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Peri-urban Livelihoods and Adaptive Capacity: The Case of Dar es Salaam

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Content

SETTING THE SCENE

- Rapid urban growth and **urban development** in sub-Saharan Africa
- Unplanned settlements and **vulnerability to global environmental change**

DEFINING THE FOCUS AND SCOPE

- There is been little exploration of the implications of **peri-urban patterns for social vulnerability and adaptation options**.

SEARCHING FEASIBLE PATHS

- The study in Dar es Salaam, Tanzania, illustrates **peri-urban livelihood strategies and environmental management practices**, while underlining challenges and opportunities for adaptive capacity and sustainable urban development.

Setting the Scene

Cities are growing

"*For the first time, in **2009**, **Africa's population exceeded one billion**, of which 395 million, almost **40 %, lived in urban areas**. By 2050 60 % of all Africans will be living in cities*

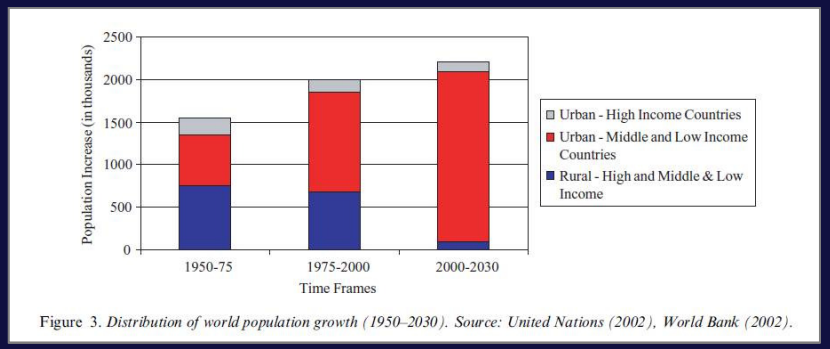


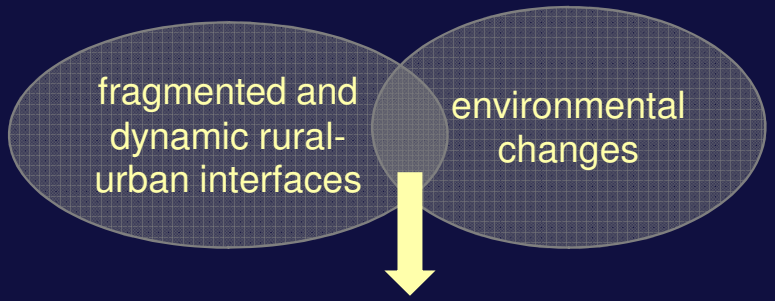
Figure 3. *Distribution of world population growth (1950–2030). Source: United Nations (2002), World Bank (2002).*

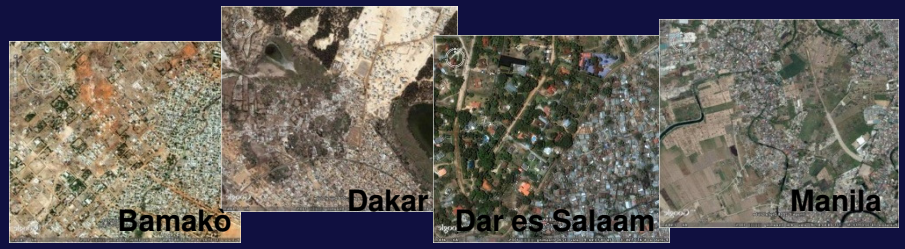
Proliferation of **unplanned informal settlements**, mainly in peri-urban areas – *("forms of hybridity")*

Climate is changing

Many environmental, social and economic challenges arise from this phenomenon.

