Health and well-being in a changing urban environment: a systems analysis approach

G. Salem*, ** and C. Smith**.

* University Paris Ouest- IRD
** International Council for Science

Science Diplomacy in action
Governance for international science cooperation: the example of health research
Institut Pasteur, February, 11th-12 th, 2013

Menu

1- Urbanisation and Health - the challenge(s)
Pr. Gérard Salem

2- ICSU Initiative and governance
Dr Carthage Smith.

Health and well-being in a changing urban environment ?

4 questions…

1°) Why a priority for urban process?

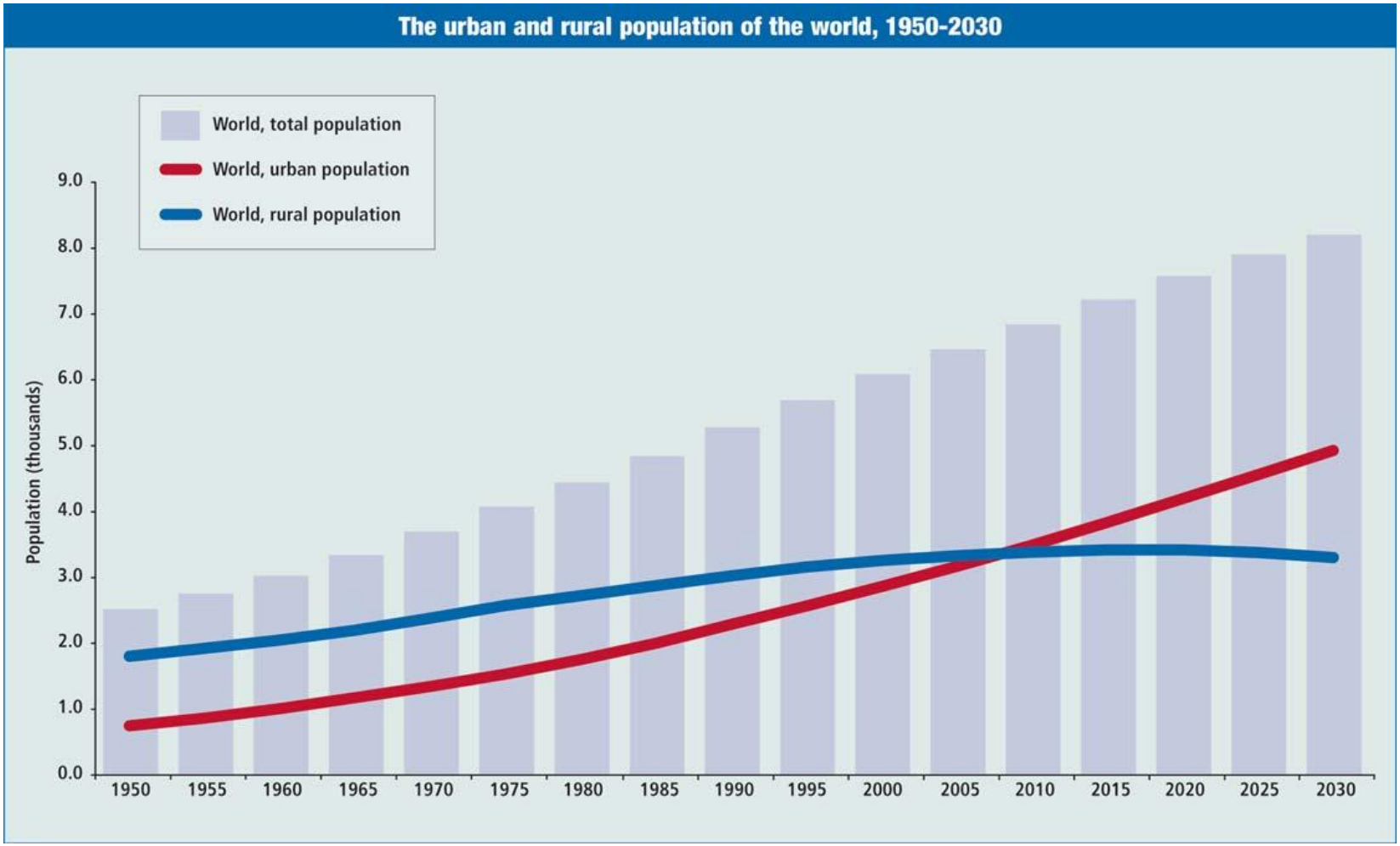
OUR PLANET

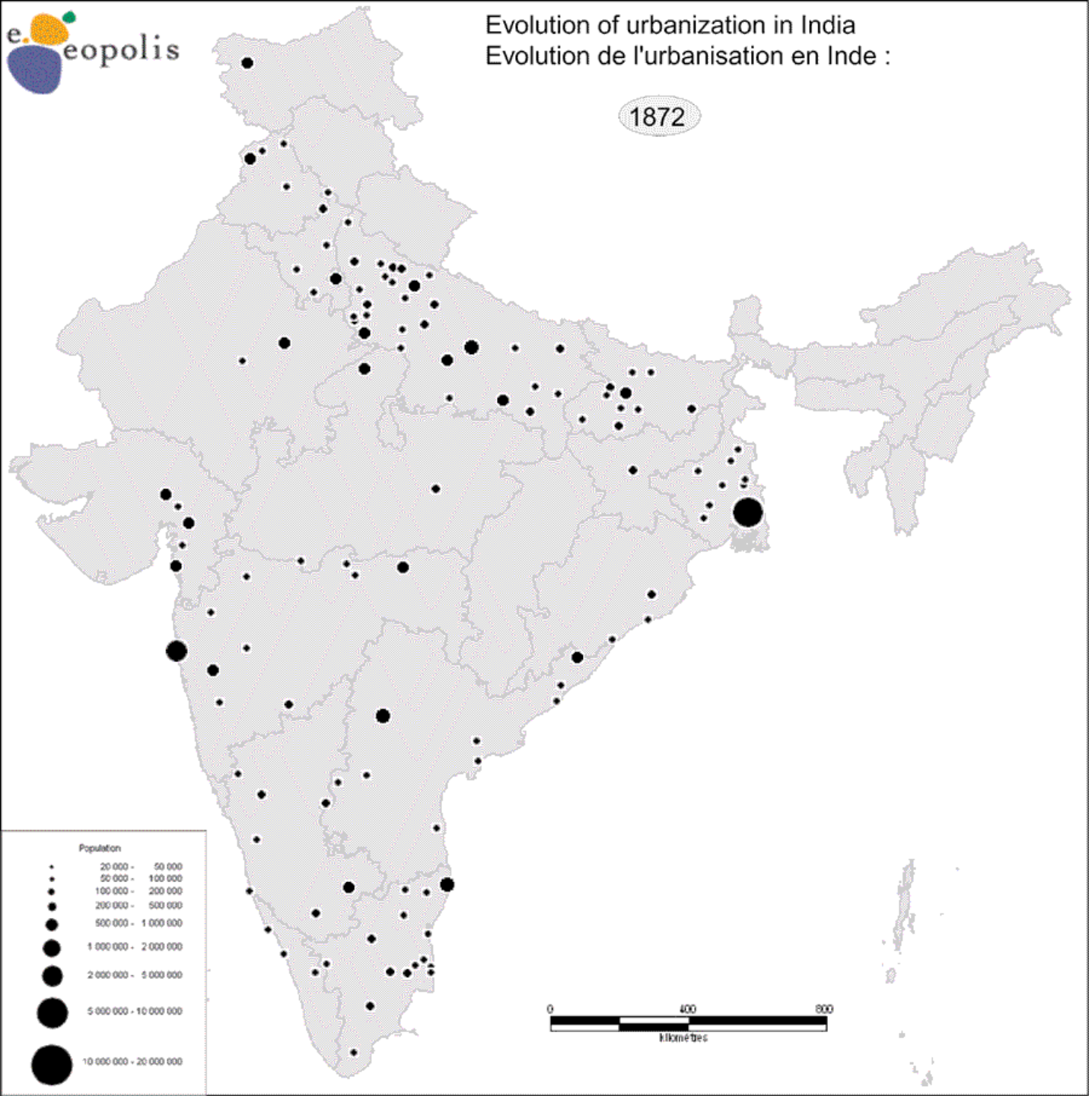
- The world's population is growing
  - from 6 billion in 2005 to a projected 9 billion in 2050

- … and urbanising
  - 2007 : transition year !
    - global **urban** population : 3,303,992,253 people (approx)
    - exceeded **rural** population : 3,303,866,404 people

World Urbanization Prospects: The 2005 Revision

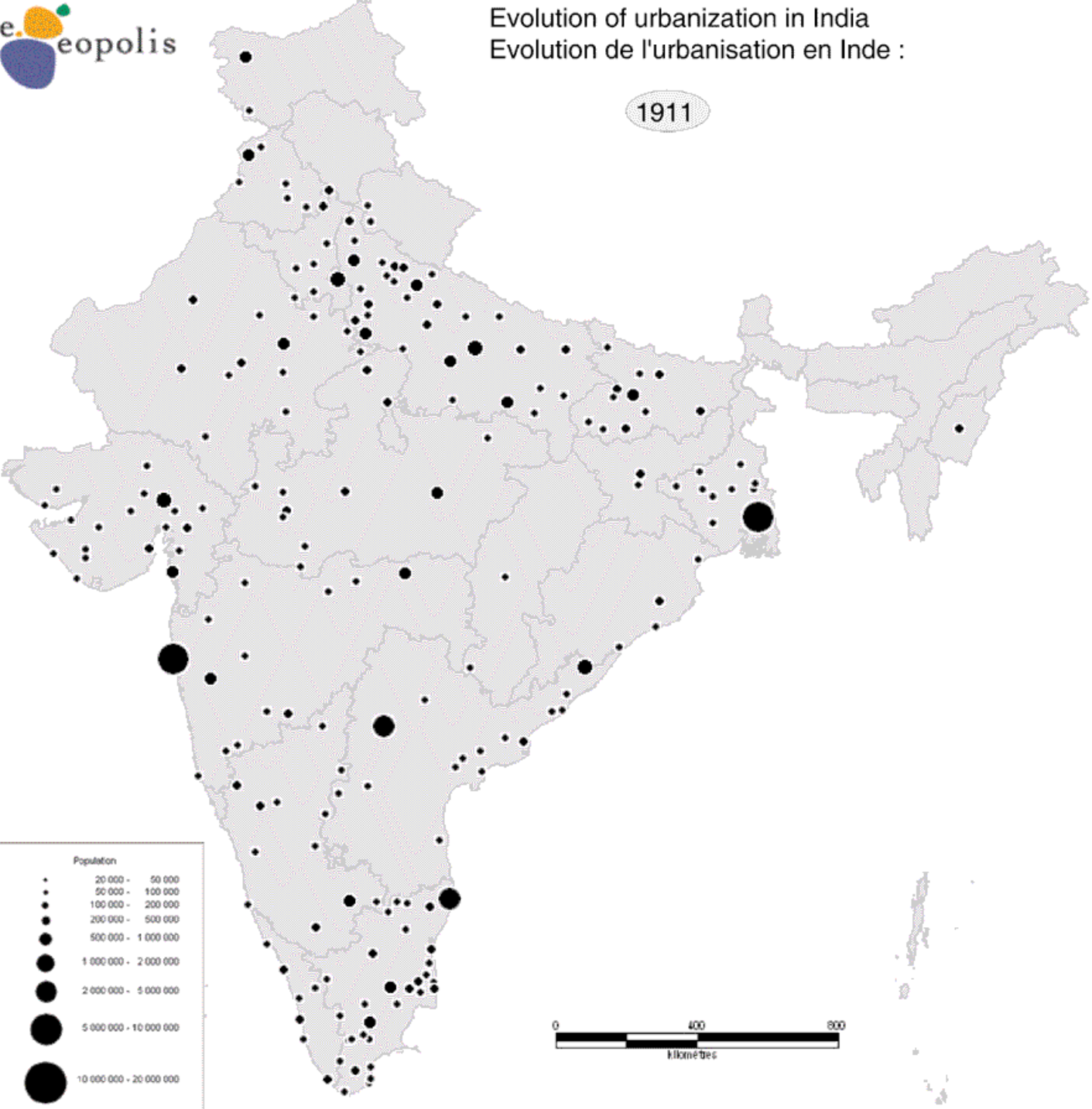
United Nations, Department of Economic and Social Affairs




e.geopolis
Evolution of urbanization in India
Evolution de l'urbanisation en Inde :
1872
Population
20 000 - 50 000
50 000 - 100 000
100 000 - 200 000
200 000 - 500 000
500 000 - 1 000 000
1 000 000 - 2 000 000
2 000 000 - 5 000 000
5 000 000 - 10 000 000
10 000 000 - 20 000 000
0
400
800
kilomètres

