	Yes
Observations	44,499	44,499	44,499	44,499

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Results – Multivariate Probit Model using daycare coverage ratio as instrument for gender diversity

Gender	(1)	(2)	(3)	(4)
Dependent Variable	Product	Process	Org.	Marketing
Gender Diversity IV (by daycare cov ratio)	0.290	-0.368	-0.623**	0.436
	(0.318)	(0.269)	(0.262)	(0.338)
Age Diversity (by Apprenticeship program)	0.949**	0.365	0.263	0.888**
	(0.460)	(0.406)	(0.328)	(0.443)
Racial Diversity (by sector and region dummies)	-0.165	-0.321***	-0.214**	-0.148
	(0.185)	(0.0910)	(0.0960)	(0.173)
Sector, Year Dummies + Controls	Yes	Yes	Yes	Yes
Observations	37,984	37,984	37,984	37,984

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Results – Multivariate Probit Model divorce rates as instrument for gender diversity

Gender	(1)	(2)	(3)	(4)
Dependent Variable	Product	Process	Org.	Marketing
Gender Diversity IV (by divorce rate)	0.458	-0.772***	-0.775***	0.571*
	(0.301)	(0.252)	(0.248)	(0.336)
Age Diversity (by Apprenticeship program)	0.992**	0.536	0.362	0.912**
	(0.465)	(0.394)	(0.335)	(0.360)
Racial Diversity (by sector and region dummies)	-0.186	-0.342***	-0.239**	-0.144
	(0.182)	(0.0889)	(0.0962)	(0.175)
Sector, Year Dummies + Controls	Yes	Yes	Yes	Yes
Observations	35,662	35,662	35,662	35,662

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Conclusions

Does firms' **Workforce Diversity** play any role in **Innovation**? Yes! But the result is contigent on the type of innovation the firm invests on.

Gender diversity seems to be more relevant to promote intangible values (such as brand) than tangible ones (new product).

Age diversity: Both product and marketing innovation are positively related;

Racial diversity: the cost of workforce diversity (miscommunication and background conflicts, for example) surpasses any benefit.

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Acknowledgement: This work was carried out with financial and scientific support from the Partnership for Economic Policy (PEP), with funding from the Department for International Development (DFID) of the United Kingdom (or UK Aid), and the Government of Canada through the International Development Research Centre (IDRC) under the grant number PMMA-20201. Data access permission was granted under IBGE's *Restricted Access Data* rules.

Improving parliamentarians' knowledge of evidence informed policy legislation

Nigeria

Summary

Objective
This study was designed to enhance the knowledge of the use of evidence in policy legislation among parliamentarians.

Methodology: A one-day capacity enhancement programme designed as cross-sectional study with modified before-and-after technique, was conducted at the Parliament of Ebonyi State of Nigeria for 22 elected parliamentarians. A pre/post programme questionnaire (in a 5-point Likert scale) was administered to the parliamentarians.

Results: The percentage mean ratings (MNRs) of the knowledge of policy cycle, policy analysis, policy context, researchers/stakeholders' involvement in policy making, policy dialogue, inter-sectoral collaboration, understanding political and socio-cultural interferences, increased from the pre-programme 4.5% to post-programme 23.1%

Conclusion: Parliamentarians' knowledge of evidence informed policy legislation can be improved through capacity enhancement programme

Table 1: Pre- and Post-intervention mean ratings on parliamentarians' knowledge of evidence informed policy legislation issues