Addressing Vulnerability





Scope

Vulnerability reduction in PU areas: challenges and opportunities linked to the interaction between current environmental changes and urban development

Focusing on PU areas

Overcome the common assumptions – R-U dichotomy

- Residents have a strong relationship to environmental changes
- Residents have a heavy dependence on **natural resources**
- The "rural" and the "urban" are extremely intertwined

The **vulnerability of PU areas is strictly linked to**

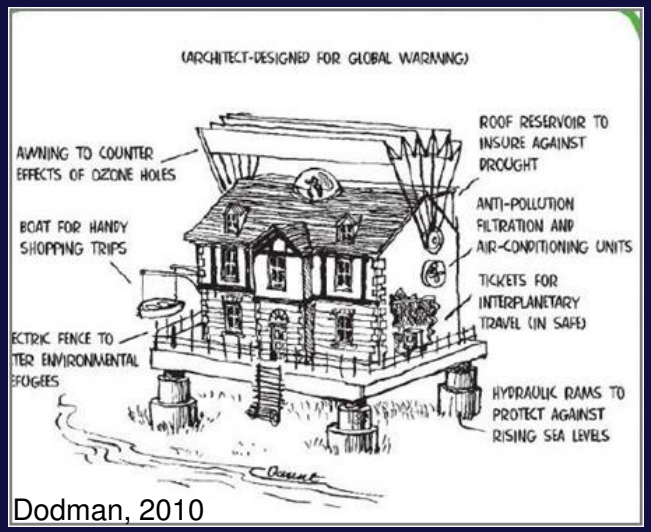
- resource dependency
- heterogeneous flow of materials and resources (economic activities, actors, institutions, power relations, global-local processes and drivers of change.)

Current Policies and Strategies

- Improving urban planning and provision of public **services and infrastructure** are crucial for the development and promotion of resilient cities.
- Policy makers and governments agree that planning for adaptation must first overcome an inadequate infrastructure base.


Dar es Salaam waterfront

http://www.youtube.com/watch?v=TwpZVFitNcg&feature=related



Dodman, 2010


Dar es Salaam neighborhood in Kunduchi

Defining Adaptive Capacity

Vulnerability: exposure, sensitivity, and **adaptive capacity** (Smit and Wandel, 2006)

"*The capacity to modify exposure to risks associated with climate change, absorb and recover from losses stemming from climate impacts, and exploit new opportunities that arise in the process of adaptation*" (Adger and Vincent , 2005)

Adaptive capacity and planning

- Adaptive capacity can be a major influence on the eventual impacts of CC.
- It is strictly linked to social systems and capable of influencing them as they cope with CC.

Rising Questions

1. How do peri-urban livelihoods and the rural-urban interplay shape autonomous adaptation strategies to environmental change?
2. In what ways is institutional EPM evolving to support the capacity of peri-urban communities to respond to environmental change?
3. Are the “informal” autonomous and “formal” institutional strategies and practices acting synergetically?

Aim of the study

To illustrate how the **interacting dynamics of livelihood**, **institutional activities**, **rural-urban interplay** and **environmental change** offer both opportunities and challenges for enhancing peoples’ adaptive capacity**.**

Designing the study

Working Hypothesis

The ability of PU communities to adapt to climate change depends on four main factors:

- *Type and magnitude of local environmental impacts of climate change;*
- *Rural-urban dynamics, land-use patterns and urban fabric;*
- *Local capacity to cope with climate change effects;*
- *Institutional capacity in environmental management and urban development planning.*

