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# REPORT ON

# EGERTON UNIVERSITY'S TEGEMEO INSTITUTE OF AGRICULTURAL POLICY AND DEVELOPMENT 2015 CONFERENCE

**AT**

**KENYA SCHOOL OF MONETARY STUDIES, NAIROBI**

**10th and 11th November, 2015.**

Report by

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The 12th Tegemeo Institute Conference Themed: **Transforming Smallholder Agriculture in Kenya in the Context of Climate Change, Devolution and Increasing Land Constraints**, brought together about 100 stakeholders in smallholder agriculture to share research findings and data on how climate change, devolutions and land constraints are affecting agriculture in Kenya. The participants came from Kenya Ministry of Agriculture, Livestock and Fisheries (MoALF), County Directors of Agriculture, universities, private sector (Eastern Africa Grain Council, Cereal Millers Association), development partners -United States Agency for International Development (USAID), Non-Governmental Organizations (NGOs) and farmers.
Rural Outreach Africa (ROP) was represented by Njeri Karanu who attended on behalf of Prof. Ruth Oniang'o.

The welcome was given by Prof. Rose Mwonya of Egerton University. The opening remarks were given by Prof. J. Gowland Mwangi (Egerton) and Michael Jones, Deputy Director of USAID Mission to Kenya. The underlying theme in both the addresses was that Kenya is highly dependent on smallholder agriculture, and therefore this sector needs to be strengthened.

The opening address was delivered by Ms. Ann Onyango, Kenya's Director of Agriculture in charge of policy, research and regulation in the MoALF, on behalf of Mr. Adan Mohamed, EBS- Agriculture Cabinet Secretary, MoALF. Ms. Onyango indicated that Kenya has excellent agriculture policies, but implementation is hindered by a number of factors on the ground. She indicated that the government is embarking on an agricultural census, so as to better inform programs and policies using data. She commended the work of Tegemeo Institute (TI) in policy research and data collection through the Tegemeo Agricultural Policy Research and Analysis (TAPRA) program, which is funded by USAID and in collaboration with Michigan State University.

The keynote address was given by Prof. T.S. Jayne from University of Michigan, USA. Prof. Jayne talked extensively on smallholder agriculture and its potential, pointing out that Asia's Green Revolution was smallholder driven. So it is possible for Africa to produce enough food for itself and for the world if this sector is supported. Prof. Jayne highlighted six mega trends in Africa that are impacting agriculture:

i. Urbanization: There is a big migration from on-farm to off-farm work in Africa. Many African parents do not encourage their children to pursue agriculture, but are in favor of city jobs like banking, messengers, lawyers that pay better. But, the major employer in Africa by 2020 will be agriculture and its value chain. Therefore, agriculture needs to be seen with fresh eyes as a serious employer for the growing number of young people in the continent.

ii. Consumption Pressure: Consumption demand is overtaking production, driven by increasing household incomes in urban areas.

iii. Youth Bulge: 45% of sub-Saharan Africans are under 15 years. 62% are below 25 years. Young people will significantly increase labor force in the continent. In the next 10-20 years, 75% of youth entering the labor force will be dependent on agriculture for jobs.

iv. Land scarcity: Land prices are significantly increasing in sub-Saharan Africa (SSA) leading to intensification of cultivation on small plots of land. This has caused reduced soil fertility and land degradation. The ripple effect of this is increased fertilizer use to sustain production.

v. The rise of medium-scale 'investor' farmers: Investor farmers are farmers who own 10-100 hectares of farm land but live in the cities. This is a shift from the era when farmers would live and farm in their medium scale farms. In Kenya, 22% of (medium size) cultivated land is owned by people living in urban areas.

vi. Climate change: It is real and it is happening. In Kenya, rain patterns have changed with the long rains season (March-April) decreasing, and the short rains (planting) season (October-November) having longer rains.

From his address Prof. Jayne emphasized that business as usual is not an option nor is it sufficient. Things that could be done to strengthen agriculture in SSA include, but not limited to:

i. Instituting a policy environment in favor of the private sector,
ii. Increasing funding in agriculture related programs (research and development, extension services, infrastructure, urban planning),
iii. Supporting local agricultural policy analysis units that inform and influence interventions geared towards sustainable agriculture in the continent.

