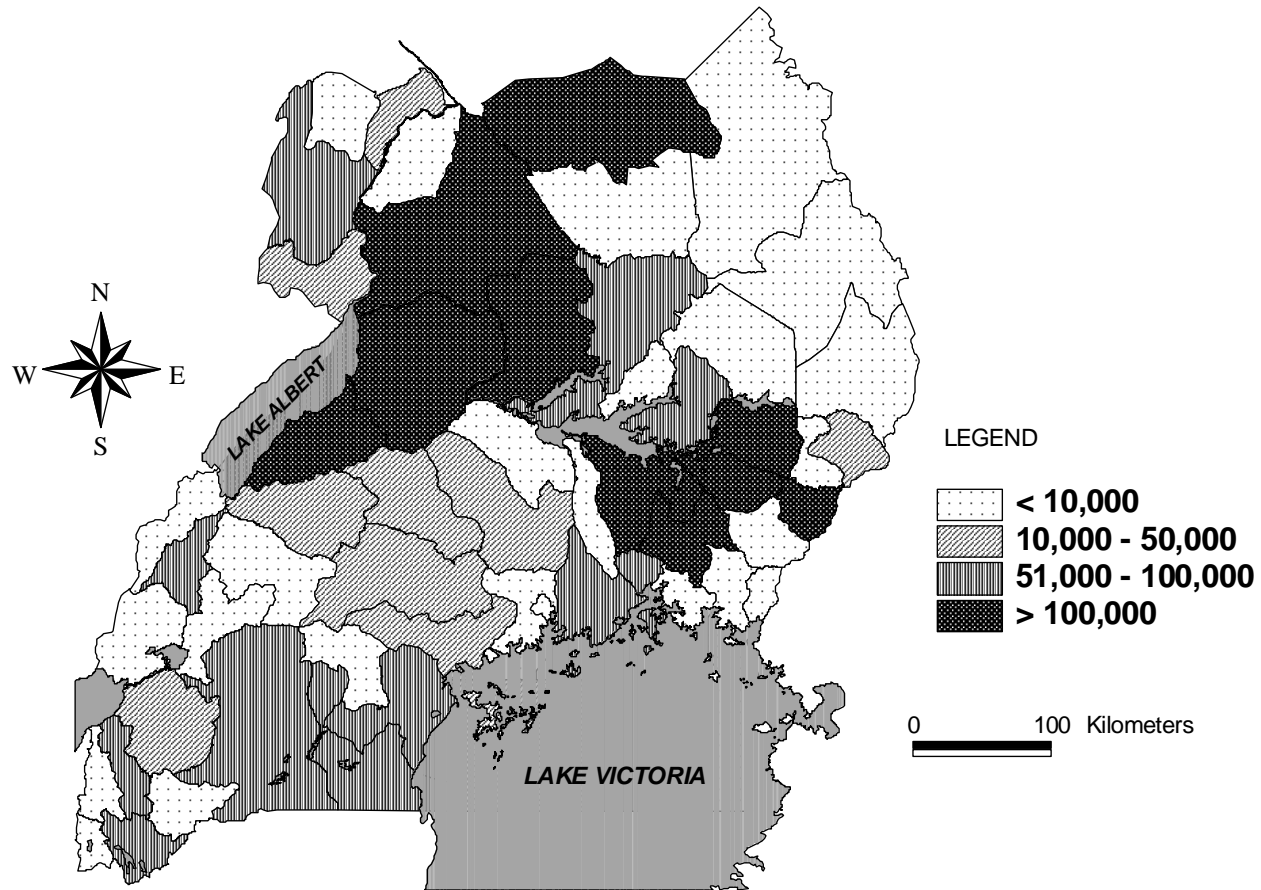


Sweet potato and potato production systems in Uganda

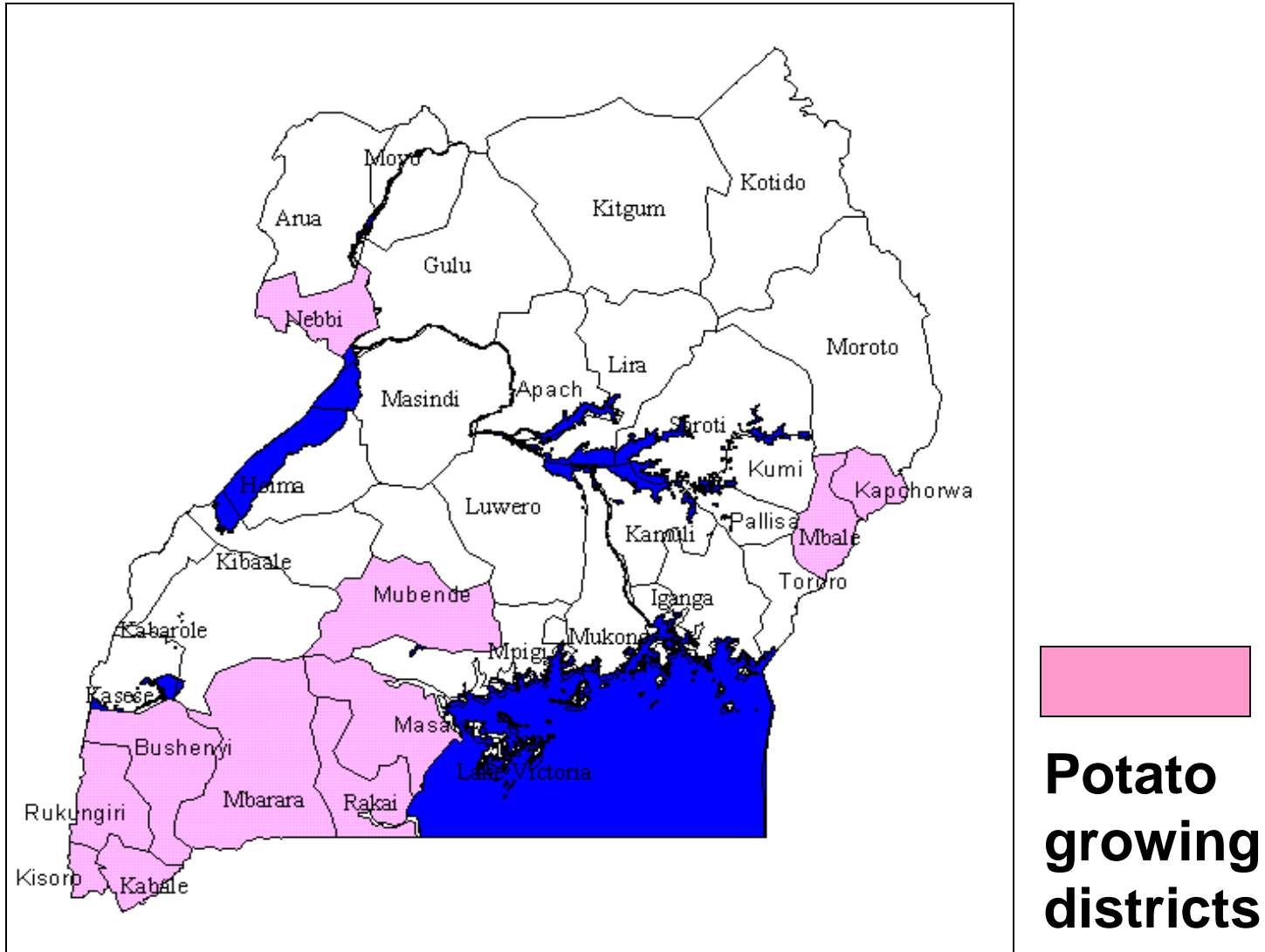