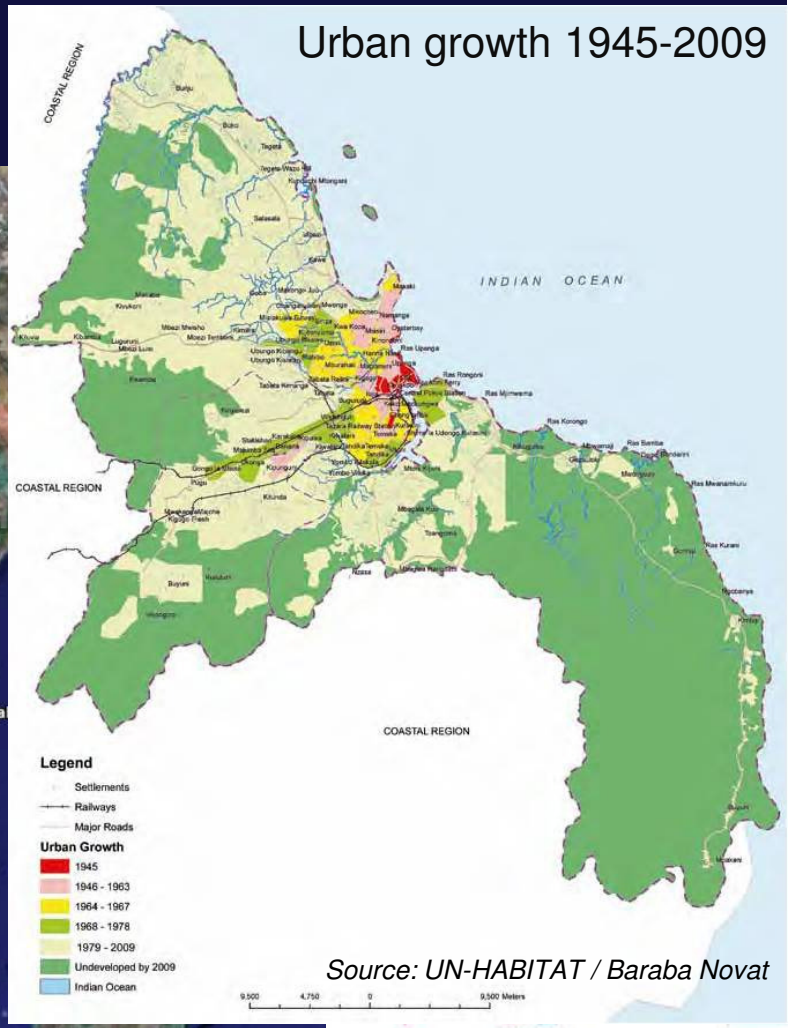
Dar es Salaam: City and Climate

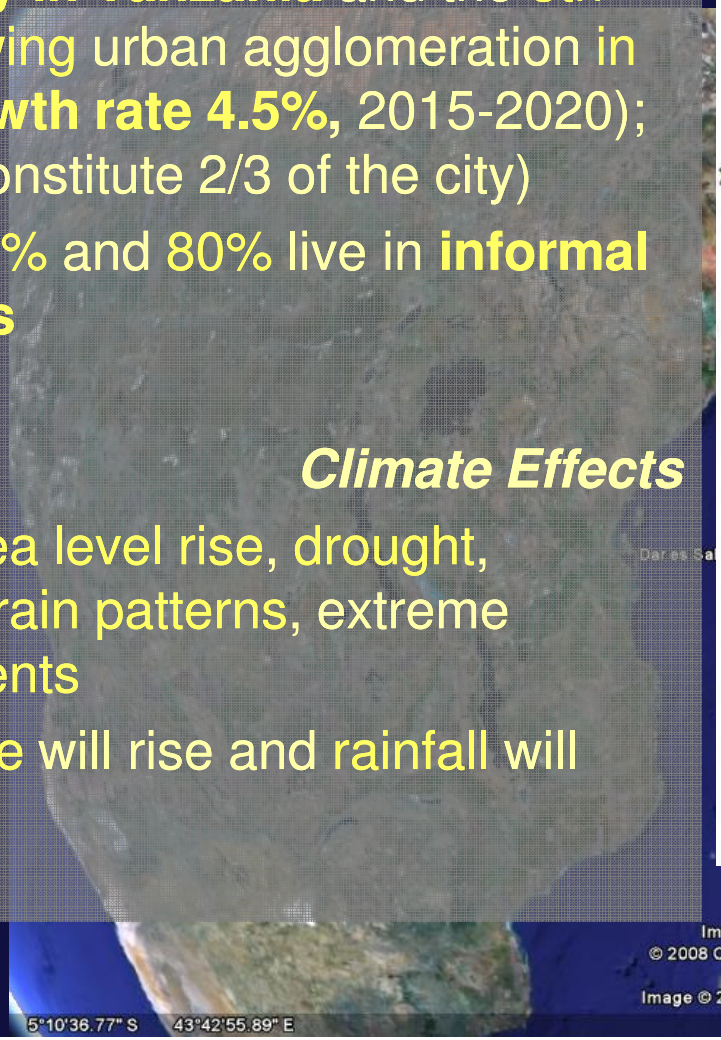
Urban Development

- **Largest city in Tanzania** and the 3th fastest growing urban agglomeration in Africa (**growth rate 4.5%,** 2015-2020); PU areas constitute 2/3 of the city)
- Between 70% and 80% live in **informal settlements**

Climate Effects

- Flooding, sea level rise, drought, changes in rain patterns, extreme weather events
- Temperature will rise and rainfall will increase





Area:	1,800 km² (1,939 km²)
Population :	2.698.651 (2005)
Growth rate	4,2%

Designing the Study

Scale

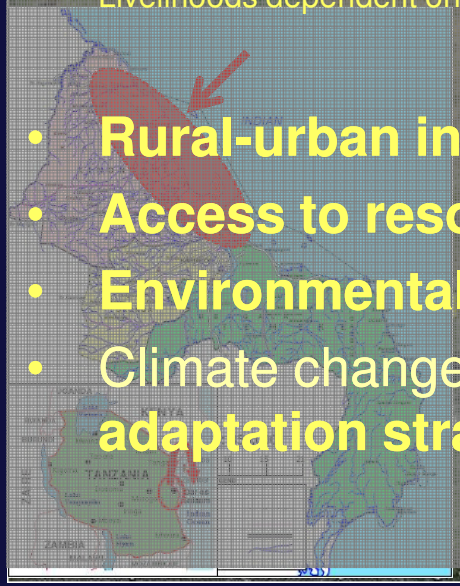
Household survey and community adaptive capacity

Areas Selection Criteria

- coexistence of both urban and rural activities (agriculture, livestock, businesses, schools, transport)
- informal settlements
- low-medium density settlements (one lot has from 0.2 to 3 ha)
- settlements located in areas with different environmental characteristics (coastal and inland areas, with different morphology)
- settlements close to major natural elements (rivers, ocean, wetland, forest)

Household Selection Criteria