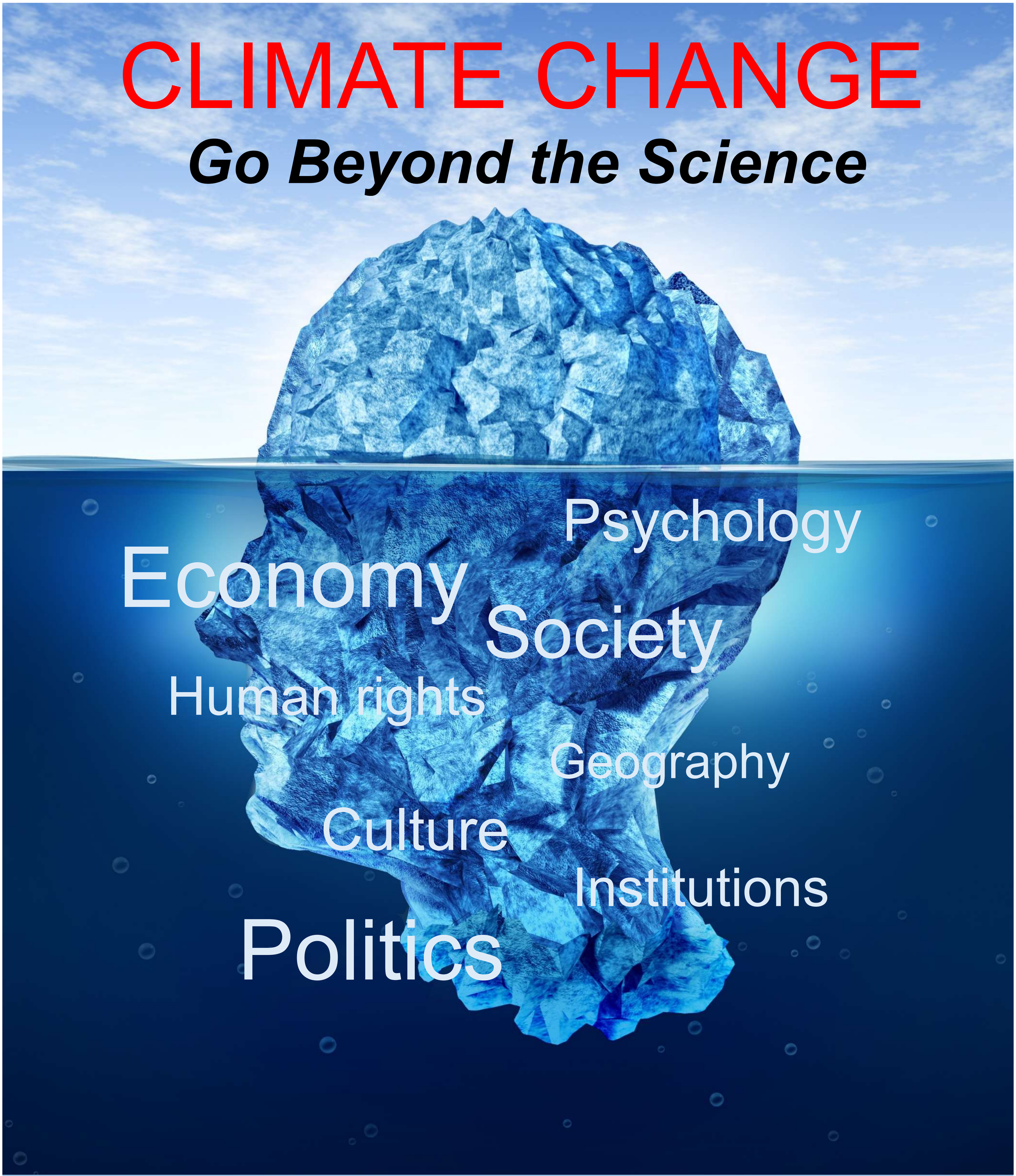
*Parameters assessed	Pre Int. Mean	Post Int. Mean	Percentage Mean increase
Getting Research Evidence into Policy making and Policy Legislation			
Understanding of policy cycle & policy making process	3.3	4.0	23.1%
Level of understanding on the use of a policy brief	3.5	4.2	22.3%
Understanding of the use of evidence in policy making	3.3	4.0	21.2%
Understanding of policy analysis & policy context	3.3	3.8	16.1%
Level of your knowledge about stakeholders' and various actors' involvement in policy making	3.6	4.1	15.8%
Knowledge on the role of researchers in policy making	3.6	4.1	14.2%
Level of understanding of what a policy dialogue is	3.8	4.0	5.3%
Policy Formulation, Managing Political and Socio-cultural Interference, and Inter-sectoral Collaboration			
Understanding of the roadblocks to effective collaboration	3.4	4.1	20.2%
Knowledge of the meaning of inter-sectoral collaboration in policymaking & implementation	3.4	4.0	15.5%
Understanding of policy legislation process & bill legislative process	3.7	4.1	9.6%
Understanding of different forms of political and socio-cultural interferences in policy making	3.6	3.7	4.5%
Understanding of way to manage political and socio-cultural interferences in policy making	3.5	4.0	15.3%

*On a 5-point Likert scale: Grossly inadequate (1), inadequate (2), fairly adequate (3), adequate (4), very adequate (5)

Chigozie Jesse Uneke, Benedict N. Azuogu, Henry C. Uro-Chukwu
African Institute for Health Policy & Health Systems, Ebonyi State University PMB 053 Abakaliki Nigeria.

CLIMATE CHANGE

Go Beyond the Science



It is with 95% certainty that global warming is due to humans. Thus, understanding the human dimensions of climate change is key to solving the crisis.

