

Welcome remarks

Dear Participants,

Welcome to the 2014 Inaugural Research Symposium taking place in Lilongwe, the capital city of Malawi. It is a vibrant city that is growing fast with lots of construction going on. When you see buildings being raised and traffic jams you get a feeling of economic expansion and social progress, but to the contrary there remains much more to be done. Huge gaps exist between the rich and the poor. All Malawians are looking up to the newly elected government for new hope and progress. Much now remains on the shoulders on the new President and his cabinet. Initial signs however, are hugely encouraging and courts expectation that a new Malawi is about to balloon.

It is in this context that the Economics Association of Malawi, in partnership with International Food Policy Research Institute (IFPRI), Innovations for Poverty Action (IPA) in Malawi with funding from the European Union, has organized the research symposium under the theme ***Achieving Inclusive Sustainable Economic Growth : From Rhetoric to Practice***. In contrast to the annual conference that ECAMA has been holding since 2012, the research symposium has been organized as an academic-style symposium targeted at local and international participants, including researchers, policy analysts and students.

I expect that by the end of the symposium ideas coming through will be utilized to feed into crafting of a national development plan that will succeed the MGDSII expiring in 2015. Therefore we remain eager to get your views and knowledge through your participation in the deliberations of the symposium as well as through various papers put together by both upcoming and veteran researchers.

I wish you fruitful deliberations and welcome.

Henry Kachaje

ECAMA President

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Wednesday 8 October 2014: Pre-symposium workshops		
09:00 – 12:00	Workshop I:	Strengthening storage, credit, and food security linkages: The role and potential impact of warehouse receipt systems (WRSs) in Malawi
	<p><i>Warehouse receipt systems (WRSs) are a relatively new commercial instrument in Malawi that offer owners of agricultural commodities (e.g., maize or soya) certified storage that could reduce post-harvest losses, access to formal credit, and improved market linkages. As such, it has the potential to facilitate trade, smooth seasonality in market prices, help farmers overcome cash constraints, and improve market efficiency and food security. Currently the Agricultural Commodities Exchange for Africa (ACE) and Auction Holdings Commodities Exchange (AHCX) operate WRSs in Malawi. Both systems have succeeded in giving traders access to high-quality storage and credit. However, there is a perception that WRSs are not as accessible to smallholder farmers or perhaps not as well tailored to their specific needs. This workshop attempts to address questions such as: Is a WRS an appropriate tool for helping smallholder farmers improve their food security? What are the barriers to accessing WRSs? What alternative storage models linked to credit may be better suited to the needs of smallholders, particularly smaller producers or net-consumers? This workshop will connect government, WRS operators, development partners, implementers, and researchers in order to debate these questions and determine areas for future investigation.</i></p> <p><u>Presentations:</u> Strengthening storage, credit, and food security linkages: The role and potential impact of warehouse receipt systems (WRSs) in Malawi : Karl Pauw Warehouse Receipt Systems for food security and resilience building: Mtendere Mchakama Warehouse Receipt System (WRS): Save the Children (not presented at workshop)</p>	
	<p><u>Chair:</u> Brent Edelman (IFPRI)</p> <p><u>Participants:</u> Karl Pauw (IFPRI); Daniel Chilima (AHCX); Kristian Moller (ACE); Gwyneth Cotes (Concern Worldwide); Chrispin Magombo (Save the Children); Martin Isyagi (FUM); Dyborn Chibonga (NASFAM); Grace Mhango (Grain Traders and Processors' Association); Feckson Kantonga (ADMARC)</p>	
12:30 – 14:00	Lunch break	
14:00 – 15:00	Workshop II:	Unpacking the “black box” of public expenditure statistics: Lessons from a diagnostic analysis of agricultural sector public expenditures
	<p><i>As part of a research program carried under the CGIAR's Policies, Institutions, and Markets (PIM) program housed within IFPRI, several IFPRI researchers are undertaking a detailed diagnostic-analytical look at how data on public expenditures for the agricultural sector are captured in government financial and budget accounts. At this workshop we will draw on studies undertaken Mozambique, Kenya, and Malawi to better understand the “black box” of public expenditure statistics and how it varies across countries. The aim is to equip analysts with a clear framework and the necessary skills to identify levels and compositions of government agriculture expenditures and to better interpret existing government accounts. We also offer an opportunity for participants to revisit the findings of the World Bank Agricultural Public Expenditure Review (AgPER) and reflect on newly tabled budget for Malawi in 2014/15.</i></p> <p><u>Presentations:</u> Unpacking the “black box” of public expenditure statistics: Lessons from a diagnostic analysis of agricultural sector public expenditures : Tewoqaj Moques Public Account and Coding System: Government Expenditure in Kenya: Bingxin Yu Report on the Public Financial Accounts and Coding System in Malawi and Agriculture Expenditures within the System: Chance Mwabutwa</p>	
	<p><u>Chair:</u> Alex Namaona (MoAIWD)</p> <p><u>Participants:</u> Tewodaj Mogues (IFPRI); Bingxin Yu (IFPRI); Chance Mwabutwa (IFPRI); Olivier Durandt (World Bank)</p>	

Thursday 9 October 2014

08:00 – 09:00	Registration			
09:00 – 10:30	Plenary: Opening session (<i>Coordinated by ECAMA</i>)			
	<i>Chair: Nelson Mkandawire</i>			
	Welcome remarks: President of ECAMA: Henry Kachaje			
	Keynote address: Thandika Mkandawire (London School of Economics)			
	Group photo			
10:30 – 11:00	Tea break			
11:00 – 12:30	Parallel session 1			
		Room A	Room B	Room C
		<i>Agricultural technology adoption (1)</i>	<i>Climate change and environment</i>	<i>Governance</i>
		<i>Chair: Sarah de Tournemire</i>	<i>Chair: James Thurlow</i>	<i>Chair: Chance Mwabutwa</i>
	i)	Does irrigation have an impact on food security and poverty? Evidence from Bwanje Valley irrigation scheme in Malawi: Rudolf Nkhata, Charles BL Jumbe & Mannex Mwabumba	Is climate change all that bad? An ex ante biophysical and economic evaluation of implications on maize productivity, farm incomes and poverty to 2070 in Mzimba district: Arthur Chibwana et al.	Trapped in webs of underdevelopment for half a century? Rethinking Malawi's governance development framework: Blessings Chinsinga
	ii)	Effects of smallholder gravity-fed irrigation scheme participation on per capita household incomes in Malawi : Tsilizani Landitsani Mseu & CBL Jumbe		Empowering citizens for transformative development in Malawi, addressing to tough governance questions: Fletcher Tembo
	iii)	Agricultural information perceptions and behaviors of smallholder farmers in the Central Region of Malawi: Fallys Masambuka-Kanchewa		Private sector's role in cities regeneration drive: Noël Chalamanda
12:30 – 14:00	Lunch break			

Thursday 9 October 2014 (continued)

14:00 – 15:30	Parallel session 2		
	ROOM A	ROOM B	ROOM C
	<i>Agricultural technology adoption (2)</i>	<i>Health and nutrition</i>	<i>Monetary and fiscal policy</i>
	<i>Chair: Thabbie Chilongo</i>	<i>Chair: Noora Aberman</i>	<i>Chair: Ben Kaluwa</i>
i)	Profitability of fertilizer use in Malawi: A spatial econometrics analysis: Francis A Darko, J Ricker-Gilbert & G Shively	The cost of ill health on welfare of rural households: The case of Teuka village, Zomba district, Malawi : Lauryn Khangamwa, Patrick Kambewa, Winford Masanjala, Celia Petty & John Seaman	Monetary Policy Response to Foreign Aid in an Estimated DSGE Model of Malawi: Chance Mwabutwa, Manoel Bittencourt & Nicola Viegi
ii)	Response of major grain legumes to inoculation with rhizobia and application of phosphorus fertilizers in Malawi: BYE Chataika & L Phiphira	Catastrophic health expenditure and poverty in Malawi: Martina Rhino Mchenga	Twin deficits: An empirical analysis on the relationship between budget deficits and current account deficits in Malawi : Tayamika Kamwanja
iii)	Maize price differences and evidence of spatial integration in Malawi: The case of selected markets: Lovemore Paul Nyongo, Patrick Kambewa & Ronald Mangani		Taxation and policy performance in Malawi since independence: SG Kaunda & J Kenani
15:30 – 16:00	Tea break		
16:00 – 17:30	Plenary: Growth, economic transformation, and the changing role of agriculture (Coordinated by IFPRI)		
	<i>Chair: Karl Pauw</i>		
i)	Strategic options for agriculture and development in Malawi: Andrew Dorward & Ephraim Chirwa		
ii)	Climate change and economic growth prospects for Malawi: An uncertainty approach: James Thurlow with Channing Arndt, Adam Schlosser & Kenneth Strzepek		
17:30 - 19:30	Cocktail function		

