TOWARDS AN URBANIZED WORLD
a challenge for urban planning and sustainable urban development
industrialization and „demographic explosion“

up to 1600 > relatively stable
1700 > modern age
1800 > dramatic increase > early industrialization
last 300 years > fundamental change
2050 - 7, 9 or 11 billion people?

2000 > 6 billion
2025 > 8
2050 > 7 - 11 ?

max. „carrying capacity“ of the earth ?
worst case > 11 billion, no major innovations
best case > 7 billion + new technologies >
sustainable global development
2050 –
75% of world population in Asia and Africa

Asia > + 50%
Americas > 14%
Africa > 14%
Europe (West+East) > 14%
Turkey, Iran 8%

2050 >
Africa > from 800 million to 2 billion
Asia > from 3 to 5 billion
2000 - 3 billion urban dwellers

1800 > 2 %
1900 > 9 %
2000 > 50 %

urban population 2000 > 3 billion
2010 > stagnating rural population

all future population growth
will be absorbed by cities
2030 > 3 + 2 = 5 billion
regional urbanization: latecomers Asia and Africa

20th century >
Europe, North America > 75% > 83% (2030)
Latin America (!)

„latecomers“ Asia and Africa > 38% > 55% (2030)
now catching up with accelerated urban growth
21st century - high-speed urbanization in Asia and Africa

19th / 20th century > Europe, North America, Japan, Latin America

21st century > „high speed urbanization“ in Asia and Africa

<table>
<thead>
<tr>
<th>Region</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa (south of Sahara)</td>
<td>4.6%</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>3.8%</td>
</tr>
<tr>
<td>East Asia</td>
<td>3.4%</td>
</tr>
<tr>
<td>West-Asia</td>
<td>3.0%</td>
</tr>
<tr>
<td>South Asia</td>
<td>2.9%</td>
</tr>
<tr>
<td>North Africa</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

new cities will be shaped according to economic ressources and planning capacity > China

new towns in China
2050 - 5 billion urban dwellers?

projected increase of urban dwellers
in Asia > 1.1 billion
in Africa > 560 million

moderate growth in North America / Latin America
„shrinking cities“ in Europe
historic cities in a globalizing world

the West-European city
the North American city
the Latin American city
the Oriental-Islamic city
the West-African City

today > globalization of lifestyle, housing, architecture, urban planning loss of historic and cultural identity

uniform globalized cities ?
new regional urban models ?

Mexico City
the European city in transition

19th century > dominating model > colonization
20th century > competition of European and North American city
21th century > emerging „post-Europe“ cities

historic core and cultural identity
compact building blocks, mixed land use, public space
short distances, public transport
mixed income groups, no gated communities
impact of international urbanism and architecture

the European city > a sustainable urban model?

urban project in Heidelberg

Berlin
Post-European urbanism - between high-tech and no-tech

large variety of traditional, conventional and futuristic settlement patterns
high-tech-, low-tech-, no-tech-architecture

tendency > loss of regional settlement and building traditions
polarization into rich and poor cities and urban areas

Dubai

Chad
Megacities – the top of the „urbanization iceberg“

Spectacular growth of large cities >
Megacity research and projects
2000 > 20, 2030 > 30 megacities
+10 million

but:
majority of urban population lives in
medium and small size cities!

65 % in cities < 1 million
25 % in cities 1-10 million
10 % in cities > 10 million

75% of global urban population
in cities < 5 million

rapid growth of
small and medium size cities >
deconcentration
emerging metropolization
booming megacities

definition > 5, 8, 10 million inhab.

1960 / 2000 >
top ten north and south
growth projection Mexico-City!
emerging megacities – a new challenge

2000 > Asia 11, Latin America 4, Europe 3, North America 2, Africa 2
app. 100 emerging megacities > + 5 million

research and cooperation project „emerging megacities“>
to control and steer future urban development
African (emerging) megacities

2000 > 2 megacities, 12 emerging megacities

economic activity areas > oil, industry, urban agglomerations

Lagos 13
Cairo 11
Kinshasa 5
Alexandria 4,5
Casablanca 4
Abidjan 4
Addis Abeba 3,5
Cape Town 3,5
Maputo 3,5
Luanda 3
Khartoum 3
Nairobi 2,5
Dar es Salam 2,5
Johannesburg 2,5
How to manage „Meta-Cities“?

