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What about CC development?

- * Gandhi's response when questioned
 - * *What do you think of western civilization*
- * So what do you think of climate compatible development?
 - * *That too would be a good idea*
 - * *Stating what should happen does not make it happen*
 - * *Don't we need to assess how well we are doing on climate compatible development ?*
 - * *What processes produce it or fail to produce it?*

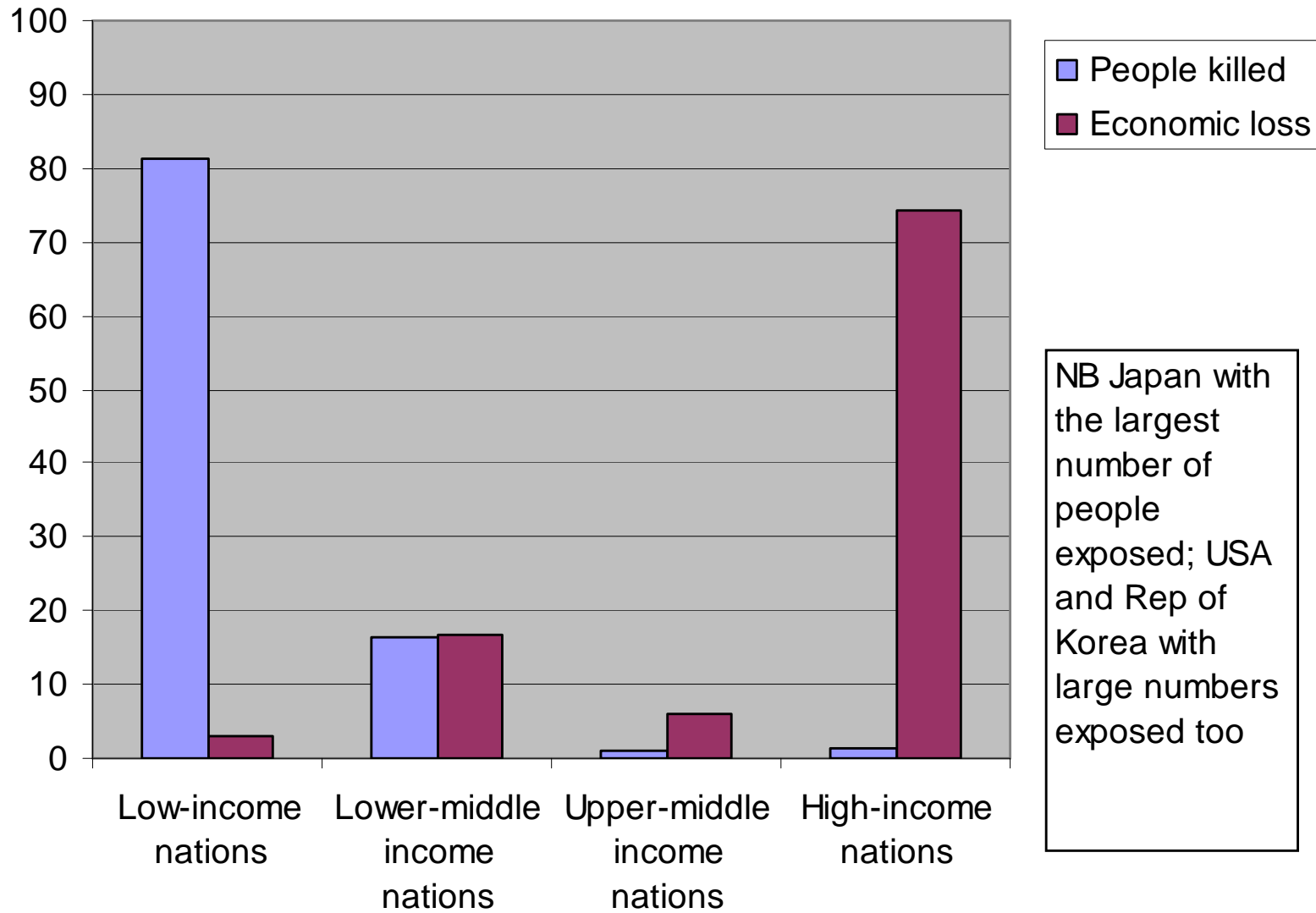
In relation to urban areas

- * Half the world's population living & working in urban areas
 - * *Most of this urban population and most large cities in low- and middle-income nations*
- * One in seven of the world's total population now living in informal settlements lacking provision for water, sanitation, drainage, health care, schools, rule of law.....



