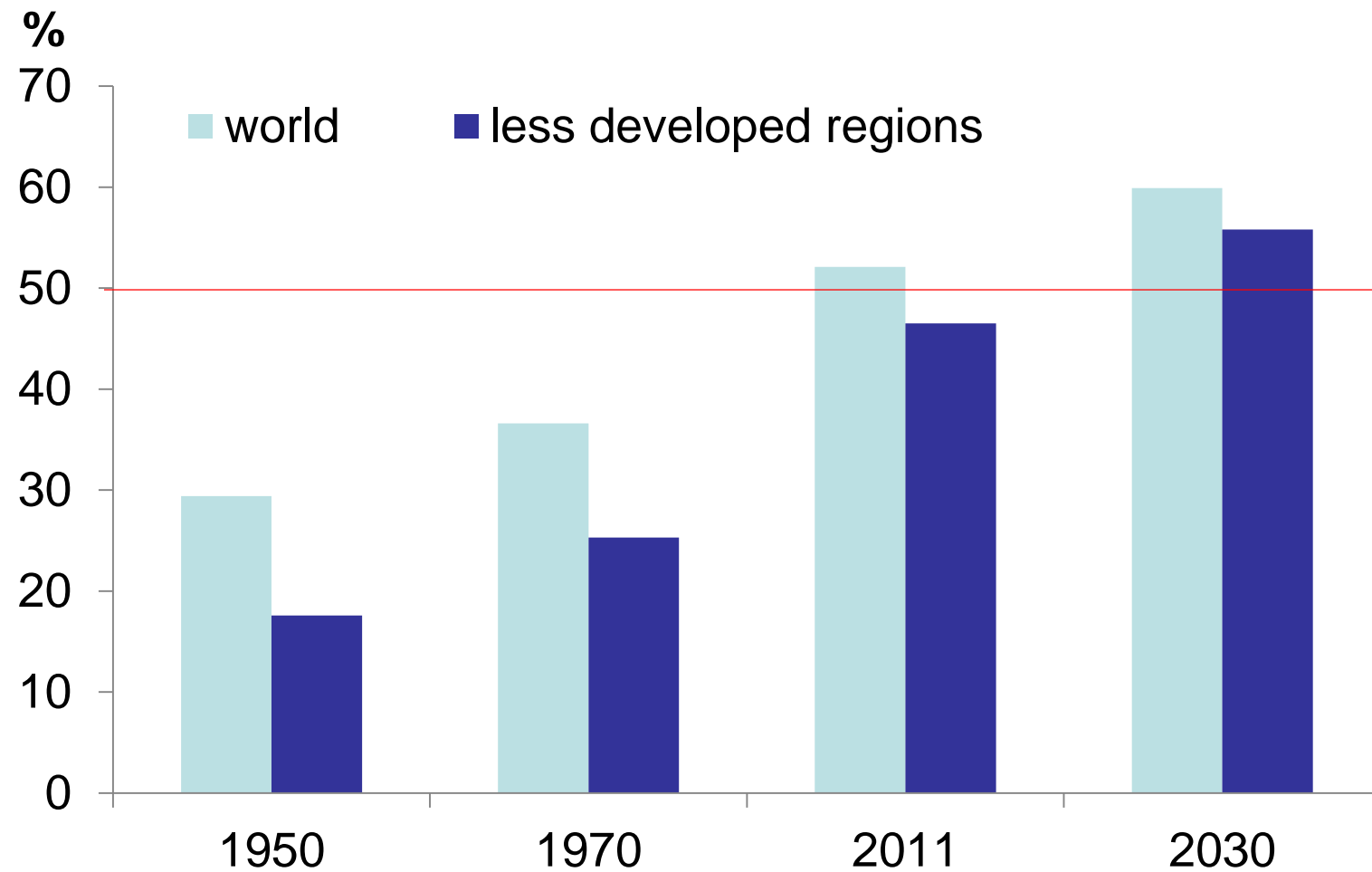


# Secondary Towns and Poverty Reduction: Refocusing the Urbanization Agenda

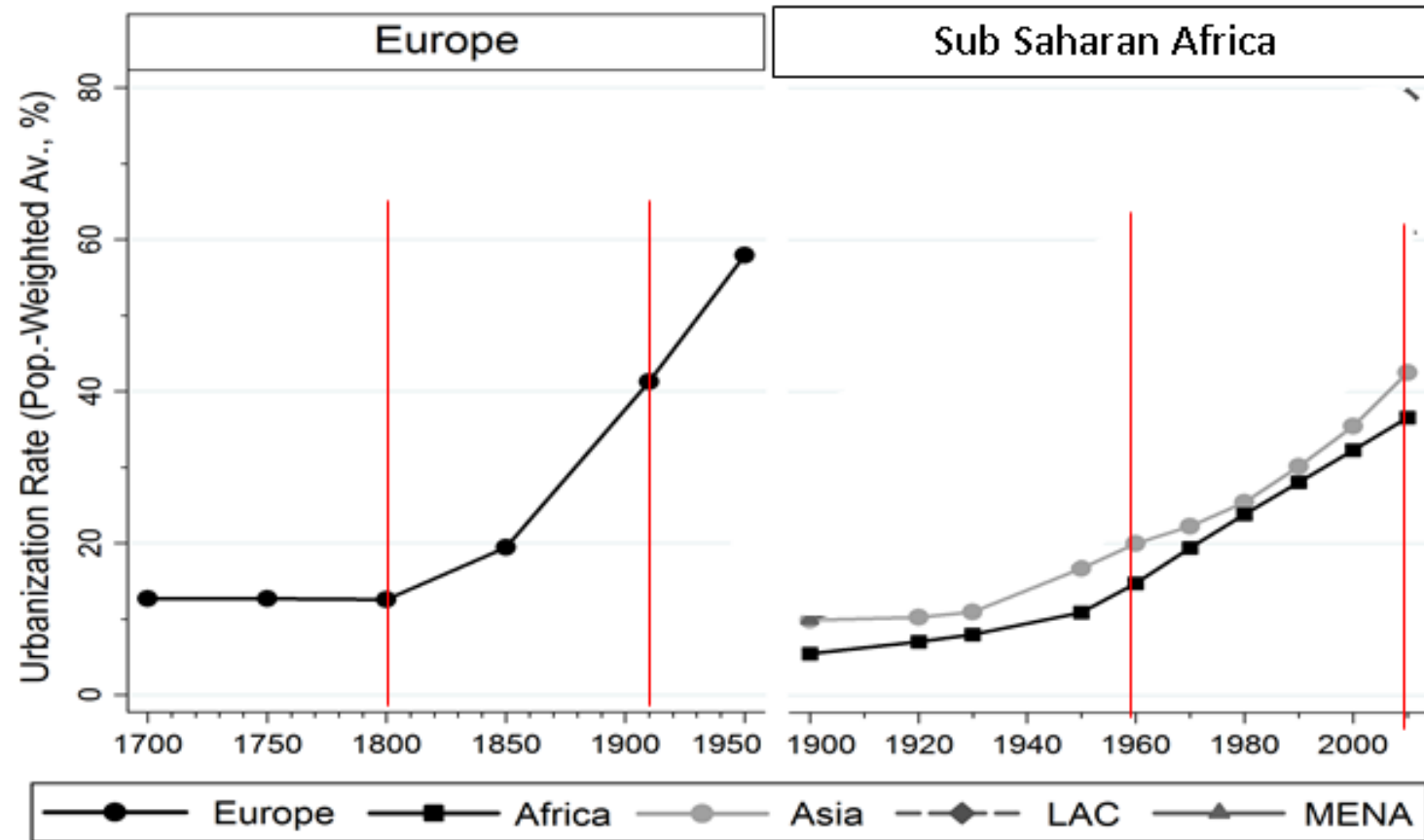
Luc Christiaensen (World Bank) and Ravi Kanbur (Cornell University)