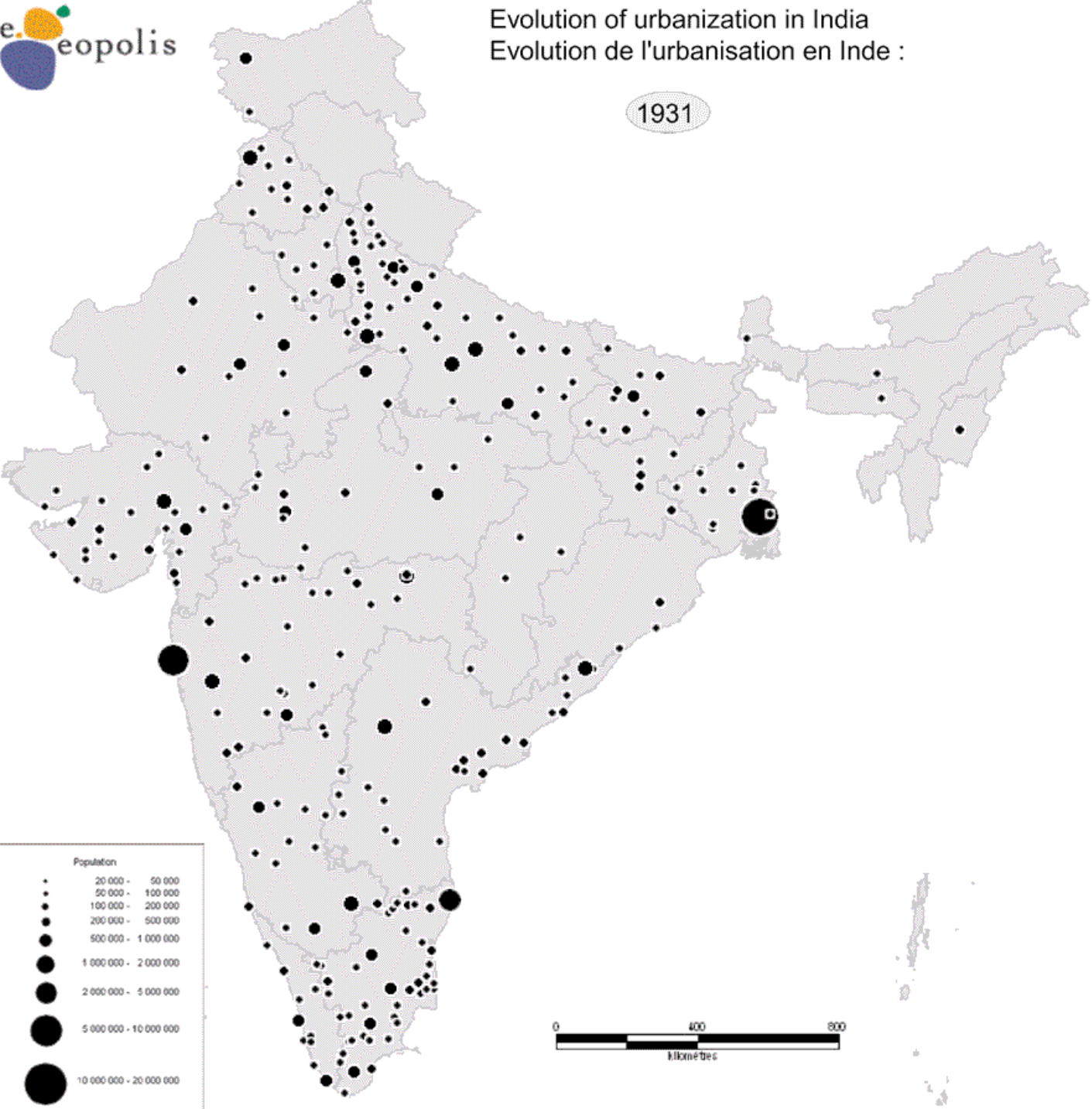
Evolution of urbanization in India
Evolution de l'urbanisation en Inde :

1911



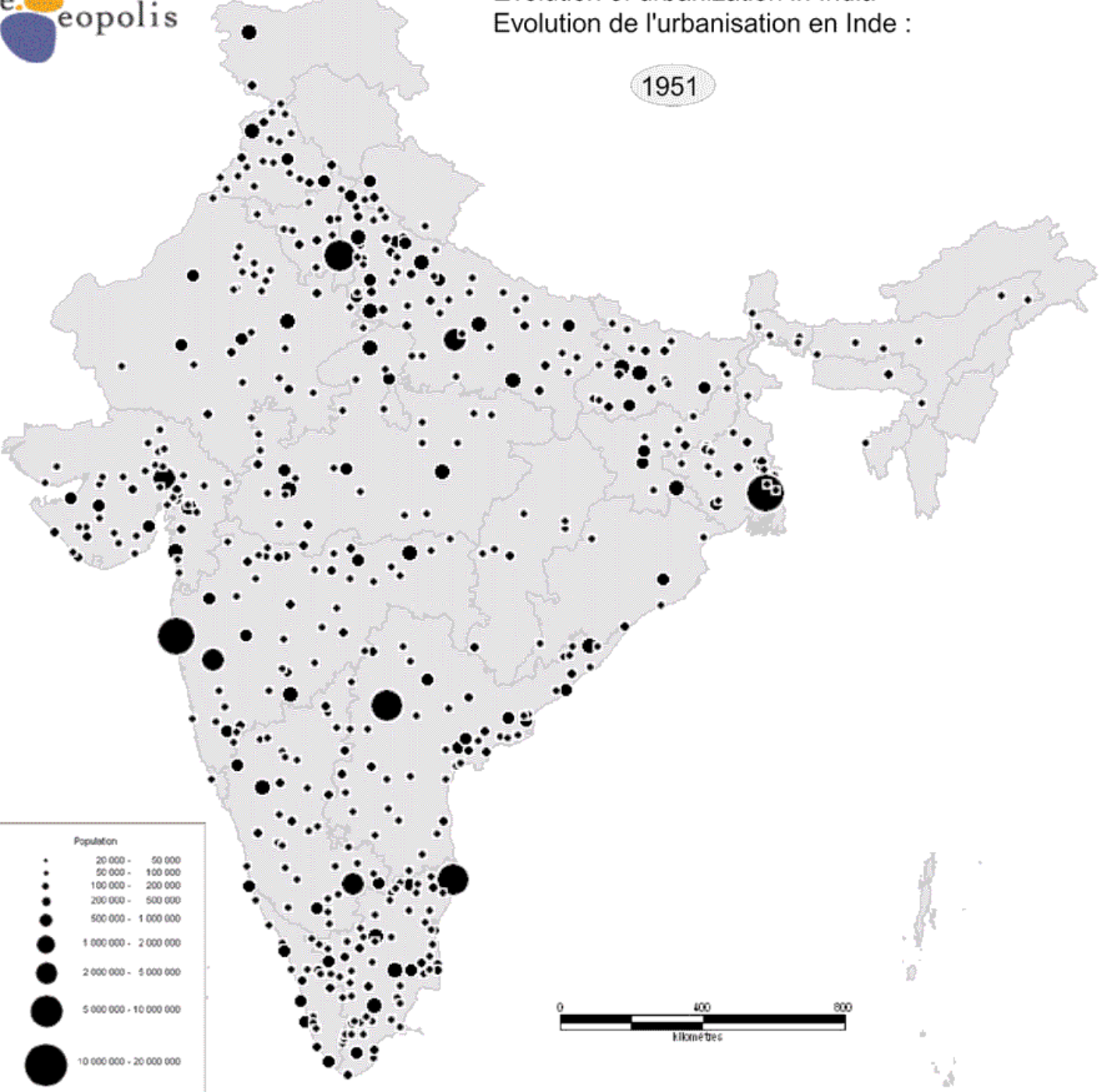
Evolution of urbanization in India
Evolution de l'urbanisation en Inde :

1931



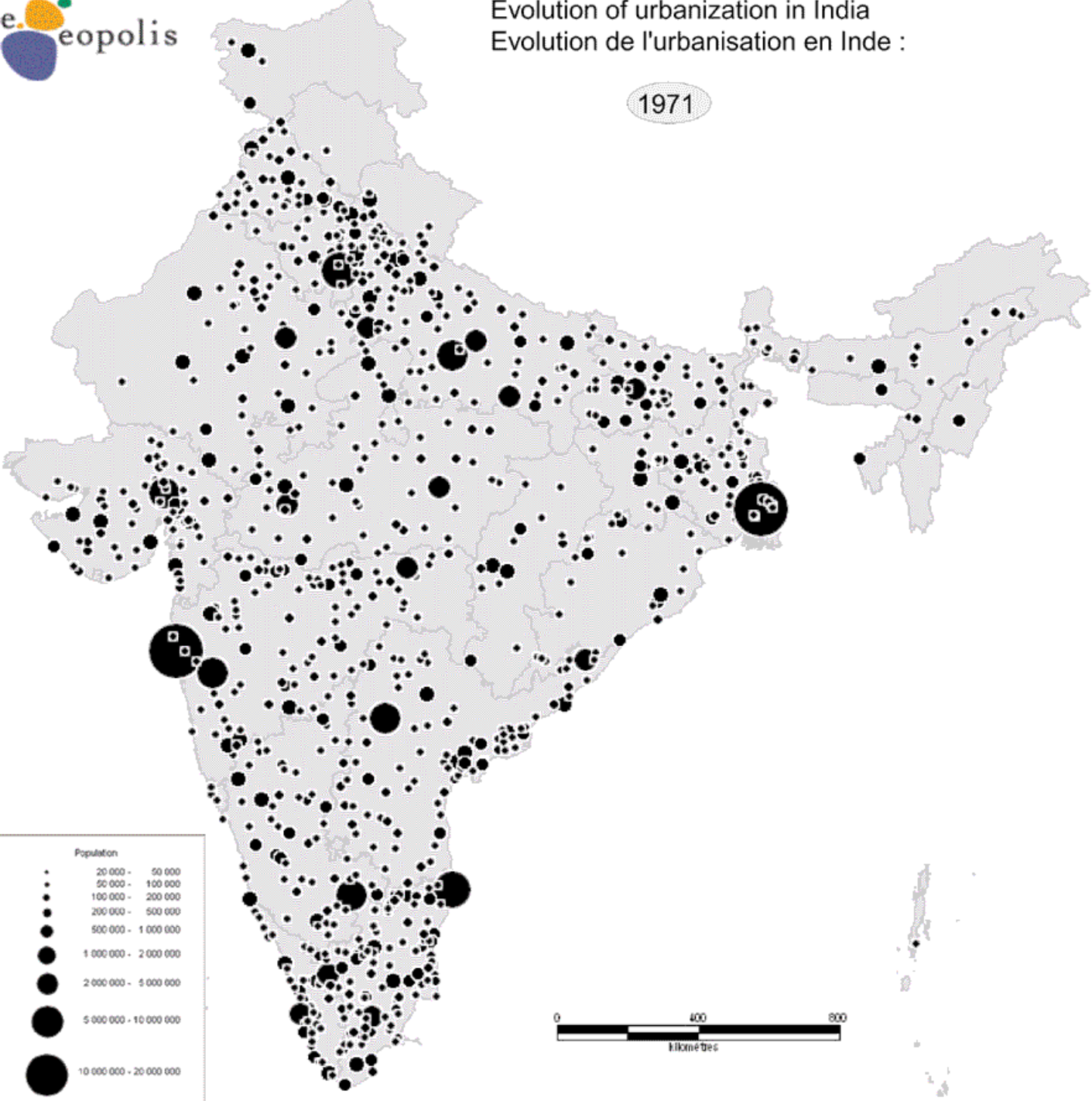
Evolution de l'urbanisation en Inde :

