Perspectives of small scale food production

Sara Kaweesa

shkaweesa@gmail.com

THE BIGGER PICTURE

- Amid great plenty, billions of people face;
 - pervasive hunger
 - Poverty
 - Joblessness
 - environmental degradation
 - disease & deprivation
- One of the greatest challenges facing humanity is to achieve SDGs 1&2 while making agriculture & food systems sustainable amidst;
 - Huge & uneven demographic pressures
 - Changes in food demand
 - Threat of mass migration of youth in search of a better life

Basics

Africa is projected to be home to about 2Bn people by 2050

Farm productivity must accelerate at a faster rate than the global average rate of 70% to avoid continued mass hunger

Africa's challenges include: High population growth, rural-urban migration, low yield potential, low farm productivity exacerbated by weather changes, land degradation

Agriculture accounts for more than 30% of the continent's GDP and employs more than <u>60% of its working population</u>

Ancient tools and traditional practices

Young

- #SSA people aged 15–24 years is expected to increase by > 90M by 2030 mostly in rural areas
- Life prospect of grinding poverty may see few other alternatives than to **migrate**, at the risk of becoming only marginally better off as they may outnumber available jobs in urban settings



Outlook



Uganda

- Total area= 241,550.7km²
- Open water & swamps= 41,027.4 km²
- Land=200,523.2 km²
- 926,362 Ha. (2015) area planted for food crops
- Urban Popn; 7.4M
- Rural Popn; 27.2M
- 7.3M HH, 75% live in rural areas, 33% headed by females



Example of Uganda

- ~36% affected by severe land degradation &10% by very severe land degradation
- Restoring our degraded environment & protecting our soil, water & natural resources is very important
- 70% of HH rely on agriculture for their livelihoods (Feed the Future, 2011)
- Agriculture accounts for 90% of Uganda's export earnings (Encyclopedia of the Nations)
- employs 65% of Africa's labour force & accounts for 32% of GDP
- Agricultural GDP growth in SSA accelerated from 2.3% in the 1980s to 3.8% per yr from 2000 to 2005

Population Dynamics

Notes

- Popn. 34.6M (2014 Census,)
- 3% Annual growth rate
- Density: 123pp/km²
- HH size reduced to 4.8persons

Example

- 47.9 % < 14 years
- 49.2 % = 15-64 years
- 2.7% are 64+

Population pyramid



Population



- migration driven mainly by the search for better jobs & income opportunities
- world's 500M smallholder farmers risk being left behind in structural & rural transformations
- Buying cheaper imported food
- Energy-water-food nexus

Uganda

Agricultural households by type of activity



- Agriculture = growing of crops & rearing of livestock
- Pillar of the economy
- 72% of the working population is employed in agriculture
- 80% of HH in agriculture
- 46% income spent on food items
- 20% of popn.poor

School children transfering it to homes





slums





`Urban' gardens

slums



Sack garden



Percentage distribution of Main Source of Information in the Household, 2002-2014

Source of Information	2002	2014
Radio	49.2	55.2
Word of mouth	47.8	19.7
Television	0.6	7.2
Telephone	0.7	0.4
Community Announcer	0.1	0.1
Community Meetings	0.8	0.1
Internet	0.6	7.3
Print media	na	2.1
Post mail	na	0.5
Hand mail	na	4.6
Other	0.2	2.9
Total	100.0	100.0

Threats to Farming

high proportion of the vegetation modified by cutting, cultivation, burning, grazing & other anthropogenic actions

General examples of farmers

- 1. Rural poor;
- 2. Middle class; Sara
- 3. Urban poor ; sack gardens in schools, slums,











Schools

- Engaging the 14/20 window,
- The young ones, teach the children
- 5-10 years the latest we can see some resultsat



Living by example

- Our own backyard
- In schools
- Teach the children





Farming in poverty



Granaries



Northern Uganda





Social context



Source of labour



Percent



Photo of Henry one of the lead farmers holding his CA machine used for reduced tillage on his farm

House hold sizes





Homestead showing communal setting of household

Northern Uganda

Rural markets

- for food
- improved seed
- Fertilizers
- mechanization services
- veterinary services
- crop husbandry know-how
- market information
- other inputs e.g. ploughs, ox carts, bicycles, spare parts & repair services for farm &transport equipment
- To sell their surplus production



Northern Uganda



• Rural homestead in Lira, NU

- 43.7% Poverty Vs. national average of 19.7%
 (UBOS, 2015)
- HH are mostly female headed and they are poorest;
- 43% of the population is at risk of rebounding into poverty



Water Issues



contexts



Photo: Community meeting in Dokolo



To show the amount of financial investment that respondents made into CA on their fields 4%





Demos & training

















Mulching/crop cover



- Availability & competition of residues for soil cover Vs use as animal feeds
- Diversity of unwanted animals e.g. rats, poisonous snakes, etc
- Termite management

Urban settings













Water Options

- Water harvesting
- Motorised pumpsimported, expensive, spare parts, language
- Treadle pumps (less than7 metres)
- hydro-geological mapping lack of data



Minimum Tillage





Restoring Land



A transformation example in-Kampala



Some of our gardens

Wakatayi secondary school banana garden after mulching



Applying natural manure in the Garden at Sanyu babies home kiwawu





- Despite the high incidence of disease, including HIV/AIDS, population is growing fast & is over 80% rural
- Growth rates for Uganda is 3%, while the av. world pop. growth rate is 1.3%
- Human density estimates are also relatively high, with Uganda's national average of 102 people/km² c.f. world's average of 42 people/km²