The Quality of Growth in Sub-Saharan Africa  
Workshop of JICA-IPD Task Force on Africa  
6-7 June 2016, Colombia University

# The world is urbanizing



Africa's urbanization is rapid: twice as fast as in Europe

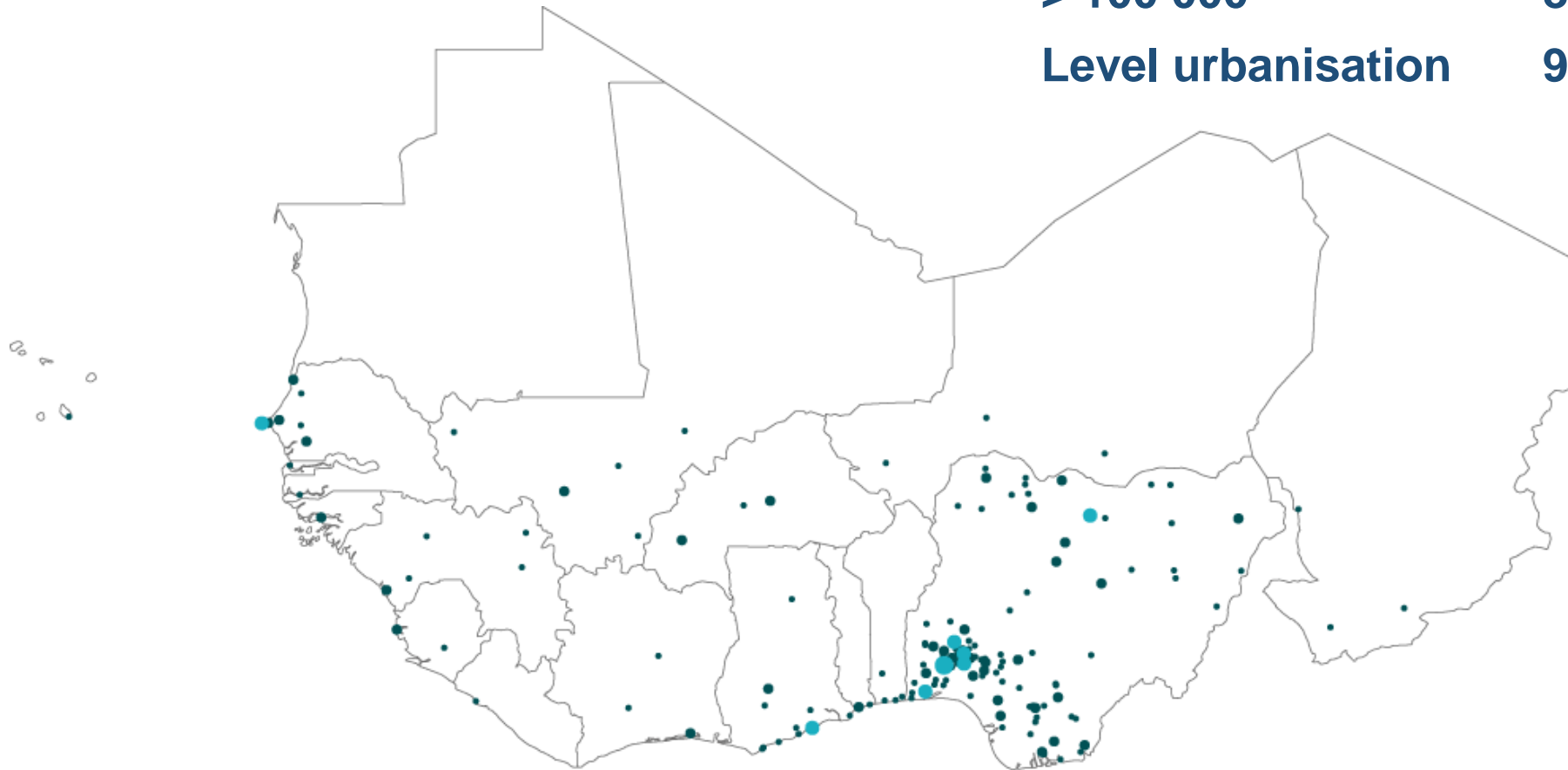


# Urban network in 1950

**Agglomerations** 152

**> 100 000** 8

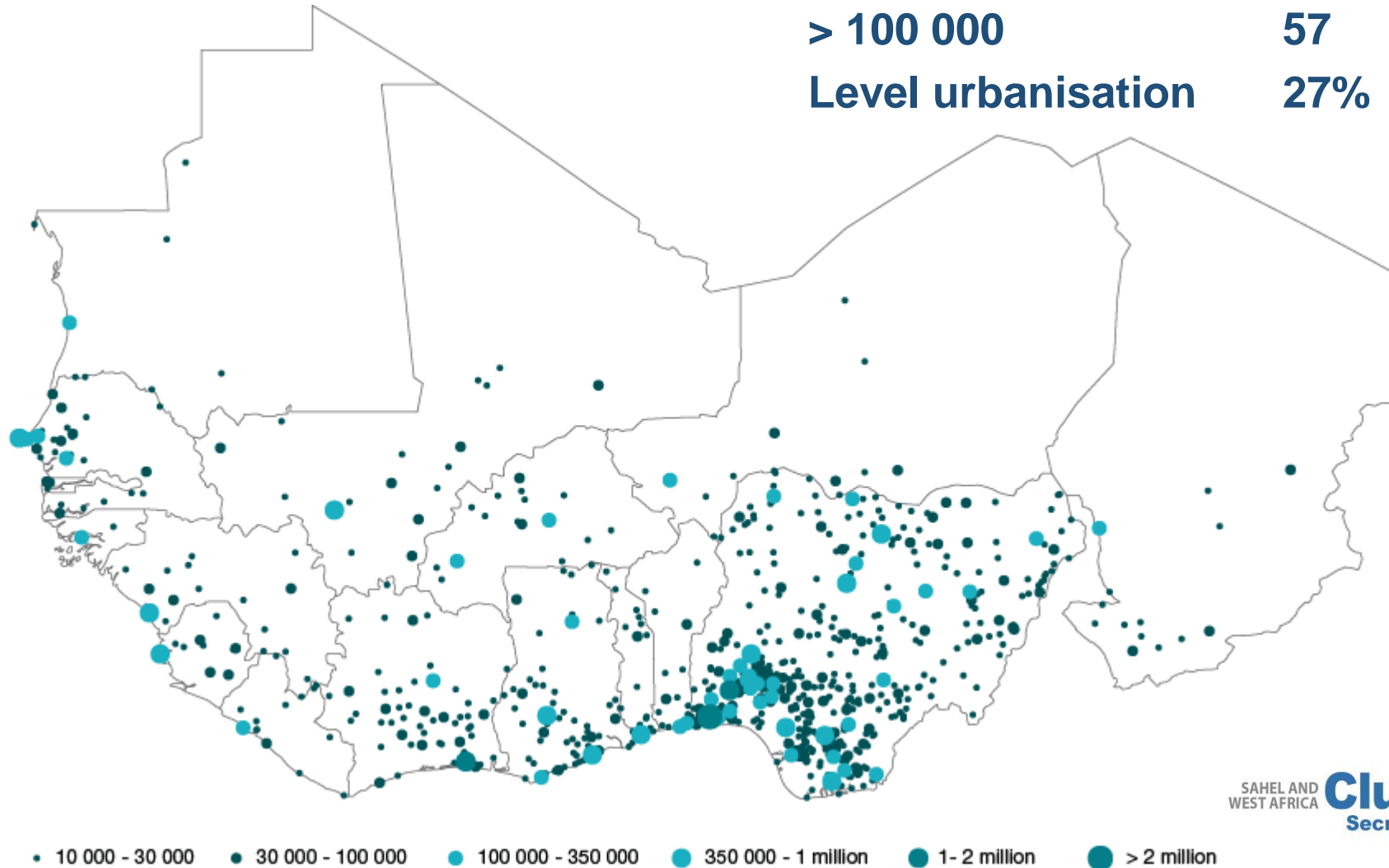
**Level urbanisation** 9%



• 10 000 - 30 000    • 30 000 - 100 000    • 100 000 - 350 000    • 350 000 - 1 million    • 1- 2 million    • > 2 million