Effect of climate change

F. Bagamba and J. Ilukor

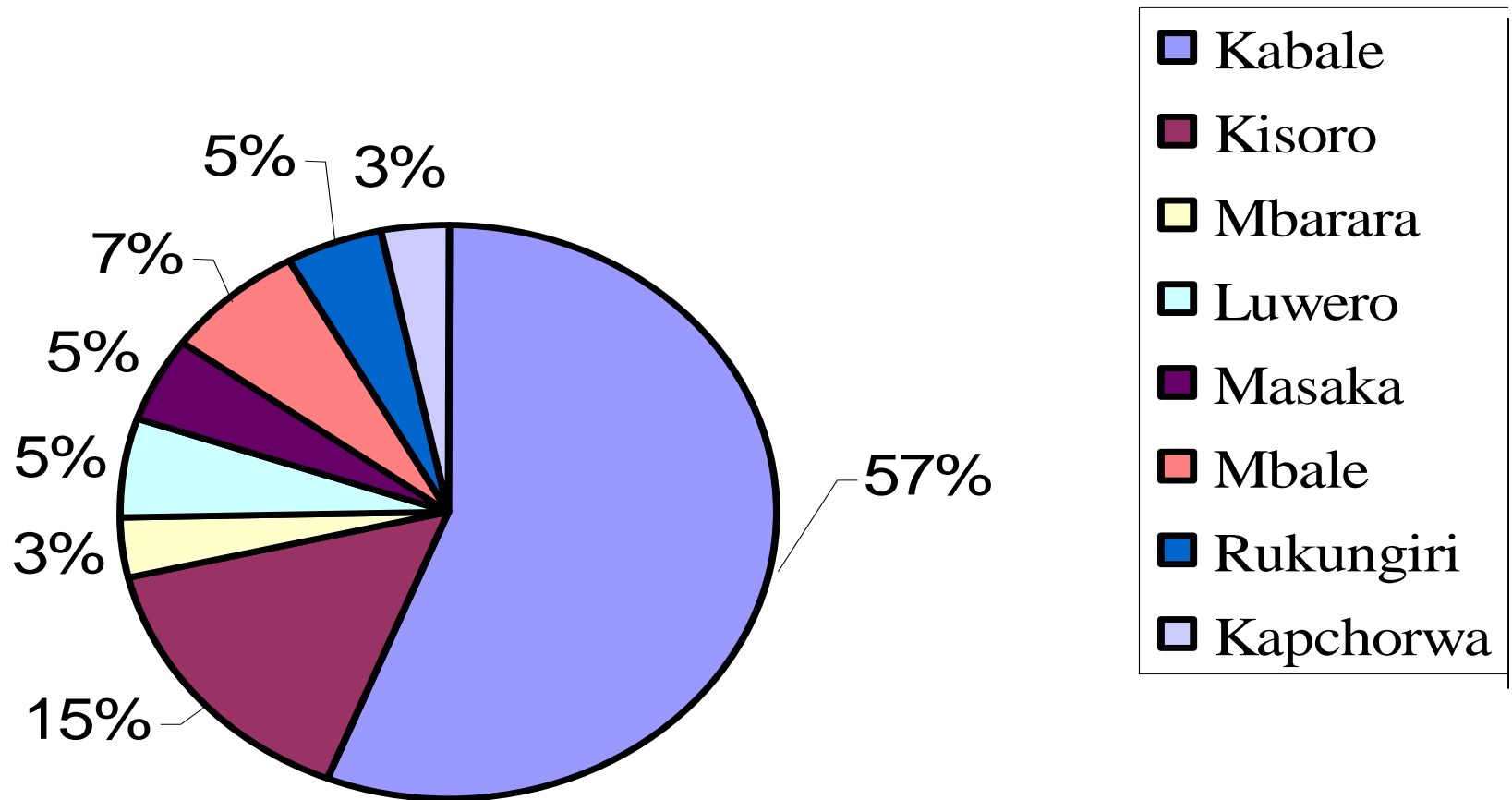
Sweet potato production by region (tons)



Potato growing regions in Uganda



Potato production by major producing districts (2000)



