

Economics 172
Issues in African Economic Development

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Issues in African Economic Development

Lecture 18 – March 20, 2007

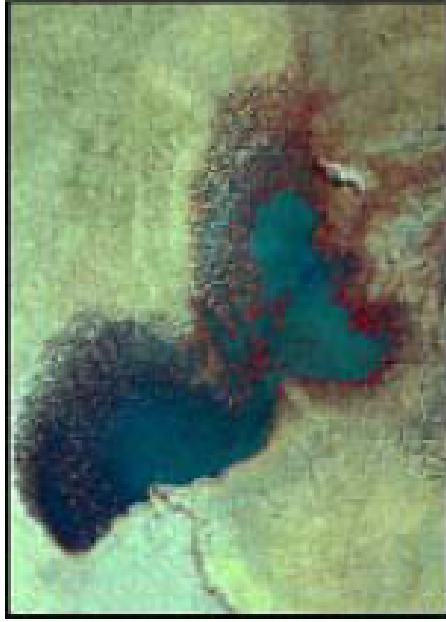
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- Guest lecture this Thursday by Jessica Leino, a Berkeley Ph.D. student in Economics, on spring water management in rural Kenya

Next topic: environmental and development

- What will happen to Africa as a result of climate change? What if global temperatures keep rising?
- One important issue is water scarcity, if temperatures rise and droughts become more common
- The case of Chad: Lake Chad, once the world's 6th largest lake, but it is drying up. It is currently only 10-20% of its former size. Former fishing towns are desert
- Desertification, plus damming of rivers for hydro-electric power, are both to blame

Africa's Disappearing Lake Chad



1973



1987



1997

Drinking water in rural Kenya

- Water access is a critical issue throughout Africa
- Drinking water is often from sources where it is exposed to the environment before collection
 - Naturally occurring springs
 - Shallow wells
- In rural areas people live on their own farms, not in villages/towns, making piped water expensive
- Infant mortality in Kenya is high at 68 per 1000 live births (2001), and even higher in rural areas
 - Diarrhea from contaminated water is a leading cause

Spring “protection”

- Protecting a spring involves: excavating the “eye” of the spring, installing pipes for the water, and concrete casing for protection and drainage
- Protection does not prevent all contamination at the source (i.e., groundwater contamination)
 - Contamination in transport, storage still possible
- Analytically convenient: spring protection improves water quality without changing quantity





Spring Protection Project Component

- 200 natural springs identified in 2004
 - Springs stratified by baseline water contamination, divided into four treatment groups
 - 16 springs later dropped as unsuitable for protection (e.g., seasonal water only)
 - Order of protection determined randomly

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- 200 natural springs identified in 2004
 - Springs stratified by baseline water contamination, divided into four treatment groups
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 - Order of protection determined randomly
- Across three survey rounds (2004, 2005, 2006), there are 175 springs with complete water and household data
- One quarter of baseline sample phased into spring protection in early 2005, one quarter in late 2005

Source water quality investments

- In the case of spring protection:
 - 1) Do source water quality gains translate into home water quality improvements? Are these improvements larger for households with better hygiene, sanitation?

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- In the case of spring protection:
 - 1) Do source water quality gains translate into home water quality improvements? Are these improvements larger for households with better hygiene, sanitation?
 - 2) What are the child health and nutrition impacts of these water quality gains?
 - 3) How much do households value water quality gains?

Main results of spring protection project

- Spring protection led to large source water quality gains (72-77% reduction in contamination)
- Moderate home water quality gains (50% reduction in contamination). Home gains no larger for HH's with better hygiene, sanitation

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- Spring protection led to large source water quality gains (72-77% reduction in contamination)
- Moderate home water quality gains (50% reduction in contamination). Home gains no larger for HH's with better hygiene, sanitation
- But no evidence (after 18 months) of any sizeable child health or nutrition gains from spring protection!
- High initial household valuation for spring protection, but this falls over time – probably because households learn that child health gains are non-existent
- More discussion on Thursday with Jessica's lecture

Transition to the second half of the course

Outline: “History, institutions, and politics”

(1) Introduction to Part II of the course – why is Africa so economically underdeveloped?