Friday 10 October 2014

08:00 – 09:00	Registration			
09:00 – 10:30	Parallel session 3			
		ROOM A	ROOM B	ROOM C
		<i>Agricultural growth and development</i>	<i>Trade and industry policy</i>	<i>Education & labor markets</i>
		<i>Chair: Ephraim Chirwa</i>	<i>Chair: Noël Chalamanda</i>	<i>Chair: Blessings Chinsinga</i>
	i)	Is there a minimum farm-size frontier for food security and agricultural commercialization in Malawi?: Athur Mabiso	Responsiveness of Malawi–South Africa Bilateral trade flows to changes in relative prices and income: Hope E Mfuni	The prism of rejecting the double burden on employers through pension reforms: how Malawi moved away from paying the severance allowance and pension at the same time: Mtendeweka Mhango
ii)	Economic analysis of tractor and labour use in tobacco production in Lilongwe ADD: A case of Demera Extension Planning Area: Tapiwa Tizifa	Challenges to soya export promotion in Malawi: an institutional analysis of trade policy in Malawi: Noora Aberman & Brent Edelman	Mobile E-Learning: The Choice between responsive/mobile websites and mobile applications for virtual learning environment for increasing access to higher education in Malawi : Chifundo Chilivumbo	
iii)	Agricultural growth and multiplier effects of consumption spending in rural and urban Malawi : Henry Kankwamba, Chinsinsi Mtuluma, & John Mazunda	Malawi National Industry Policy: a situation analysis: Temwa Gondwe & John McGrath	Resource nationalism and mining fiscal regime in Malawi: revenue volatility and trade-offs: Winford Masanjala	
10:30 – 11:00	Tea break			
11:00 – 12:30	Plenary: Impact evaluations using randomized control trials (Coordinated by IPA)			
	<i>Chair: Thomas Munthali</i>			
	i)	An Introduction to conducting impact evaluations using randomized control trials (RCTs): Thomas Munthali		
	ii)	Leveraging social networks to enhance agricultural extension: lessons from an RCT study: Lori Beaman, Ariel BenYishay, Jeremy Magruder, Ahmed Mushfiq Mobarak & Paul Fatch		
iii)	Fighting poverty with what works - The IPA mission across the globe: Sarah de Tournemire			
12:30 – 14:00	Lunch break			

Friday 10 October 2014 (continued)

14:00 – 15:00	Parallel session 4			
		ROOM A	ROOM B	ROOM C
		<i>Agriculture and natural resources</i>	<i>Poverty measurement</i>	<i>Financial sector</i>
		<i>Chair: Mariam Kadzamira</i>	<i>Chair: Andrew Dorward</i>	<i>Chair: Temwa Gondwe</i>
	i)	The dynamics of forests, livelihoods and poverty alleviation relationships – implications for household strategy: Thabbie Chilongo	Spatial comparisons of multidimensional poverty and inequality in Malawi: Anderson Gondwe	Competition and financial sector regulation in Malawi: to whom it may concern: Ben Kaluwa & Gowokani Chirwa
ii)	Breaking the vicious cycle of low-income and poverty through sustainable environment and natural resources management in Malawi: Anand Babu Prakasam, Michael Mmangisa, Moa Westman & David Smith	Exit from poverty and policy analysis: A method and an application to Malawi: Richard Mussa	Constraints to Agriculture finance in Malawi: Morut Martin Isyagi	
15:00 – 15:30	Tea break			
15:30 – 17:30	Plenary: Upgraded paper session & closing (Coordinated by ECAMA)			
	<i>Chair: Henry Kachaje</i>			
	i)	Analysis of effectiveness of modern information and communication technologies on maize marketing efficiency in selected markets in Malawi: Sarah Tione		
	ii)	Land rental market development in Malawi: an empirical analysis of trends, drivers, participants and impacts: J Chamberlin & J Ricker-Gilbert		
	iii)	Child labour and schooling in Malawi: Does mothers employment matter?: Michael Masiya & Richard Mussa		
Closing remarks: President of ECAMA: Henry Kachaje				

Ephraim Chirwa, Chancellor College, University of Malawi

Ephraim Chirwa is Professor of Economics at Chancellor College, University of Malawi and Managing Director at Wadonda Consult Ltd. He graduated from the University of Malawi in 1989. He holds an MPhil in Economics awarded by the University of Cambridge in 1991. In 1993, he joined the Department of Economics at Chancellor College, University of Malawi as lecturer in economics. He completed his PhD in Economics at the University of East Anglia in 2000. Over the last 20 years he has undertaken research on various aspects of the Malawian economy, particularly on agricultural reforms, farming systems, and smallholder farmer organizations. He has collaborated with Andrew Dorward on a number of research projects including the ongoing evaluations of the Farm Input Subsidy Programme in Malawi since 2006.

Andrew Dorward, SOAS, University of London

Professor of Development Economics, Centre for Development Environment and Poverty, SOAS, University of London has had a varied career in development, research and training in a range of countries, with a primarily African focus. He has long-term interests in issues affecting the livelihoods of poor rural people, in particular problems associated with seasonality, market access, institutions, and the interactions of agricultural and other activities in rural economies. He has a long personal and professional association with Malawi; most recently since 2006/7 he has been leading evaluations of the Farm Input Subsidy Programme. He and Professor Ephraim Chirwa published a book emerging from this work in October 2013.

Paul Fatch, Ministry of Agriculture, Irrigation and Water Development

Mr. Paul Fatch is a Principal Agricultural Training Officer in the Department of Agricultural Extension Services Ministry of Agriculture, Irrigation and Water Development. He has worked in the Ministry since 2005. Paul Fatch holds a Master of Science Degree in Rural Development and Extension, and a Bachelor of Science Degree in Agriculture specializing in Agricultural Extension from the University of Malawi. He has published several of his works.

Henry Kachaje, Economics Association of Malawi

Henry Kachaje is the president of the Economics Association of Malawi (ECAMA) and Managing Director of Business Consult Africa Ltd, a professional consulting and business development service provider he helped establish in 2000 with technical expertise from Traidcraft PLC, UK's leading Fair Trade organization. He is an economist (University of Malawi) and a certified business consultant (University of Durham). He has consulted on various economic and enterprise development assignments in Scotland, South Africa, Zambia, Mozambique, Tanzania, Botswana and Malawi. His professional expertise include leadership development, organizational and enterprise development, export trade facilitation, change management, strategy development, team building, entrepreneurship training, personal development coaching and motivational speaking.

Thandika Mkandawire, London School of Economics and Political Science

Professor Thandika Mkandawire is former Director of the United Nations Research Institute for Social Development and the first person to take on the new position of Chair in African Development at the London School of Economics (LSE). Prof. Mkandawire was formerly Director of the Council for the Development of Social Science Research in Africa (CODESRIA), a Senior Research Fellow at the Centre for Development Research in Copenhagen and has taught at the Universities of Stockholm and Zimbabwe. He currently holds the Olof Palme Professor for Peace with the Institute for Future Studies in Stockholm. His research interest are mostly in development theory, economic policy and development and social policy in developing countries and political economy of development in Africa

Thomas Munthali, Innovations for Poverty Action

Thomas holds a Master's Degree and PhD in Economics from the University of Leeds in England with a specialty on interactions of public and private investments in Southern Africa. He has worked with the Ministry of

Economic Planning, the World Bank, and the United National Population Fund. Currently, he is the Malawi Country Director for Innovations for Poverty Action, an international non-governmental organization that specializes in conducting impact evaluation in over 51 developing countries. He has written a number of journal and workshop/conference papers on development economics. He is the past President of the Economics Association of Malawi (and remains its Executive member).