1951



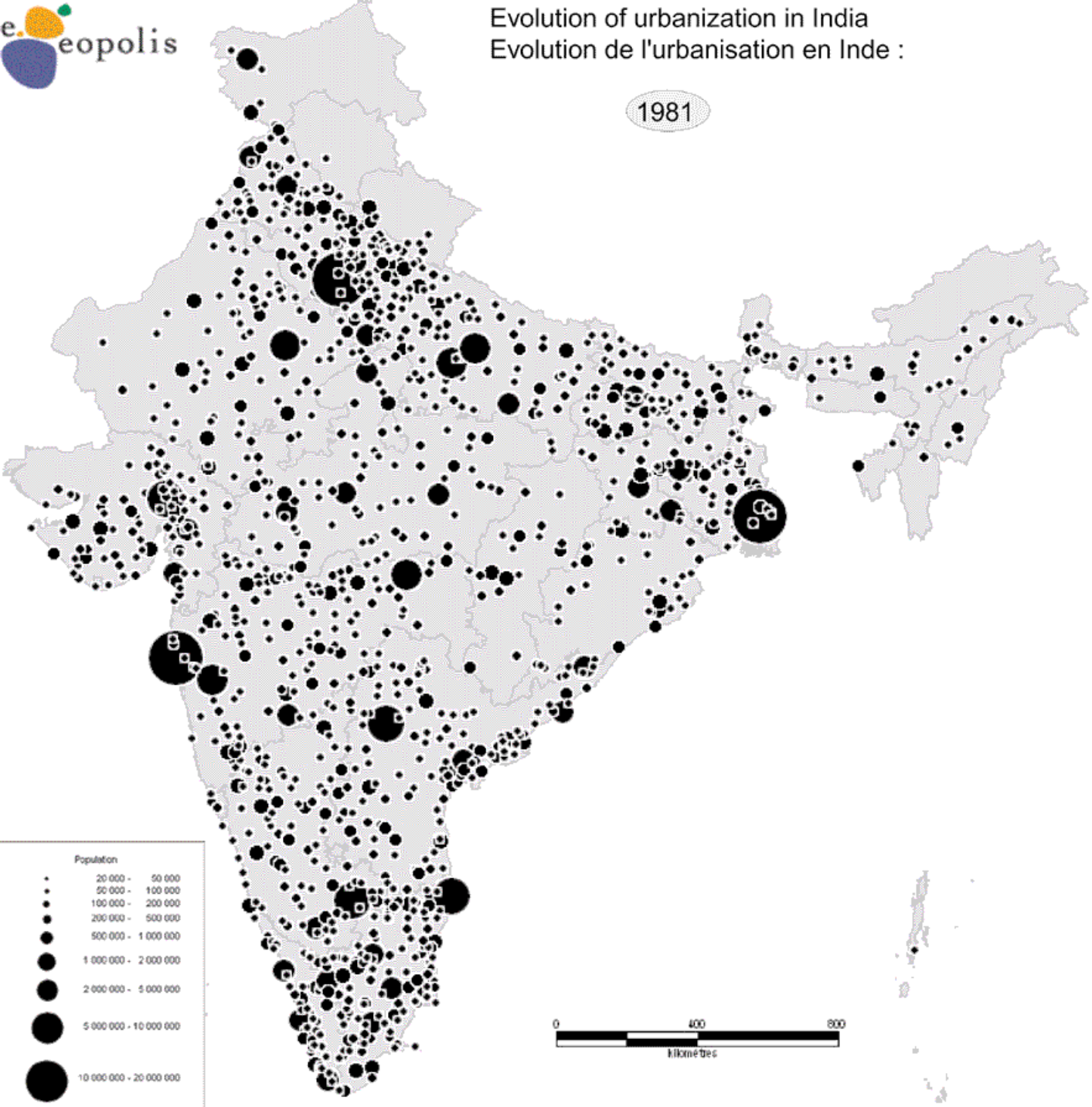
Evolution of urbanization in India
Evolution de l'urbanisation en Inde :

1971



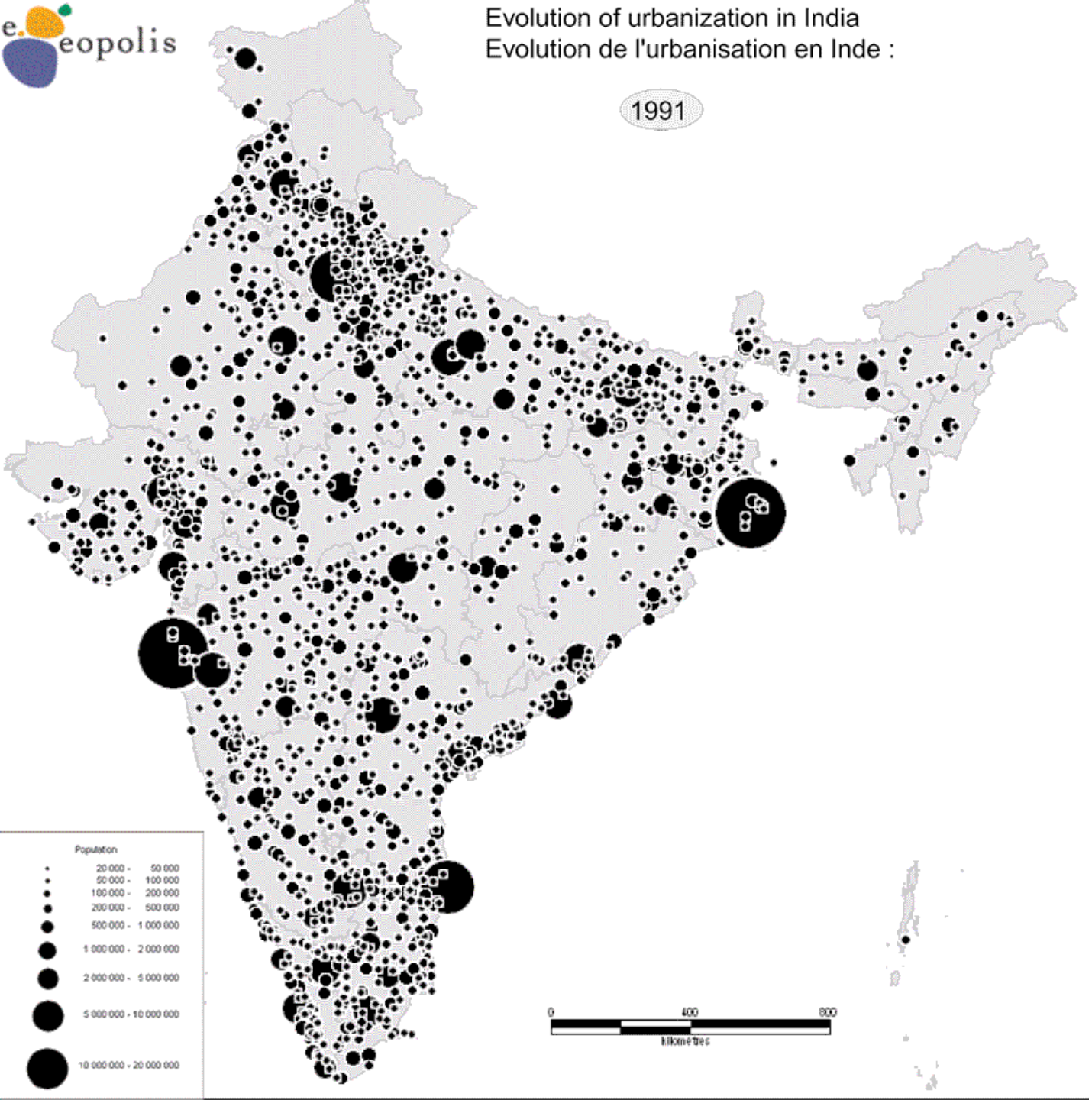
Evolution of urbanization in India
Evolution de l'urbanisation en Inde :

1981



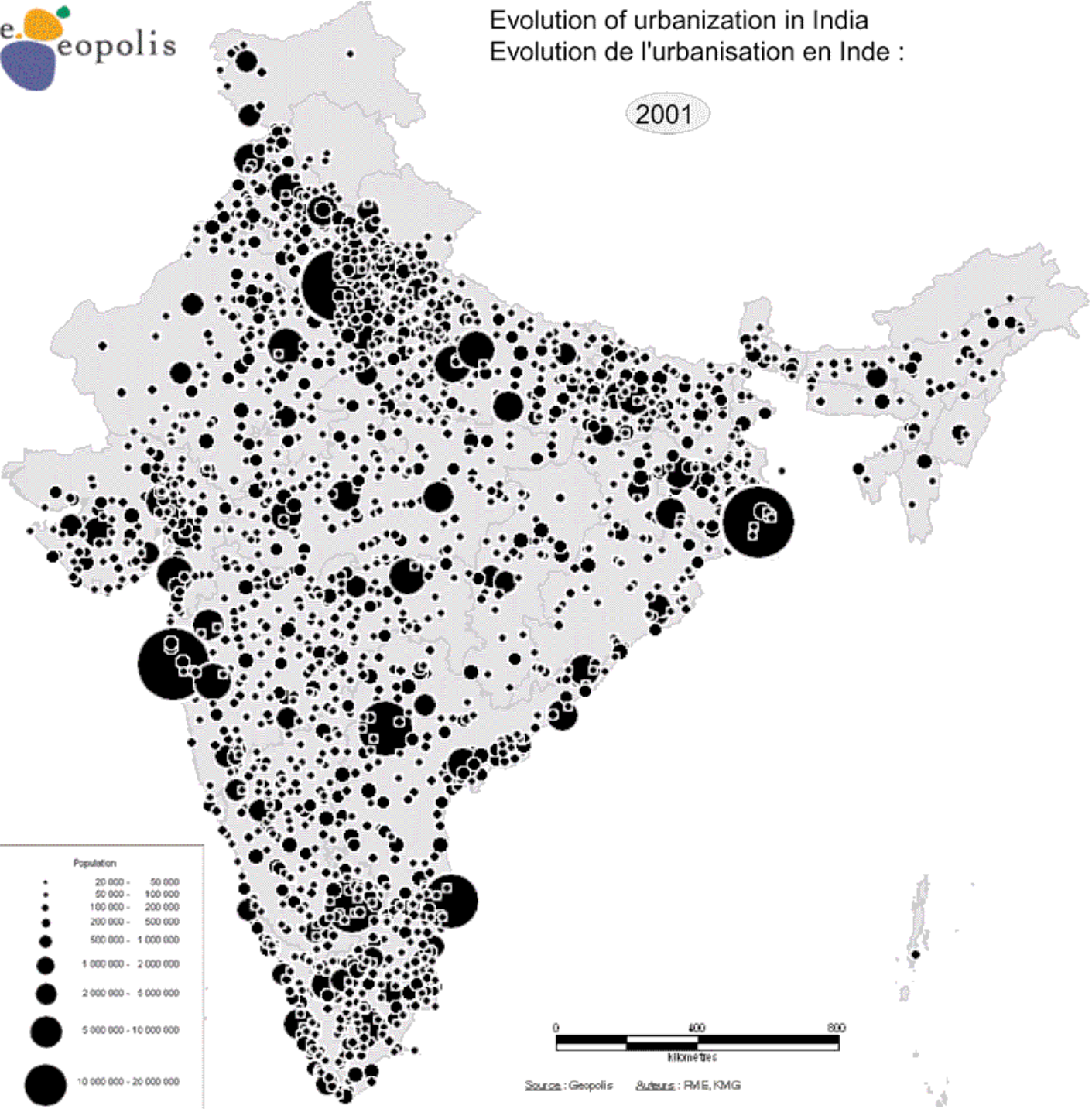
Evolution of urbanization in India
Evolution de l'urbanisation en Inde :