Very large low-income urban population on sites most at risk from extreme weather and most climate change impacts

Distribution of fatalities and economic loss from tropical cyclones per year (%)





Japan with more people exposed to tropical cyclones than the Philippines but if affected by a cyclone of the same magnitude, mortality in the Philippines would be 17 times higher.







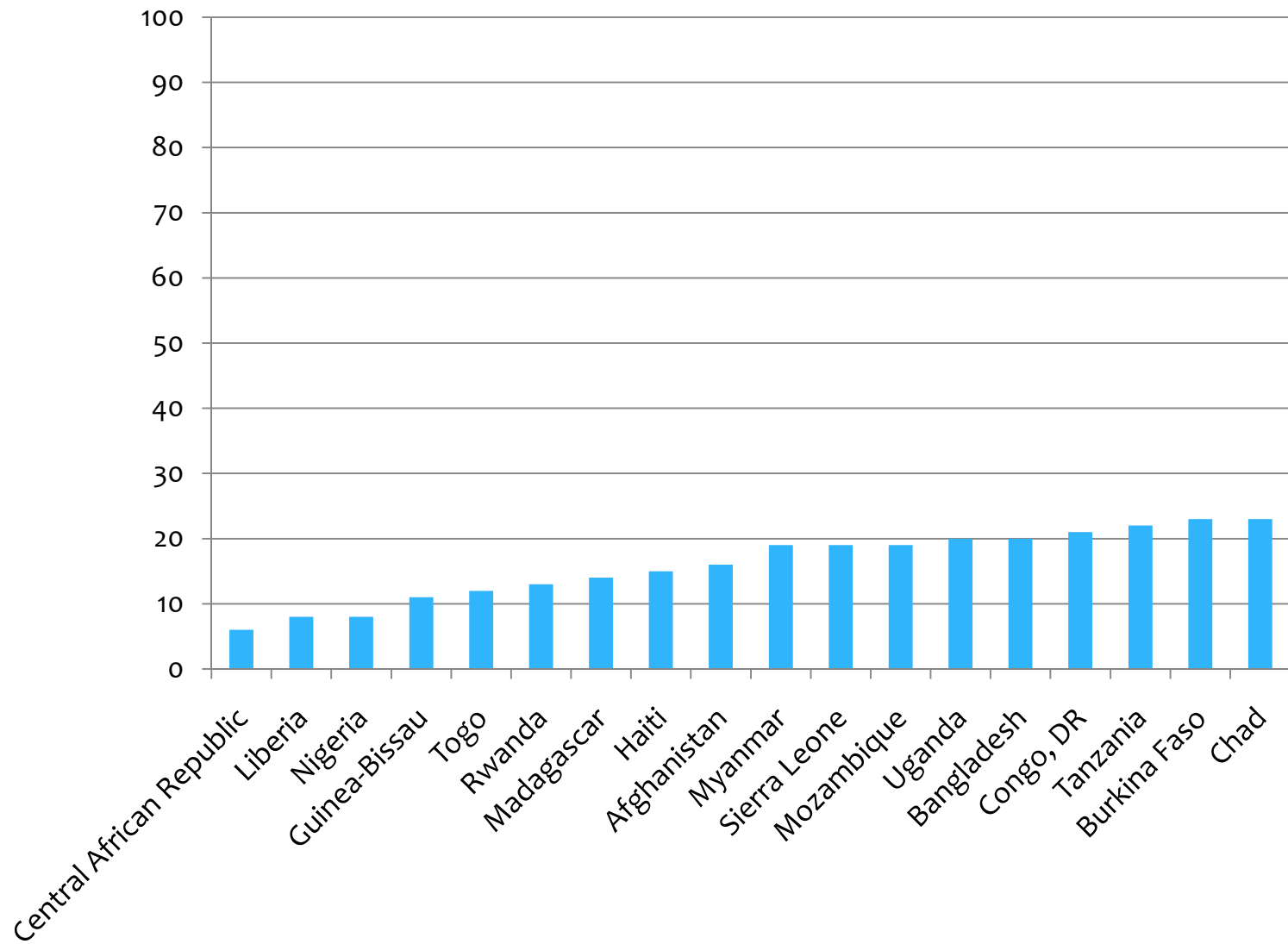
Unrecorded disasters

- * Massive impact of extreme weather disasters on urban populations that go uncounted
 - * *Very large impacts on injuries, impoverishment, destruction of houses, schools, health care as well as deaths*
- * Floodplains, river banks, steep slopes..... only locations where much of the urban population can afford to live are in not climate compatible

Scale of development failures

For the billion people living in informal settlements

- * Common for one child in ten to die before their fifth birthday
 - * *one child in five in many informal settlements*
 - * *this is 10-20 times what it should be*
- * Common for 30-50% of children to be stunted
- * In many cities in sub-Saharan Africa, average life expectancy of 20-30 years



Proportion of the urban population with water piped to their premises (2010)

Tanker water, Luanda in distant areas

Vendor in Kibera (Nairobi)