Karl Pauw, International Food Policy Research Institute

Karl Pauw is the Country Program Leader of IFPRI's Malawi Strategy Support Program (MaSSP) in the Development Strategy and Governance Division. His work involves research and policy analysis, technical assistance, and capacity building among policymakers, researchers, and students in the Malawian agricultural sector. His specific research interests include: development and agricultural policy analysis; microeconomic analyses of labor markets, poverty, welfare, and nutrition; CGE modeling and micro-simulation modeling; ex ante evaluation of distributional effects of macro- and micro-policies; and economic impacts and mitigation of climate change and extreme weather events. Karl obtained a PhD in Economics from the University of Cape Town in 2009.

James Thurlow, International Food Policy Research Institute

James Thurlow is a development economist whose research focuses on the interactions between policies, economic growth and poverty, primarily using computable general equilibrium and micro-simulation modeling. Past research focuses on evaluating public investments and policies; rural, regional and urban development; and climate change and other external risks. He has worked with governments and researchers throughout Sub-Saharan Africa, and in Bangladesh, Peru, Tunisia and Vietnam.

Sarah de Tournemire, Innovations for Poverty Action

Sarah de Tournemire is responsible for developing and overseeing the organization's communications and fundraising strategies to raise IPA's profile and financial resources. Sarah has previously worked as a staff member, consultant and volunteer for nonprofit organizations in the US and internationally for over 15 years, with an emphasis on development, management and strategic planning for the nonprofit sector. She has extensive experience as a consultant working with diverse organizations such as the International AIDS Vaccine Initiative, The Armory Foundation, Blue Man Group (Blue School), and the International Center. Sarah has also held senior positions at Concern Worldwide US, the Drugs for Neglected Diseases Initiative, U.S. Fund for UNICEF, and New York University. Sarah earned her bachelor's degree in international affairs from The American University of Paris and a master's in public administration from New York University; she is also a Certified Fundraising Executive.

Parallel Session 1

Does irrigation have an impact on food security and poverty? Evidence from Bwanje Valley irrigation scheme in Malawi

Rudolf Nkhata, Charles BL Jumbe & Mannex Mwabumba

The purpose of this study was to assess the impact of irrigation on food security and poverty using a case study of Bwanje Valley Irrigation Scheme in Malawi. Data used in the analysis were collected from 412 households – 169 participants in the irrigation scheme and 243 non-participants. Due to the non-random selection of participants into the irrigation scheme, the study used endogenous switching regression to correct for sample selection bias. Propensity score matching was then used to measure the impact of irrigation on food security and poverty. Daily per capita caloric intake and agricultural income were the proxy measures used to measure food security and poverty, respectively. Despite farmers selling paddy rice at the farm gate on an individual basis and operating in an environment with inadequate water supply, the findings revealed that irrigation had a positive impact on annual agricultural income and daily per capita caloric intake. The impact of irrigation on household annual agricultural income was different among the participants, with those cultivating both rice and maize earning more agricultural income than their counterparts growing rice only. The results also showed a positive impact of irrigation on daily per capita caloric intake was similar with both groups of participants consuming relatively the same amount of daily per capita caloric intake than what they would have consumed if they did not participate in the irrigation scheme. In addition, traditionally marginalized groups such as the youth, female headed and the low-income households earned more agricultural income than what they would have earned if they did not participate in the irrigation scheme. However, the low-income household earned the least amount of agricultural income. The recommendations from the study are that irrigation interventions should be up scaled to other areas with potential irrigable land and should promote the growing of more than one crop. In addition, irrigation schemes should promote bulk marketing of processed rice through contract relationships with institutions (i.e. schools, prisons, hospitals) and private traders

Effects of smallholder gravity-fed irrigation scheme participation on per capita household incomes in Malawi

Tsilizani Landitsani Mseu & CBL Jumbe

This study was conducted to understand the effects of smallholder gravity-fed irrigation participation on per capita incomes of households in Malawi. Socio-economic and institutional factors influencing the decision to participate in gravity-fed irrigation were also studied. Data used in the study was obtained through a household survey covering 380 households conducted by Bunda College and Masdar (UK) Consultants on behalf of the Department of Irrigation in 2012. Data was analyzed using descriptive statistics and Heckman's MLE selectivity model. This study revealed that there are significant per capita income differences between smallholder gravity-fed irrigation scheme farmers and non-participating farmers, and that participation in smallholder gravity-fed irrigation has undoubtedly played a part in those observed differences. The study recommends that to further improve household income earnings, government, NGOs and donors involved in irrigation need to increase smallholder irrigation area in Malawi through expanding the existing schemes' command area (in schemes where expansion is technically feasible) or establishing new ones. In addition, collective marketing of irrigation farm produce need to be enhanced to improve per capita incomes. Lastly, to increase farmer participation, irrigation projects need to include support programs to improve extension services, formation of Village Credit and Savings Groups (VCSG) and enhancement of non-farm income generating activities to help capital constrained farmers kick-start and sustain irrigation farming.

Agricultural information perceptions and behaviors of smallholder farmers in the Central Region of Malawi

Fallys Masambuka-Kanchewa

Low levels of adoption of agricultural technologies are among the problems affecting agricultural development in most African countries, including Malawi. Research shows that limited access to information is one of the major factors affecting adoption of agricultural technologies. The Malawian government through the

Department of Agricultural Extension of the Ministry of Agriculture and Food Security established the Agricultural Communication Branch (ACB) to ensure increased access to agricultural information. However, little is known regarding farmers' use of such communication media to access agricultural information because no established mechanisms exist for collecting audience feedback. Regular audience feedback is important in improving delivery of agricultural information. This study was aimed at describing and understanding Malawian farmers' perceptions and use of communication channels for accessing agricultural information. The study was based on the following objectives: To identify communication channels used by Malawian farmers when accessing agricultural information; to identify demographic factors associated with Malawian farmers' preferences for and use of communication channels; and to identify common information delivery methods used by ACB in transmitting agricultural messages to Malawian farmers. Participants in this research were 20 farmers who were randomly selected and 12 communications officers. Farmers were data collected through In-depth interviews using a question route developed by the researcher. The researcher visited farmers in their respective homes and administered the interviews in Chichewa, Malawi's vernacular language. Responses were then translated into English and transcribed. Communication officer data were collected through survey research using a semi-structured questionnaire that was mailed to participants. Farmer data were entered into Microsoft Excel for analysis, in which the researcher tabulated frequencies and identified themes in the data. Communication officer data were entered into SPSS for descriptive analyses that included tabulation of frequencies and percentages. Findings from this research showed that radio was most used medium among the farmers who participated in the study. However, it was indicated that farmers prefer print media when accessing information despite observations that farmers in the study had never accessed information in print media. It was also revealed that most women who participated in the study do not have control over the use of communication devices. Findings also revealed that most communication officers participating in the study were not aware of the communication channels used by the farmers and also that the officers were not familiar with channels used by ACB. Based on findings from this research there is need for the Ministry of Agriculture and Food Security to consider re-establishment within the ACB to allow ongoing audience analysis and collection of farmer feedback on which to base future agricultural communication efforts. There is also need to increase communication staffing levels to ensure adequate communication capacity in the organization.

Is climate change all that bad? An ex ante biophysical and economic evaluation of implications on maize productivity, farm incomes and poverty to 2070 in Mzimba district

Arthur Chibwana Gama, Lawrence D. Mapemba, Patricia Masikat, Sabine Homann-Kee Tui, Olivier Crespo & Elizabeth Bandason

Historical data in Malawi indicates there has been climate change in the past, and that farmer households have been affected. Climate models predict further changes in precipitation and temperature over Malawi in the future. However, most studies to understand the impacts of climate change in Malawi have focused on *ex post* assessments of weather events. Planning for future adaptations by Malawian farmers to a changed climate will require acknowledging that future climate patterns may deviate significantly from historical climate patterns. Little research has been done to assess *ex ante* (future) climate change and its potential impacts and implications on farmer productivity, incomes, and poverty. This study investigates possible climate change patterns over the period 2040 to 2070 in order to assess the potential economic impacts for crop-livestock integrating and non-integrating farmers in Mzimba district in northern Malawi. Thirty year historical climate data were used to generate 20 Global Circulation Models (GCM) for plausible future climates. Future maize yields then were simulated using the APSIM crop model. The TOA-MD model was used with the crop model results for economic analysis. Results indicate that over the period 2040 to 2070 relative to the present, Mzimba district will be warmer by between 1°C and 3°C and slightly drier by 1.1 percent, but with considerable uncertainty in the GCM models. Maize productivity is expected to increase by between 10 and 15 percent. On aggregate, 56 percent of farmers will register productivity gains –55 percent of crop-livestock integrating farmers and 57 percent of non-integrating farmers. Mean net returns per hectare are expected to be higher among integrated farmers. Incomes per capita are predicted to increase by 5.2 percent – by 5.3 percent among integrating and by 5.1 percent among non-integrating farmers. Income-based poverty is predicted to decline by 4 percent – by 6 percent among integrating and by 2 percent among non-integrating farmers. The study recommends that, in order to enable farmers in Mzimba to more effectively adapt to the

changing climate, investment is needed in research to develop heat-tolerant maize varieties, and efforts are needed to enhance sustainable agricultural intensification, including crop-livestock integration.