1991



Evolution of urbanization in India
Evolution de l'urbanisation en Inde :

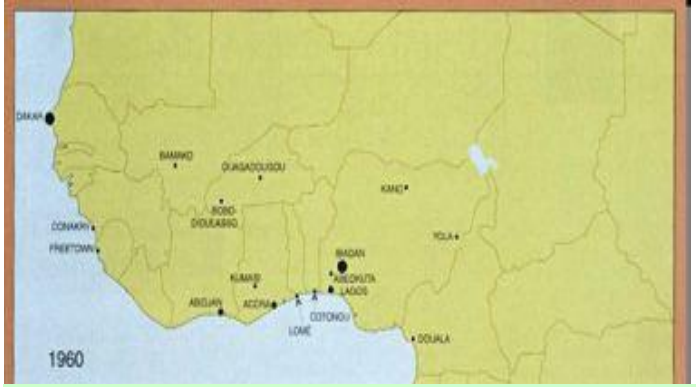
2001



Source : Geopolis Auteurs : RME, KMG

1960

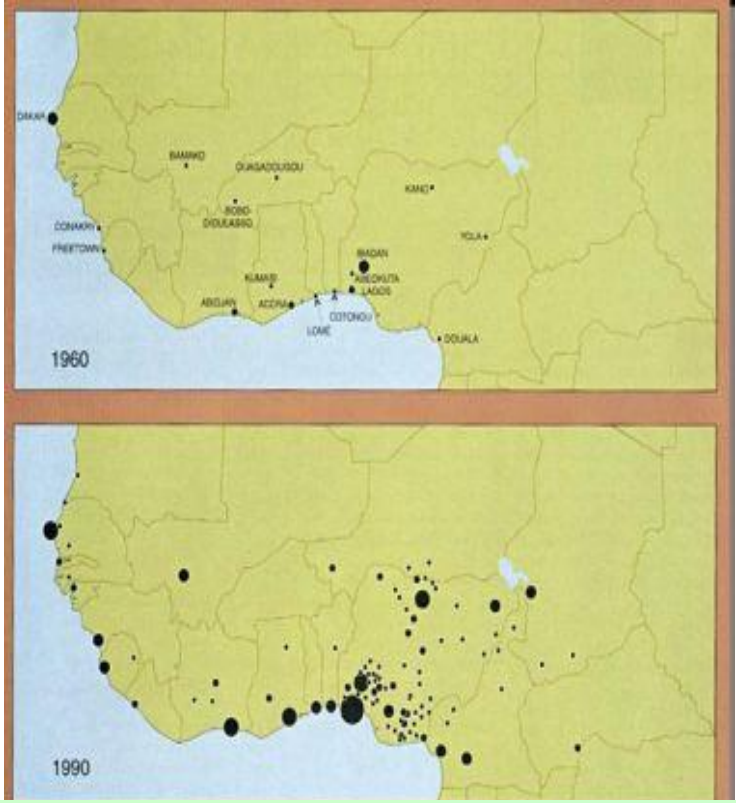
Urban Growth in West Africa



Urban Growth in West Africa

1960

1990

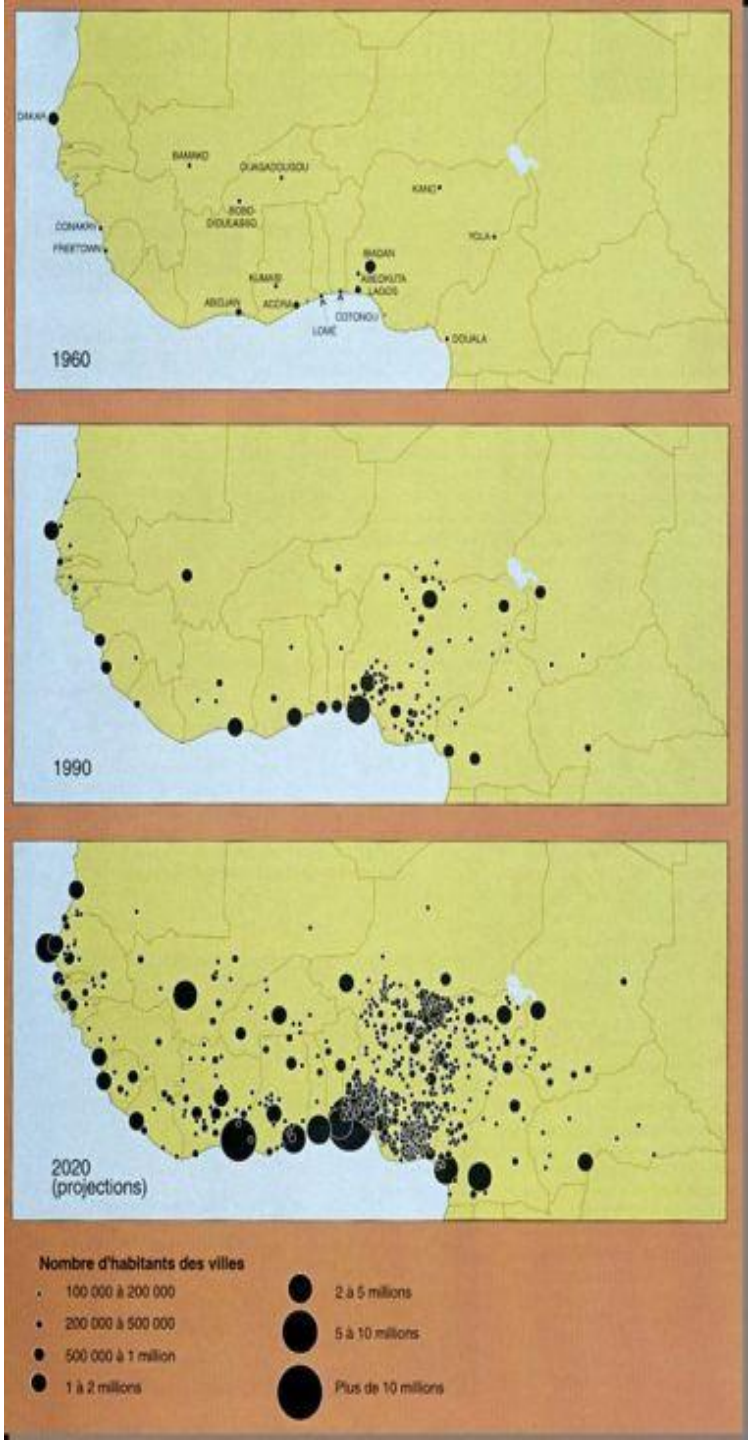


Urban Growth in West Africa

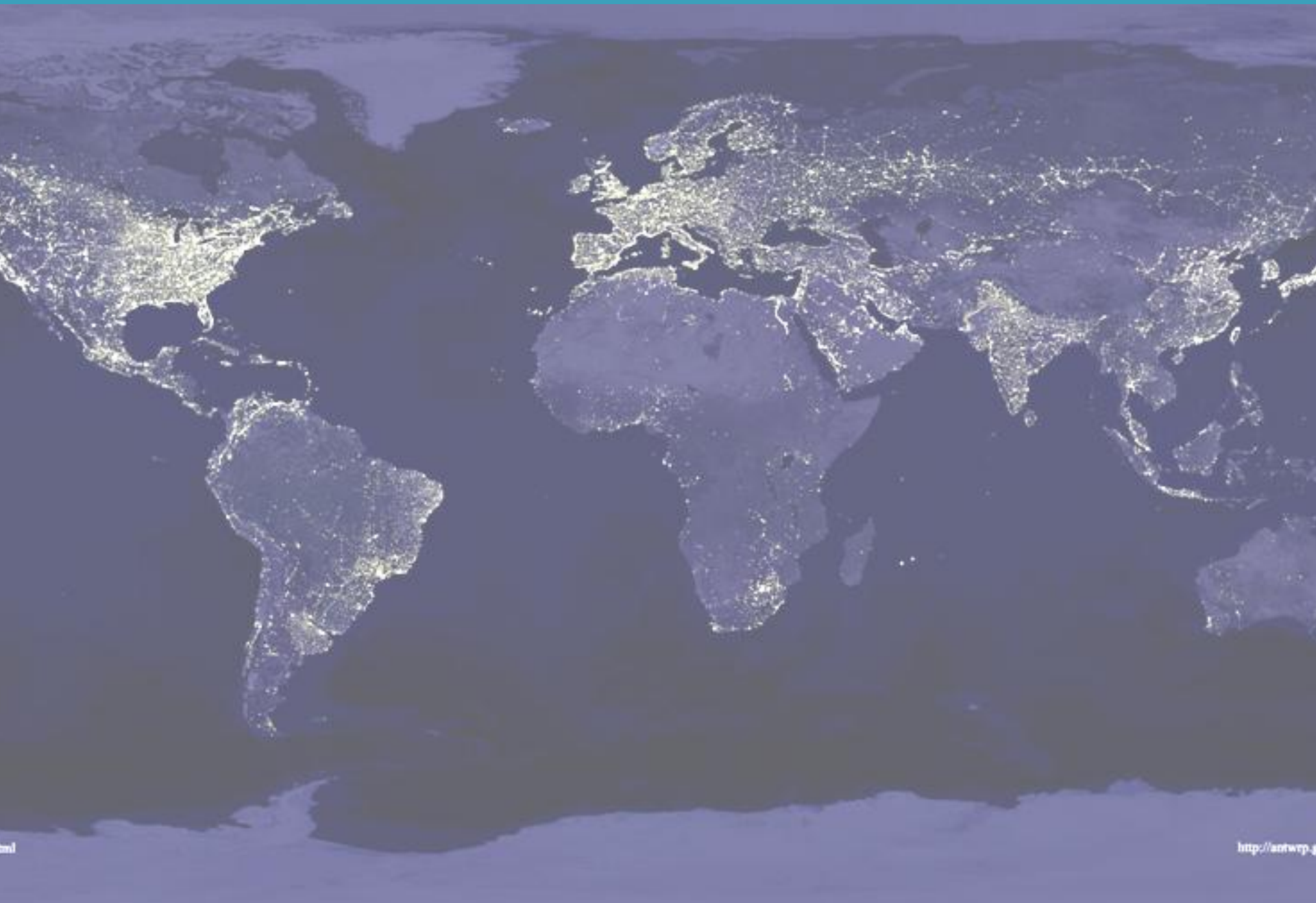
1960

1990

2020



An urban world



Health and well-being in a changing urban environment ?