The 2-day conference was structured into 3 main topics- climate change, land access and policy, and agriculture in the face of devolution in Kenya. The following are summary points from presentations and discussions, and links to full text policy briefs and working papers accessed from Tegemeo Institute website www.tegemeo.org

**Climate Variability and Change**

*Climate change and Household welfare:* All types of extreme weather (low and high rainfall, heat and wind) affect smallholder households, though the impact depends on household income, calorie demand/intake and agro-ecological zone. Tegemeo Institute researchers found that periods of low rainfall were the most relevant of all the weather shocks in rural Kenya. Low rainfall significantly reduced household income through diminished yields, especially in the highlands. Following low rainfall was wind shocks, which are damaging to crops in the lowlands of Kenya. Surprisingly, low rainfall did not have significant effect on caloric intake in the households. Families were able to meet caloric deficit through purchase of food in times of drought.

The study also observed that families with access to capital, or members of a savings group were able to survive weather shocks better.

Even though low rainfall decreases incomes from on-farm and off-farm sources, policies and programs that improve a household's access to financial services (credit, savings group), uptake of crop insurance and access to food markets would boost rural households' resilience to weather shocks.
http://www.tegemeo.org/images/downloads/publications/policy_briefs/Policy_Brief17.pdf

*Crop Insurance:* Climate change brings great risk to agricultural production through drought, flooding, pest and disease and ultimately, household income. To mitigate these risks, farmers adopt measures like irrigation, chemical spraying, crop diversification as well as early planting, using money from sale of livestock, household savings as well as borrowing from family and friends. Researchers from Tegemeo Institute studied how crop insurance is perceived by Kenyan farmers (awareness and uptake), and ways to make crop insurance work better for smallholders (best practices). The key findings of this study were:

i. In Kenya, maize is the main crop covered by crop insurance, but farmers would like to also insure high value vegetables/horticulture.

ii. Insurance premiums are embedded in the cost of inputs, such that farmers pay the premium at the time of purchasing seed and/or fertilizer from licensed agro-dealers.

iii. Of the three (3) insurance products studied (Kilimo Salama, Kilimo Salama Plus and Ngao ya Mkulima) Kilimo Salama was the most popular followed by Kilimo Salama Plus and Ngao ya Mkulima. Kilimo Salama products are a partnership between Syngenta Foundation for Sustainable Agriculture, UAP Insurance, and Safaricom. Awareness and information is mainly done by agro-dealers, but also radio and neighbors /relatives inform a farmer's decision on the insurance product to purchase.

iv. Insurance uptake had increased significantly from 2009 (1.3-3.5%) to 2012 (34%), but decreased sharply in 2014 (4-7%). Reasons for this decrease were lack of loss compensation and/or equitable loss compensation, restriction of seed varieties covered by insurance, narrow geographical coverage, lack of feedback mechanisms (farmer to provider) and complexity of crop insurance concepts.

v. Training (on insurance concepts) was a key determinant in uptake. Level of education of head of household, ownership of a savings account, proximity to markets, cultivated land size and drought incidents also affected uptake.

This study revealed that training smallholder farmers on crop insurance concepts is necessary to achieve impact. There is also need of feedback mechanisms, compensation equitable to loss and adoption of best practices in different agro-ecological zones in Kenya in order to serve farmers best. http://www.tegemeo.org/images/downloads/publications/policy_briefs/Policy_Brief15.pdf

*Irrigation*: Of Kenya's 43 million people, 80% live in the rural areas, depending on rain for agricultural production. Only 13% of arable land in Kenya is irrigated, and the (irrigation) growth rate is 0.5%. The Kenya government is undertaking irrigation development as a strategy of ensuring food security in Kenya through projects like Galana Kulalu food security project which has the potential to produce half of the country's food requirement.

Irrigation potential for Kenya (maize):

- Profit margin for irrigated maize is KES 8495 per acre versus KES 5003 per acre for non-irrigated maize.
- Yield for irrigated maize is 11 bags per acre compared to 7.6 bags per acre for non-irrigated maize.
- Profit margin per bag KES 772 for irrigated maize versus KES 658 for non-irrigated maize.