Author: Chiden Balmes, Global Green Growth Institute (GGGI)

Research: Evidence-based Vulnerability Assessment for Climate Change Adaptation: Insights from the Social Sciences

PHILIPPINES

The Community-Based Monitoring System (CBMS) as a tool to monitor SDG1 achievements in the Philippines

Introduction

- Local governments play an important role in eradicating poverty at the community level and hence, in making a contribution towards achieving SDG1.
- A local poverty monitoring tool is necessary to help local governments monitor the progress in achieving SDG1.

CBMS as a local poverty monitoring tool

- Rooted in local government and promotes community participation
- Taps existing local government personnel and community volunteers
- Involves enumeration of all households
- Establishes databanks at all geopolitical level
- Has a core set of poverty indicators

SDG1, targets and corresponding indicators that can be generated using the CBMS data

Target 1.2

By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

1.2.1 Proportion of population living below the national poverty line, by sex and age (*from CBMS*)

1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions (*from CBMS*)

Target 1.1

By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day.

1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural) (*from CBMS*)

SDG1

End poverty in all its forms everywhere

Target 1.3

Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.

1.3.1 Proportion of population covered by social protection systems, by sex (*from CBMS*)

Target 1.5

By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

1.5.1 Number of deaths and persons affected by disaster per 100,000 people (*from CBMS*)

Target 1.4

By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.

1.4.1 Proportion of population living in households with access to basic services (*from CBMS*)

Some estimates for the municipality of Orion, Bataan, Philippines

Indicator	2006	2009	2012
% Poor households (HHs)	33.6	29.5	17.7
% Poor population	33.2	26.9	24.3
Male	50.9	50.5	51.6
Female	49.2	49.5	48.4
% of Men who are poor	38.9	33.0	30.4
% of Women who are poor	36.7	31.3	27.4

Indicator	2006	2009	2012
%HHs with malnourished children 0-5 years old	1.5	0.4	2.3
% HHs living in makeshift housing	3.9	1.9	1.5
% HHs without access to safe water	8.3	8.6	5.2
% HHs without access to sanitary toilet facility	10.3	11.3	10.5

Source of basic data: CBMS data of Orion, Bataan

Community-Based Monitoring System Act (Republic Act No. 11315)

Signed into law on April 17, 2019; Institutionalizes the use of CBMS as s tool for formulation and implementation of poverty alleviation programs that are specific, targeted and responsive to the needs of the community; Involves regular and synchronized data collection shall be conducted by every city and municipality every 3 years.

Sources: United Nations (2019). SDG 1 and corresponding targets, (https://www.un.org/sustainabledevelopment/poverty/
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NIGERIA

Rural Farmers and Herdsmen Conflict: Implication On Food Security and Sustainability in Nigeria

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PMB 1515, Kwara State, Nigeria

INTRODUCTION

North-south gradation of weather parameters has translated into the migration of nomads within Nigeria.

There arose the need for grazing movements to access pasture resources across regions to support herds (Tenuche and Ifatimehin 2009, 360; Solagberu and Oluwasegun 2010,1)

Conflicts between crop farmers and herdsmen in the use of agricultural land are becoming fierce due to intensification and extensification of production activities (Gefu and Kolawole, 2005, Fasona and Omojola 2002,3)

Competition driven conflicts were responsible for over 12% decline in per capita food production in Sub-Saharan Africa (Nyong and Fiki 2005, 5)

The economic implication of the conflicts would also impact the livelihood of rural dwellers and sustainability of natural resources.