4 questions…

1°) Why a priority for urban process?

2°) Why urban Health?

Cities as main places of «Health Transitions» ?

- Demographic transition:

  ➔ Young population + Ageing

Cities as main places of «Health Transitions» ?

- Demographic transition:

Epidemiologic transition

The Age of Pestilence and Famine ➔ The Age of Receding Pandemics➔ The Age of Degenerative and Man-Made Diseases ➔ The Age of Delayed Degenerative Disease

➔ Double burden of disease

Cities as main places of «Health Transitions» ?

- Demographic transition:

Epidemiologic transition

- Nutritionnal transition

The Age of Stunting and Wasting to the Age of Overweight and Obesity

The urban adults of tomorrow ?

Challenges

➔ Morbidity

- ➔ Old diseases (dysentery, respiratory diseases, etc.)
- ➔ «New » old diseases : malaria, dengue, etc

Challenges

- ➔ Morbidity
  - ➔ Old diseases (dysentery, respiratory diseases, etc.)
  - ➔ «New » old diseases : malaria dengue, etc

BUT ALSO

➔ New diseases

➔HIV, Papillomavirus, zoonosis

➔HBP, K, Diabetes, Mental Disorders, etc.

➔ co-morbidity, co-evolution

➔Prevention, priorities

Health and well-being in a changing urban environment ?

4 questions…

1°) Why a priority for urban process?

2°) Why urban Health?

3°) Why science diplomacy?

General Health Impacts of Urbanisation :
Infectious Morbidity

High Human Population Densities :

➔Fast and Intense Circulation of Pathogenic Factors

➔**Ex : Adaptation of vectors to urban environment,**

- resistance, to drugs, etc.

General Health Impacts of Urbanisation :
Infectious Morbidity

1) High Human Population Densities :

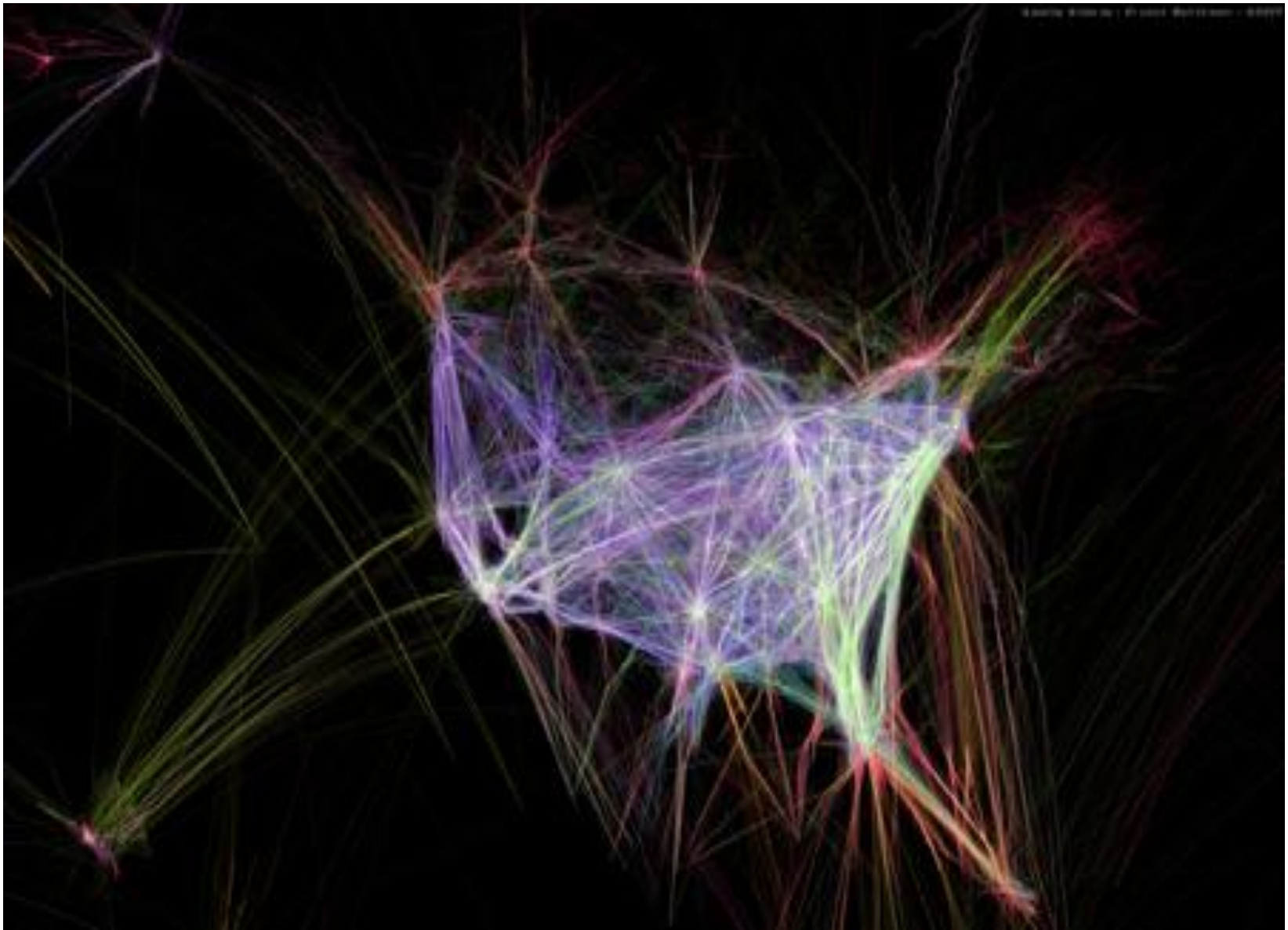
2) Spaces are open and interconnected➔
intense circulation

inside the urban area,

between urban areas,

between urban and rural areas

Daily connexions between cities



General Health Impacts of Urbanisation :
Infectious Morbidity

1) High Human Population Densities :

2) Spaces are open and interconnected➔ intense circulation
inside the urban area,
between urban areas,
between urban and rural areas

➔ International approaches specially for emerging diseases and risks of new pandemies

Health and well-being in a changing urban environment ?

4 questions…

1°) Why a priority for urban process?

2°) Why urban Health?

3°) Why science diplomacy?

4°) Why a new approach of urban Health?

AN UNIVERSAL PHENOMENA

BUT … A LARGE VARIETY OF CITIES :

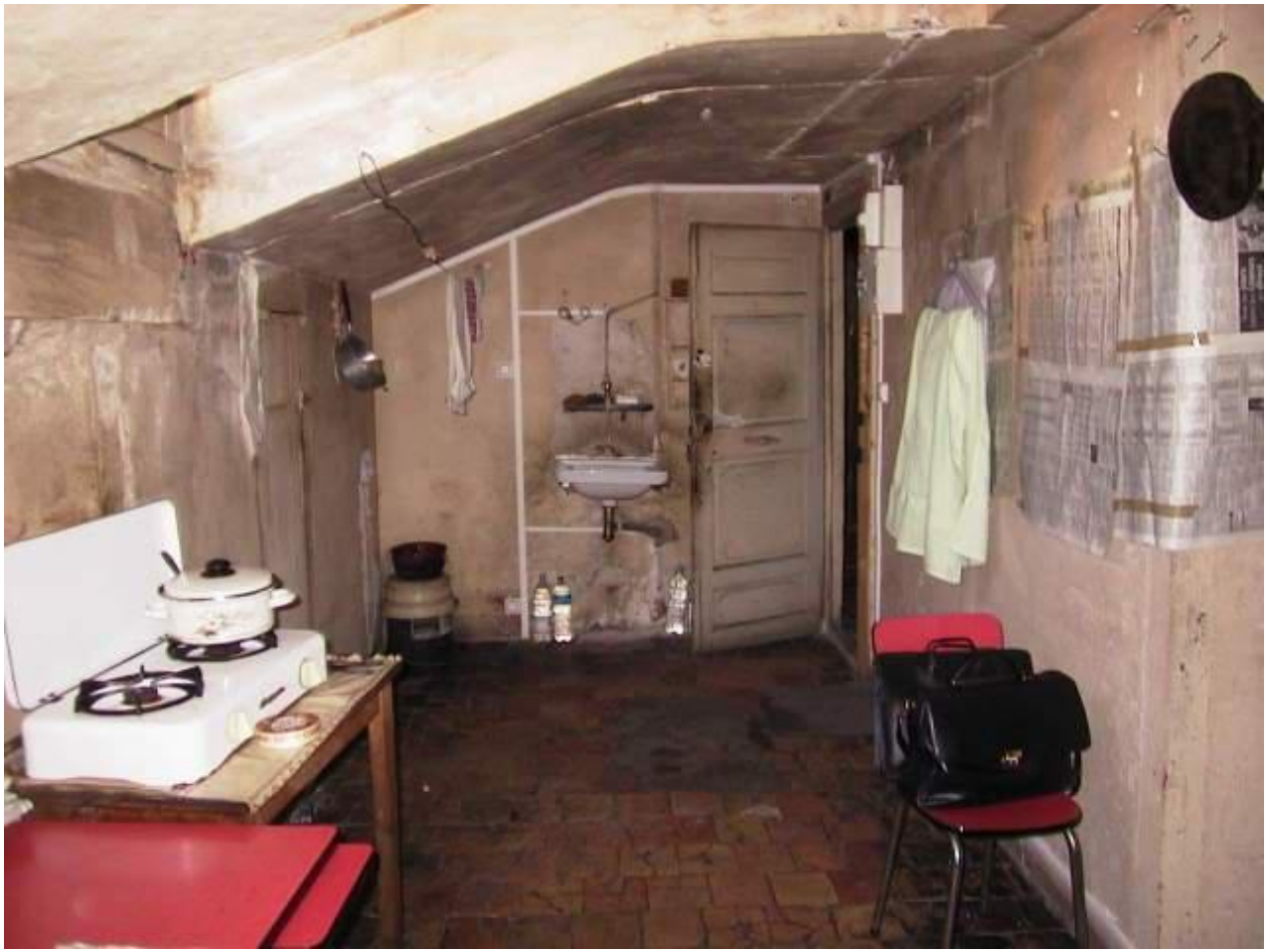
CITY AND CITY


Venice, Italy
General view of Venice, Veneto, Italy (45°35' N, 12°34' E).
http://www.yannarthusbertrand.org

Dogon cities, Mali, West Africa

CITIES IN THE CITIES

But also, slums in Paris



And new castle in Abidjan (Cote Ivoire)

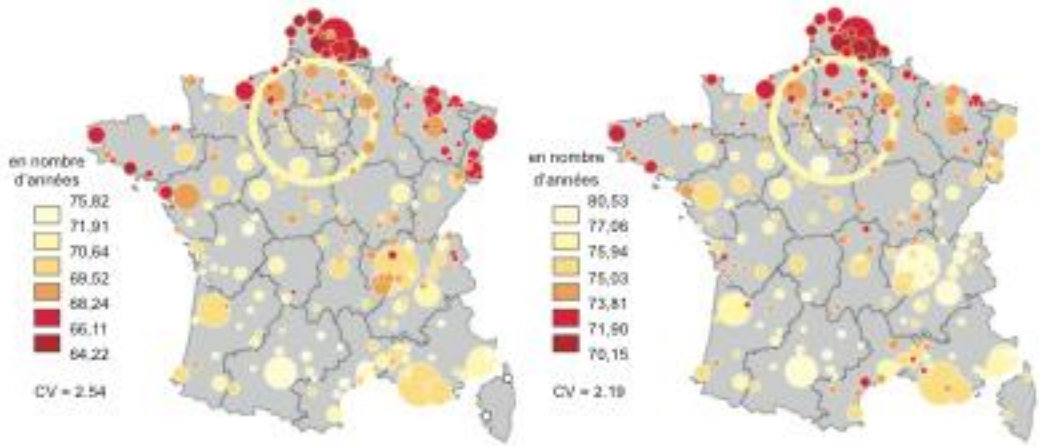
Cities and cities, and cities in the city : 3 examples

