

Bangalore 14-16 December 2006: Drivers of Global Change

Development, energy, air pollution and climate policies: how to realize local benefits by action at the (sub)national and international level?

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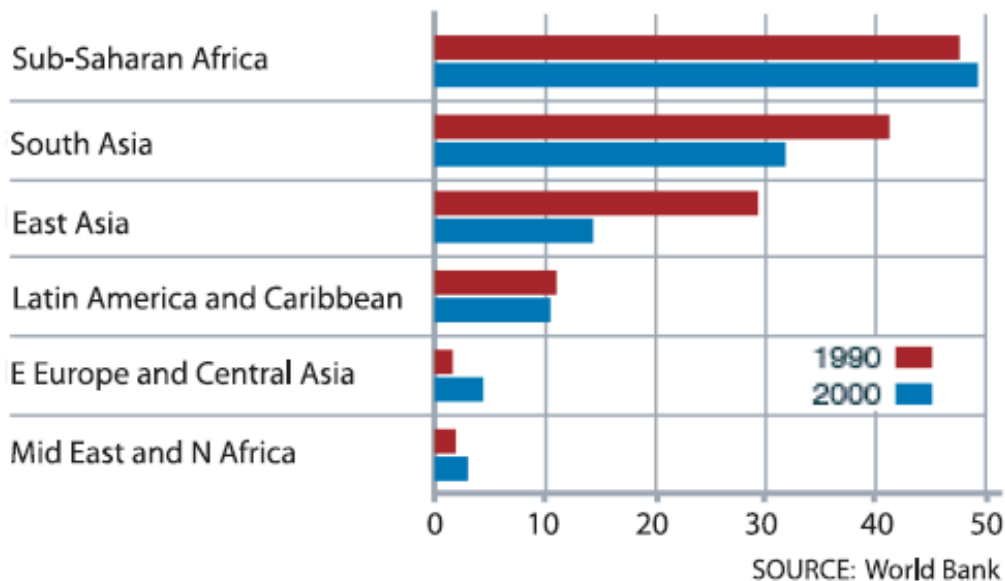
Appreciate/acknowledge support development first project team especially Marcel Kok, Bert Metz and Youba Sokona



Introduction

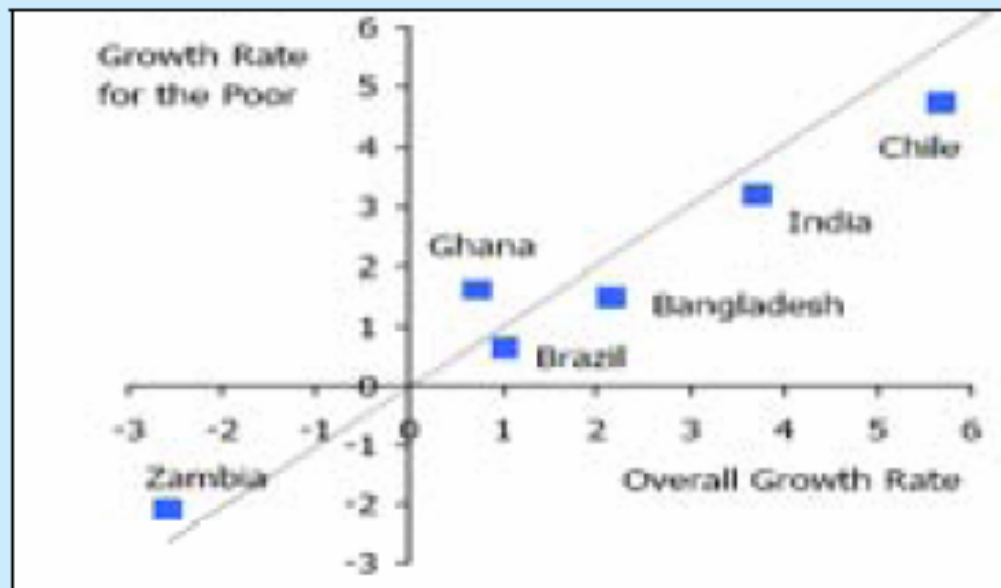
- Successes
- Global problems → local effects
- General directions to successful interventions and future action
- Barriers to overcome