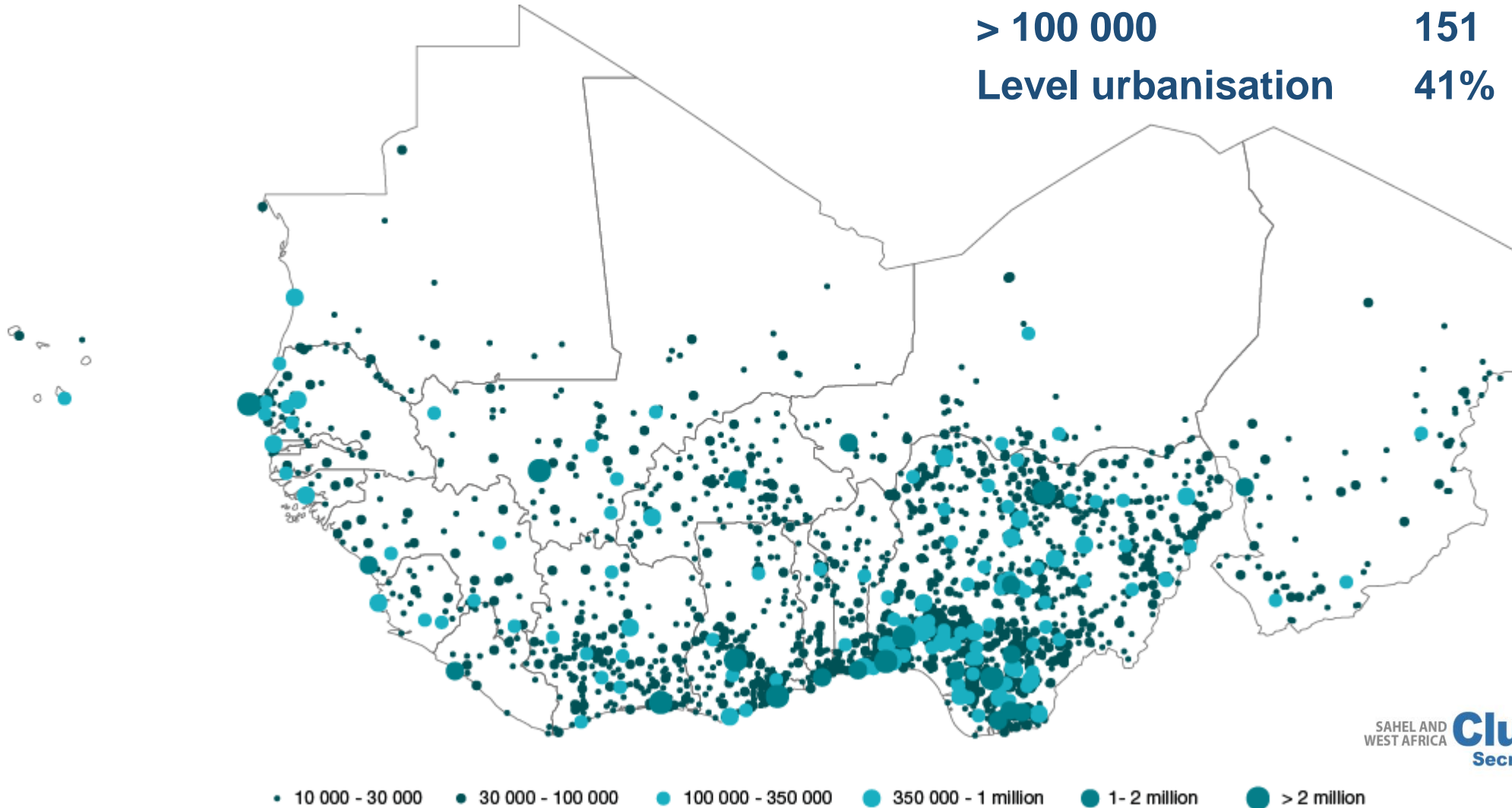
# Urban network in 1980

Agglomerations	770
> 100 000	57
Level urbanisation	27%



# Urban network in 2010

Agglomerations	1 947
> 100 000	151
Level urbanisation	41%



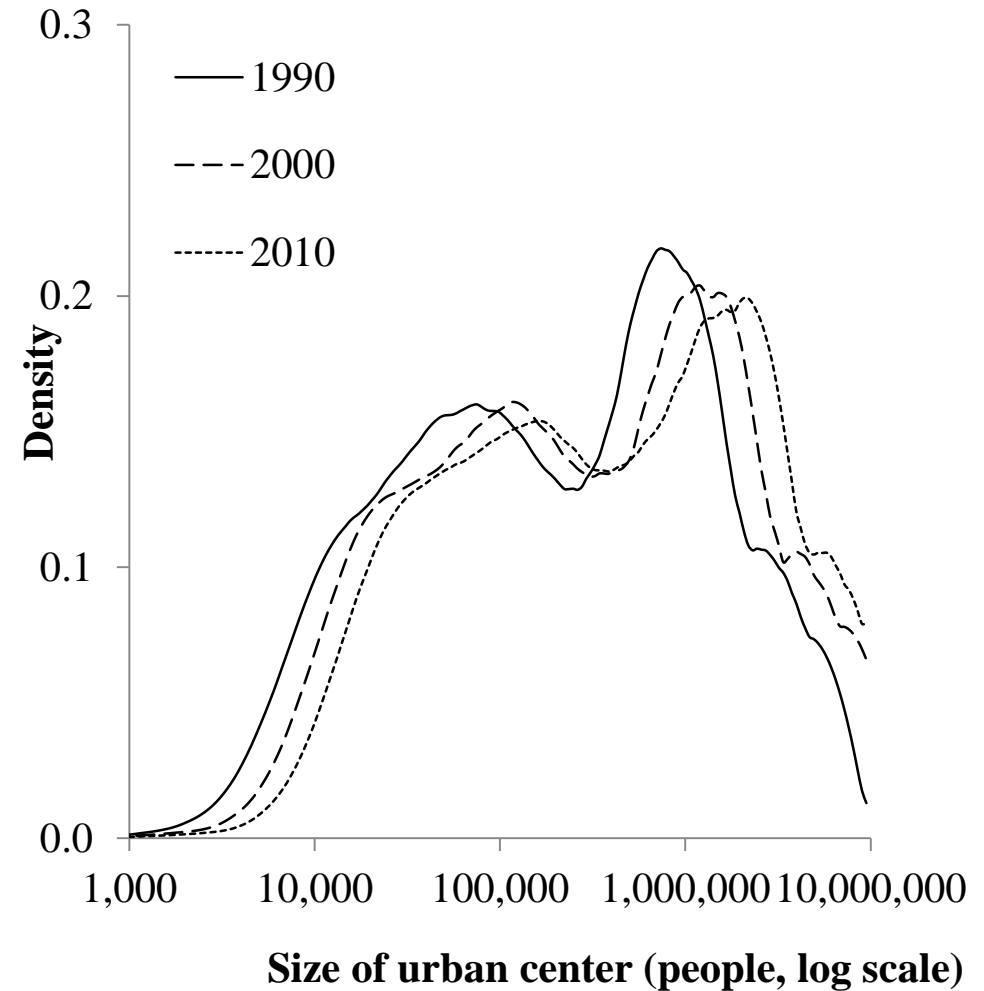
# Africa's urbanization is concentrated

## Concentrated (2010)

- 2/5 of Africa's urban population in big cities (> 1 million)
- 2/5 in small towns (<250,000)

## ...and concentrating

- Big cities growing at 6.5 %  
➔ metropolitization
- Small towns at 2.4%



Source: Dorosh and Thurlow, 2013

## **Our Central hypothesis:**

**“A shift in public investment towards secondary towns from big cities will improve poverty reduction performance.”**



# Introduction (1)

- The hypothesis itself raises many questions:
  1. What exactly is the dichotomy between secondary towns versus big cities?
  2. What is the evidence for the contribution of secondary towns versus cities to poverty reduction?
  3. What are the economic mechanisms for such a differential contribution and how does policy interact with them?
- Here we develop these questions a little further and suggest sub-questions and sub-hypotheses for structuring a discussion on the composition of urbanization.

# Town-City Dichotomy (1)

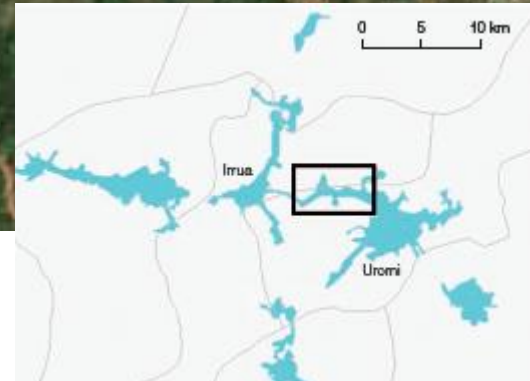
- **Familiar with notion of city size distribution (Zipf's Law), but many definitional issues**
  - how to determine the size which requires defining the spatial unit
  - Where to draw the line between secondary towns from cities
- **Administrative.**
  - Till recently the only definitions available were administrative ones. In India, for example, the hierarchy from state capitals, to district capitals, to talukas, etc. Or other administrative entities like Urban Local Bodies (ULBs).
  - Using administrative hierarchy in the city distribution to distinguish secondary towns from cities? Use of urban primacy (?)
  - On the one hand, inconsistent in characterizing “urban” across countries & within countries over time
  - On the other hand, administrative jurisdictions still the categories for official data collection and collation and likely most relevant as locus of policy formulation and implementation