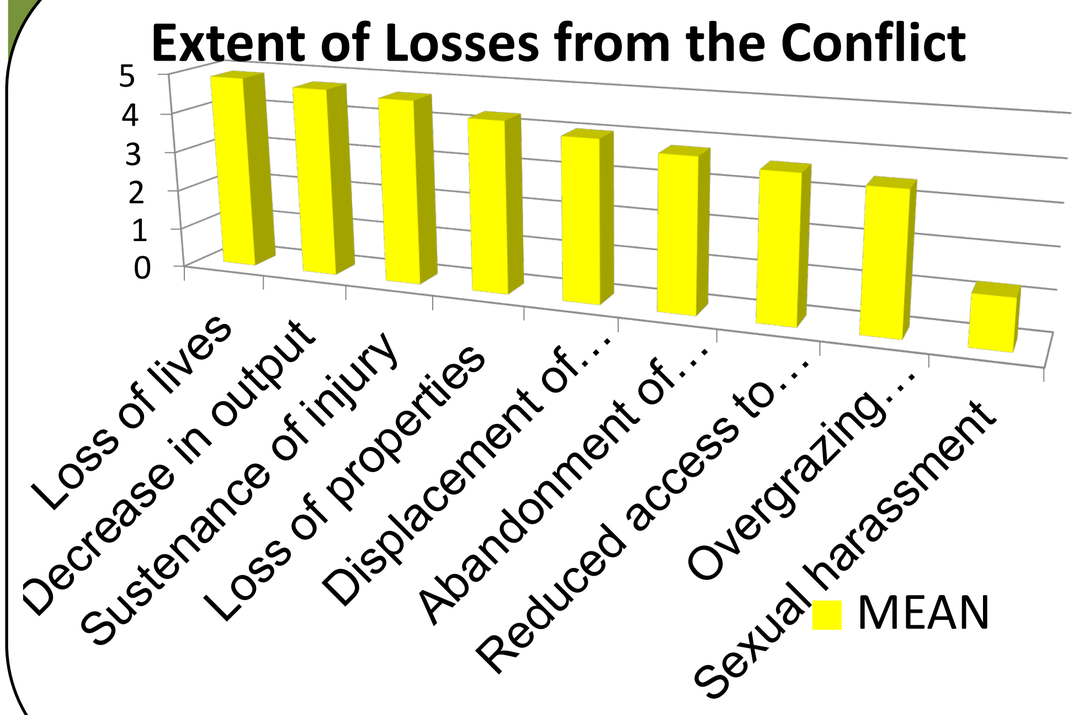
Materials and Methods

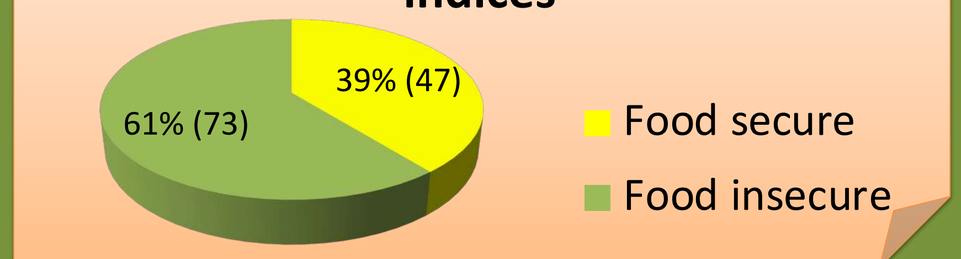
Study area
- Oyo state, Nigeria

Sampling procedure
- 3-stage sampling procedure: 3LGAs, 4 villages, 10 farmers = 120 respondents

Analytical technique
- Likert-type scale
- Foster-Greer-Thorbecke method
- Logit Regression Model

Results





Determinants of Food Insecurity Status among the Households

Variables	B	S.E	Wald	Sig.
Frequency of conflict	1.384	.413	11.233	.001
Farm size	-.616	.549	1.257	.262
Sex	-.634	.755	.706	.401
Household size	.620	.355	3.044	.081
Non-farm income	-.103	.162	.405	.525
Constant	-2.639	1.601	2.720	0.99
Chi square	18.598			

Recommendation 1

- The food security of farmers and herdsmen can be enhanced by peaceful co-existence and efficient conflict management. Fencing of farms could also curtail the menace by preventing cattle encroachment as in the case Swaziland

Recommendation 2

- Government should also establish institutions that will involve training the herdsmen to adopt new management practices such as cattle ranches among others, in livestock rearing.

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This poster was designed based on the project titled "Effect of Conflict between Farmers and Fulani herdsmen on Food Security among Farming Households in Oyo State, Nigeria" by Tomori Rita. Being an undergraduate project submitted to the Department of Agricultural Economics and Farm Management, University of Ilorin, 2016.

This poster was created by
Dr. (Mrs.) Grace Oluwabukunmi Akinsola. Department of Agricultural Economics and Farm Management, University of Ilorin. PMB 1515, Kwara State, Nigeria

BANGLADESH

THE IMPACT OF ULTRA-POOR GRADUATION PROGRAMME ON FOOD SECURITY IN BANGLADESH

Global food insecurity

(FAO, IFAD, UNICEF, WFP and WHO, 2018)

