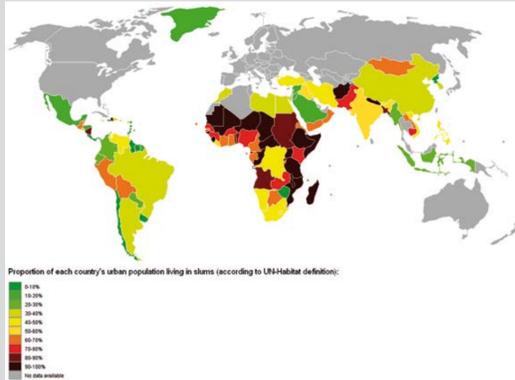
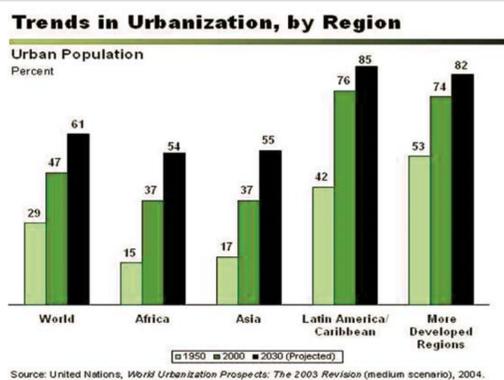


# MODULAR MOBILE HOMES *from a* SUSTAINABLE POINT *of* VIEW

## Trends in urbanization and locations of slums



## SUMMARY

As an effect of human civilization, significant changes have been taken place in population as well as in the economic, social and political structures of a region. Rapid urban growth is responsible for many environmental and social changes in the urban environment and its effects are strongly related to global change issues. However, human civilization cannot survive, unless facing the destructive features of globalization and urbanization and re-evaluating its lifestyle and consumer habits. We need to find up-to-date solutions for issues such as water consumption, minimal energy use, minimal exhaust emissions, minimal space living, etc. The aim of this research is to find answers for the new needs through cheap, reusable, adoptable design.

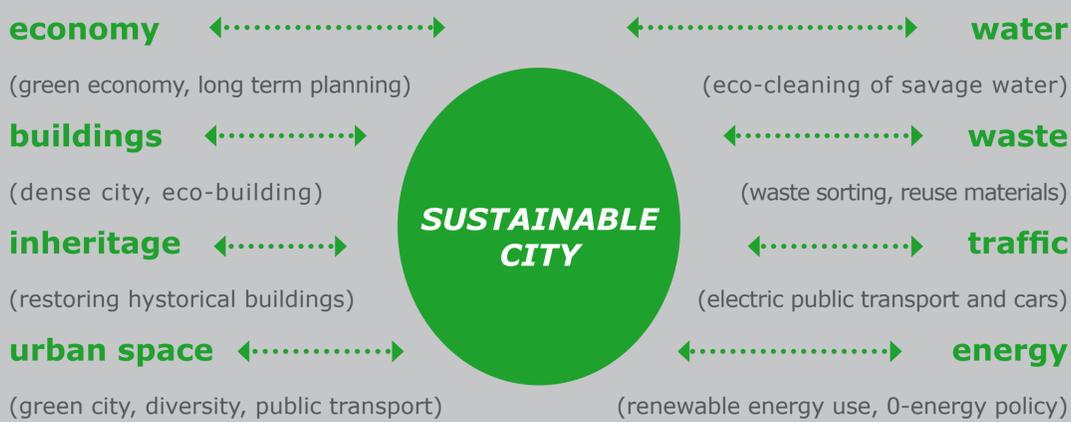
## URBANIZATION

*Urbanization* is the process of the growth of urban areas as a result of global change. According to a survey made by the United Nations, half of the total population of the world is living in urban areas in 2012.

Besides urbanization, other developments are taking place recently:

- *Inner-city redevelopment/reurbanization* is when people move into central urban areas which have previously been abandoned.
- In some developed regions, the reverse effect, namely *counter urbanisation* has occurred, with cities losing population to rural areas.
- *Suburbanization* is taking place when the residential area shifts outward.

On the other hand, many of the city dwellers, especially in the Third World (almost 1 billion people), live in *slum* conditions.



## SUSTAINABLE CITY

A sustainable city, is a city designed with consideration of environmental impact. Such settlement is inhabited by people dedicated to minimize the inputs of energy, water, food, and waste output of heat, air and water pollution. However, a sustainable city should be able to feed itself with minimal reliance on the countryside, and power itself with renewable energy resources. Therefore the aim is to create the smallest possible ecological footprint, to produce the lowest possible pollution; compost used materials, recycle it or convert it into energy. As a result of all the efforts, the overall contribution to climate change of the settlement will be minimal.

Buildings designed with dedication to environmental principles provide the infrastructure for the settlement alike, meanwhile allowing for many to demonstrate a commitment to sustainable living.

## Sustainable ways (urban farms, green roof, green facade)



## SUSTAINABLE WAYS

A sustainable building / eco-building is designed with consideration of environmental impact. These ecological buildings are achieved through various means, such as:

- *Renewable energy sources* (wind turbines, solar panels, photovoltaic panels, bio-gas created from sewage, etc.)
- Methods to *reduce* the need for *air conditioning* (trees providing shade for the walls, lightening surface colors, natural ventilation systems, green wall and roof, effective insulation, etc.)
- *Increase the area of green spaces* (up to min. 20% of total surface of the city). These measures *reduce* the *heat island effect* caused by an abundance of tarmac and asphalt, which can make urban areas several degrees warmer than surrounding rural areas. (Communal spaces, urban farms, etc.)
- *Improve public transport* and an increase in pedestrianization to reduce car emissions.

## Minimal/optimal space needs of specific family models



## SMALL-SPACE LIVING

Urbanisation has effected the everyday-life of citizens, both in structure and quality. Urban people are spending less and less time at home, though their flats are equipped with several appliances and entertainment units. Thus the size of the flats are going smaller and smaller, however small apartments must fulfill the same functions as a luxurious one.

Japan was the first to introduce minimal space apartments to her citizens: a one room mansion in Japan is with only one small room (10 m<sup>2</sup>) and a compact bathroom.

After evaluating the tendencies of global urbanization I am defining the size of one single unit of the modular home with a similar scale: 6,00 x 2,40 x 2,40m. The average living area of a single unit is 12m<sup>2</sup> that demands multifunctional rooms and furnitures. Due to its modular design, it is easy to double, triple the size of the dwellings and to adapt them to our personal needs.