# Secondary town – city dichotomy (1')

Linearisation of settlements



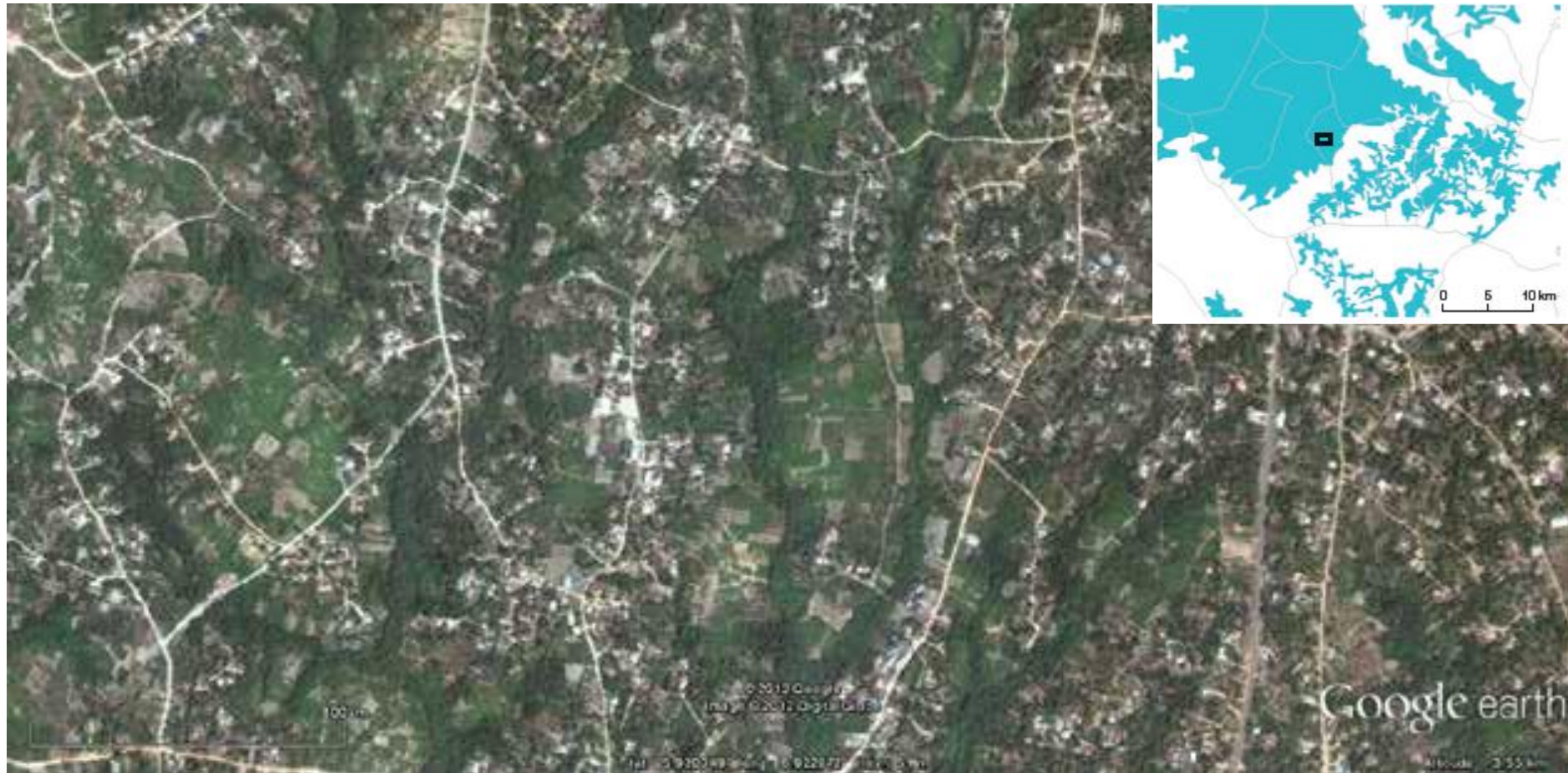
Uromi 120 000 inhabitants





# Secondary town – city dichotomy (1’')

- From hyper-rural to meta-urban Scattered urbanisation, rural infill



Onitsha 6.3 million inhabitants 3 200 inhab/km<sup>2</sup>

# Town-City Dichotomy (2)

- **New geo-spatial methods** married with census data can help overcome inconsistency
  - **Africapolis**: “The definition of urban agglomerations is based on two criteria, the land use and the quantity of the population: 1. An agglomeration is a continuously built-up and developed area, with less than 200 meters between two buildings. 2. An agglomeration is considered urban if it has a minimum of 10 000 agglomerated inhabitants.”
  - Central concepts: marrying density and size
  - Delineate small town from big city—just size threshold? (Primate?) Or size & density?
- **Overall,**
  - worth being clear about the exact definition of “rural”, “small town”, and “city”,
  - explore, whether the definition matters for results and their comparability.

# Poverty Gradients and Poverty Reduction (1)

- What is the evidence for the contribution of secondary towns versus cities to poverty reduction?
- Two types of basically reduced form evidence—static and dynamic.

# Poverty Gradients and Poverty Reduction (2)

## **Static: rural-urban gradient**

- The gradient from rural to urban is well established, going back at least as far as Kuznets (1955):
  - “What little we know of the structures of these two component income distributions reveals that: (a) the average per capita income of the rural population is usually lower than that of the urban;’ (b) inequality in the percentage shares within the distribution for the rural population is somewhat narrower than in that for the urban population-even when based on annual income.”
- The rural to urban declining poverty gradient, a resolution of the conflicting mean and inequality gradients, is also well established and accepted.

# Poverty Gradients and Poverty Reduction (3)

- Much less information on the within-urban gradient by size of agglomeration.
- Why?
  - “Big” debates have been about rural vs urban (eg “urban bias”) rather than within-urban.
  - In national household surveys, sample sizes too small to give within urban patterns.
- Lanjouw and co-authors
  - use small area poverty estimation techniques to generate poverty gradients.
  - Finding: that small towns lie in between rural and city on the declining poverty gradient.
- ➔ In this static sense, cities contribute more to lower poverty. Holding everything constant, reallocation of population along the chain rural to town to city would reduce poverty in terms of comparative statics.
- ➔ But everything is not constant.
- ➔ Reduced form evidence on dynamic patterns?



# Poverty Gradients and Poverty Reduction (4)

## Dynamic: rural-urban

- As a general proposition, there appears to be a consensus that shift of population **share from rural to urban** contributes to poverty reduction. For example, Ravallion, Chen and Sangraula's (2007) cross-country regression analysis gives fairly typical findings:

“we regressed urban and rural poverty rates on the urban population share including additive fixed effects: that is, the mean level of poverty at a given urban population share is allowed to vary by region or country....Both poverty measures tend to decline as the urban population share rises...Among the six regions of the developing world, sub-Saharan Africa is an exception to our finding that urbanization has been accompanied by falling overall poverty....”

- But does this poverty reduction gradient from rural to urban transfer to within urban, from town to city?

# Poverty Gradients and Poverty Reduction (6)

## Dynamic: Small town – city

✓ Country evidence - India (Datt, Gibson, Murgai and Ravallion, 2016) find that for India:

*“The growth of secondary towns appears to have larger direct and indirect effect on rural poverty than does big city growth.”*

✓ Cross-country evidence - 51 countries, 1980-2004 (Christiaensen and Todo, 2014)

*For 1980-2004, they find that there is indeed an additional effect on poverty reduction when people move into secondary towns and the rural non-farm economy when they move out of agriculture.*

✓ Case study evidence - Kagera (Tanzania) (Christiaensen, De Weerd and Todo, 2013)

*“They find that although on average city moves reduce poverty by a lot more, there are many more moves to towns. Thus the overall contribution of town moves to total poverty reduction from migration out of Kagera is greater than the overall contribution of city moves.”*

# I. Move to the middle larger effect on poverty reduction, controlling for growth

Change rate of the poverty headcount ratio		
(Poverty line)	\$1	\$2
Change rate of the share of people in the middle	-9.7***	-3.5***
Change rate of the metropolitan share of the population	-5.4	-2.9
GDP growth per capita	-2.3**	-1.4***

*GDP growth, flood, country fixed effects and time dummies as controls*

## II. Accounting for differential effects on growth, migration to middle remains more poverty reducing

Change rate of the population headcount (%)	Poverty head count		Poverty head count		
	(Poverty line)	\$1	\$2	\$1	\$2
change rate in share of middle		-9.7**	-3.5***	-10.75***	-3.99***
change rate in share of metropole		-5.4	-2.9	-2.5	-1.19
GDP growth rate		-2.3**	-1.4***		

*Flood, country fixed effects and time dummies as controls*

# Inequality associated with agglomeration in mega-cities

Gini coefficient	First Difference	OLS	OLS
Share of people in the middle	0.210	-0.246**	-0.080*
Metropolitan share of the population	0.536	0.513**	0.245**
GDP per capita	1.289	3.151**	2.175**
GDP per capita squared	-0.068	-0.218**	-0.151**
Observations	230	232	232
R-squared	0.152	0.596	0.790
Year dummies	Yes	Yes	Yes
Regional dummies	No	No	Yes

# Metropolitan agglomeration associated with faster growth

	GDP Growth /capita (2SLS)
Change rate of share people in the middle (instrumented by own lags)	0.630*
Change rate of the metropolitan share of the population (instrumented by own lags)	1.072**
Initial GDP per capita (instrumented by own lags)	-0.373
Year dummies	Yes
Country dummies	Yes
Observations	209

# Poverty Gradients and Poverty Reduction (6)

- But does this poverty reduction gradient from rural to urban transfer to within urban, from town to city?