Transition to the second half of the course

Outline: “History, institutions, and politics”

- (1) Introduction to Part II of the course – why is Africa so economically underdeveloped?
- (2) Slavery and slave trades in African history

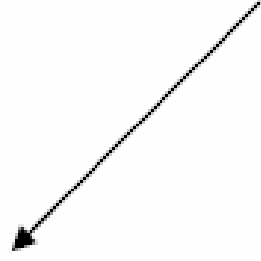
Schematic Outline of the Course

Why is Africa underdeveloped?

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African
underdevelopment

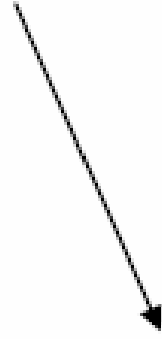


Geography and tropical disease

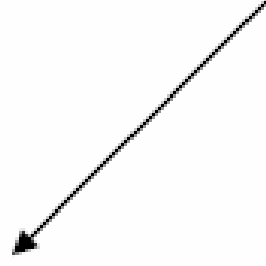
Schematic Outline of the Course

Why is Africa underdeveloped?

Current policies and institutions:
Health, education, credit, agriculture



African
underdevelopment



Geography and tropical disease

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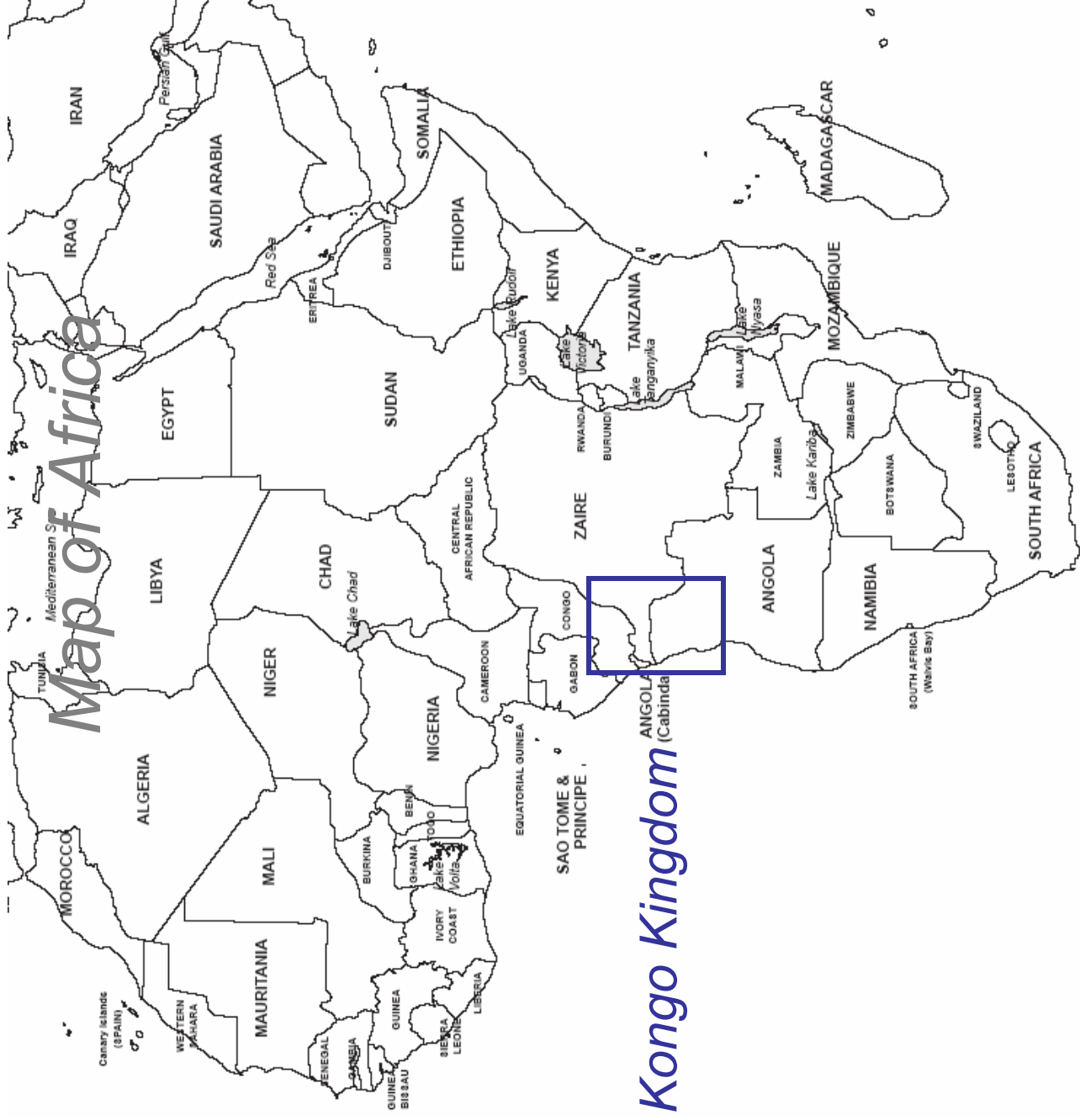
African
underdevelopment