Climate change in rural Malawi: Experiences on adaptive coping strategies and managing risks at community and household Levels

George Phiri & Anand Babu Prakasam

A study on the experiences and adaptive coping strategies conducted in selected vulnerable districts of Malawi (Chikwawa, Karonga, Salima, Mulanje and Kasungu) in 2011 through the National Climate Change Programme quantified levels of rural livelihoods' vulnerability to negative impacts of climate change and variability. This was attributed to the non-resilient livelihoods, extremely low wealth base, inadequate diversification of production systems and gender-based inequities. The study further found that the negative impact of climate change is pushing rural households deeper into the vicious cycle of poverty, as demonstrated by continuing concerns about food insecurity, malnutrition, migration due to frequent and prolonged dry spells and droughts, growing constraints on the natural resource base (water scarcity and land degradation), lack of infrastructure and poor dissemination of adaptation technologies all of which are exacerbated by lack of implementation of government policies which in some cases show inter-sector contradictions. A synthesis of evidence and lessons learned from this study provides empirical evidence on the vulnerability of the poor to various climate risks and shocks, as well as their lack of capacity to access physical, financial and social resources and networks in the risky environments of rural Malawi.

Agrarian impact of climate change in Malawi: a quantile Ricardian analysis

Assa M Mulagha & Memory Malakini

This paper measures the economic impact of climate on Malawian Agriculture. The approach regresses net farm revenue against various climate, soil, hydrological and socio-economic variables to help determine the factors that influence variability in net farm revenues. We use cross-sectional data on climate, hydrological, soil and household level data for a sample of 8,832 households. We estimate a Ricardian model to assess the impact of climate on net farm revenue per hectare. The results show that climate affects net farm revenue. There is a non-linear relationship between temperature and revenue on one hand and between precipitation and revenue on the other. Estimated marginal impacts suggest that global warming is counter-productive to net farm revenue. The empirical analysis reveals that 2.5°C increase in warming results in predicted losses of US\$0.0081 billion and doubling warming to 5°C amplifies the losses to US\$0.018 billion. Reducing precipitation by 7% trims net revenue by 8.13% on a per hectare basis. Undoubtedly, 14% reduction in precipitation is predicted to cause reasonably larger losses of about US\$0.1161 billion. It can be inferred that this significantly demonstrates Malawi's dependence on rain fed agriculture.

Trapped in Webs of Underdevelopment for Half a Century? Rethinking Malawi's Governance Development Framework

Blessings Chinsinga

Which development fad has Malawi not experimented with since its birth as an independent nation in July 1964? It has not only experimented with almost each and every development fad that has caught the attention of development practitioners but has also been amongst the pioneering implementers but without much to show for. The findings of the latest Integrated Household Survey (IHS) are a clear indictment of the apparent failure of the country's efforts to shovel itself out of the webs of underdevelopment half a century later. Poverty remains deep, severe and widespread with half and quarter of the population living below the poverty line and chronically poor respectively. It is against this backdrop that this paper seeks to rethink Malawi's governance development framework through the political settlement analytical lenses. A political settlement is broadly defined as a common understanding usually forged between and among elites about how power is organized, shared and exercised, which, inter alia, plays a key role in shaping patterns and processes of economic growth, tax capacity, state responsiveness and even access to justice. The main argument of this paper is that although there have been moments of hope and promise of developmentalism throughout the last 50 years, they have not lasted because the country's political settlement has fundamentally remained the same regardless of the transitions it has undergone over the years. The proposition of this paper is that

Malawi's development governance framework must not only be obsessed with what to do but also how to do it, which requires a great deal of innovative institutional engineering largely outside the prescriptive text book policy toolkits.

Towards transformative development in Malawi: addressing the tough governance questions

Fletcher Tembo

A critical look at the policy and practice trends over the past 50 years of an independent Malawi and 20 years of a democratic Malawi, it is clear that Malawi has lacked an effective developmental and democratic social contract between the state and citizens. This paper argues that at this moment and going forward there is an urgent need to find a 'growth-enhancing' and 'democracy-deepening' path to change that can stand the test of the frequent regime changes, which keeps Malawi on a vicious cycle of poverty and dependency. In order to find this path, there is need to cultivate the politics of taking responsibility, transparency, and accountability, drawing these from a continued renewal of societal values at all levels. These societal values would be developed within a construct of collective action with rules of the game that work for all actors regardless of their official labels or positions. Using evidence from research, the paper provides very practical ways of doing this. This for example includes how initiatives such as the Constituency Development Fund (CDF) and the Farm Input Subsidy Programme (FISP), which are currently implemented mainly out of political correctness rather than transformative change, can be turned into opportunities to reconstruct state-citizen social contracts that are 'growth enhancing' and 'democracy-deepening' from the bottom up. Development is firstly political and then technical and not the other way round. Therefore, the tough questions that exit in how politics informs development and change need to be addressed for transformative change to take place.

Private Sector's Role in Cities Regeneration Drive

Noël Chalamanda

National governments have a social and political responsibility of providing basic services to its nation and citizens. Many governments have a reputation for renegeing on this responsibility with aplomb. In this presentation I argue that it is time for regeneration in terms of meaningful infrastructure that takes into account today's needs and will remain relevant for some decades. Endemic budget deficits and the inefficient management of large infrastructure projects and delivery of services within the public sector are a few of the reasons why the traditional procurement method of governments funding infrastructure projects through fiscal budgets is increasingly considered unviable. Elsewhere, PPP strategies have been successfully utilized and adapted to the needs of different sectors of the economy and to different cities. Could Public Private Partnerships (PPP) offer a solution to this problem in Malawi?

Parallel Session 2

Profitability of fertilizer use in Malawi: A spatial econometrics analysis

Francis A Darko, J Ricker-Gilbert & G Shively

In this paper we assess the profitability of fertilizer use in Malawi. To the best of our knowledge issues related to the profitability of fertilizer use in Malawi and how it is could possibly explain the limited utilization of commercial inorganic fertilizer are yet to be analyzed. Specifically, this study answers two key questions: 1) where is fertilizer profitable and where is it not at subsidized and commercial prices? 2) What are the factors that affect the profitability of fertilizer use at subsidized and commercial prices? Answers to these questions will help the government of Malawi to formulate policies that will boost the adoption of fertilizer by farmers. It will also help guide the targeting, and thus maximize the benefits, of the large scale farm input subsidy program that the government is currently implementing. Preliminary results from a spatial econometrics analysis show that fertilizer is economically profitable. At commercial prices, fertilizer use is financially profitable only on relatively large farms; but profitable on large and small scale farms alike at subsidized prices. Agronomic factors and supply-side factors such as time and rate of fertilizer application are important determinants of financial profitability of fertilizer use. We expect our study to stimulate discussion at the conference in terms of the issues addressed. Improvements in the adoption of fertilizer and other modern inputs is widely regarded as the channel through which a green revolution can occur in Africa. The focus of

this study provides an opportunity for discussion on this issue to be revisited and advanced, particularly in the direction of measures that need to be put in place in order to promote the adoption of fertilizer and other modern inputs. The role of the farm input subsidy program in increasing the utilization of fertilizer is likely to come up in the discussion.