✓ Country evidence - India (Datt, Gibson, Murgai and Ravallion, 2016) find that for India:

“The growth of secondary towns appears to have larger direct and indirect effect on rural poverty than does big city growth.”

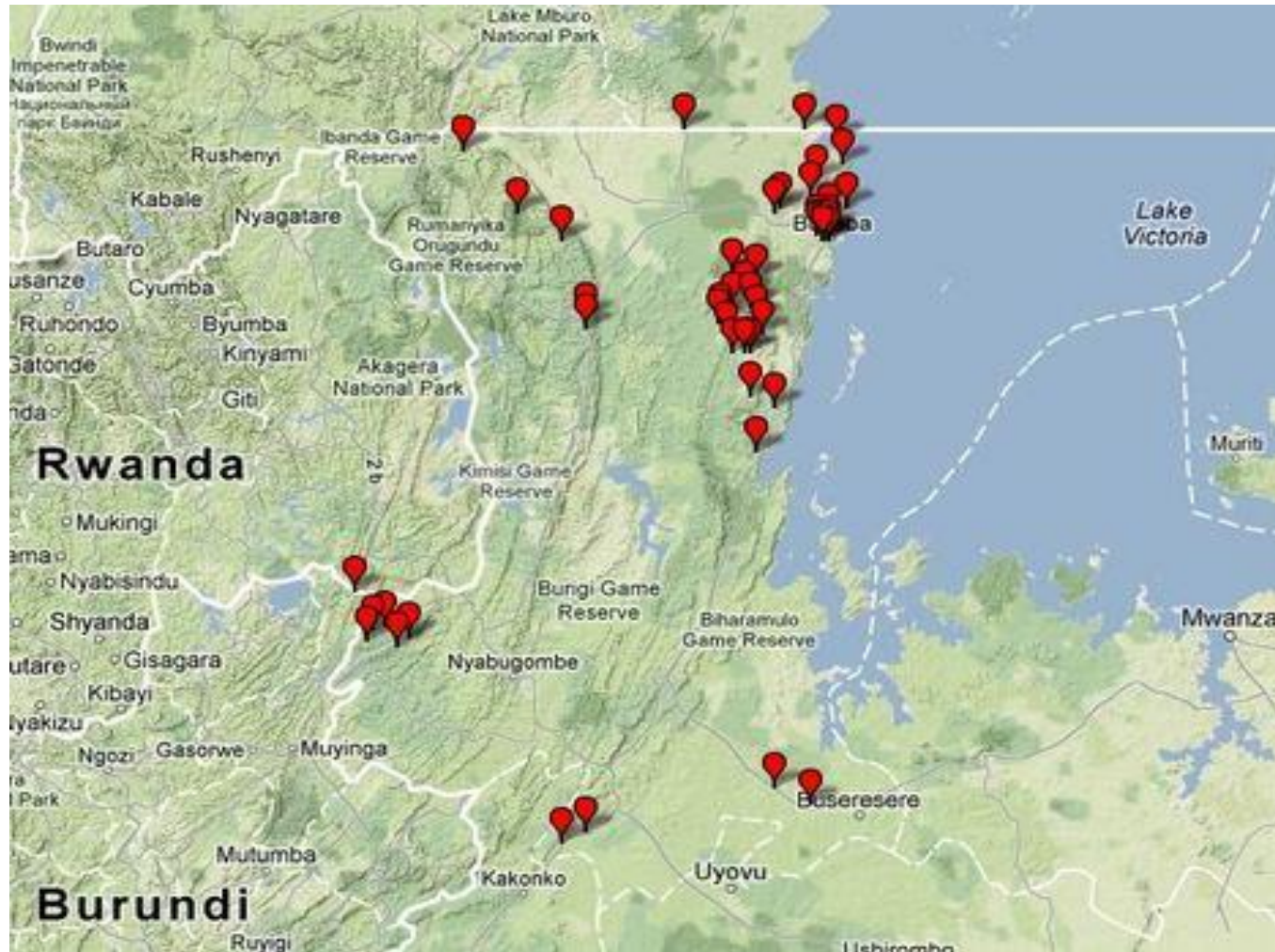
✓ Cross-country evidence - 51 countries, 1980-2004 (Christiaensen and Todo, 2014)

For 1980-2004, they find that there is indeed an additional effect on poverty reduction when people move into secondary towns and the rural non-farm economy when they move out of agriculture.

✓ Case study evidence - Kagera (Tanzania) (Christiaensen, De Weerdt and Todo, 2013)

“They find that although on average city moves reduce poverty by a lot more, there are many more moves to towns. Thus the overall contribution of town moves to total poverty reduction from migration out of Kagera is greater than the overall contribution of city moves.”