- socio-economic and cultural heterogeneity (education, income, etc)
- stably settled
- Livelihoods dependent on both urban and rural activities and resources



Areas of Investigation

- **Rural-urban interaction**
- **Access to resources** (land, water, energy, etc.)
- **Environmental management** (water, waste, soil, etc.)
- Climate change: environmental transformations and **autonomous adaptation strategies**

Results: Rural-urban Interaction

- Peri-urban areas are not exclusively characterized by rural-to-urban migration flows; urban to peri-urban migration also exists
- A plurality of activities and physical patterns exist which are based on urban and peri-urban interdependencies
- The majority of respondents (83%) wish to live in environments with "free" spaces for living
- …

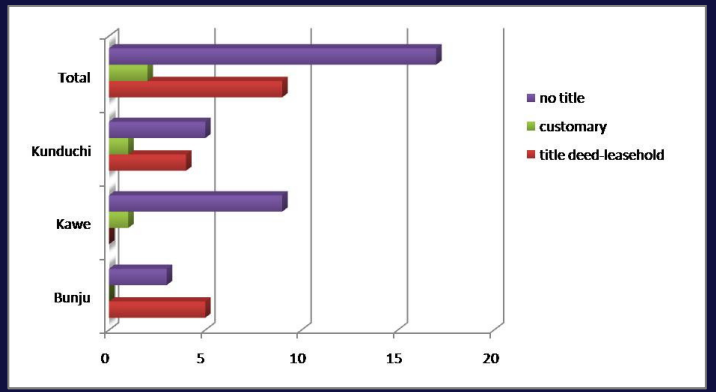
Daladala: used by 90% of the respondents, 67% on a weekly basis

Agriculture and livestock are the main source of livelihood (97%)

Other activities street vendors and small business

Results: Access to Resources

- 60% do not have land title (for house and land)
- more than 30% have a leasehold title and the remaining
- 7% own a customary title .