Response of major grain legumes to inoculation with rhizobia and application of phosphorus fertilizers in Malawi

BYE Chataika & L Phiphira

Soybean plays roles in reducing soil erosion, in biological nitrogen fixation, in pests and disease management and is also an important source of plant proteins. However production remains low in Malawi because of several factors, including the limited use or non-use of rhizobial inoculants and phosphorus fertilizers. Studies were conducted in 2011/12 and 2012/13 growing seasons in central Malawi to test the response of soybean to inoculation with biofix and soil amendments with phosphorus (P) fertilizer. The research used two approaches of research designed-research managed (RDRM) and research designed-farmer managed (RDFM) on-farm trials. The RDRM trials were laid in split plots replicated three times whereas RDFM trials were laid out on randomly selected farmers' plots and field book was used to capture data. Analysis of variance was performed using Genstat (16th Edition) and Micro Soft excel. Results showed that inoculation significantly increased biomass yield, grain yield and nodulation. P-fertilizer did not have significant impact on grain yield. The yield in RDFM trials were generally lower than RDRM. The implications of the findings in smallholder farming systems in Malawi are discussed.

Maize Price Differences and Evidence of Spatial Integration in Malawi: The Case of Selected Markets

Lovemore Paul Nyongo, Patrick Kambewa & Ronald Mangani

This study tests the long-run and short-run integration of maize markets in Malawi using the co-integration approach within the Vector Autoregressive modeling framework. The analysis is extended to Wald- F Granger Causality tests and innovation accounting to see the direction of causation between maize markets. A total of six maize markets, two from each region, were analyzed. Three are urban markets, while two of the three rural markets are border markets. The study uses monthly maize retail prices for the period January 2000 to May 2008. Study findings show that nine out of the fifteen market pairs are integrated in the long-run, but the degree of short-run market integration is low, implying that the transmission of price information is slow. Transaction costs seem to have a significant impact on the integration of market pairs involving border markets. Furthermore, there is no market that qualifies to be a central maize market in this study. The study concludes with a discussion of policy action to improve maize market integration and food security in Malawi.

The cost of ill-health on welfare of rural households: The case of Teuka village, Zomba District, Malawi

Lauryn Khangamwa, Patrick Kambewa, Winford Masanjala, Celia Petty & John Seaman

Following the morbidity burden in Malawi the study was aimed at assessing the cost of illness on welfare of rural households. The study used primary data and employed the Individual Household Method (IHM). The study used purposive sampling to select Teuka village and a census approach where each household in the village is interviewed was used in conducting the interviews. Disposable incomes per adult equivalents were used as a measure of welfare and the impact of illness on welfare of households was analyzed. The results indicate that illness imposed costs on agriculture production and welfare of rural households. The study specifically found that illness led to a decline in labor supply and productivity. Illness therefore motivated households with enough resources to hire-in labor in order to mitigate the impact of illness in agricultural production. In some cases, illness led to land under-utilization and lost production for resource constrained households. Illness costs were found to be regressive on poor households. Overall illness affected the welfare of households by reducing a household's income.

Catastrophic health expenditure and poverty and Malawi

Martina Rhino Mchenga

Out-of-pocket (OOP) health payments can cause financial hardship to households, which may push them into poverty. The paper investigated the impact of OOP health payments on households' economic situation in Malawi using data from the Third Integrated Household Survey (IHS3). The study adopts the World Health Organization's approach in measuring the extent of catastrophic health expenditure and impoverishment. Within the framework of OOP health payments on household's economic status, the paper computes new poverty estimates. These poverty estimates purportedly take into account the poverty impact of OOP health payments. It is found that if OOP health payments are factored in, the level of poverty in Malawi is higher than official figures suggest. For instance, an additional 0.93% of households fall below the poverty line after paying for health care. It also uses a logit model to identify the determinants of catastrophic health expenditures. It is found that chronically sick members, large number of illness episodes and large households are highly likely to incur catastrophic health expenditure.

Can empowering women farmers reduce household food insecurity? Evidence from Malawi

Christopher Manyamba & Sheryl Hendriksa

Women in Malawi produce perform between 50-70 percent of all agricultural tasks and yet the majority remain food insecure. Emerging mixed evidence indicates that empowering women in agriculture is conducive to improving food security. The aim of his paper is to provide evidence on the relationship between women's empowerment in agriculture and household food security build on existing .mixed evidence that indicates that empowering women in agriculture is conducive to improving food security. The WEAI is used to provide evidence on the relationship between women's empowerment in agriculture and household food security. A multinomial logistic probit regression is applied to interact the Women Empowerment in Agriculture Index (WEAI) components and with the Household Hunger Scale. The overall results show that the WEAI can be used to determine household food insecurity; however it has to be contextually adapted. Assets ownership, credit, group membership and leisure time are positively associated with food security. Contrary to other literature, empowerment in speaking in public and having control and decisions on income on access to credit indicate negative association with household food security. These results could potentially better inform public, private and civil society stakeholders' dialogues in creating the most effective and sustainable interventions to help women attain long-term food security.

Monetary Policy Response to Foreign Aid in an Estimated DSGE Model of Malawi

Chance Mwabutwa, Manoel Bittencourt & Nicola Viegi

This paper estimates a Bayesian Dynamic Stochastic General Equilibrium (DSGE) model of Malawi and uses it to account for short-run monetary policy response to aid inflows between 1980 and 2010. In particular, the paper evaluates the existence of a "Dutch Disease" following an increase in foreign aid and examines the Reserve Bank of Malawi (RBM) reaction to aid inflows under different monetary policy rules. The paper finds strong evidence of "Taylor rule" like response of monetary policy response to aid inflows. It also show that a "Dutch Disease" did not exist in Malawi because aid inflows were found to be associated with currency depreciation and not the expected real currency appreciation. There is also evidence of low impact of a positive aid shock on currency depreciation and inflation when RBM engages in targeting monetary aggregates than when the authorities use the Taylor rule and incomplete sterilisation.

Twin deficits: An empirical analysis on the relationship between budget deficits and current account deficits in Malawi

Tayamika Thandi Kamwanja

The twin deficits hypothesis asserts that a reduction in the budget deficit causes a reduction in the current account deficit. The Keynesian hypothesis proposes that the causality runs from budget deficits to current account deficits. However; conflicting theories have been proposed, arguing that possibility exists of reverse causality from current account to budget deficit and indeed that there is no relationship between the two deficits. Proponents of the Ricardian equivalence hypothesis suggest the absence of any relationship between the current account deficit and the budget deficit. This study uses the Autoregressive Distributed Lag method of co integration to test the three proposed hypotheses using annual time series data of Malawi over the period 1970 to 2012. Results from the analysis found a positive significant long run relationship between the

budget deficit and the current account deficit. Implying that in the long run budget deficit does influence the current account deficit, asserting that the Keynesian proposition holds in Malawi. No evidence was found in support of the reverse causality or the Ricardian equivalence hypothesis.

Taxation policy and performance in Malawi since independence.

SG Kaunda & J Kenani

Malawi has witnessed a number of policy agendas and shifts in the area of taxation and revenue generation since gaining independence in 1964. The different taxation and revenue policies had separate objectives, including: increasing revenue generation; improving levels of investment and exports; improving tax collection efficiency and fairness; implementing and supporting Government development objectives and plans. The policies changes included changes in tax administration which led into the consolidation of tax administration into one Authority. The driving forces for the different policy agendas have been, among others, the Government itself and international multilateral and donor organizations, such as the International Monetary Fund (IMF). Conspicuously absent from the taxation policy debate, even after democratization in 1994, have been effective parliamentary and political party debate, civil society and the general public interest, engagement and involvement. Results of the tax and revenue policies have shown mixed outcomes. Whilst tax collection has in real terms continually increased, in terms of its ratio to GDP it has plateaued and remained at around 15-17% of GDP (lower than the rate for most countries at the same level of development). In addition, tax compliance levels are low and the tax base still remains very narrow despite the fact that the levels of entrepreneurship and informal business creation have increased over the years.

The paper traces, outlines and sequences the key taxation and revenue policy changes in Malawi since independence. The paper then analyses the objectives for each policy shift and agenda and assess the outcome and consequence of implementation- including by looking at the trend and performance of revenue collection. The paper also analyses the key influencers and drivers in tax policy initiation and development and on actual collection effort and performance- including by assessing the potential impact of aid assistance on tax collection effort and performance, and the role and place of taxation in public policy debate. From this historic analysis the paper makes relevant recommendations for policy in taxation and revenue generation.

Parallel Session 3

Is there a Minimum Farm-Size Frontier for Food Security and Agricultural Commercialization in Malawi?