Impacts of these challenges at local levels

- The people suffer; Lives are at stake
- Livelihoods
- Poverty and falling back into poverty
- Inequality
- Diseases e.g. Water and sanitation diseases, Malaria and others
- Poor yields
- Increased school drop out rates especially in rural areas due to hunger
- Social problems



Deforestation, degradation, reforestation



Small-scale & family farmers produce 80% of the food supply in SSA &Asia; investments to improve their productivity are urgently needed Global Agri-businesses that dominate input markets have little incentive to develop technologies for smallholder farmers in developing countries



• Lipton (2005) notes that, except in the cases of a handful of citystates, there are virtually no examples of mass poverty reduction since 1700 that did not start with sharp rises in employment and selfemployment income due to higher productivity in small family farms.



digitalization of African agriculture

- E.g. <u>payment systems</u>, <u>credit platforms</u> & <u>digital insurance</u> are hardly accessible to subsistence farmers
- high cost of service in a highly fragmented business, illiteracy, language, social contexts, etc.
- Lack of infrastructure



general constraints to technology

- Economic viability
- Access to finance
- Installation, operation & maintenance
- Standardization and quality control of products and services
- Water management
- Social justice

Lessons learnt

- Political solutions????
- Give a solution of how it can work
- Sense of investment in africa
- Beaware of the different culture, dont be very critical. Rather provide solutions of how it can work.
- where the church can invest so people learn and support projects
- Best practice models
- How people can engage and support those interested

Rural areas

- Drought
- Floods
- Landslides in the East



- agricultural productivity growth, leading to a shift of people & resources from agriculture towards manufacturing, industry & services, massive increases in per capita income, & steep reductions in poverty & hunger
- 815M worldwide suffering from chronic hunger & millions more living in poverty



• To meet growing food demand, it is necessary to develop more productive and sustainable farming systems

- Agricultural transformations in the late 20th century relied on large-scale intensification using high levels of inputs. In many countries, that approach has resulted in severe environmental impacts, including massive deforestation, the depletion of soil and water, and high levels of greenhouse gas emissions.
- Future transformations face unprecedented environmental constraints, requiring action to both mitigate & adapt to cc & NR scarcities.
- Farmers will need to reduce resource use in agriculture without compromising yields, and optimally manage livestock residues, a major source of greenhouse gases.

Some thoughts...

- Improved design of farm machinery & equipment, adapted to the specific needs of smallholder farmers would increase their use
- Mobile phones effectively shorten the distance between isolated smallholders & other actors involved in <u>processing</u>, transporting, marketing & regulating farm produce prices (Conway, 2016)
- Different farmers have similar yet different hindrances e.g. HH issues, fees, medical bills, housing shelter, etc.

"climate-smart" agricultural practices & technologies

- CSA aims:
- ✓ sustainably increasing agricultural productivity
- ✓ increasing adaptive capacity & resilience to climate shocks
- ✓ reducing GHG emissions & increasing carbon sequestration

✓ Adjustments include:

- adopting varieties resistant to heat & drought;
- diversifying farm portfolio;
- improving soil & water management;
- promoting non-farm employment (FAO, 2016c)

✓Often, practices with strong adaptation & food-security benefits can also reduce GHG emissions & increase sequestration (FAO, 2016b)

- About 40–60 % of smallholder farmers across the region remain either absolute buyers of staple foods or they buy more than they sell over the course of the year (Jayne, Mather, & Mghenyi, 2010)
- Smallholder farmers increasingly rely on markets for many resources & services that influence agricultural productivity
- Farmers' ability to reliably acquire food from the market at low cost & risk enables them to shift their land into crops with higher returns per unit land and to reinvest their labor & capital into other activities (often off the farm) that provide higher returns to their time & scarce capital

Rural Markets_farmers

- for food
- improved seed
- Fertilizers
- mechanization services
- veterinary services
- crop husbandry know-how
- market information
- other inputs e.g. ploughs, ox carts, bicycles, spare parts & repair services for farm &transport equipment
- To sell their surplus production

Transformation

- (i) some farmers move out of farming to take advantage of better economic opportunities, while farmers remaining in production become more commercialized;
- (ii) farms transition from producing a diversity of goods motivated by self-sufficiency to becoming more specialized to take advantage of regional comparative advantage, and in the process they become more dependent on markets
- (iii) agribusiness
- (iv) more medium to large farms begin to supply the agricultural sector to capture economies of scale in
 production and marketing, and mean farm size rises with the exit of rural people out of farming and
 consequent farm consolidation;
- (v) the technologies of farm production evolve to respond to changes in factor prices (land, labor, and capital) as a country develops (in most cases as non-farm wage rates rise with broader economy-wide development, farms become more capital-intensive as the cost of labor and land rise and the cost of sourcing capital declines);
- (vi) there is a transition from shifting cultivation to a focus on more intensive, sustainable and managementintensive cultivation of specific fields; and
- (vii) the agri-food system becomes more integrated into the wider economy. Many of these transformation processes have accelerated since 2005 in countries such as Ghana, Kenya, Zambia, Ethiopia and Rwanda.

Resources

- AFRICA AGRICULTURE STATUS REPORT 2016
- THE STATE OF FOOD AND AGRICULTURE 2017