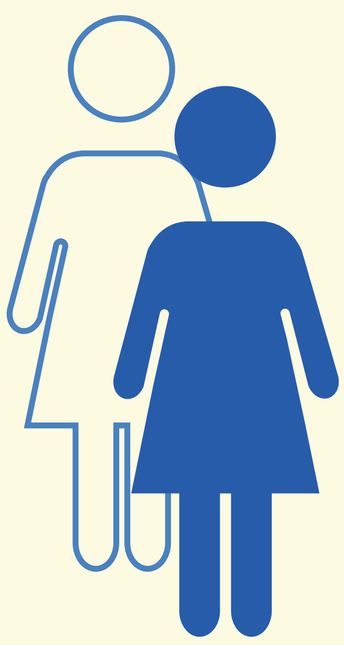
821.6 Million people are undernourished

11% of world population

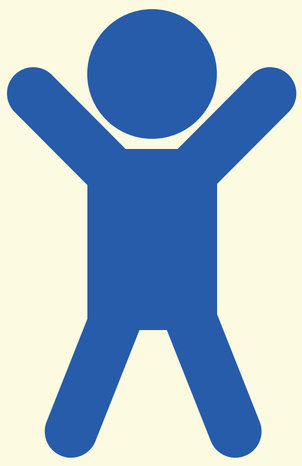
256.1 Million: 20% of African population
513.9 Million: 11% of Asian population
42.5 Million: 7% of Latin America and Caribbean population

Nutritional status of Bangladesh

(BDHS, 2014)



- 31% women with BMI <18.5
- Obesity increased from 9% to 24% by 10 years
- Maternal mortality 196
- Youngest and first time mothers are at risk



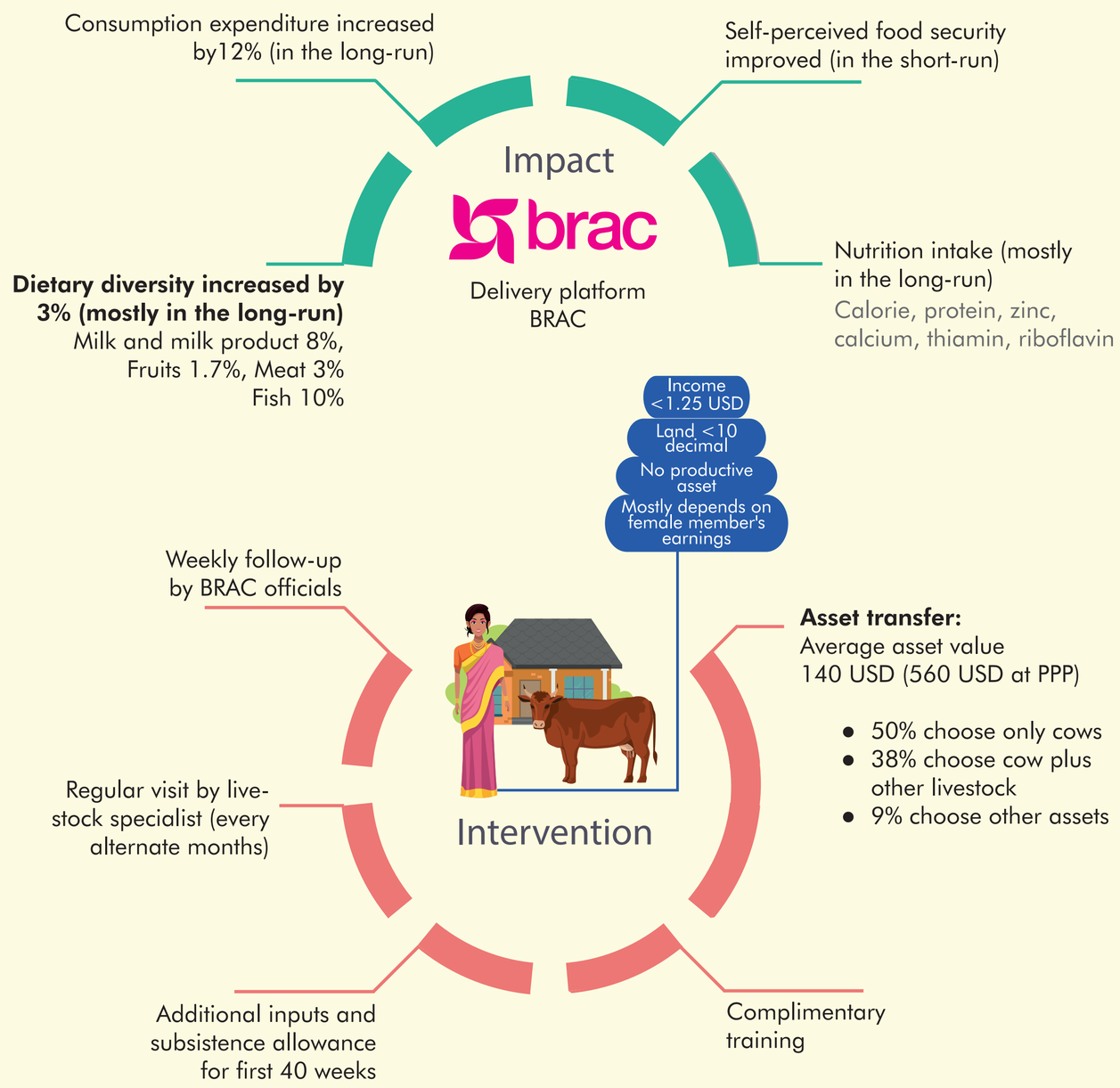
- Stunted 36%
- Wasted 14%
- Underweight 33%