Irrigated maize however, has a higher cost of production (KES 15,705 per 90kg bag) than non-irrigated maize (KES 13,100 per 90kg bag). Contributing factors include: fertilizer, water and land preparation/labor. Irrigated maize is cultivated in the arid and semi-arid areas of Kenya where there is low population. This has a direct impact on availability of labor.

An efficiency study found that fertilizer, water and land were inefficiently used in irrigated systems. There is need for water saving mechanisms and also intensive land use since more than one crop can be planted in a year in irrigated systems. Adapting a cost-effective irrigation system for small-scale producers will help to contribute to the country's food basket since majority of farmers are smallholders. http://www.tegemeo.org/images/downloads/publications/policy_briefs/Policy_Brief19.pdf

*Input intensification and subsidies:* Subsidy programs like the National Accelerated Agricultural Inputs Access Program (NAAIP) were instituted in 2007 by the Government of Kenya (GoK), to target 2.5 million poor rural farmers, to provide them with government subsidized inputs, mainly fertilizers. The idea of the program was to build capacity in agro-dealers and fertilizer use in smallholder farms. Targeted farmers were given a "Kilimo Plus" starter kit voucher to redeem at accredited agro-dealers for two growing seasons. After this, farmers would upgrade to "Kilimo Biashara" where they would buy fertilizer at market rate but get subsidized credit from financial institutions.
Due to pulling out of donor support, the GoK was only able to fund a portion of the project for the first year (2007/08), considerably downscaling the program's intended reach and impact. Currently, NAAIP provides beneficiaries with a one-time fully subsidized input package (50kg bag of basal fertilizer, 50 kg bag of top dressing fertilizer, and 10 kg of improved maize seed). By 2011 only 615,000 farmers had benefited from NAAIP, out of the 2.5 million targeted.

NAAIP program findings:

- At the time of NAAIP roll-out, there was another government fertilizer subsidy program by the National Cereals and Produce Board (NCPB) which provided inorganic fertilizer to farmers at costs lower than market rate. This (NCPB) program had different objectives and competed negatively with NAAIP.
- The program objectives were not met as over 90% of the targeted households were already using commercial fertilizer even before NAAIP, meaning that they were not poor.

The NAAIP program had goals of reaching resource poor farmers but the targeting guidelines were largely ignored by the implementers.
http://www.tegemeo.org/index.php/resources/publications/166-working-papers/426-wps-52-targeting-of-subsidized-fertilizer-under-kenya-s-national-accelerated-agricultural-input-access-program-naaiap.html

**Land Access and Policy**

Land reform in Kenya is a hotly debated and politicized topic due to intersecting and sometimes, conflicting interests. It becomes even harder to discuss land reform due to

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the cultural value placed on land- people build family homes and bury their dead. Some statistics on land ownership in Kenya:

- 13% public land
- 19% private land
- 68% community land

Kenya has been undergoing land reform based on a National Land Policy adopted in 2009. The reform tackles issues such as : (i) Land titles (ii) Land distribution (iii) Scale of operation (iv) Pattern of cultivation (v) Credit, marketing and extension.
Key findings from land issues research:

i. With a growing number of rural youth (62% under 25 years) in Kenya, farming/agriculture will be a major employer of youth entering the labor market in the next 2-3 decades. With the demand and value for land increasing by the day, young people will require access to land if they are to impact agriculture in the country.

ii. Population pressure has resulted in land use intensification to cater for food demand. Agricultural intensification is only productive up to a point; population exceeding 600 people/km$^2$ decreases productivity.

iii. In Kenya there is a rise of medium scale (5-50 hectares) farm holdings (0.84 million ha., compared to 0.69 million ha. large scale holdings, and 2.63 million ha. small-scale holdings). Income growth in urban areas is contributing to the rise of medium scale land holdings; however, this land is not cultivated/ used productively. This contributes to land scarcity.

iv. Medium scale farms are more productive than smallholder farms, in terms of input efficiency, yield and labor input.