Tankers in Luanda

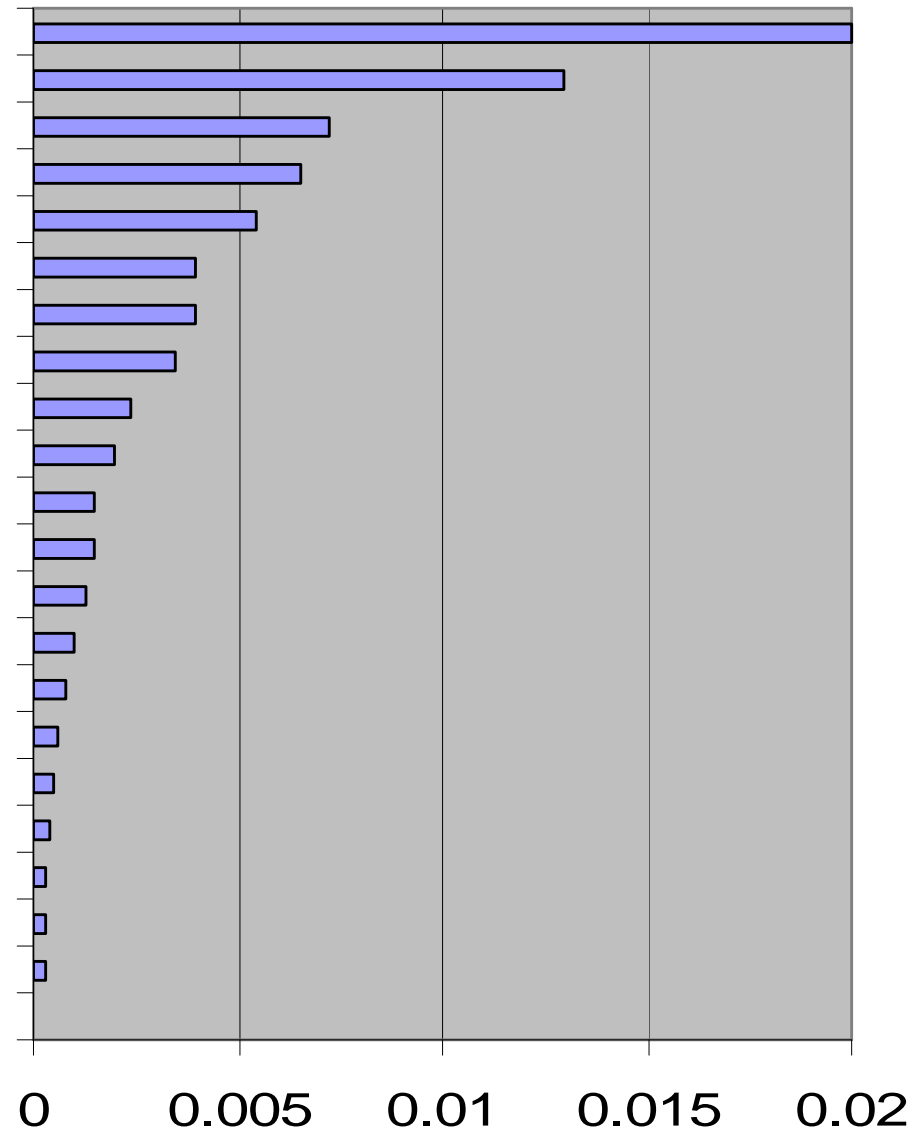
Vendors in salinated areas in Jakarta

Water point in Huruma (Nairobi)