- 26% pay fees for water and electricity
- 9% pay for waste collection
- “indirect” and informal fiscal systems

Results: Environmental Management

- 94% manage waste autonomously:
  - burning, abandoning and burying waste (46%)
  - recycling useful materials and composting organic waste to be reused as fertilizer (46%).
  - collecting materials, such as plastics or metals, for sale (8%)

- Autonomous water management: rain water harvesting, ...

- Maintenance of roads, canals, common spaces etc.

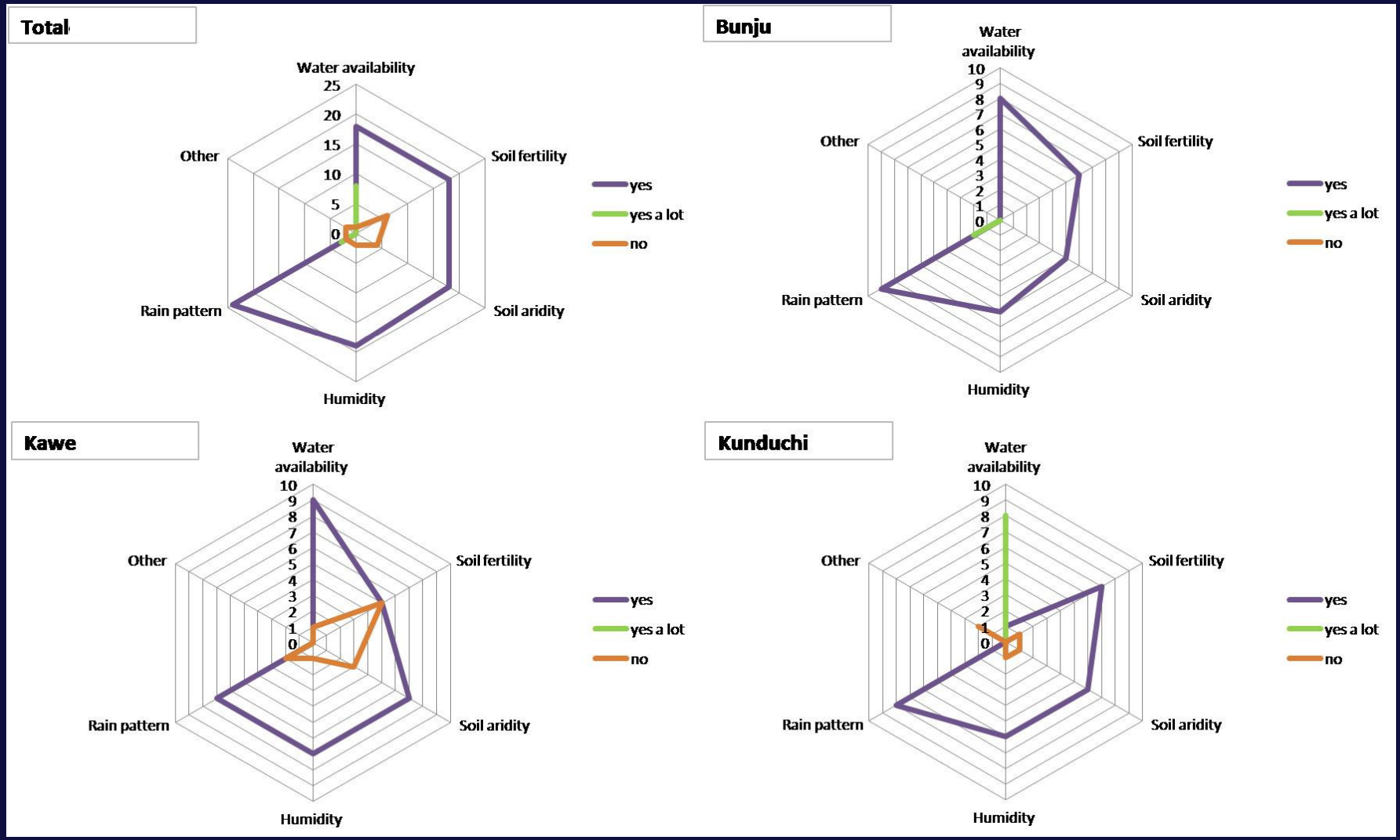
Plastic collection

Composting organic waste and manure

Tank 20l: managing water

Results: CC Adaptation

Observed environmental changes



Results: CC Adaptation

Implemented adaptation strategies

- changed crop systems (e.g. moving from rice to cassava, which requires less water)
- stop farming and start keeping livestock
- digging for water harvesting
- making embankments
- ….

Foreseen adaptation strategies

- change of employment, (or transition from activities dependent on natural resources to activities only partially or indirectly dependent on them; e.g. trade or small business).
- moving to another area or returning to their rural native region
- look for temporary job
- Intensify/introduce agriculture and livestock
- …

Results: CC Adaptation

river embankments

shallow pit

Conclusions

PU Opportunities and Adaptive Capacity

Rural-urban interplay

the blend of "rural" and "urban" features is crucial for people's livelihoods and adaptive capacity