Athur Mabiso

Based on projections and scenario analyses of various agricultural data available for Malawi, this paper assesses the relationship between farm size of smallholder farmers and food security and agricultural commercialization indicators. The paper argues that depending on the agricultural technology used and prevailing biophysical and economic constraints there is a minimum farm size required for farming families to commercialize their agriculture and achieve food security inasmuch as there is a minimum or subsistence level of food and water consumption required for people to sustain life. Thus we develop a concept of the minimum farm size frontier, analogous to the production possibility frontier in production economics. It is contended that given current agricultural constraints and technologies in Malawi, a minimum farm size requirement can be estimated under differing scenarios, under which smallholder farmers can both commercialize their agriculture and meet their food security requirements. This analysis provides insights for the potential avenues of improving food security and agricultural commercialization over time, with distinct farm size dynamics. Specifically that increases in the mean farm size among farming households combined with increases in the number of households participating in non-farm economic activities will have to happen if Malawian agriculture is to substantially commercialize while achieving food security for the nation.

Economic Analysis of tractor and labour use in tobacco production in Lilongwe Agricultural Development Division: A case of Demera Extension planning area

Tapiwa Tizifa

The study was conducted in Demera EPA in Lilongwe ADD to assess the impact of tractor and labor use in tobacco production. The specific objectives were to assess economic returns from tractor use and labor use in

tobacco production and to assess the impacts and implications of 'tractorization' on total crop output, cropping emphasis and resource utilization in tobacco production in Demera EPA. The study assessed labor input and output from tractor users and non-tractor users in tobacco production while holding other factors constant. A production function was used in the analysis to show these relationships. The results show that tractorized farms had a positive relationship between total output, income, labor and land in tobacco production. On the other hand, non-tractorized farms had relatively low yields, low incomes, used less amount of labor and had small farm holdings. The study concludes that tractor use has an economic impact in tobacco production and therefore recommends that farmers should continue using tractors as this enhances tobacco production per hectare and thus increasing their incomes. In addition, extension service should reach out to the non-tractor users and advise them on the benefits of adopting the tractor technology in tobacco production.

Agricultural growth and multiplier effects of consumption spending in rural and urban Malawi

Henry Kankwamba, Chinsinsi Mtuluma, John Mazunda & Karl Pauw

As per capita income of households increase, the share of expenditure on food declines as do expenditures on staples. Further, as incomes rise in the face of increasing urbanization, factor intensities of consumption patterns tend to shift from labor intensive rurally produced commodities to foreign exchange, capital intensive imported commodities. Using a nationally representative survey data and a social accounting matrix, this paper discusses locational and consumption linkages across aggregated commodity groups. It further analyzes the interdependencies between activities, households and factors by providing income multipliers in a general equilibrium framework. Results generally indicate that marginal propensities to consume for most food commodities are falling as incomes while some luxurious food groups such as spices and beverages are rising. Associated income and price multiplier effects show that output, demand, GDP and household incomes will increase by a factor of two cumulatively. However, increased output will not be sufficient to offset demand and as such imports will grow by a factor of four. Generally, changes in consumption spending behavior result in positive growth but prioritized growth is more appropriate.

Responsiveness of Malawi - South Africa Bilateral Trade Flows to Changes in Relative Prices and Income

Hope E Mfuni

The study estimated responsiveness of Malawi - South Africa bilateral trade flows to changes in relative prices and income. The analysis was carried out using ARDL bounds testing approach to cointegration. The modeling strategy gave an opportunity for joint examination of both short run reactions to changes in trade flows as well as the long run determinants of Malawi – South Africa trade flows using annual data from 1980 to 2012. The results revealed that, short run joint tests on both models which also incorporated the error correction term showed no effects from variable changes. On the other hand, Malawi's export supplies in the long run were effectively altered by domestic prices and bilateral exchange rate. Likewise, the import demands in the long run were successfully altered by domestic income, domestic prices, foreign prices, and bilateral exchange rate. The findings pointed to the fact that bilateral trade policy should look more on domestic price as a policy instrument. While proper bilateral exchange rate alignment was also found to be an effective policy tool to mitigate trade deficits. Furthermore instigating long term export-led growth targets such as export industry promotion to support the Malawi National Export Strategy would fundamentally help Malawi.

Challenges to Soya Export Promotion: an Institutional Analysis of Trade Policy in Malawi

Noora-Lisa Aberman & Brent Edelman

Malawi relies heavily on tobacco for export earnings. One strategy for promoting a more stable and vibrant economy is to diversify away from tobacco and broaden its export base to high potential commodities like soya. However, we hypothesize that there are institutional barriers impeding consistent growth in soya exports and seek to identify the critical ones. This study undertakes an institutional analysis of the soya export sector. Using a qualitative research approach based on semi-structured interviews, we examine: a) the policy environment, b) the exporters and the regulatory actors, c) the framework of legal rules and requirements for exporting soya, and d) the ways in which the policy environment and regulatory framework influence actor behavior. We find a highly centralized policy and governance environment that, when faced with a decision,

is more likely to add layers of regulation than rely on market forces, in spite of low enforcement capacity. Regarding actors' behavioral responses to the regulatory framework and the policy environment, we find inconsistent application of rules and regulations, highlighted by time variations, perceived discretionary power, and lack of enforcement; these inconsistencies are driven by lack of capacity to implement the requirements effectively due to understaffing and infeasibility of enforcement.

Malawi National Industry Policy: Situation analysis: issues and evidence paper

Temwa Gondwe & John McGrath

Industrial policy has a mixed track record at best, and governments have made costly mistakes. But industrial policy does not always fail. Indeed, government activity in markets is often the critical difference between sectors' growth and competitiveness. In this era of heightened activism as governments seek to restore economic growth, what matters is understanding what approaches are likely to work best, when and where. The worst outcome for governments is failing to do their homework and spending scarce public resources on ineffectual forays into the market. The latest economic literature on industrial policy is based on institutional and evolutionary economics. The former calls for industrial policy to be about the process of setting de facto policy; while the latter calls for it to be about the process of learning by the productive economy. Our assessment is that it should be about policy. Therefore we recommend to the Government of Malawi that the Industrial Policy to be primarily about: [1] getting the process for policy making and programming right, based on identifying and addressing binding constraints through coordinated policies and programs; [2] getting the process for productive economy learning right, based on supporting economic spill-overs and learning activities, networks and incentives; and [3] calling for policy and budgeting decisions (which set de facto policy), that are needed to address current binding constraints to industrialization, as identified in the National Export Strategy, the Diagnostic Trade Integrated Study and the background research for this Issues Paper on Industrial Policy.

Before the camels' back is broken: how Malawi provides succour to employers by jettisoning the payment of severance allowance and pension at the same time.

Mtendeweka Mhango

This article discusses the problems surrounding the payment of severance allowance and private pension benefits in Malawi. It starts by discussing the case law developments following the passage of the Employment Act 2000 and its subsequent amendments, which were repeatedly struck down by the courts. The article seeks to demonstrate the context which led to major pension and employment reforms in 2011 in the form of the Pension Act 6 of 2011 and Employment Amendment Act 27 of 2011, which were concurrently enacted to specifically resolve the problem of the double burden experienced by Malawian employers, who operated voluntary pension schemes for their employees, to statutorily pay severance allowances and contractually pay pension benefits upon the termination of employment. The article examines the effects of these legislative reforms on Auction Holding LTD v Noel Kabvala & Others and its progenies, and whether these legislative reforms undermined those judicial pronouncements. The article argues that the legal position that prevailed since 2000, when the Employment Act was enacted, no longer exists following the enactment of the Pension Act and the Employment Amendment Act 27 of 2011. Further, it argues that Auction Holding LTD v Noel Kabvala & Others and its preceding cases are no longer good law at least on one legal proposition because the Pension Act and Employment Amendment Act undermined some aspect of Auction Holding LTD v Noel Kabvala & Others.