House connection in Amman

House connection in Lima

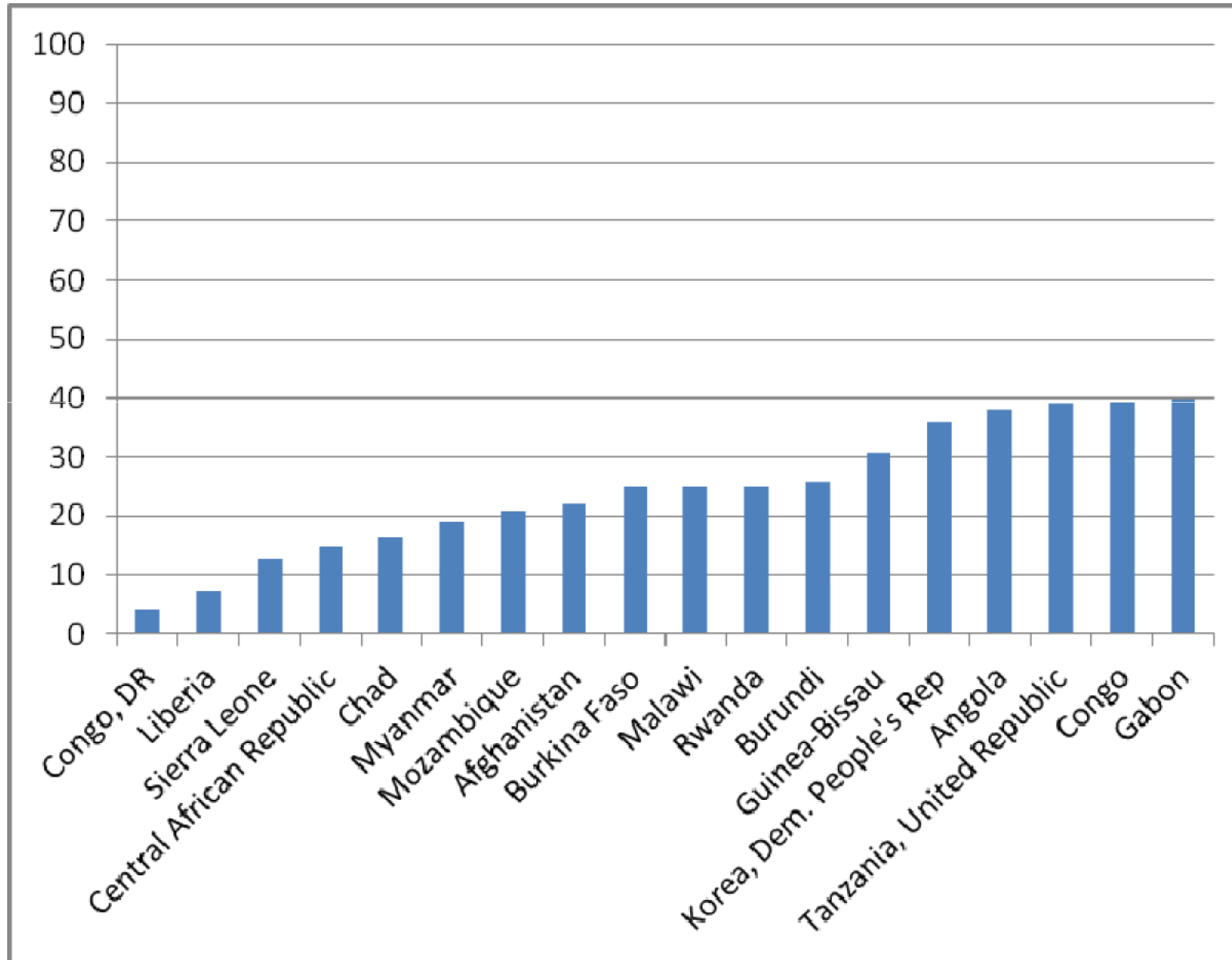
Tariff in Cairo



500 fold difference in the price of water

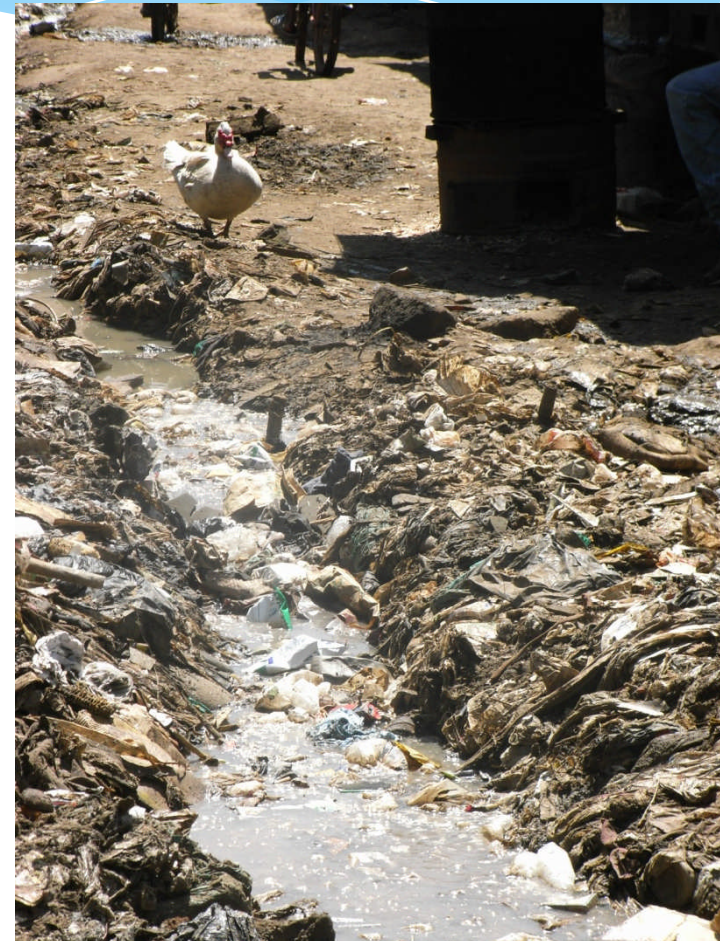
US\$ per litre

Percent of urban population with electricity



Sanitation and drainage

- * **Large cities with no sewers or covered drains** (or these reach a few % of the population) Addis Ababa, Bamako, Benin, Brazzaville, Dar es Salaam, Douala, Freetown, Ibadan, Kaduna, Kinshasa, Kumasi, Lagos; Lubumbashi, Maiduguri, Mbuji-Mayi, Port Harcourt, Yaounde, Zaria.....
- * and most other urban centres in sub-Saharan Africa and a high proportion in Asia



What strongly influences a person's climate resilience for extreme weather?

- * **Quality of buildings – homes and workplaces**
- * **Infrastructure they have access to independent of income** - storm drainage, paved roads & paths, street lighting
- * **Provision for services that are paid for:** public transport, water, sanitation, solid waste collection, electricity,
- * **Services available independent of income** – health care, education, street cleaning, emergency services ...
- * **Early warning systems** that actually work
- * **Whether their income allows investment in resilience** (healthy homes, insurance for life/home/possessions, savings, pensions, asset ownership...)
- * **Safety nets available if income is insufficient**
- * **Regulatory framework to ensure the above** – building standards, working conditions, consumer protection.....)