Objectives of the study

To evaluate the impact of Ultra-poor Graduation Programme on food security of the targeted ultra-poor households in Bangladesh

- Impact on consumption expenditure
- Impact on self-perceived measures of food security
- Impact on dietary diversity
- Impact on nutrition intake of the households

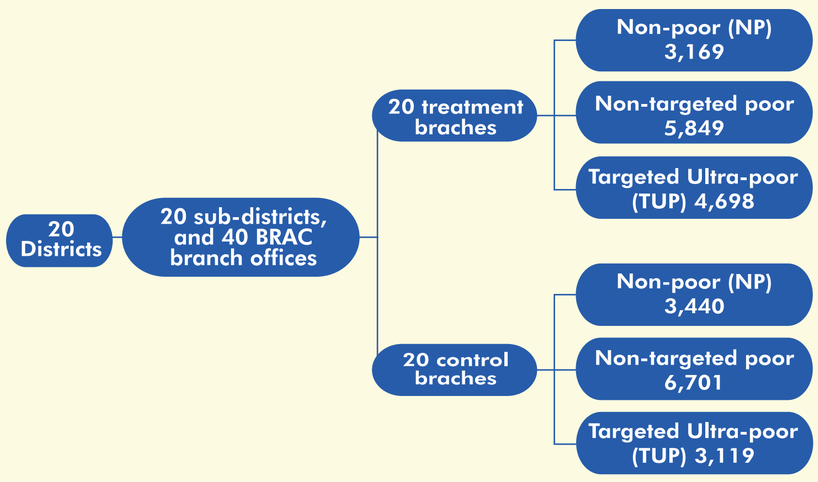
Access to productive assets can sustainably reduce food insecurity in the long-run but there are short-run trade-offs



Research Design

Field experiment following RCT

Household survey in 2007, 2009, 2011



Ahmed MS[1] and Farjana F[2] (2019) The impact of ultra poor graduation programme on food security in Bangladesh.

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REVAMPING AFRICA'S DYSFUNCTIONAL RESEARCH-POLICY NEXUS

EMERGING RESEARCH PRIORITIES

- Eradicate Hunger
- Disease Control
- Communication
- Environmental protection
- Wealth creation

AGENDA 2063

Disconnect Between Research & Policy

RAMPANT	RARE/MISSING
Limited or No Planning	Efficient management of research organizations
Policy Lags	Availability of competent researchers
Policy-making and implementation challenges	Adequate research infrastructure

OBSTACLES TO RESEARCH UTILIZATION

SUPPLY-SDE FACTORS	DEMAND-SIDE FACTORS
Low investment in R & D	Nebulous policy objectives – difficult to research
Quality of Research	Poor culture of policy development
Complexity of policy Issues	Lack of political will to accept and implement research results
Perception about the quality of researchers	Inadequate research-policy linkage mechanisms
Mismatch between research agenda and knowledge needs of policy makers	Perception about the sponsor of the research
Poor communication and dissemination of research results	Untimely demand for research in the policy process

INTEGRATING POLICY RESEARCH INTO AGENDA 2063

- Break the Wall Around Knowledge Producers
- Create a niche for 'policy research intelligence'
- Synchronize Research Cycle and Policy Cycle
- Stop Outsourcing of Policy Research
- Mobilize Resources for Policy Research Finance

Aderibigbe Olomola
Head RMD, NISER
NIGERIA

GDN 's 2019 Global Development Conference
Bonn. Germany

CONFERENCE POSTER

ETHIOPIA

Strong smallholder farmers' perception of Climate-Smart agriculture(CSA) technologies enhances adoption

The purpose

- Given the threats of climate change, climate-smart agriculture would be a viable path to pursue among smallholder farmers in Ethiopia.
- The adoption of specific CSA technologies has become a challenging issue in the agricultural development policy agenda for sub-Saharan Africa especially in Ethiopia.
- As new agriculture technology, CSA technologies' adoption decision is the outcome of the mixed effect and interaction of environmental, technical, personal, economic, and institutional factors .
- The adopter perception paradigm states that adoption perception about the perceived benefit of agricultural technology is the key to its adoption. The question is how do perceptions of farmers towards agricultural technologies affects their decision to adopt?
- Therefore, the objective of this study was to analyze how farmers' perception of CSA technologies determine their decision to adopt CSA technologies in the Blue Nile highland of Ethiopia .