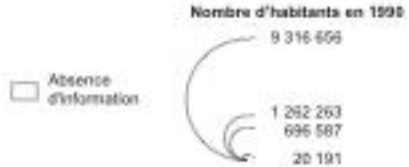
France and Paris (Salem, Rican et al)

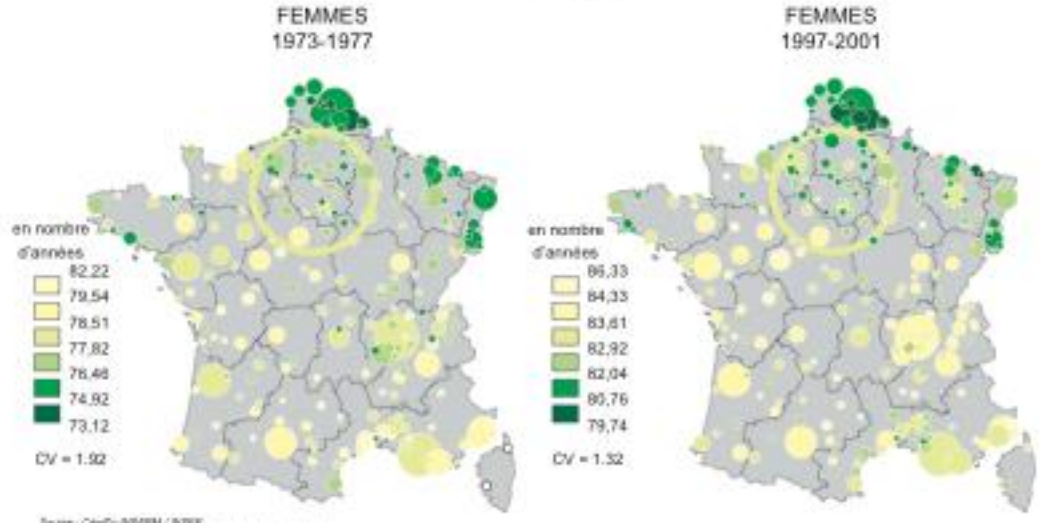
Ouagadougou (Fournet, Salem et all)

San Francisco Bay (J. Corburn)

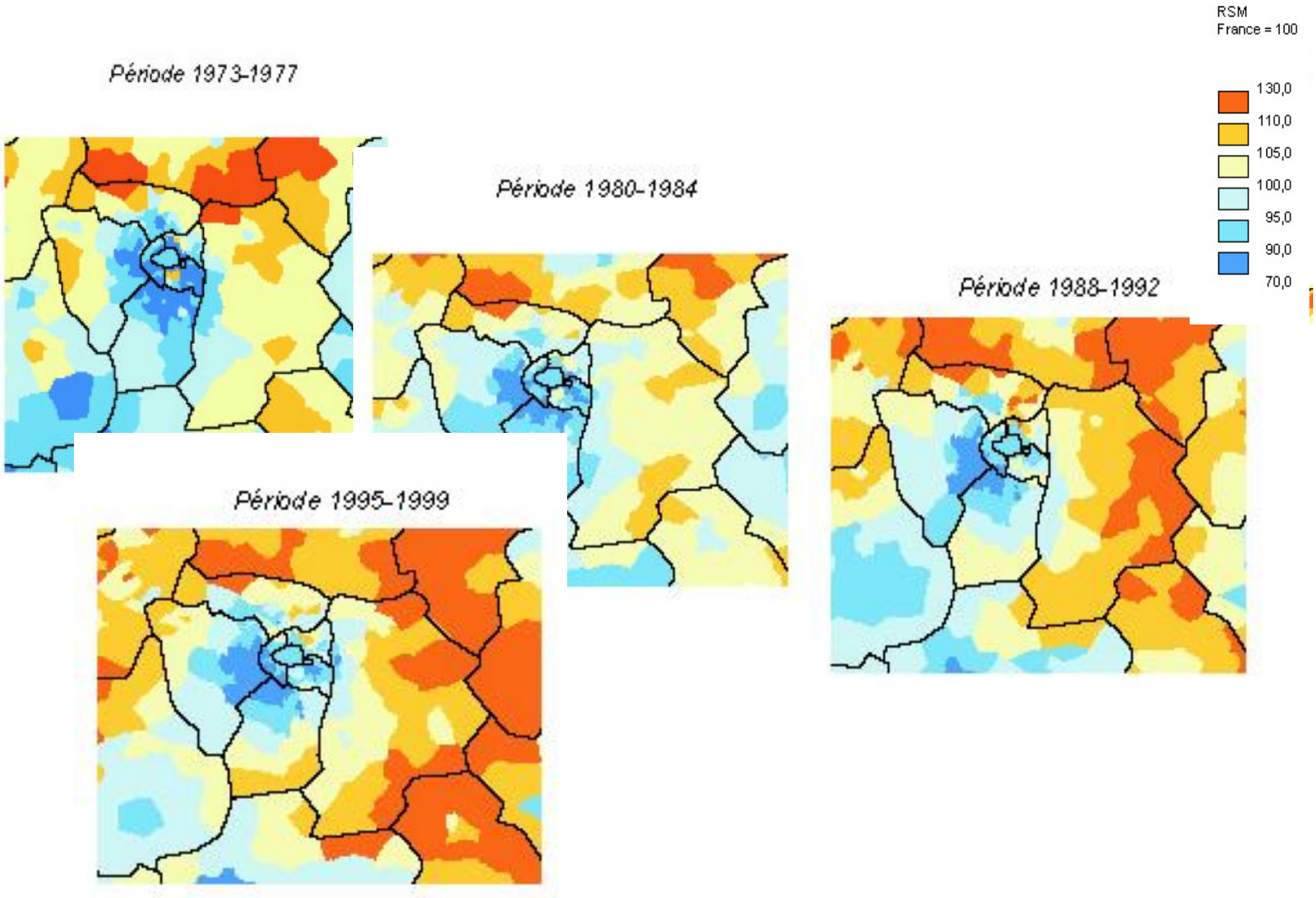
INEQUALITIES OF EXPECTANCY OF LIFE AT BIRTH IN FRENCH CITIES 1973-2001



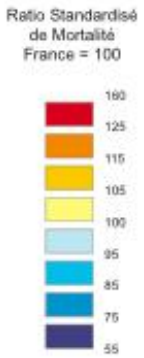




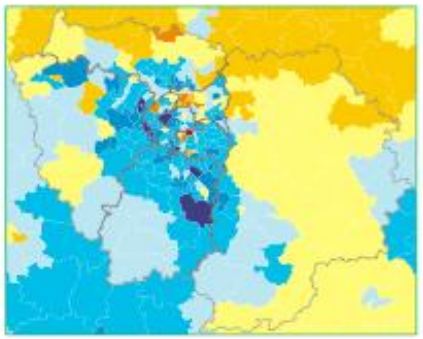
Intra Urban Spatio-Temporal Trends of Mortality in Paris Agglomeration



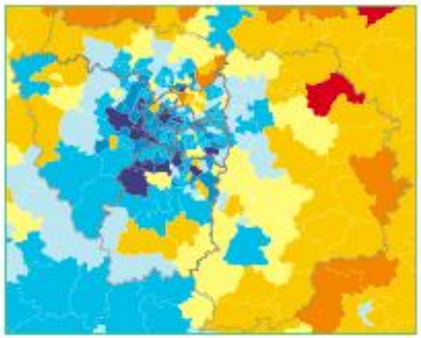
Ratios Standardisés de Mortalité à l'échelle cantonale à différentes périodes En Ile de France