What priority have these got from development assistance ?

What provides an urban centre with capacity to adapt to climate change?

Indicator cluster for cities	
Population served with risk-reducing infrastructure (paved roads, storm and surface drainage, piped water) and services relevant to resilience (including health care, emergency services, policing/rule of law) and the institutions needed for such provision	
The proportion of the population living in legal housing built with permanent materials (meeting health and safety regulations)	
Local government investment capacity	
Able to withstand extreme weather	
Institutions to make all this happen	

What provides an urban centre with capacity to adapt to climate change?

Indicator cluster for cities	
Population served with risk-reducing infrastructure (paved roads, storm and surface drainage, piped water) and services relevant to resilience (including health care, emergency services, policing/rule of law) and the institutions needed for such provision	ADAPTIVE CAPACITY FOR FIVE DIFFERENT CATEGORIES OF CITIES <ul style="list-style-type: none">- Very little- Some- Yes if acted on- Resilience- Transformation
The proportion of the population living in legal housing built with permanent materials (meeting health and safety regulations)	
Local government investment capacity	
Able to withstand extreme weather	
Institutions to make all this happen	

The large spectrum in the capacity of urban centres to adapt to climate change

Indicator Clusters	Very little adaptive capacity
<p>Population with risk-reducing infrastructure ... roads, drainage, piped water ... health care, emergency services, policing.... institutions for such provision</p>	<p>0-30% of the urban centre's population served; most of those unserved or inadequately served living in informal settlements</p>
<p>% living in legal safe healthy housing</p>	
<p>Proportion of urban centres covered</p>	<p>Most urban centres in low-income and many in middle-income nations</p>
<p>No of inhabitants of such urban centres</p>	<p>One billion</p>
<p>Infrastructure deficit</p>	<p>Enormous - Much of built up area lacking infrastructure</p>
<p>Local government investment capacity</p>	<p>Very little or no investment capacity</p>
<p>Disasters from extreme weather</p>	<p>Very common</p>
<p>Examples</p>	<p>Dar es Salaam, Dhaka</p>
<p>Implications for CC adaptation</p>	<p>Very difficult to see it happening</p>

The large spectrum in the capacity of urban centres to adapt to climate change

Indicator Clusters	Some 'bounce-back' / adaptive capacity
Population with risk-reducing infrastructure ... roads, drainage, piped water ... health care, emergency services, policing.... institutions for such provision	30-70% of the urban centre's population served; most of those unserved or inadequately served living in informal settlements
% living in legal safe and healthy housing	
Proportion of urban centres covered	Many urban centres in low-income and most in middle-income nations
No of inhabitants of such urban centres	1.5 billion
Infrastructure deficit	Very large
Local government investment capacity	Some investment capacity
Disasters from extreme weather	Common
Examples	Nairobi, Mumbai
Implications for CC adaptation	Difficult and difficult politically

The large spectrum in the capacity of urban centres to adapt to climate change

Indicator Clusters	Adequate 'bounce-back' adaptive capacity, if acted on
Population with risk-reducing infrastructure ... roads, drainage, piped water ... health care, emergency services, policing... institutions for such provision	70-100% of the urban centre's population served; most of those unserved or inadequately served living in informal settlements
% living in legal safe and healthy housing	
Proportion of urban centres covered	Virtually all urban centres in high-income nations, many in middle-income nations
No of inhabitants of such urban centres	1 billion
Infrastructure deficit	None or very little
Local government investment capacity	Good investment capacity
Disasters from extreme weather	Uncommon
Examples	Many cities in Latin America and Asia; all cities in high income nations
Implications for CC adaptation	Adaptive capacity but has to be acted on