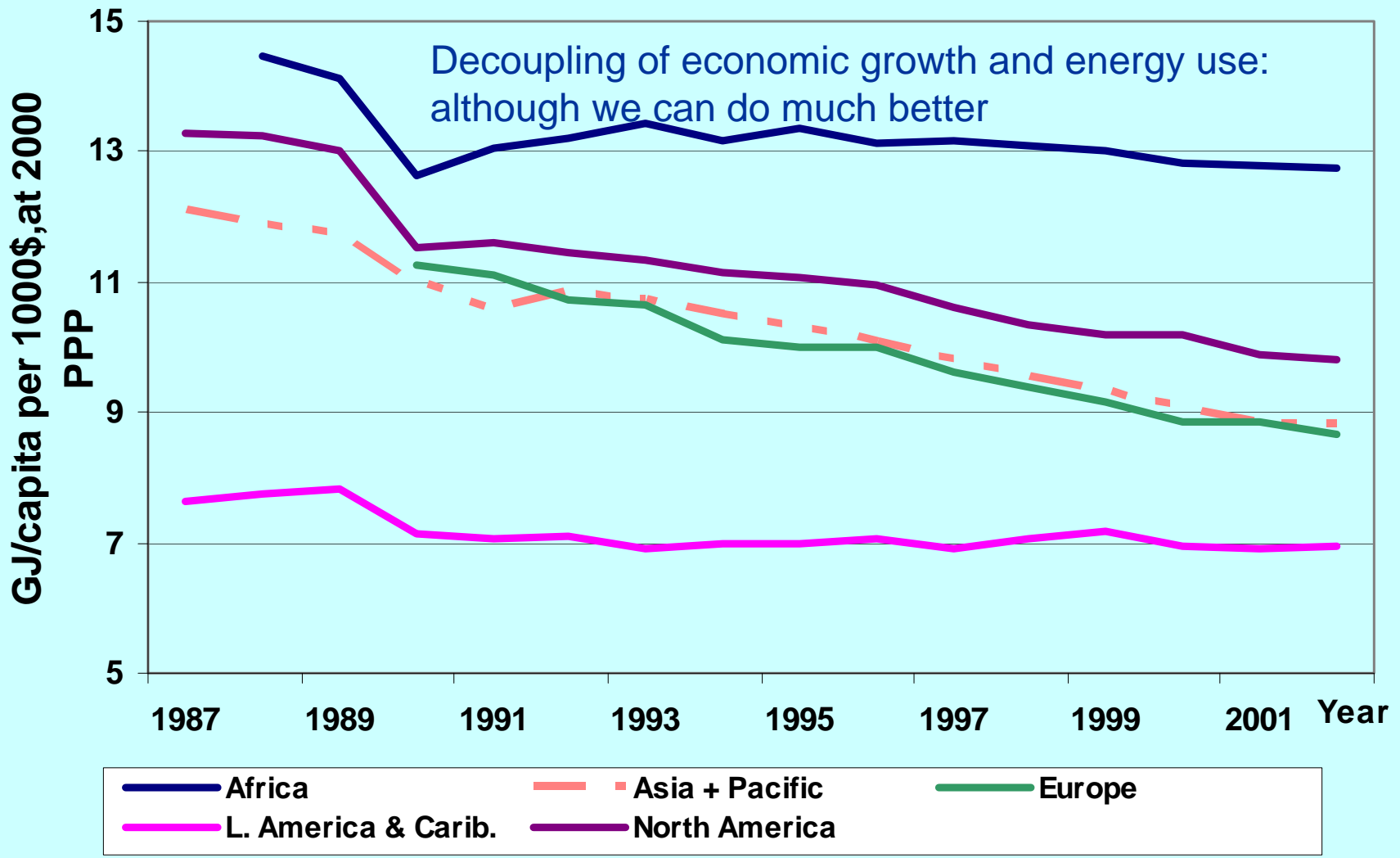
Proportion of people on less than \$1/day (%)



East (South) Asia have an unprecedented success in reducing extreme poverty, SSA less successful

Economic growth succeeds in reducing poverty





Source: Geo dataportal/ GEO4

1. Development, energy and climate synergies have already been demonstrated

- India:

Biomass programmes were developed since 1970-ies as a response to rural energy crisis (micro perspective) and rising oil imports (macro perspective)

- Brazil:

Sugar cane-ethanol programme to improve energy self-sufficiency >>> much lower CO2 emissions from transport, while strongly reducing oil imports and increasing rural employment

- South-Africa:

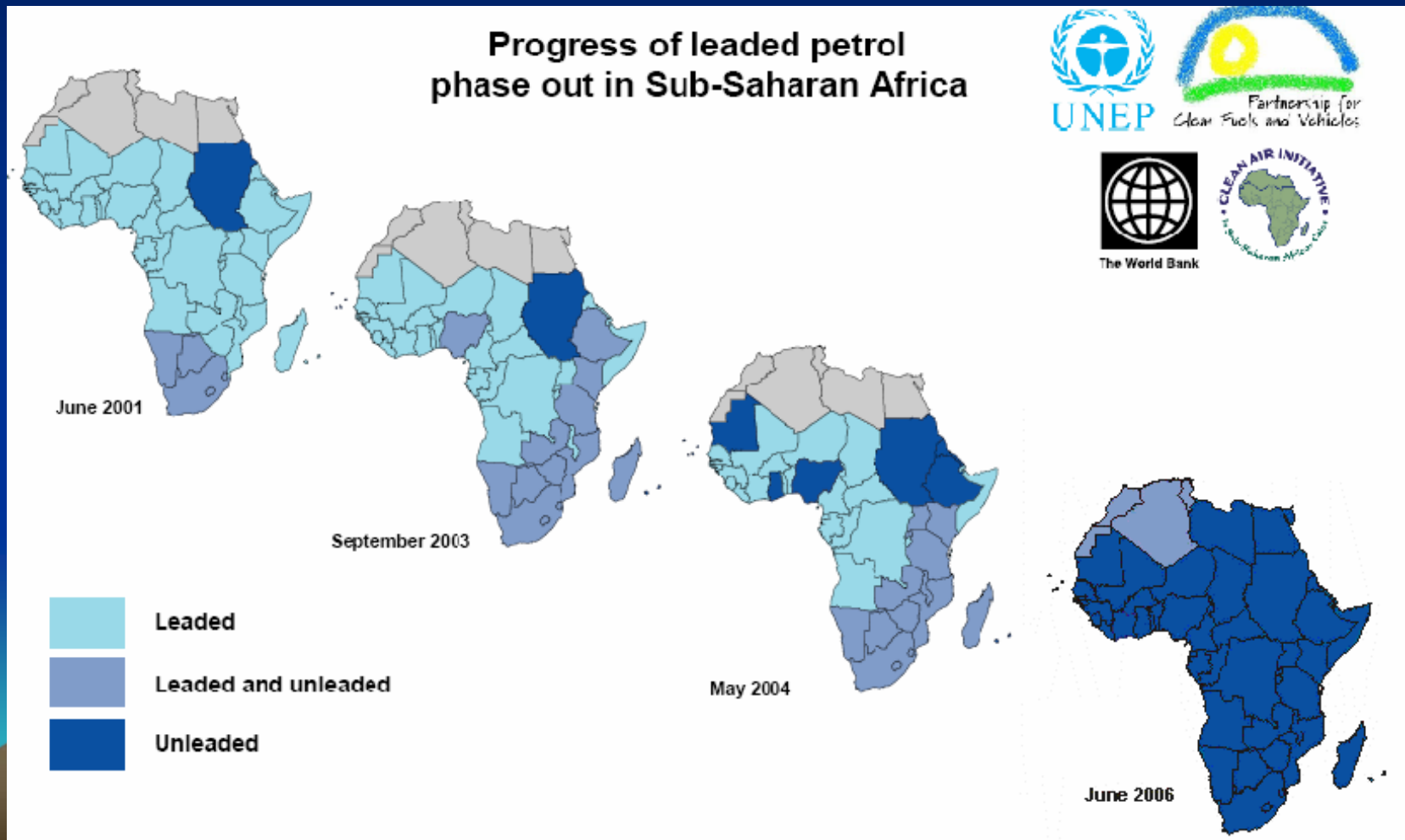
Working for water programme: creating employment, eradicating water guzzling exotic tree species and reducing vulnerability to drought

- China:

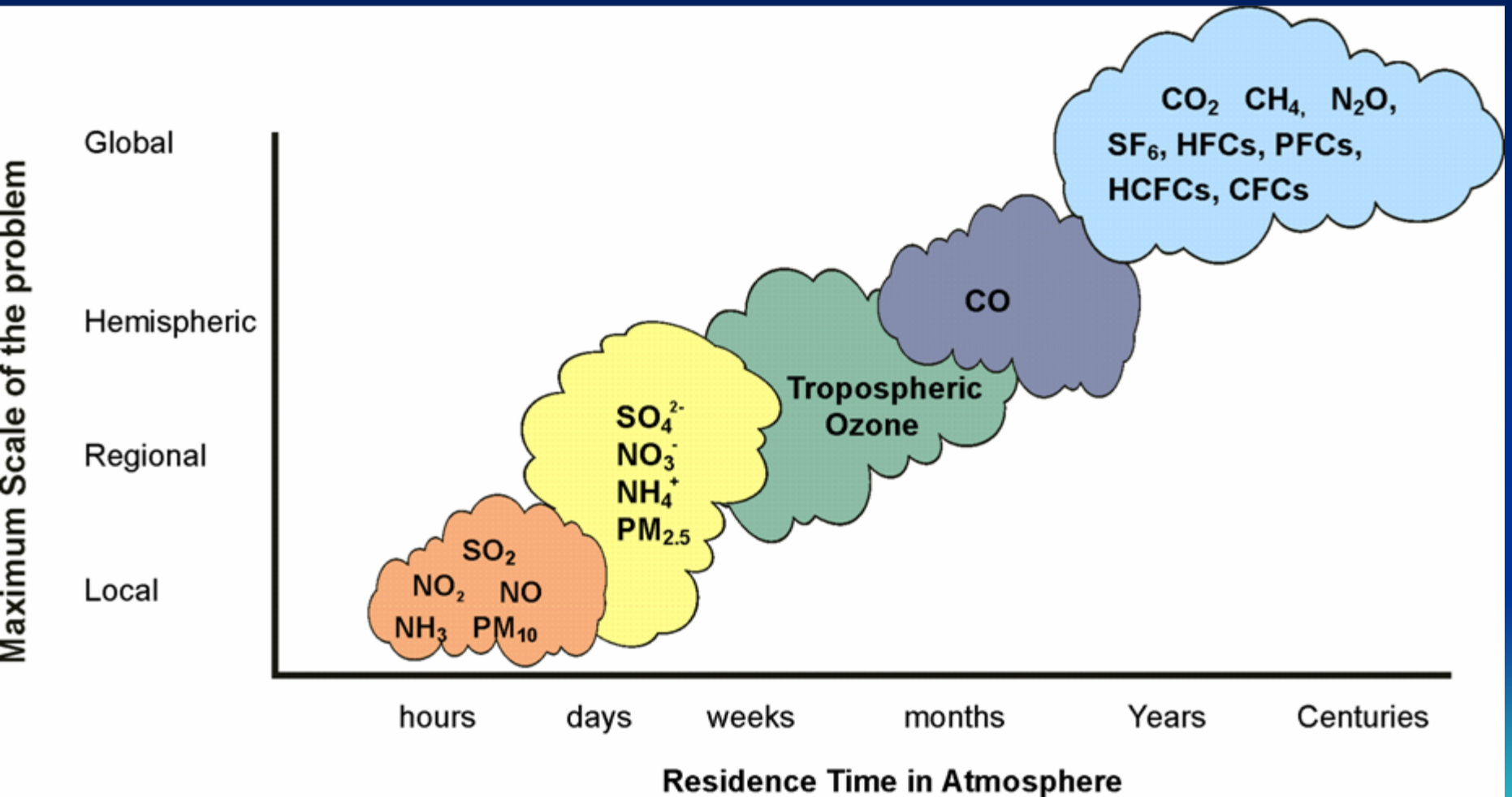
Energy price reform, energy sector restructuring, clean coal promotion, shift to gas, energy efficiency >>> 15% decline in CO2 emissions 1996-2000, while economy grew with 35% and urban air quality improved