# KHDS Baseline = 1991-1994



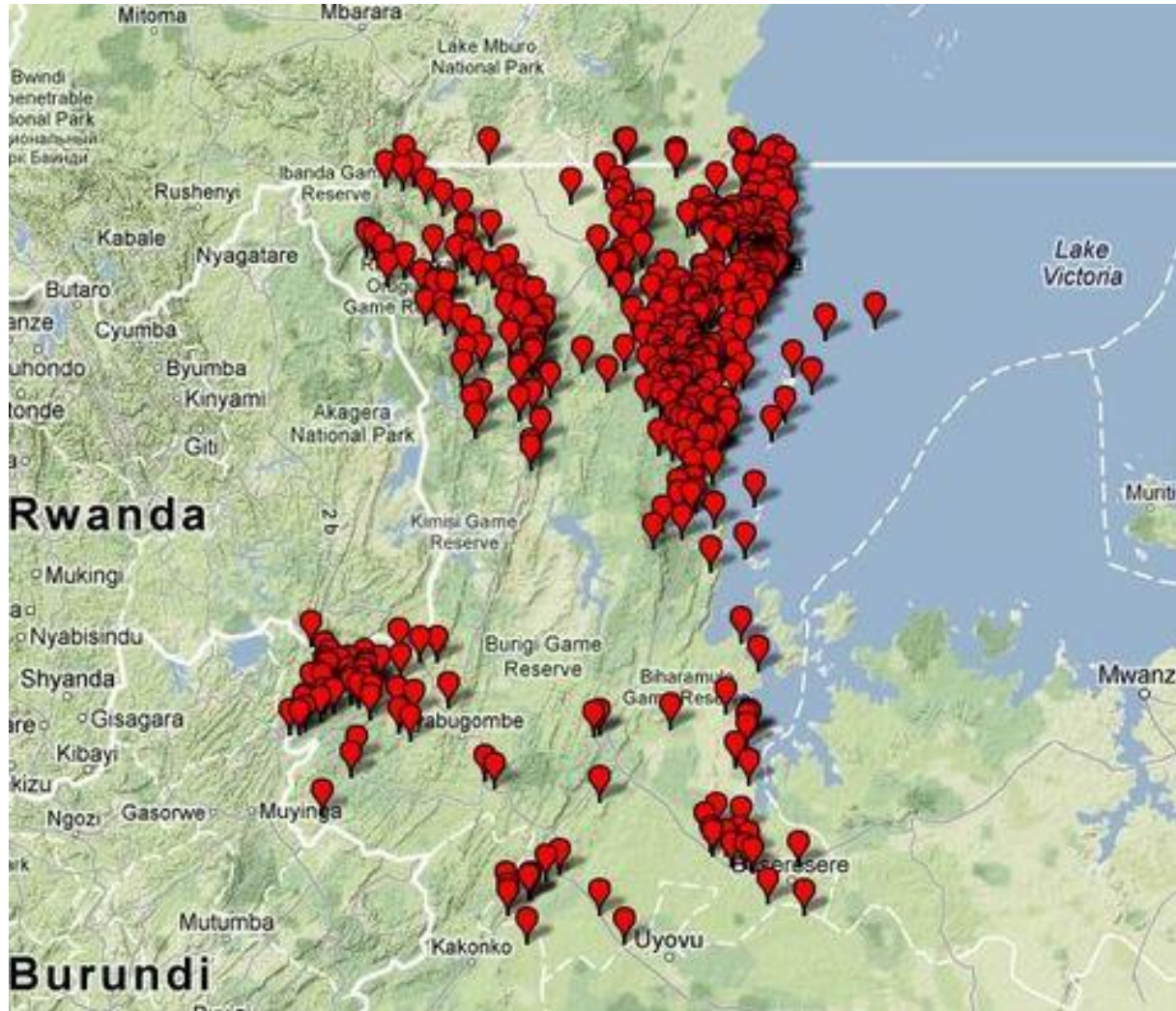
915 households

from 51 villages

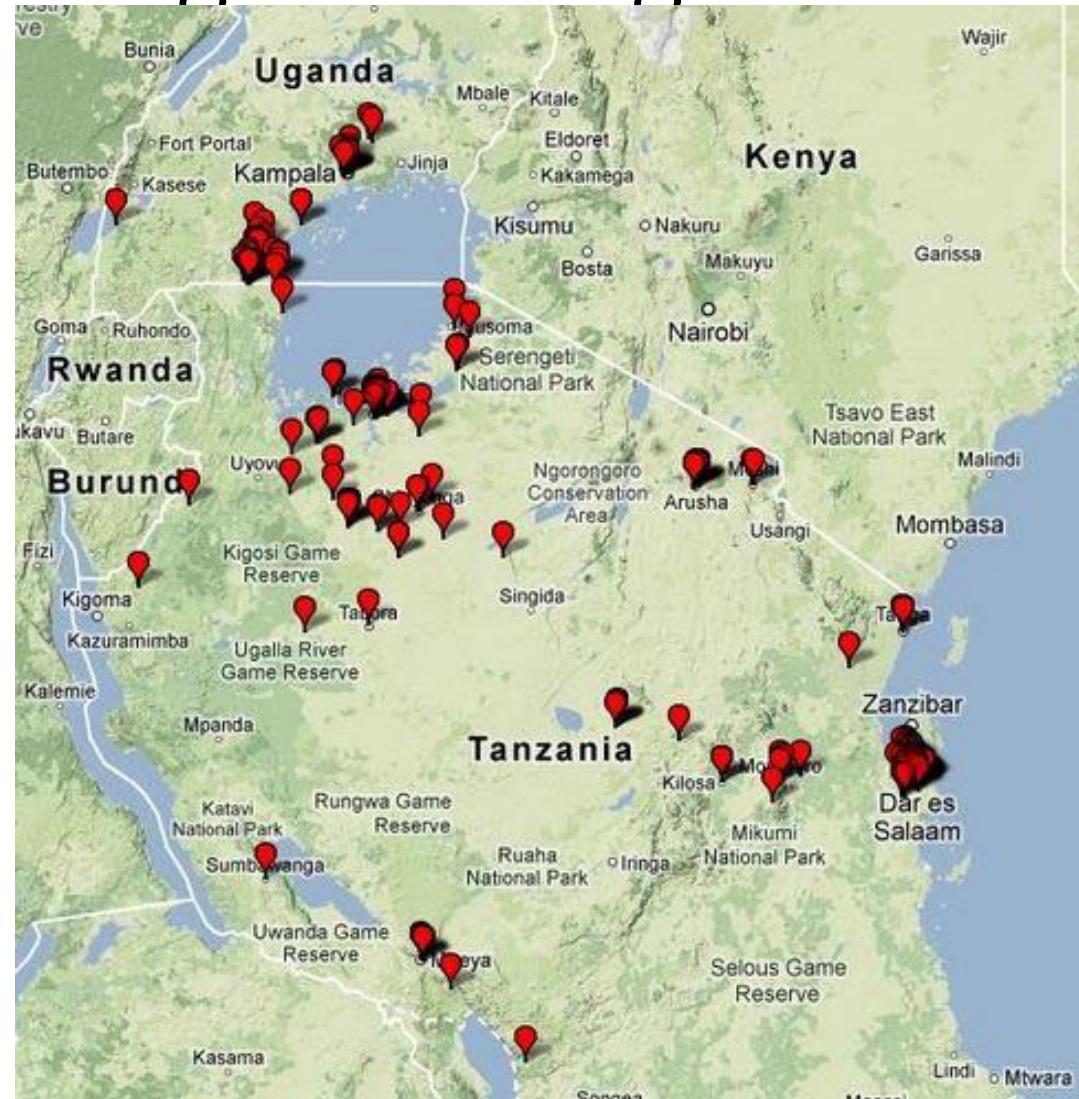
93% from rural areas



# 2010: Kagera

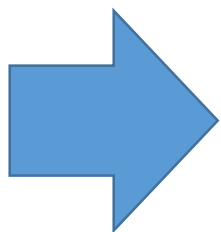


# 2010: Other regions & Uganda



Town migrants contribute more to poverty reduction than migrants to cities, b/c they are many more

2010 location	N	Poverty headcount			
		1991-94	2010	Change in Poverty headcount	Share in poverty headcount change
Rural	1086	0.56	0.35	-0.21	0.40
Town	720	0.45	0.14	-0.31	0.38
City	285	0.45	0.02	-0.42	0.21
Total	2073	0.50	0.23	-0.27	1.00



Larger size outweighed smaller intensity.