UN-Habitat > 20 million.
Meta- or Hyper-Citites

Tokio
2005 > 35 million

2020 >
Mumbai 33 million
Shanghai 27
Karachi 26
Jakarta 25
Dhaka 25

Lagos, Delhi, Mexiko-City,
Sao Paulo, New York

Meta-Cities >
fragmented, dynamic change >
managable and sustainable?

Megacities >
„spontaneous“ growth and
saturation?

Mexiko City, Sao Paulo

new Shanghai

Tokio
Large and „small“ megacities

urban area of megacities >

New York   app. 3500 km² / 17 mio.hab.
Sao Paulo  1200   / 18
Kairo      600    / 10

megacities in developing countries >
large population, but compact and
densely populated

housing standards >
Germany    40 m²/person
Mumbay     10 m²/person
same applies for
public space, street network,
industrial areas

„developing megacities“ >
density 3-5 times higher than in
industrial/post-industrial megacities
Mega-agglomerations - Pearl River Delta

rapid urbanization >
conurbation of small and large cities
urban-rural continuum

Pearl River Delta / China > 20 million
Hongkong, Shenzhen, Guangzhou
and 30 other small cities > 150 km urban corridor

Great Jakarta / Indonesia > Jabotabek
semi-urban landscape and corridors

semi-urban mega-agglomerations >
temporary or permanent structures ?
administration, planning, infrastructure ?
**World Cities**

megacity > population size  
world city > functional definition  

international role and importance in the global economic network  

world cities > post-industrial cities  
financial, economic, political activities  
stock market, banks, corporate headquarters  
international organizations  
information and media, legal and financial consultings, research, higher education, cultural and tourism activity  

New York
the Global City concept

1970s > Friedmann > world cities
1090s > Saskia Sassen a.o. >
model of dispersion and concentration

Dispersion of industrial production >
production costs and future markets

Concentration of steering and control functions in a few strategic locations >
world cities
cluster of corporate headquarters, stock markets and related services

global city theory not yet consolidated >
S.Sassen > focus on New York / London
subestimation of other cities
not just the city > city region is important

ranking according international role >

Criteria >
flow of capital investments
Number of corporate headquarters,
Number of international flights…

Tokio
Alpha, Beta, Gamma - World Cities

Alpha world cities (full service world cities)
12 points: London, New York, Paris, Tokyo
10 points: Chicago, Frankfurt, Hong Kong, Los Angeles, Milan, Singapore

Beta world cities (major world cities)
9 points: San Francisco, Sydney, Toronto, Zürich
8 points: Brussels, Madrid, Mexico City, São Paulo
7 points: Moscow, Seoul

Gamma world cities (minor world cities)
6 points: Amsterdam, Boston, Caracas, Dallas, Düsseldorf, Geneva, Houston, Jakarta, Johannesburg, Melbourne, Osaka, Prague, Santiago, Taipei, Washington
5 points: Bangkok, Beijing, Montreal, Rome, Stockholm, Warsaw
4 points: Atlanta, Barcelona, Berlin, Budapest, Buenos Aires, Copenhagen, Hamburg, Istanbul, Kuala Lumpur, Manila, Miami, Minneapolis, Munich, Shanghai

Germany’s global city is Frankfurt, not Berlin

different criteria > different ranking!
**world cities**
**as powerful „city states“ ?**

world cities > larger GNP
than many countries

national borders disappear
world cities act as „city-states“
global competition
to control global markets

scenario >
rich and poor „urban islands“ (not
countries) will shape the future
economic geography

Europe >
not one dominating world city
cluster of European capitals and
highly specialized cities >
London, Paris, Amsterdam, Brüssel,
Frankfurt, Hamburg, Milano..

alternative spatial and functional
Modell ?
Shanghai, Mumbay, Mexico-City – struggling for a world city position

effort to attract foreign investment and to develop world city functions

to change the economic and urban structure
new industrial and post-industrial activities > information, finance, tourism

urban planning >
new CBDs and other urban mega-projects
Shanghai / Pudong
Mexico-City / Santa Fe > „gated CBD“