Method and study area

- The study site, Choke Mountain Watershed, is the part of the Blue Nile Highlands(BNHs) of Ethiopia.
- The study is based on a cross-sectional survey of 424 sample households selected from five Agro-ecosystems in the upper Blue Nile highland of Ethiopia.
- The dependent variables are adoption of improved crop varieties, marketable crop, conservation agriculture, compost, row planting, Soil and water conservation (SWC) and agro-forestry.
- Variables examined in the analysis includes CSA practice increases productivity, soil fertility, income, soil organic matter, alternative fodder source, and alternative energy source; while CSA practice reduces cost of production, reduces use of inorganic fertilizer, soil erosion, seeding rate, weed infestation, and crop failure.
- Multivariate probit (MVP) model was used for the multivariate analysis of the determinants of adoption of CSA technologies.

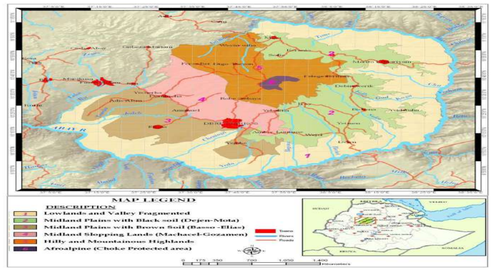

Figure 1. Map of the study area

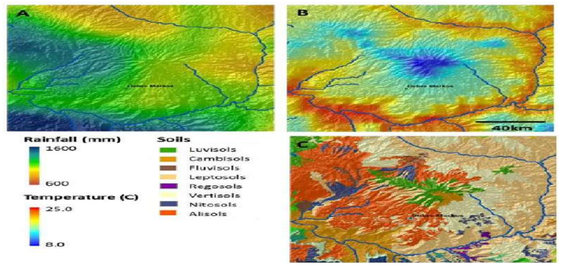

Figure 2. Bio-physical characteristics of the study area

Table 1. Perception of CSA technologies.

Results

Variable	Percent	Description
		Yield improvement
Increase productivity	91	CSA practice increases crop productivity
		Soil health
Increase soil fertility	85	CSA practice increases soil fertility
Increase soil organic matter	64	CSA practice increases soil organic carbon
		Profitability and cost reduction
Increase income	80	CSA practice increases income
Reduces inorganic fertilizer	61	CSA practice reduces use of inorganic fertilizer
Reduces cost	59	CSA practice reduces the cost of production
Reduces seeding rate	55	CSA practice saves seed rating
		Vulnerability
Reduces erosion	50	CSA practice reduces soil erosion
Rehabilitates land	40	CSA practice rehabilitates land
Reduces crop failure	13	CSA practice reduces crop failure
Reduces weed infestation	10	CSA practice reduces weed infestation
		Environmental degradation
Increases animal fodder	43	CSA practice increases alternative animal fodder source
Increase fuel source	29	CSA practice increases alternative energy source