1973 - 1977

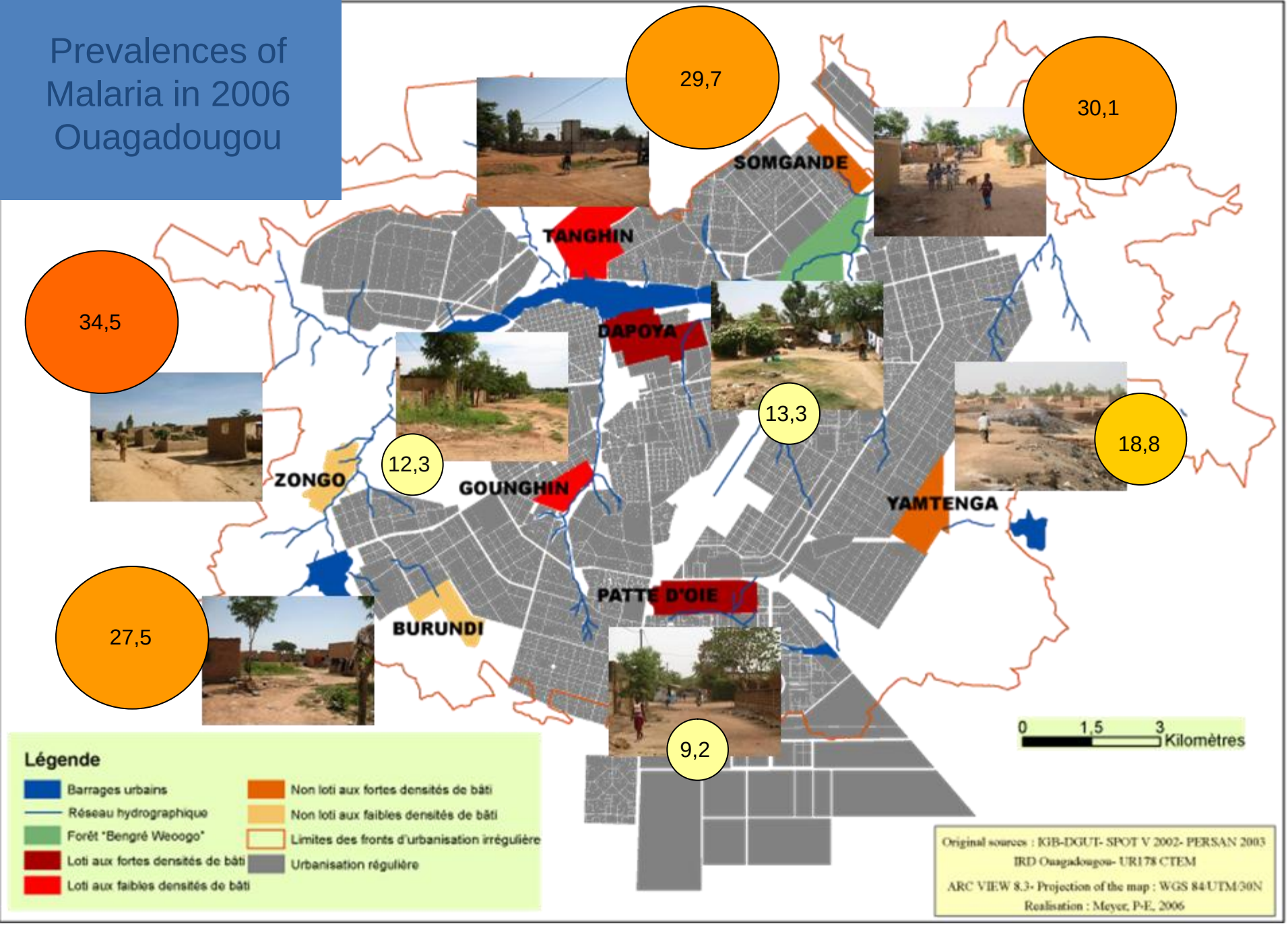


2004 - 2008

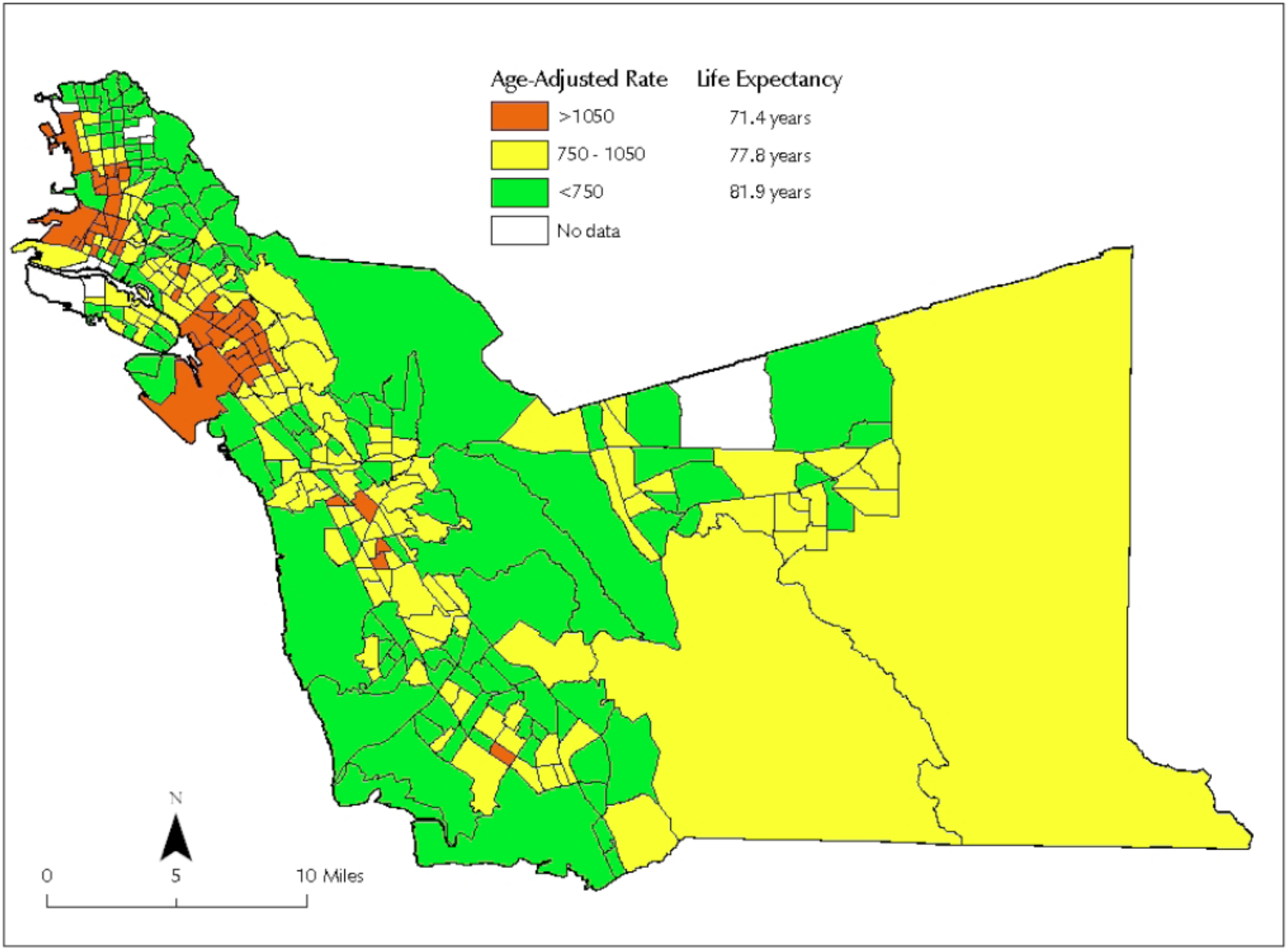


Source : CépiDc INSERM / INSEE
Traitement et infographie : Cépidc INSERM, Lab. Espace Santé et Territoire, 2012

Prevalences of Malaria in 2006 Ouagadougou

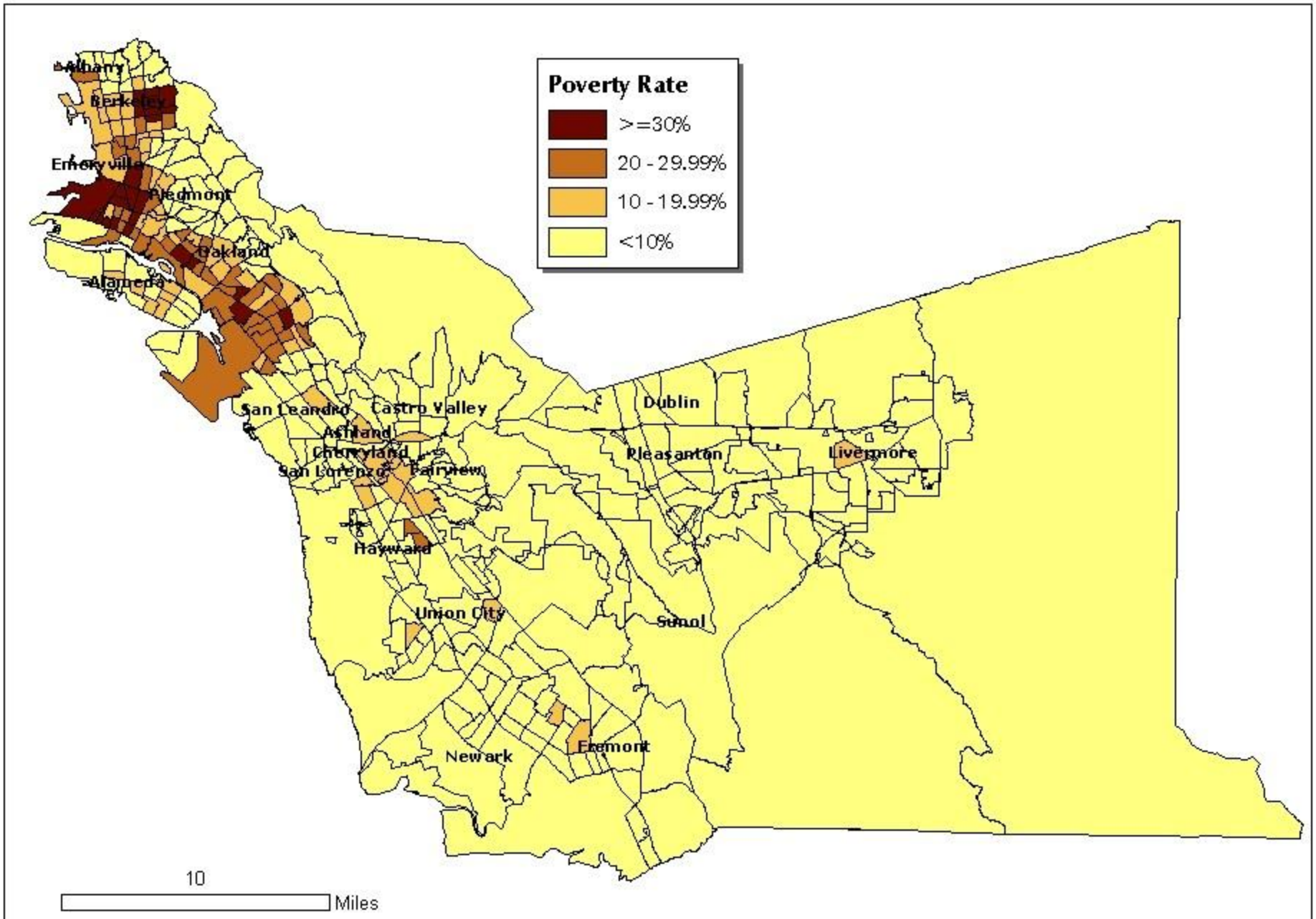


Mortality Rate by Tract

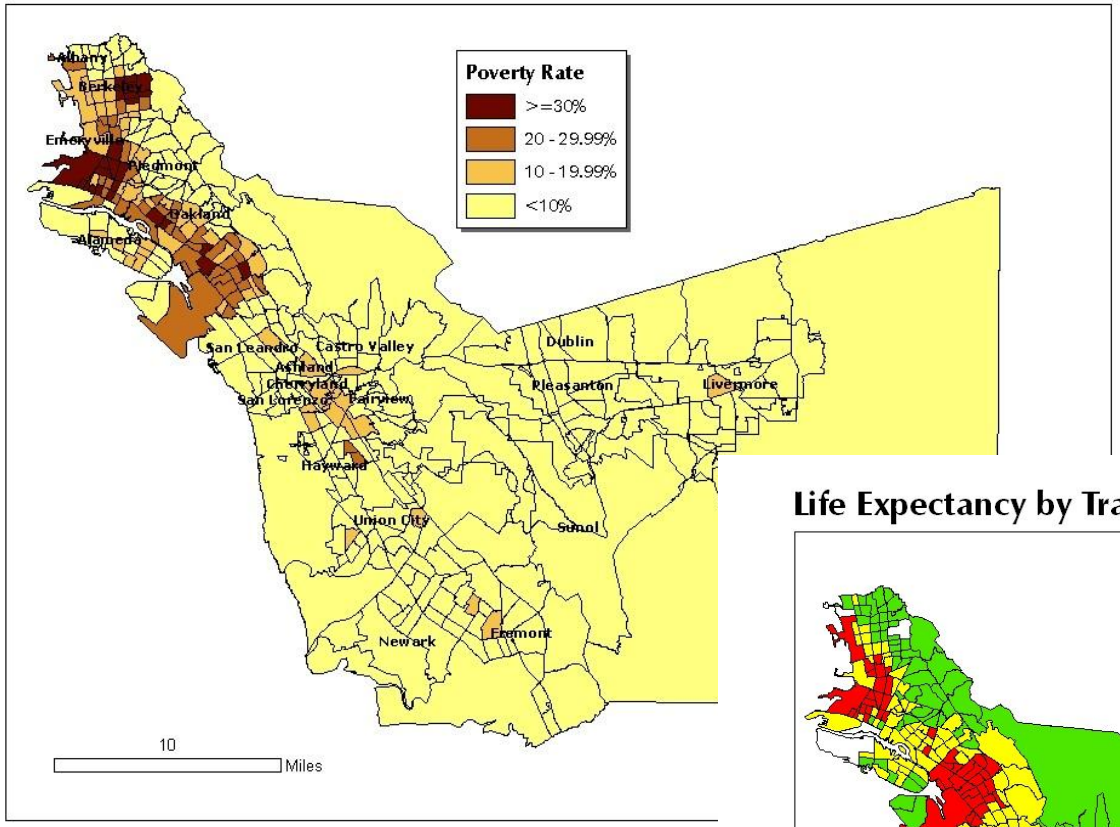


Source: CAPE, with data from vital statistics 1999-2001.