History (slave trade, colonialism);
Social and political institutions

Geography and tropical disease

Slavery in African history

- Large numbers of Africans were forcibly enslaved during the 15th-19th centuries, starting with the Portuguese in Congo in the 15th century



*Kongo Kingdom
(Cabinda)*

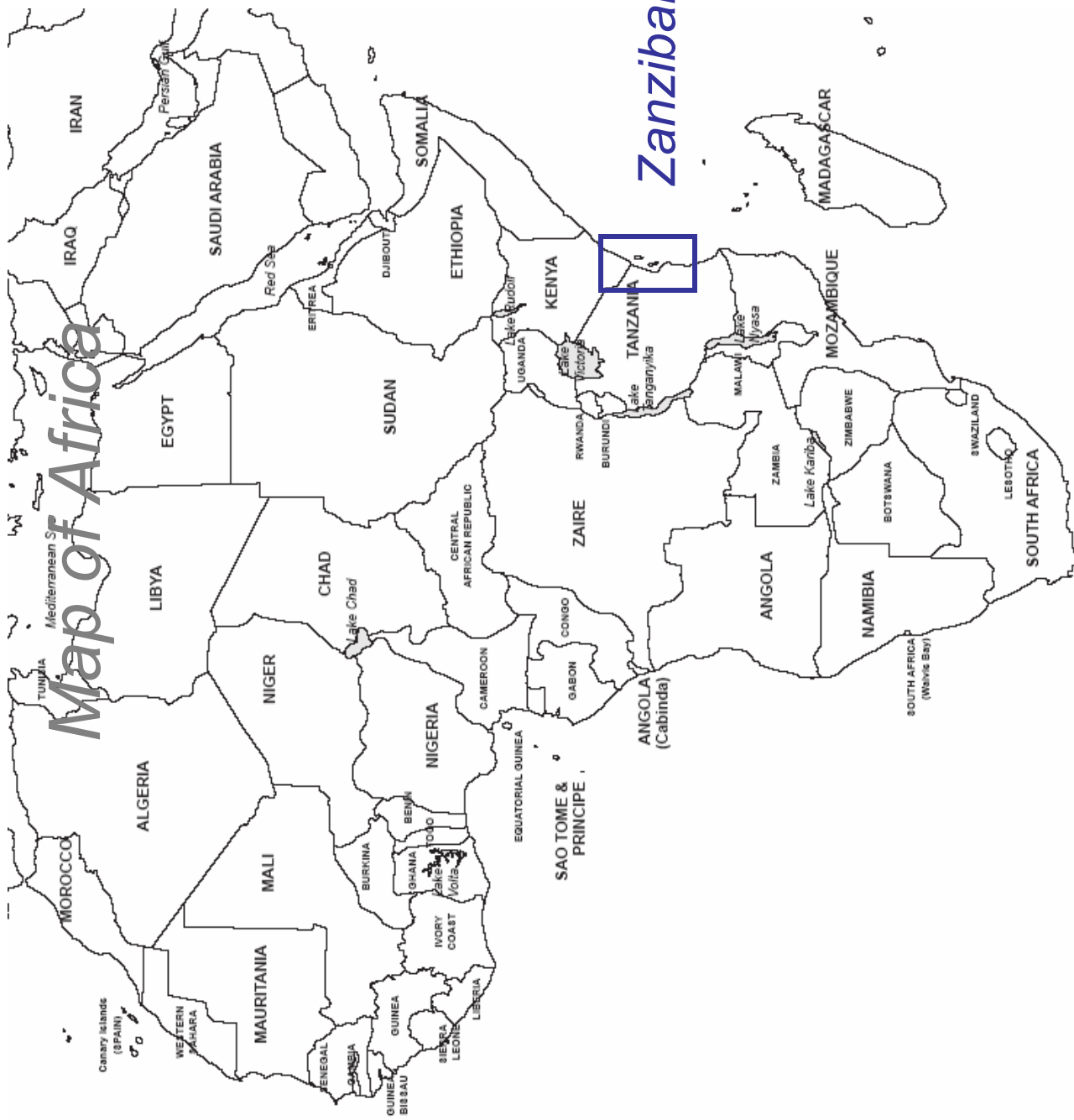
Slavery in African history

- Large numbers of Africans were forcibly enslaved during the 15th-19th centuries, starting with the Portuguese in Congo in the 15th century
- King Afonso ruled the Kongo kingdom from 1506-1543
- Large numbers of Kongo people were captured and sent to work as slaves on Portuguese plantations on the Atlantic islands of Sao Tome or Cape Verde
- How did the slave trade affect economic, social, and political development in Sub-Saharan Africa?

The African slave trade(s)

- There were three distinct, large-scale slave trading routes through the end of the 19th century:

<i>Atlantic Ocean trade</i>	<i>11-13 million</i>
<i>Sahara, Red Sea trade</i>	<i>5 million</i>
<u><i>Indian Ocean trade</i></u>	<u><i>2 million</i></u>
<i>TOTAL</i>	<i>18-20 million enslaved</i>



Data on the Atlantic Slave Trade

- At the peak of the trade in the 18th century, huge numbers of Africans were being captured every year:

	<u># people / year (range)</u>
1450-1600	2,500-7,441
1601-1700	13,324-18,680
1701-1800	61,300-97,469
Late 1800s	33,300-50,230

The Atlantic Slave Trade

- Most slave raiding was carried out by Africans, who sold captured people to European traders at coastal ports (in today's Ghana, Nigeria, Congo, Liberia, Sierra Leone, Benin, Senegal, Cameroon, Angola, ...)
- Europeans traded slaves for horses, textiles, metal goods and tools, and most importantly guns. It is estimated that 20 million guns were traded in all
- Military power brought them more slaves and more political power. Slave traders became the most wealthy and politically influential individuals in much of coastal West Africa

Why was Africa targeted by slave traders?

- Location relatively close to the Americas, with its booming sugar plantations

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- Pre-existing internal slave networks: in the late 1800s, 18-44% of Africans were slaves of other Africans (based on early European colonial surveys)

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- Pre-existing internal slave networks
- Less military might (e.g., compared to Asia)

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- Location relatively close to the Americas, with its booming sugar plantations
- Pre-existing internal slave networks
- Less military might (e.g., compared to Asia)
- Others?

- For next time: readings on water, and the historical legacies of slavery and colonialism

Whiteboard #1

Whiteboard #2

Whiteboard #3

Whiteboard #4

Whiteboard #5