Shanghai / Pudong

Mexico-City / Santa Fe
New Shanghai / Pudong – the world’s largest world city project
Dubai
the artificial city and business model
Mumbai – emerging world city, persisting poverty

established and emerging world cities > Shanghai, Bombay..

formal sector incapable to absorb urban labour force > rapid growth of informal sector

LA, Africa > fast growing population stagnating urban economy > reason > disadvantages in global competition > location, markets, infrastructure, skilled labour

UN-city report 2005 > World Bank and neo-liberal economic reform > privatization, reduced public employment and expenditure, monetary devaluation, foreign imports, de-industrialization >

loss of formal job opportunities boom of informal economy

urban fragmentation, social polarization, increasing informalization of the city
informal sector – struggle for survival or booming „micro-capitalism“?

Opposite position >

de Soto > „El otro sendero“ > Lima, Peru
Informal micro enterprises >
a dynamic self-help or grass-root-capitalism
with micro credits and de-bureaucratization >
growth opportunities, capital accumulation
examples >
public transport, markets, production sector

M. Davis „Planet of Slums“ >
struggle for survival, self-exploitation, no
accumulation, critical work conditions,
minimum income>
„darwinistic competition“ among the poor

Informal sector > absorbs millions of people who
don‘t find formal jobs
without a booming „street economy“
many cities would collaps
**Slums - urbanization of poverty**

UN-Habitat „State of the world´s cities“ (2006)
world population > 6.4 billion
Urban population > 3.2 billion

In spite of many international conferences and resolutions >
app. 1 billion people in „slums“
1/3 of total urban population

urbanization > progress and development
In fact > urbanization of poverty
Is sustainable urban development possible with 30% informal settlements and slums?

1 billion people in informal settlements and slums > 2 billion in 2030

50% young people (less than 20 years) lack of life perspectives > migration, radicalization

regional differences
East Asia, Latin America, North Africa, slums are growing slower than cities
South Asia, Africa (Sub-Sahara) > slums are growing as fast as cities

UN > reduction of urban poverty and slums key for sustainable global urbanization
Informal settlements - problem or solution?

Large variety of informal settlements and slums
1960s > „slums of hope, slums of despair“
hard core slums > marginalization, ghettoization
self-help settlements > consolidation and integration

UN-Habitat > minimum requirements >
permanent housing that protects against climate
sufficient living space > 3 people/room
access to safe and affordable water
access to adequate sanitation
security of tenure that prevents forced evictions.

Barriada in Lima / Peru
Gecekondu in Istanbul
Bustee in Mumbai
Palafita in Rio de Janeiro
Rio de Janeiro / Favela Jacarezinho

Integração de Favelas no Rio de Janeiro

Integrating slums in Rio de Janeiro
Mexico-City
Informal settlements and self-help-housing
Megacities = mega-chances

- focus of economic activities
- key for national and regional development
- promotion of social and cultural transformation
- high productivity and capital accumulation
- modernization and technological innovation
- reservoir of „cheap“ labour (formal and informal)
- attractive for foreign direct investment

Sao Paulo, Bangkok, Mumbai >
10% population > 40% of GNP

nodal point of globalization
chance to compete internationally
Megacities = mega-risks

Vulnerable to natural and other disasters > earthquakes, rising sea level, scarcity of water and desertification, technical disasters (explosions), terrorism..

Focus of political and economic crisis > urban poverty, extreme social contrast and conflict

Uncontrolled urban growth
Lack of basic infrastructure
Ecological problems > pollution
Water, air, soil > loss of fertile land
Sustainable urban development – a theoretical framework

The TecEco Dream – A More Sustainable Built Environment

We need materials that require less energy to make them, that last much longer and that contribute properties that reduce lifetime energies.

Key
- City
- Throughput
Urban mobility and energy consumption – sustainable cities?

"on average, one US-American consumes as much energy as 2 Japanese, 6 Mexicans, 13 Chinese, 31 Indians, 128 Bangladeshis, 307 Tanzanians, 370 Ethiopians."
UN >
"...global urbanization is a race against the time >
huge investments are necessary
If not, all UN-millenium goals and sustainability policies will fail...“