# Poverty Gradients and Poverty Reduction (8)

- Thus, preliminary evidence that despite the static declining poverty gradient from rural to town to city, in a dynamic sense towns contribute more to poverty reduction than cities.
- This will need to be developed further and tested in many different settings.

# Mechanisms and Policy (1)

- What are the **economic mechanisms** behind a potentially differential contribution to poverty reduction by towns and cities, and how does policy interact with them?
- Getting a handle on these is the first step in testing the policy implication in our hypothesis: **A shift in public investment towards secondary towns from big cities will improve poverty reduction performance.**
- This question is not easy to answer and has **not really been directly addressed** by the literature very satisfactorily, theoretically nor empirically.
- It deals with location decisions of the **firm**, migration decisions of the **laborer** and investment decisions of the **government**

# Mechanisms and Policy (2) – First models

## **Underpinning Zipf's Law**

- **City size distribution** models of the Gibrat shocks variety (including for example innovation shocks as in Duranton, 2007), but these are not typically focused on distributional questions.

## **Location decision of the firm – labor demand**

- **Equilibrium models of agglomeration** of the Fujita-Krugman-Venables type. These are typically not focused on distributional questions, but they do have conclusions about the potential inefficiency of cities compared to towns.

## **Migration decision of the individual – labor supply**

- **Rural-urban migration models** in response to rural-urban utility differentials but (i) these not fully play out distributional consequences and (ii) they do not fully incorporate agglomeration aspects.



# Mechanisms and Policy (3) – Recent models

- Extension by **Behrens and Robert-Nicoud (2014)** to address the lack of a distributional focus in agglomeration equilibrium models is:
  - “We develop a framework that integrates natural advantage, agglomeration economies and firm selection to explain why large cities are both more productive and more unequal than small towns.....A larger city size increases productivity via selection and higher urban productivity provides incentives for rural–urban migration. Tougher selection increases the returns to skills and earnings inequality in cities.”
- No implications drawn for a poverty gradient or poverty reduction. However, in their model, whatever makes a city more attractive to migrants (public goods, for example), will make a city larger and also more unequal.

# Mechanisms and Policy (4)- new

## **Extending migration models (Harris- Todaro, Anand-Kanbur)**

- Consider then a two destination Todaro model, where the town and the city each have their own modern sectors with high wages, and informal sectors with low incomes (Christiaensen, De Weerdt and Kanbur, 2016)
- The wage income is higher in the city than in the town, and the same relationship holds for informal income. But migration costs are lower to the town than to the city.
- There is then a migration equilibrium if we specify the number of modern sector jobs in each destination, and specify the probability of getting a modern sector job as the modern sector employment rate in that destination.



# Mechanisms and Policy (5)

- We can then assess income distribution consequences of public investment in cities and towns. Note though, the focus here is on migration and not on agglomeration economies—incomes are kept exogenous.
- Taking the five incomes (rural, town modern, town informal, city modern, city informal) and two modern sector employment levels as exogenous, the migration equilibrium defines a five point income distribution, from which poverty can be calculated once the poverty line is specified relative to the five incomes.
- We can then compare, for example, the poverty impact of creating a modern sector job in city versus town.

# Mechanisms and Policy (6)

- Case 1:
  - Let:
    - $W_r < W_o < W_c < z < W_s < W_c$
    - Poverty index: the head count ratio.
  - Creating a job in the modern sector of the city reduces the head count by one,
    - those who migrate to the city in the wake of this heightened probability of getting a modern sector job but end up in the informal sector, are still poor
    - person who escapes poverty is the lucky one who gets the newly create modern sector job in the city.
  - Similar effects of creating a job in the modern sector of the town also reduces the head count by exactly one.
- ➔ The impact of the two policies on poverty is identical.
- ➔ The choice depend on the relative cost of job creation in the two sectors.

# Mechanisms and Policy (7)

- Other cases:
  - The analysis gets richer, and more complicated, as different poverty lines are used. But we can in this framework, at least in a stylized manner, lay out the poverty reduction benefits of modern sector job creation in town versus city.
- But, to remind once again, there is no economic story here of how the different incomes come to be what they are, and certainly not how they come to be what they are because of agglomeration benefits.
- Integration of these different perspectives presents a rich research agenda to inform our key policy question.

# Mechanisms and Policy (8)-Summary

- Location decision of the firm – labor demand - Agglomeration economies & urbanization externalities
  - Agglomeration economies possibly, larger for cities, but caveats
    - faster growth, but also unskilled employment;
    - agglomeration effects differ by activity (level of development)
    - congestion (migration adds to natural urban growth - Urban Push);
- Linkages to the hinterlands
  - Urbanization externalities through consumption linkages, upward pressures on ag wages, rural non-farm generation
  - Possibly stronger for cities, but overall reach possibly smaller in the aggregate when accounting for hinterland effects of all STs

# Mechanisms and Policy (9)-Summary

- Migration decision of laborer – labor supply – proximity
  - Cities: higher wages, but higher unemployment, poor can queue less
  - Sec. towns: Lower wages, but lower migration costs, easier to maintain ties, commuting
  - ➔ Does proximity make up for – smaller “distance”
- Investment decision of the government
  - Zipf’s Law suggests inevitability
  - Or also subject to policy decisions
    - E.g. Political economy of the primate city (rules/regulations favoring capitals)

# Conclusion (1)

- **A shift in public investment towards secondary towns from big cities will improve poverty reduction performance.**
- What exactly is the dichotomy between secondary towns versus big cities?
- What is the evidence for the contribution of secondary towns versus cities to poverty reduction?
- What are the economic mechanisms for such a differential contribution and how does policy interact with them?

# Conclusion (2)

- On each of these, there has been progress—more in some directions than others.
- But there are also large, interconnected, gaps in theory, empirics, and policy analysis.
- We believe that there are sufficient indications that something is going on
  - So, we must dig deeper.
  - Explore what interventions work to bolster secondary towns
- Finally, an item to include for a 5 point quality of growth agenda?

# Conclusion (3)

- An 8 point quality of growth agenda?
  - Macro:
    - Security - reduce fragility and conflict
    - Maintain macro-economic balances
    - On process: foster voice and accountability
  - Meso:
    - On sectors: Improve smallholder staple crop productivity and maximize potential of agriculture to reduce poverty
    - On places: rebalance urbanization to secondary town development
  - Micro:
    - Invest in human capital of the poor (child malnutrition)
    - Help the poor manage risks
    - Technology: harness potential of technology for the poor (solar energy)



Thank You!