The large spectrum in the capacity of urban centres to adapt to climate change

Indicator Clusters	Resilience
<p>Population with risk-reducing infrastructure ... roads, drainage, piped water ... health care, emergency services, policing.... institutions for such provision</p>	<p>Good provision with active adaptation policy identifying current/likely future risks & institutional structure to encourage action by all sectors & agencies; often addressing ageing infrastructure</p>
<p>% living in legal safe and healthy housing</p>	
<p>Proportion of urban centres covered</p>	<p>Small proportion of cities in high-income & upper-middle income nations</p>
<p>No of inhabitants of such urban centres</p>	<p>40 million?</p>
<p>Infrastructure deficit</p>	<p>None or very little</p>
<p>Local government investment capacity</p>	<p>Good investment capacity</p>
<p>Disasters from extreme weather</p>	<p>Uncommon</p>
<p>Examples</p>	<p>London, New York, Manizales, Durban</p>
<p>Implications for CC adaptation</p>	<p>City government that is managing land-use changes as well as having adaptation integrated into all sectors</p>

The large spectrum in the capacity of urban centres to adapt to climate change

Indicator Clusters	Transformation – or CC development
<p>Population with risk-reducing infrastructure ...roads, drainage, piped water ... health care, emergency services, policing.... institutions for such provision</p>	<p>Adaptation & development integrated within understanding of need for mitigation & limited ecological footprints Land use management providing safe land for housing, avoiding areas at risk & taking account of mitigation</p>
<p>% living in legal safe and healthy housing</p>	
<p>Proportion of urban centres covered</p>	<p>None?</p>
<p>No of inhabitants of such urban centres</p>	<p>?</p>
<p>Infrastructure deficit</p>	<p>None or very little</p>
<p>Local government investment capacity</p>	<p>Good investment capacity</p>
<p>Disasters from extreme weather</p>	<p>Uncommon</p>
<p>Examples</p>	<p>?</p>
<p>Implications for CC adaptation</p>	<p>City government with capacity to work with neighbouring local governments Also with land-use changes managed to protect eco-system services+ mitigation</p>

How much will climate compatible development support this agenda?

- * Very small proportion of development assistance going to this
- * UNFCCC insisting it only funds adaptation
 - * *you cannot adapt infrastructure that is not there*
- * Difficulties that urban governments & civil society groups have in getting external support
- * Lack of recognition of the key political process involved in getting competence & accountability out of local governments

Percentage of urban children stunted

	Nations and year of survey
Over 35 percent	Timor-Leste 2009-10, Malawi 2010
30-34.9 percent	Zambia 2007, Benin 2006, India 2005-06
25-29.9 percent	Sao Tome and Principe 2008-09, Nigeria 2008, Guatemala 2008, Niger 2006, Bangladesh 2007, Tanzania 2010
20-24.9 percent	Congo Democratic Republic 2007, Sierra Leone 2008, Kenya 2008-09, Mali 2006, Egypt 2008, Liberia 2007, Uganda 2006, Nepal 2006, Cambodia 2010, Namibia 2006-07, Albania 2008-09,

Urban under five mortality rates (per 1,000 live births)

	Nations and year of survey
Over 150	Chad 2004, Sierra Leone 2008, Burundi 1987, Mali 2006
100 to 150	Mozambique 2003, Niger 2006, Liberia 2009, Burkina Faso 2003, Guinea 2005, Zambia 2007, Central African Republic 1994-95, Cote D'Ivoire 1998/99, Congo Democratic Republic 2007, Nigeria 2008, Cameroon 2004, Sudan 1989-90, Benin 2006, Uganda 2006, Malawi 2010, Mauritania 2000/01, Congo/Brazzaville 2005, Swaziland 2006/7, Togo 1998

Average life expectancies at birth

LIFE EXPECTANCIES	CITIES
Cities with life expectancy at birth below 50 years	Lilongwe, Conakry, Banjul, N'Djaména Kigali
Cities with life expectancy at birth between 50 and 55 years	Brazzaville, Libreville, Bujumbura Nouakchott, Monrovia, Maseru, Kinshasa
Cities with life expectancy at birth between 55 and 60 years	Nairobi, Abidjan, Porto-Novo, Lomé Bamako, Dakar

Urbanization & health: Female Life Expectancy at Birth