Mobile E-Learning: The Choice between Responsive/Mobile websites and mobile applications for virtual learning environment for increasing access to higher education in Malawi

Chifundo Chilivumbo

This study looks into the deployment of Moodle an open source virtual learning environment for developing country situations using Malawi as a case study. Mobile access to learning materials is an innovative way to use mobile networks to increase access to education. This is also in line with the Malawi Governments Policy to increase access to higher education through Open Distance Learning. This study looks into the most common medium for access to information by students at the University of Malawi's Polytechnic, the mobile

smart phone. Seeing that Moodle is not currently being used extensively. Lessons will be learnt from current common uses of interactive sites such as the social networking site Facebook and see how its content on mobile devices (smart phones) is accessed, utilized and shared. The lessons will be taken from the Facebook application usage against the mobile website usage. In addition the study will look at the user perspective, taking information from a select group of students from the University. The study looks further into the pros and cons of Responsive/Mobile Websites and Mobile Applications. This study provides recommendations on the best practices for mobile-learning usage with virtual learning environments. This study's recommendations will be relevant for public policy makers that are working towards increasing access to higher education in economically efficient manner.

Resource nationalism and mining fiscal regime in Malawi: Revenue volatility and trade offs

Winford Masanjala

Malawi's laws do not provide for Government shareholding in any mines. Yet growing natural resource nationalism has compelled the Malawi Government to seek shares in recent and upcoming mines. Since Government does not have the money to pay for its equity participation in the mines, shareholding compels Government to trade off either taxes or royalties (which are provided for in law) for shares and hope for dividend. This paper analyses Malawi's mining fiscal regime and applies it to the Kayelekera Development Agreement between the Government of Malawi and Paladin Africa Limited as a case study. We use three approaches. First is a narrative analysis of fiscal regime implied by the law, followed an normative and positive analysis of the overall fiscal and economic impact of the Development Agreement in terms of impact on fiscus, foreign exchange, employment and community development. Finally we develop a financial model and analyze gains and losses from shareholding using the fiscal regime prescribed in law as a counterfactual. Expected Results: Historical record shows that Government of Malawi's ownership of mining interest in Kayelekera is the exception not the rule. On average Malawi would be better off applying the legal fiscal regime. Taxes and royalties represent a conservative but sure revenue stream and one that Government can control and monitor while dividends represent a more volatile and riskier revenue stream being a function of external and internal environment and more. Tentative Recommendation & Policy Implication: Government should not trade-off sure mining revenue sources for volatile ones. Unless there is a free carry, if Government wants more revenues from anticipated supernormal mining profits, they should use Resource Rent Taxes rather than shareholding in mining.

Parallel Session 4

The Dynamics of Forests, Livelihoods and Poverty Alleviation Relationships – Implications for Household Strategy

Thabbie Chilongo

Forests play very critical roles in Malawi. Over 90% of the country's energy requirements are fuelwood-based. However, Malawi, like most Sub-Saharan African countries, presents a case of policy dilemma in sustainable forest management. With its growing population and the resultant contraction of per capita land area, coupled with the ever increasing fuelwood demand, the challenge is to sustainably manage the forests without alienating the majority of rural communities whose livelihoods heavily depend on the forests. There is therefore need to fully understand the forest-reliant people if the goal of sustainable forest management is to be achieved. The aim of this desk study is to characterize the forest-livelihoods-poverty alleviation links and their impact on households' choice of livelihood strategies. By synthesizing relevant theoretical and empirical literature, the study demonstrates that the links between poverty and forests are complex. For example, while there is evidence that it is the poor that rely more on forests, the reverse causality, though rare in literature, is also possible, i.e. forest reliance can act as a poverty trap. Understanding the livelihood status of forest-reliant households is therefore a necessary condition to sustainably manage the forests in particular and other environmental resources in general.

Breaking the Vicious Cycle of Poverty through Sustainable Environment and Natural Resources Management in Malawi: Lessons Learnt from the UNDP-UNEP Poverty Environment Initiative

Anand Babu Prakasam, Michael Mmangisa, Moa Westman & David Smith

Malawi's narrow economic base makes the country highly vulnerable to the adverse impacts of environment and natural resources degradation, climate change and extreme weather events. This paper highlights why the poverty-environment nexus and the sustainable management of natural resources is instrumental for Malawi's poverty reduction and other development goals. The paper draws on findings from the 2011 the Government of Malawi and the UNDP–UNEP Poverty Environment Initiative (PEI), economic analysis of sustainable natural resource use in Malawi and lessons learned from the implementation of the PEI. Primary data and analysis of available secondary information on soil erosion, forestry, fisheries and wildlife, the study provides compelling evidence that unsustainable natural resource management has a negative impact on economic performance and poverty reduction. Key findings from the study include, that unsustainable natural resource use cost the country 5.3% of GDP annually reducing rates of economic growth and that if the problem of soil erosion was addressed and lost agriculture yields were recovered, 1.88 million people could be lifted out of poverty between 2005 and 2015. However, achieving sustainable natural resource use is a challenge requiring innovative policy and institutional reforms, the integration of pro-poor natural resource objectives in sector policies and budget frameworks with assured budget allocations, as well as enhanced Government's capacity and willingness for cross-sector coordination.

Spatial comparisons of multidimensional poverty and inequality in Malawi

Anderson Gondwe

The paper shows that poverty and inequality are unambiguously higher in rural areas, southern region and households headed by females. Over the period between 1992 and 2010, we find evidence of pro-poor growth both absolutely and relatively speaking. Asset ownership is positively associated with household size, age of household head and education attainment. Age dependency ratio has a negative association with asset ownership. Multivariate analysis of child malnutrition reveals that age, sex and twin status matter in the outcomes of nutritional status at the child level. At the household level, birth order of the children, mother education and economic status have a positive association with child nutritional status. The incidence of stunting is the highest of the nutritional problems amongst under-5 children in Malawi followed by underweight. The results provide an opportunity of targeting most deprived population groups in Malawi. Multidimensional poverty and inequality analysis also provides a tool for focusing attention on deprivation in multiple dimensions rather than just one dimension only. Pro-poor growth analysis does not only allow us to identify the progress made in the fight against poverty over the years but also to analyze the redistribution effects that arise it with growth in living standards.

Exit from poverty and policy analysis: a method and an application to Malawi

Richard Mussa

This paper develops a model which can be used to examine changes in the average exit time from poverty arising from changes in: consumption growth, household and community characteristics, the cost of living of the poor, and welfare inequality. This is done while controlling for spatial random effects. Poor households face various binding constraints which can be relaxed to reduce the time that they stay poor through deliberate policy interventions. The proposed method is thus useful as it allows one to for instance assess the effect of both consumption growth, and redistribution on the exit time from poverty. The method is then illustrated using Malawian data from the Third Integrated Household Survey.

Competition and financial sector regulation in Malawi: to whom it may concern

Ben Kaluwa & Gowokani Chirwa

The study is premised on the central hypothesis that high market concentration in the banking sector can facilitate collusive pricing outcomes which can adversely impact the low-income and important but low-return segments of the economy and activities. The empirical results reported here are based on the period from January 2005 to March 2014 i.e. long after financial sector liberalization and after much new bank entry. From a policy and regulatory perspective there is no support for the expectation that market de-concentration would moderate margins as a result of competitive pricing on both the lending and deposit sides. The two-bank dominance in the sector and non-requirement for posting maximum lending rates have facilitated collusion on lending rates through price-leadership while smaller banks seeking market footholds have been

leading the competition on deposits rates. In this context an environment of already high bank rates has moderated margins from the deposit side, which is good for the low-income. Other results also suggest non-price “monopolistic” competitiveness service provision and extension which would also be beneficial to consumers. But even the trend on lending rates is breaking away from leadership-followership as banks are compelled towards the Basel II standards and their tougher risk management and transparency requirements. Although margins do not appear to respond to inflationary tendencies, the actual spreads do so positively, inflicting a double blow on consumers through higher lending rates and/ suppressed deposit rates. From the banks’ side the major hurdles are seen as lack of a long-term securities market to provide benchmarking especially for deposit rates and that the push towards the Basel II is itself unnecessary at this stage as it raises both costs and liquidity risk.