Livelihood diversification and "flexibility"

- expand social networks and multi-spatial households enterprise, increase earning
- create local market for street vendors, access to services
- access to waste facilities, diversification of source of income, access to information and decision making process

High capacity for change and adaptation

- *multiple autonomous adaptation strategies*, (both at long and short terms, both proactive and reactive)
- environmental management practices

Risk of urban biased approaches

- Expulsion of hybrid practices and land uses
- Commercialization of peri-urban land
- Force the poor to migrate
- ……

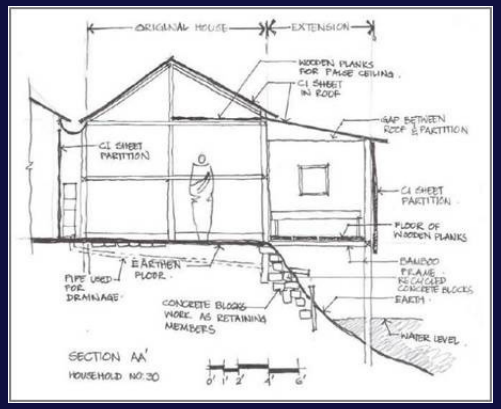
Emerging Issues

Dominant 'logic'

- **Urban Environmental Security** and dominant approach of **S**ecure **U**rbanism and **R**esilient **I**nfrastructure for future economic and territorial growth

⟶ ***New styles of urban infrastructure***

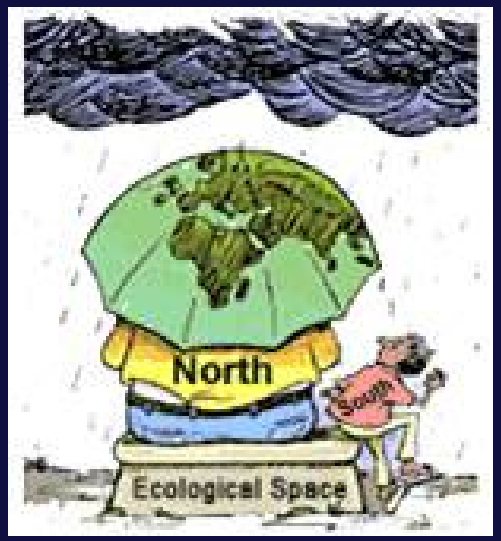
Strategic protection - autarky - urban agglomeration



Criticism

- predominant **focus on economic aspects** rather than ecological aspects in urban governance

- **applicability in different context** Global cities of the South are configured as potential new markets that 'consume' eco-city fixes produced in the North (Hodson and Marvin, 2009)



Urban bias and socially reductionist assumptions VS PU as conflation of people and space (Adell,1999)

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