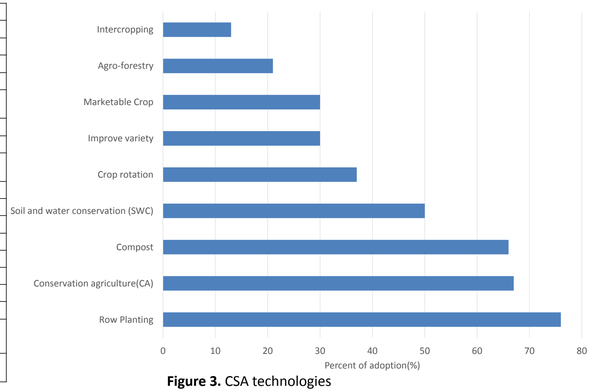

Figure 3. CSA technologies

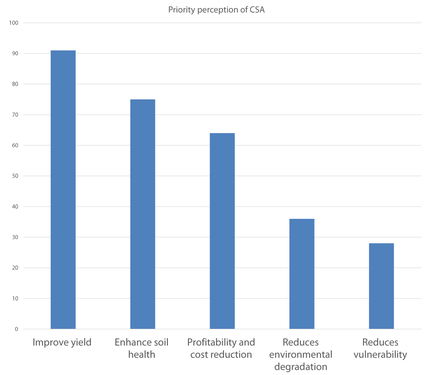

Figure 4. Priority perception of CSA

Table 2. Perception determinants of adoption of CSA technologies

Explanatory variables	Marketable Crop	Conservation Agriculture	Compost	Row planting	Intercropping	Soil and water conservation	Agro-forestry
Increase productivity	0.5*(0.3)		0.2(0.3)	0. 3(0.4)	1.3***(0.5)	-1.4***(0.4)	0.8**(0.4)
Increase soil fertility	1.1***(0.34)	1.0***(0.3)		0.1(0.3)	0.6(0.5)	-0.2(0.3)	0.5(0.4)
Increase soil organic carbon	-0.2(0.2)	1.3***(0.2)	1.0***(0.2)	0.2(0.2)	-0.1(0.2)	0.08(0.2)	0.2(0.2)
Increase income	0.7***(0.3)	0.1(0.2)	0.3(0.2)	-0.1(0.3)	0.5(0.4)	0.1(0.2)	-0.2(0.3)
Increase animal fodder	-0.3*(0. 2)	0.2(0.2)	-0.3(0.2)	-0.6**(0.2)	0.1(0.2)	-0.01(0.2)	-0.7***(0.2)
Increase fuel source	0.4**(0.2)	0.3(0.2)	0.2(0.2)	0.4(0.3)	0.3(0.2)	0.4**(0.2)	1.5***(0.2)
Reduces soil erosion	-0.1(0.2)	0.1(0.2)	0.1(0.2)	-0.4**(0.2)	0.8***(0.2)	1.8***(0.2)	0.6***(0.2)
Reduces weed infestation	0.5**(0.2)	0.3(0.2)	0.9***(0.3)	1.4***(0.5)	1.3***(0.3)	-0.8***(0.2)	0.98***(0.3)
Reduces cost of production	-0.1(0.2)	0.3(0.2)	0.2(0.2)	0.4(0.2)	-0.3(0.2)	-0.1(0.2)	-0.3(0.2)
Reduces crop failure	-0.01(0.2)	-0.2(0.2)	0.1(0.3)	0.5(0.3)	0.1(0.3)	0.6***(0.2)	0.3(0.2)
Reduces inorganic fertilizer	0.02(0.2)	0.1(0.2)	1.3***(0.2)	0.3(0.2)	0.3(0.2)	-0.5**(0.2)	0.1(0.2)
Reduces seeding rate	-0.2(0.2)	-0.9***(0.2)	0.3*(0.2)	2.0***(0.2)	0.8***(0.3)	0.2(0.2)	0.8***(0.2)
Rehabilitates land	0.7***(0.2)	-0.2(0.2)	-0.1(0.2)	-0.01(0.2)	-0.02(0.2)	0.2(0.2)	-0.06(0.2)
Constant	-2.7***(0.5)	-1.8***(0.3)	-1.5***(0.4)	-0.4(0.4)	-4.7***(0.8)	0.5(0.4)	-3.1***(0.5)
Sample size	424	424	424	424	424	424	424

Standard errors in parentheses ***, **, * are significant at 1%, 5%, and 10%, respectively

- The descriptive result shows that most (more than 50%) of the farmers have adopted row planting, conservation agriculture(CA), compost, and Soil and Water Conservation (SWC)
- Perceptions of CSA technologies are improve yield (91 percent), enhance soil health (75 percent), improves profitability and cost reduction (64 percent), reduces environmental degradation (36 percent), and reduces vulnerability (28 percent) are the major perception themes in the descending order of magnitude
- There is a significant difference in the proportion of farmers' perception of CSA technologies between adopters and non-adopters of CSA technologies.
- Farmers adopt different CSA technologies based on their CSA benefit assessment.
- Farmers whose concerns most for yield improvement and income are more likely to adopt marketable crop, intercropping, and agro-forestry while less likely to adopt SWC.
- Farmers whose concern for soil health are more likely to adopt conservation agriculture and compost.
- Farmers who prioritize profitability and cost reduction are more likely to adopt marketable crop, compost, row planting, intercropping, and agro-forestry while are less likely to adopt SWC and conservation agriculture.
- Farmers who value reduction of vulnerability are more likely to adopt marketable crop, compost, intercropping, SWC, and agro-forestry while less likely to adopt row planting, and SWC.
- Farmers whose concerns most for reduction of environmental degradation likely to adopt SWC

Conclusions

- The perception of CSA technologies determines the adoption of specific CSA technology among the smallholder farmers.
- Perceptions of climate-smart agriculture technologies are heterogeneous among farmers ; and hence, interventions should consider this heterogeneity of perception during CSA technology recommendation.
- Policy makers need to carefully evaluate each CSA technology and make sure they fully understand why some farmers adopt specific CSA technologies while others do not .
- Although this paper showed the importance of farmer's perception on adoption of CSA technologies, it is short of other constraint factors such as economic, institutional and risk factors.

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