From the conference discussions, it was clear that most of the privately owned land in Kenya is owned by urban, financially-able men. Land reform needs to align land ownership with use, to stop viable agricultural land sitting idle, waiting for the market to drive up its value. Also women and youth should be included in land reform as women are primary producers (smallholders) and young people will be involved in production in a big way.
http://www.tegemeo.org/images/downloads/publications/policy_briefs/Policy_Brief20.pdf

**Agriculture and Devolution in Kenya**
In 2010, Kenya enacted a new constitution that saw the devolution of the national government to county governments in 2013. The objective of devolution was to bring government services closer to the people and to apply funding where it is needed. Agriculture was one of the devolved functions, and now county governments can enact policies as long they fall within national government policies.

There have been some successes and challenges in devolved agriculture. These are a few that were highlighted at the Tegemeo Institute conference.
Successes of devolution in agriculture:

- Devolution has helped counties develop area crops and value chains through flagship projects, like, revival of abandoned crops (pyrethrum), promotion of high value crops (horticulture)
- Fertilizer and input subsidies at county level
- Development of market infrastructure-improved feeder roads network
- Formation of inter-county trading blocks to drive up investment, production and trade
- The public and stakeholders are consulted in County Integrated Development Plans
- Easier access of extension services to smallholders where solutions are delivered faster and in real time
- Counties are able to lobby for better commodity prices and produce packaging for their farmers. For example, potatoes used to be packaged in extended bags (150kg) which was an exploitation strategy by middlemen who would repackage the bags to 110kg bags at the market. The law now stipulates that potatoes are to be packaged and sold in 50kg bags. Farmers are now able to get fair prices for their produce.

These success examples are from the counties represented at the conference. Some counties might have other successes not reflected here.

Challenges:

- There was no structured transition from national government agriculture to county government agriculture sector. The national government retains the duty of policy formulation, but it is up to the county government to implement. There is confusion as to how much autonomy county governments have in the discharge of their agriculture functions.
- With county governments having full mandate of their affairs, there is disconnect in departments at county level and national level. This leads to duplication of roles. For example, there are fertilizer subsidy programs by the national and also the county government, extension programs are run by both national and county governments.
- Communication channels in devolved systems are longer and bureaucratic. In the former centralized system, policy formulation and coordination followed a direct channel from MoALF to grassroots. With devolved systems, there are liaison officers who communicate information from the national government to the grassroots. This has not worked out well because some liaison officers are turned away by county officials.
- County governments outline their development agendas in the County Integrated Development Plans (CIDPs) which is put together after consultation with the community and at least 100 stakeholders in the county (Public Participation). However, the study done by Tegemeo Institute researchers found that many county governments had similar CIDPs that

looked to promote horticulture in their areas. If this is implemented, the market will be flooded with the same product and therefore farmers may not realize the profits they imagine.

- Human resource challenges where there is a mismatch of roles and skills in county govt. workers, lacking structured handover and not enough qualified people working in the sector.
- Funding constraints are slowing down county development programs. Only 15% of the country's GDP is allocated for 47 counties. From that, 4% of the county budget is allocated for agriculture. Also disbursement of funds (from national government) takes too long such that money targeted for growing seasons comes much later when it is not needed.

For devolved agriculture to achieve the intended impact there is need for coordination in national government policies and county policies in agriculture, national government support in development efforts at county level (through infrastructure, security and economic development), county governments' provision of conducive environments for private sector inclusion and participation, and leveraging on local capacities (labor, natural resources).
http://www.tegemeo.org/images/downloads/publications/policy_briefs/Policy_Brief12b.pdf

**Conclusion**

Kenya can revive its agricultural sector by getting the principles of devolution right, maximizing on available resources and by taking seriously stakeholder concerns on climate change, an aging population of farmers and land degradation. Eighty seven percent (87%) of Kenyans own mobile phones but only 1.4% of smallholders get extension services through mobile phones. This is an underutilized resource.