Contrasts to agriculture finance in Malawi

Morut Martin Isyagi

Agriculture contributes to 40% of Malawi’s GDP of which 70% production is derived from smallholder farmers, 90% of exports are Agro industry based derivatives. Access to financial credit to enable production is a big challenge to farmers due to the lack of Credit worthy collateral and that banks require first class collateral in the form of property on the major cities of Malawi. As such due to the inadequate finance productivity is compromised and commodity orders cannot be immediately meet in bulk due to the fragmented nature of production leading to intermediaries in the form of vendors being aggregators for commodities in the value chain. The intermediaries reduce farmer’s profitability as the middlemen in the value chain increase. Government led interventions like crop up scaling and national export strategy will be sustainable on the back of increased access to agriculture finance and ease of doing business in Malawi. According to Finscope Malawi (2008), the importance of increasing access to credit, savings opportunities and other financial services as a means of reducing poverty has long been recognized in Malawi. The Ministry of Economic Planning and Development 2013 annual report ,indicates that the Agriculture sector declined by 2.3% in 2012 compared to a growth of 6.7% in 2011.The decline was mainly on account of a 67% decline in Tobacco production due to low prices. To move forward in Agriculture, we need to put agricultural industrialization back on the development agenda, in the form of value addition and mechanization to increase productivity. Pro poor policies are usually poor and focus must be on wealth creation, based on a healthy domestic investor market which in turn will attract foreign investment and more market driven agriculture.

Strategic Options for agriculture and development in Malawi

Andrew Dorward & Ephraim Chirwa

This paper considers potential strategic options for agriculture and development in Malawi in the context of the country's current situation and the prospects the country faces. After briefly reviewing current national and sectoral policy and potential roles of agriculture in economic growth, we set out the current situation in order to consider strengths, weaknesses, opportunities and threats.

We conclude that a major emphasis is needed on supporting changes that reduce the rate of population growth and promote capacity for adaptation and resilience to climate change. Rapid increases in the productivity of agricultural land and labor and rural incomes will be critical to this (alongside increased education and empowerment of girls and women). There are, however, difficult potential trade-offs to negotiate (for example between increased irrigation and reduced inflows into Lake Malawi) and these need further consideration.

From this analysis we derive a set of nine strategic principles and two operational principles that we suggest could helpfully stimulate and guide strategy development that addresses the opportunities and threats facing Malawian agriculture. The application of these principles is illustrated by indicative consideration of policy and investment options focusing on development of different commodities and (broadly defined) resources. Consistent implementation of coordinated and consistent sectoral and inter-sectoral policies is critical for achievement of the desired growth and diversification impacts.

Climate Change and Economic Growth Prospects for Malawi: An Uncertainty Approach

James Thurlow, with Channing Arndt, Adam Schlosser & Kenneth Strzepek

Malawi confronts a growth and development imperative that it must meet in a context characterized by rising temperatures and deep uncertainty about trends in precipitation. This article evaluates the potential implications of climate change for overall growth and development prospects in Malawi. We combine climate, biophysical and economic models to develop a structural analysis focused on three primary impact channels: agriculture, road infrastructure and hydropower generation. We account explicitly for the uncertainty in climate forecasts by exploiting the best available information on the likely distribution of climate outcomes. We find that climate change is unlikely to substantially slow overall economic growth over the next couple of decades. However, assuming that global emissions remain effectively unconstrained, climate change implications become more pronounced over time. Reduced agricultural yields and increased damage to road infrastructure due to increased frequency and intensity of extreme events are the principal impact channels. Owing to the potential for positive impacts in the near term, the net present value of climate impacts from 2007 to 2050 (using a 5% discount rate) can be positive or negative with an average loss of about USD 610 million. The main implication of our findings is that Malawian policy makers should look to exploit the coming decade or two as these represent a window of opportunity to develop smart and forward looking adaptation policies. As many of these policies take time to develop, implement, and then execute, there is little cause for complacency.

An Introduction to conducting impact evaluations using RCTs

Thomas Munthali

A Randomized Control Trial (RCT) is the same methodology used in high quality medical research. It relies on the random assignment of a program or policy to measure its impact on those who participated in a program and those who did not. RCTs provide the most credible and reliable way to assess the true impact of an intervention. If we want to know how effective a program is, we need to have a comparison group. Without a comparison, we can't really say anything about what would have happened without the program. And the best way to create a fair comparison group is with random assignment. With random assignment, each person in the study has the same chance of being assigned to a group as another person. This ensures that as long as the two groups are large enough, they will on average be statistically identical. Any change which we then observe between the two groups can be attributed entirely to the program or intervention itself, rather than other external or unobserved factors. This session will highlight how this most effective impact evaluation method works.

Leveraging Social Networks to Enhance Agricultural Extension: Lessons from an RCT study

Paul Fatch, with Lori Beaman, Ariel BenYishay, Jeremy Magruder & Ahmed Mushfiq Mobarak

New technologies diffuse through inter-personal ties, as social network members are often the most credible source of information. We apply models of simple and complex contagion on rich social network data from 200 villages in Malawi to identify seed farmers who would maximize technology adoption in theory, assuming that a specific contagion model correctly predicts diffusion patterns. A randomized controlled trial compares these theory-driven network targeting approaches to simpler, scalable strategies that either rely on a government extension worker or an easily measurable trait (geographic centrality) to identify seed farmers. Adoption rates over three years are greater in villages that received the theory based data intensive treatments. The data, interpreted through contagion theory, yield insights on the nature of diffusion, and are most consistent with a complex learning environment.

Fighting poverty with what works - The IPA mission across the globe

Sarah de Tournemire

IPA is part of a movement that is revolutionizing how global poverty is addressed. We envision a world in which policymakers and implementing partners seek and use rigorous evidence to guide their decisions, ensuring that measurable impact is the ultimate yardstick for crafting development policies and programs. Our work and research is helping to find the most cost effective ways to solve problems in education, health, agriculture, productivity, and finance. Our evidence can show you what works so that you can better allocate your support to programs, interventions, and organizations that are especially effective. This session will highlight IPA's mission globally in its conducting randomized control trials to inform evidence based planning.

These three papers were selected by a panel of ten referees as the three best contributed papers submitted to the Inaugural ECAMA Research Symposium in 2014. Congratulations to the authors for outstanding work.
Sarah

Analysis of effectiveness of modern information and communication technologies on maize marketing efficiency in Malawi markets

Sarah Tione

In 2004, Government of Malawi introduced Malawi Agriculture Commodity Exchange under the Initiative for Development and Equity in African Agriculture that promoted modern ICT to improve access to agricultural market information. Using co-integration error correction models, the study assessed effectiveness of modern ICT based market interventions in improving maize market efficiency in Malawi. Threshold Autoregressive Error Correction model was used to assess price transmission speed. The speed of price transmission was compared in periods before (pre) and after (post) introduction of ICT technologies by Malawi Agriculture Commodity Exchange - Initiative for Development and Equity in African Agriculture in 2004. The spatial integration result shows that markets in Malawi were integrating. Furthermore study results for pre and post ICT interventions shows that ICT based market interventions have positively influenced market integration and price transmission. Thus, modern ICTs have contributed to the reduction of search transaction costs leading to improved maize marketing efficiency. Based on the results, the study recommends investments to increase awareness and use of ICT based market interventions and for improved market infrastructure in the country.

What are the Drivers of Rural Land Rental Markets in sub-Saharan Africa, and how do they Impact Household Welfare? Evidence from Malawi and Zambia

Jordan Chamberlin & Jacob Ricker-Gilbert

We use nationally representative survey data from two neighboring countries in Southern Africa – Zambia and Malawi – to characterize the current status of rural land rental market participation by smallholder farmers. We find that rural rental market participation is strongly conditioned by land scarcity, and thus is more advanced in Malawi than in lower-density Zambia. In both countries, we find evidence that rental markets contribute to efficiency gains within the smallholder sector by facilitating the transfer of land from less-able to more-able producers. However, we also find evidence of significant transactions costs, which may hamper such gains. Evidence of welfare impacts of rental market participation is mixed, with generally positive impacts accruing to tenants and (to a lesser extent) landlords in Malawi, but negligible impacts in Zambia, where rental markets are still in their infancy.

Child labor and schooling in Malawi: Does mother's employment matter?

Michael Masiya & Richard Mussa

The study investigated the impact of mother's employment on child labor and schooling in Malawi using the Third Integrated Household Survey (IHS3) dataset. Children aged 5 to 17 were sampled from the dataset and used in the analysis. The study employed the Multi-level trivariate probit model by considering the mothers equation as fixed effects model and the child-level equations as random effects probit models. The results showed that mother's employment is negatively related to child labor but positively related to child schooling. Another finding was the negative relationship between child labor and child schooling. These results did not change when the model was disaggregated to compare the effects for a boy child and girl child. Based on the results, policy recommendations include promoting female employment programs by the government so that eventually, child labor may decline and schooling may be encouraged.

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