Importance

- Sweet potato production mainly concentrated in densely populated, mid to high altitude areas (1000-2000m)
- Major food crop and production is spread evenly over the country (third most important after cassava and bananas)
- Currently number one food crop in the lake Victoria region
- potential benefits to poor farm households and urban consumers
 - **Especially when other crops fail or in specific seasons before the main harvest**

Off-farm employment to women and youth



Importance of potatoes

- important food and cash crop especially in the highlands (Kabale)
- food security crop and sale in urban markets in other districts
 - Consumed when there is a shortage of major staples e.g., banana, sweet potatoes
 - it averts food shortage before major staples become abundant
- increase in demand for the commodity from the fast-foods industry that is quickly developing in many urban areas

Production constraints

- Soils
 - predominantly old rocks from the Pre-Cambrian era (3000 – 6000 million years)
 - More than 2/3 has poor ferralitic soils (nearly lost all their mineral content through prolonged weathering)
 - Few areas with highly productive volcanic soils
 - Sandy loams in northern parts of the central region, eastern and northern Uganda (coarse particles, easily carried away by wind and water, have low water holding capacity and are generally not fertile because of leaching but support sweet potato growing)

Climate

- Equatorial climate (temperatures moderated by altitude)
- Areas around Lake Victoria and the west and southwest receive the highest rainfall (>1,500 mm)
- areas in the center and northeast receive less than 1,000 mm
- Drought is reported as one of the major constraints for sweet potato production
- Drought reported to facilitate tuber rotting and scorching of vines
- Moreover, poor storage for sweet potato and potatoes is a major cause of food insecurity
- Lean rain seasons
- Pests and disease buildup (attributed to climate change)
 - Impacted on the cropping system (mainly in the central region – Gold et, al. Sweet potatoes replacing banana)

Pests and diseases

- Potatoes
 - Late blight
 - **Lack of cash to buy chemicals, High cost of chemicals (fungicides), Lack of resistant varieties**
- Sweet potatoes
 - Lack of disease-free planting material
 - Insects most recognized production constraints
 - **Sweet potato weevil (more damaging during dry season) and butterfly**
 - Vermin
 - Diseases frequently not recognized. Farmers recognize disease symptoms e.g. leaf spot and premature leaf defoliation but unable to associate symptoms to pathogen

Varieties of sweet potato

- Common ones include New Kawogo, Dimbuka, Rangira, Entebbe road and Nangumi
- Preference depends on sweetness, lack of fibres, in-ground storability, early maturing, drought tolerance and tolerance to diseases. High yielding cultivars e.g. Rangira less preferred because of lack of the above qualities
- Adoption of newly released varieties limited by lack of planting material

Other constraints

- Shortage of planting material
- Shortage of land and land fragmentation
- Labor shortage
 - Diversion to non-farm activities especially in the central region
 - Non-substitutability of female with male labour for certain activities and vice versa (e.g. cutting vines is a female activity)
 - Sweet potato is predominantly a “woman’s crop”

Profitability (returns per acre (U. Sh))

Crop	central region		southwest	
	land	labour	land	labour
S. potato	239,700	260,300	246,900	77,500
Banana	187,100	255,800	457,700	343,400
Cassava	181,700	72,400	152,000	126,400
Beans	125,900	137,600	138,000	189,800
Millet			162,100	52,100

Land allocation (acres)

Crop	central region	southwest
Sweet potato	0.391	0.073
Banana	0.45	0.832
Cassava	0.283	0.037
Beans	0.27	0.31
Millet	-	0.249

Land allocation

- Allocation guided by returns to land and labour (farmers rational)
- However other factors at play
 - Market imperfections (food and labour)
 - High food market prices compared to farm gate in central region (farmers rely more on own production)
 - Tradition
 - Land type and fertility
- Sweet potato increasingly becoming more important in the central region
 - Decline in productivity of other crops (specifically bananas)
 - Due to pests and disease build up and water stress
 - Possibly due to climate change

Data availability

- IFPRI data sets
- UBOS - Household surveys
- CIP
- Oxfam
- National potato and sweet potato programs
- Additional survey

Thank you