Youth and women should be part of sustainable agriculture discussions. Farming can be made attractive to young people through farm mechanization and engaging the youth in social media, ICT and value chains. Sticking to old methods of food production alienates an entire generation and we miss out on technologies that would change the face of agriculture in Kenya. Making it easier for youth and women to gain access to land and credit has the potential of bringing rapid developments in agriculture in Kenya.

From the 2 day conference it was clear that more funding is needed for agriculture, better informed policies and increased support of agricultural programs, especially in schools. If we keep asking the right questions, then we get closer to a more food secure country and continent.

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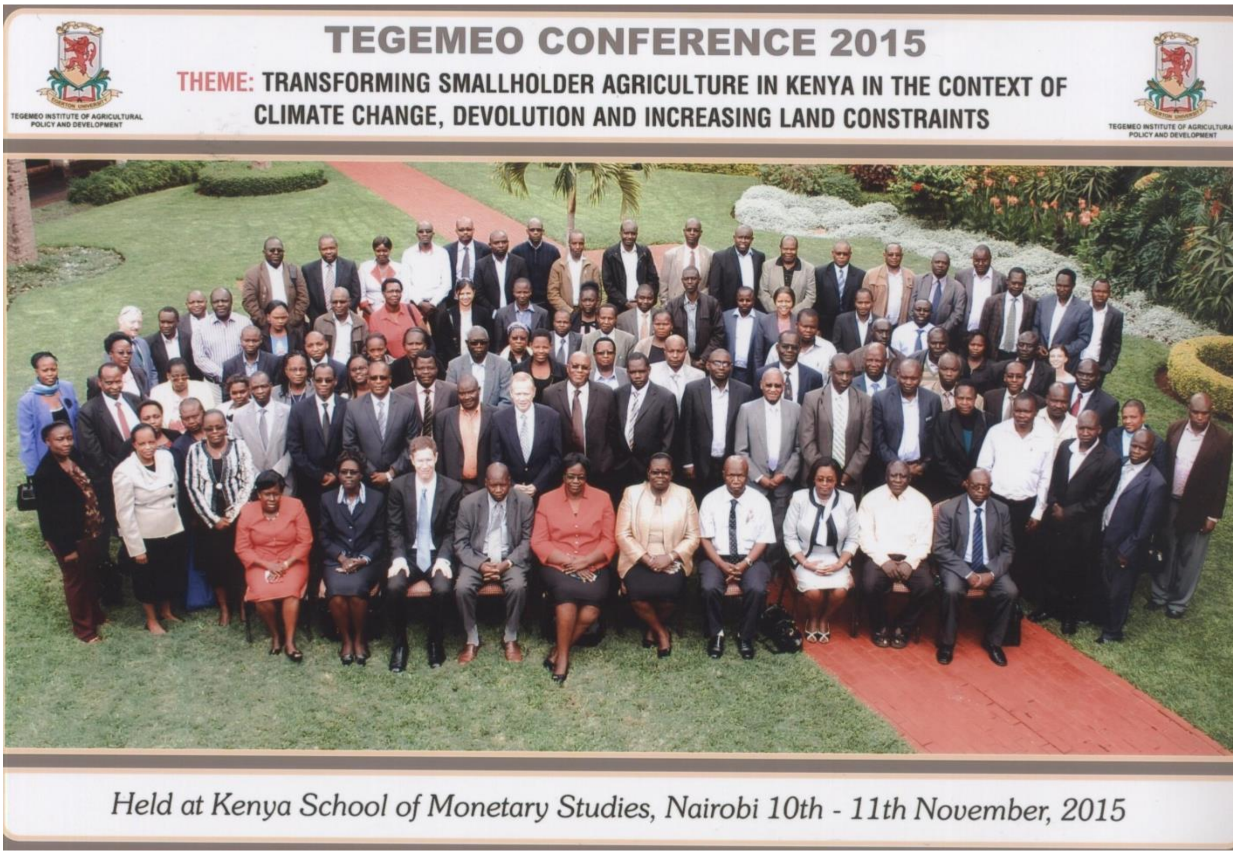


**Group photo of Day 1 attendees at Tegemeo Institute Conference**

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Policy Briefs and Working Papers accessed (*November 16, 2015*) from http://www.tegemeo.org/index.php/resources/publications.html