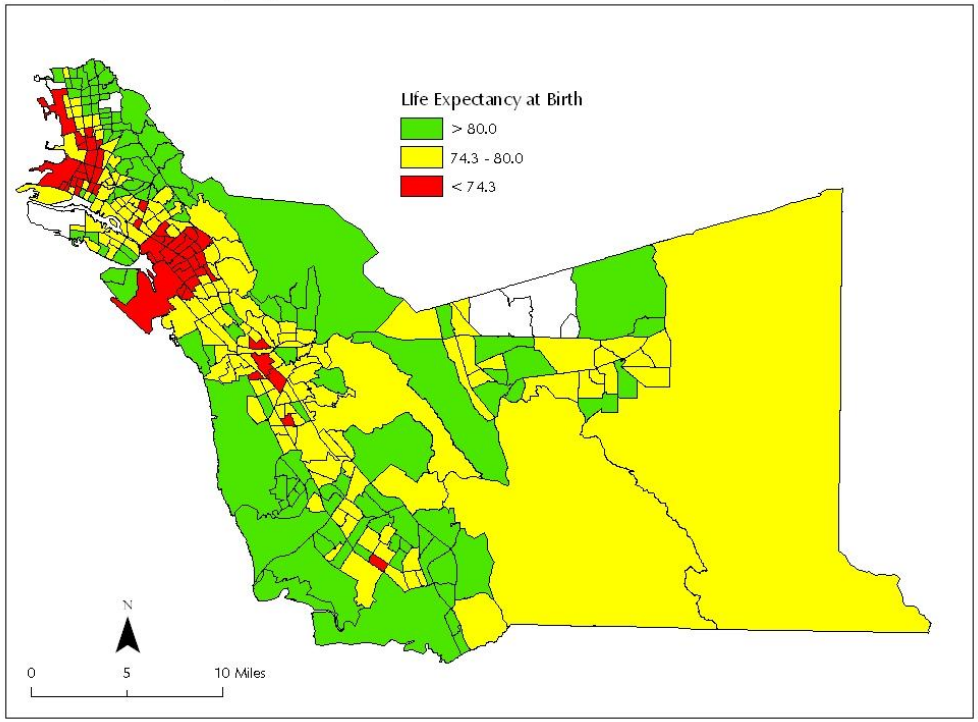
Alameda County Poverty



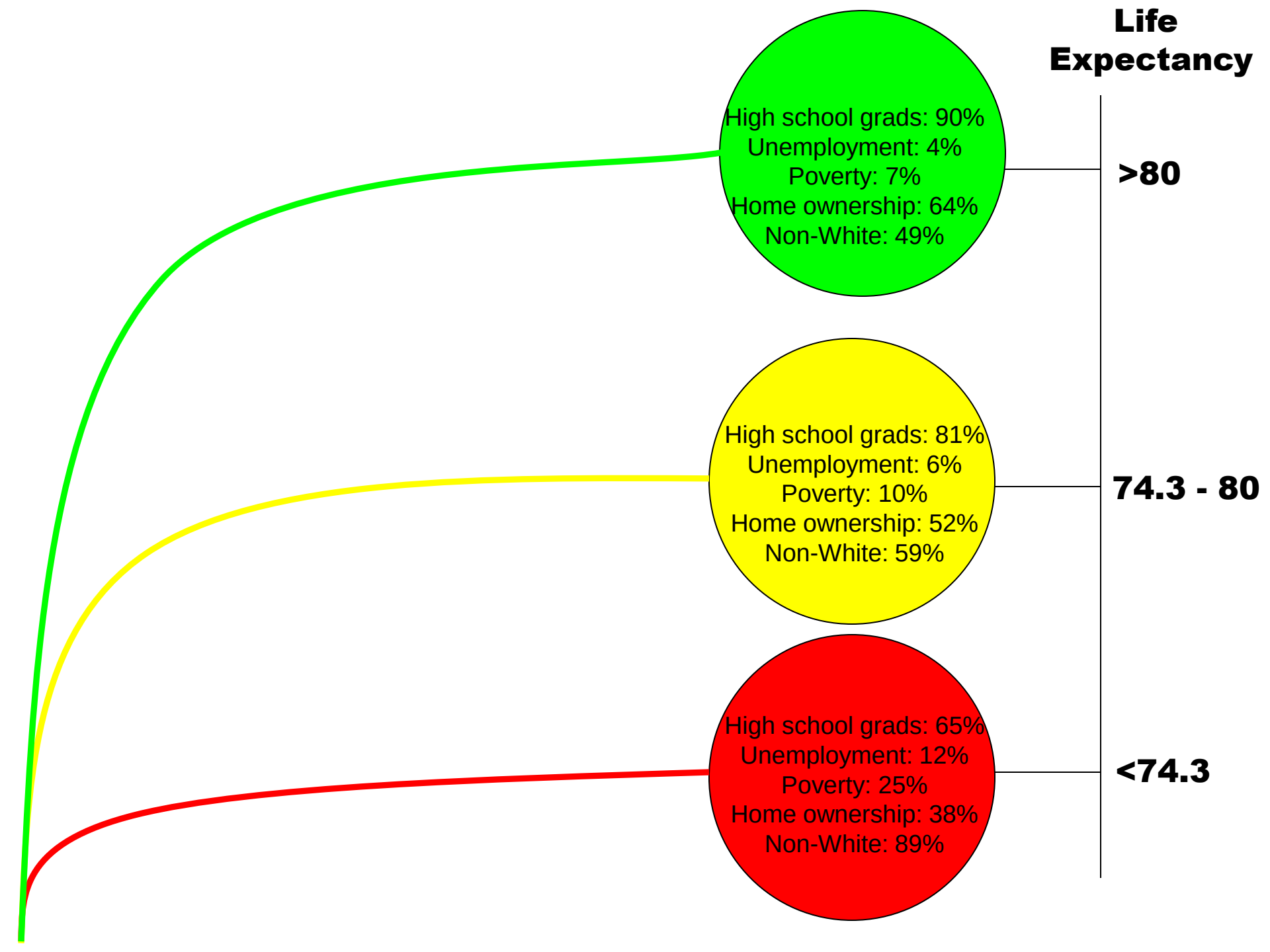
Alameda County Poverty



Life Expectancy by Tract



Source: CAPE, with data from vital statistics 1999-2001.


Life Expectancy
High school grads: 90%
Unemployment: 4%
Poverty: 7%
Home ownership: 64%
Non-White: 49%
>80
High school grads: 81%
Unemployment: 6%
Poverty: 10%
Home ownership: 52%
Non-White: 59%
74.3 - 80
High school grads: 65%
Unemployment: 12%
Poverty: 25%
Home ownership: 38%
Non-White: 89%
<74.3

A new approach

➔ Need intra-urban approaches to Health

➔ Need comparative approaches across cities, regions and countries

➔Need Intersectorial and systemic approaches of Health determinants

➔Aim of the next conference, PARIS SEPT. 2013

An ICSU Programme

Interdisciplinary – natural, social, health, engineering

Intersectoral – policy relevant

International – Glocal approach including all regions

Challenges

ICSU has no track-record in health research

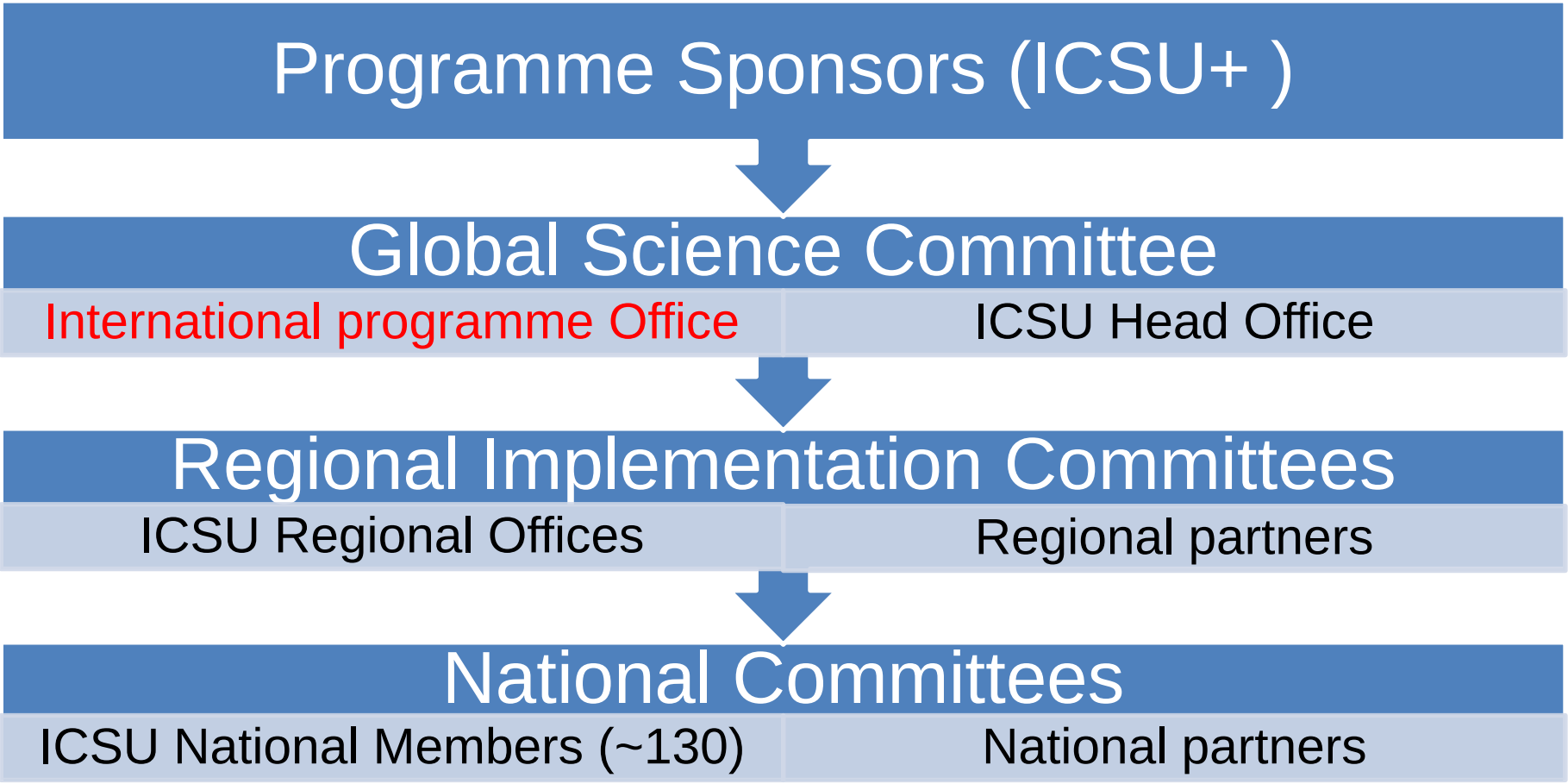
ICSU has no funding

Rely on volunteer scientists and ‘champions’

Many players in the urban health area

Need to build effective partnerships from scratch

The Governance structure



Global Science Committee

- 13 scientists, nominated by ICSU Members, serve in individual capacity (diff countries and disciplines)
- ICSU *ex officio* and WHO Observer
- Responsible for strategy and policy
- Overall planning, coordination, guidance and oversight of programme
- Engagement with global partners
- Advocacy role with relevant funders and donors

International Programme Office (IPO)

- Selected after open call for offers
- Initial ‘core’ funding provided by host country (~500k euros p.a.)
- International Director + science and admin support
- Supports the work of the global science committee and links with regional and national structures
- Outreach, advocacy and fund-raising
- Organises workshops and Conferences

Regional and national committees

- Similar composition to Global Science Committee
- Supported by ICSU Regional Offices or National members
- National committees established where critical mass, interest and resources exist
- Regional committees focus on less-developed countries
- Facilitate planning and implementation of projects, including links with funders

Structural challenges and recommendations

- Partnerships are critical but ownership and branding issues can be a real obstacle
- Need better incentives and credit for scientists to engage with international programme activities
- Need enabling mechanisms for interested young scientists
- Co-design and trans-disciplinary approaches are under-valued and under-supported

Funding challenges and recommendations

- Glue funds for IPO and committee activities difficult to obtain
- The ‘host (or single donor) funds all’ model is susceptible to bias
- Trans-national project funding (outside EC) also scarce
- Funds for projects in less developed countries scarce but opportunities to work with development aid donors.

www.ICSU.org