Need for scaling-up national successes to create bigger impact

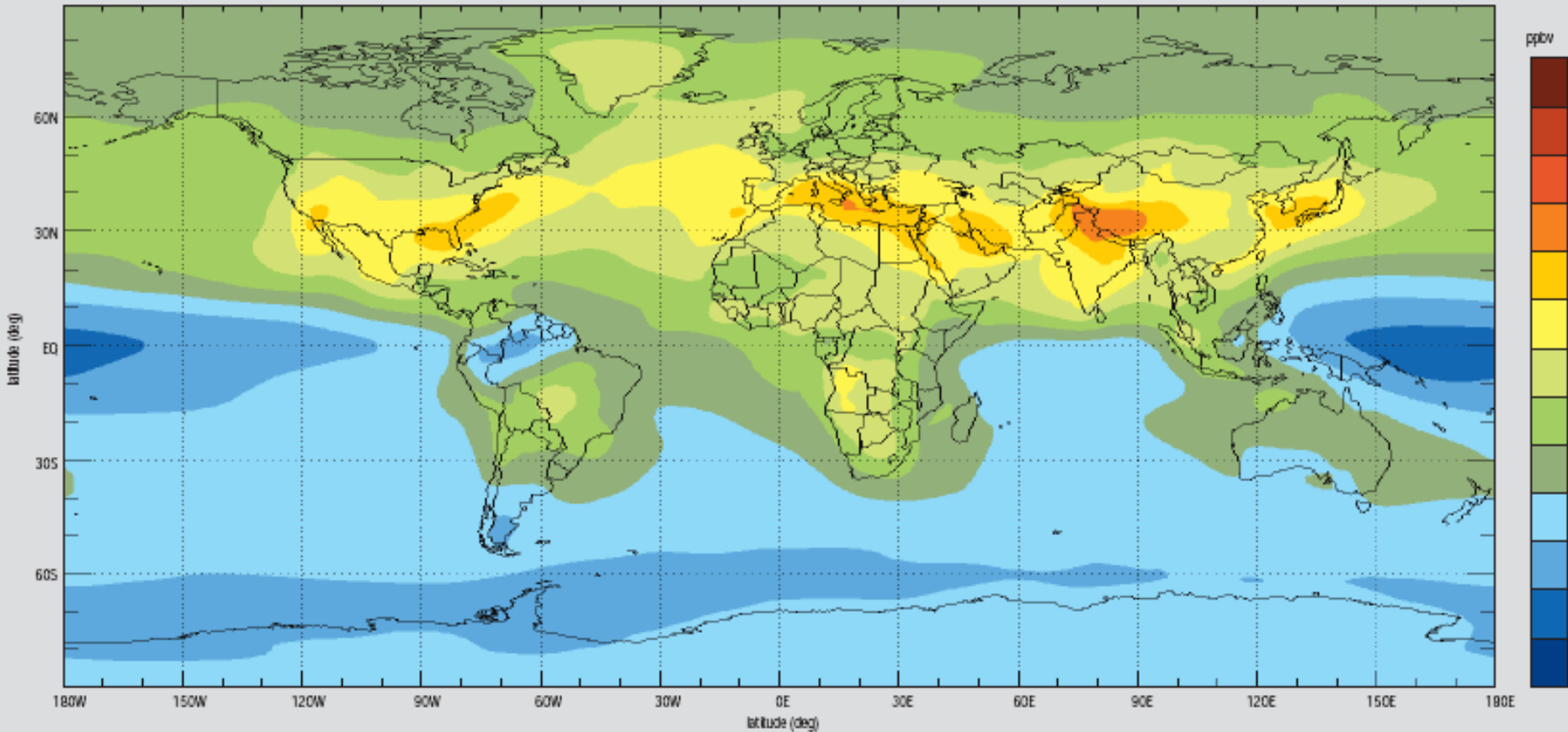
Action against air pollution from the transport sector: The success of the 2001 Dakar conference was mainly due to the comprehensive partnership of public and private actors: African authorities, NGOs, research institutions, the oil industry through IPIECA, donors, AFRICACLEAN, the World Health Organisation, US EPA, UNEP, and The World Bank



Global atmospheric problems and common local air pollution problems



Tropospheric ozone for 2000: ensemble results of 25 models, Stevenson et. Al., 2005



Source: Stevenson and others 2005

- Affects health (e.g. premature deaths, RAD, bronchitis)
- Affects yield of crops: 5-10% reduced yield
- Reduce precursors ozone (Methane, NO_x, CO, VOC) → reduces global warming, increases health and food security → requires international co-operation, an UN-ECE expert group co-chaired by the EU and the US, with China and India participation has started.

General directions to successful interventions

- Awareness and political commitment/leadership and implication of **all relevant ministries**
- Start from political and economic context
- Acknowledge importance sub-national level
- Show realism in dealing with synergies and trade-offs
- Give clear long term perspective what is expected from the private sector and make it legally binding.
- Stimulate new clean energy technologies e.g. by tax exemptions or feed-in tariffs, ensure long-term stability and co-operate with other countries regions to reach economics of scale for private investments

Guidelines for future action

- Start from development priorities, not from climate, energy or air pollution perspective (“*Development First*”)
- Objectives of development and poverty eradication *must* be met, but with integrated national development and sustainable strategies that aim for:
 - *climate safe* development, i.e. development that leads to low vulnerability to climate change
 - *climate friendly* development, i.e. development that leads to low GHG emissions
 - *Clean air*: reduce (particle) emissions to reach safe indoor and ambient air quality
- Involve all stakeholders, define concrete and time constraints goals, seek political leadership and commitment
- Oversee progress and adapt if necessary
- Celebrate successes

Rural development and land use

- Agricultural policies including air pollution, climate variability/ climate change help ensuring food security (MDG 1)
- Bio-fuels as a new opportunity that could be mutually reinforcing with food production
(similar conditions needed, but trade-offs need to be acknowledged)
- Scaling-up through:
 - Providing guidelines, practical standards and data
 - Stimulate R&D programmes
 - Capital for large scale biomass
- Competitive prices for biofuels
- Technology transfer, finance and market opportunities are key issues

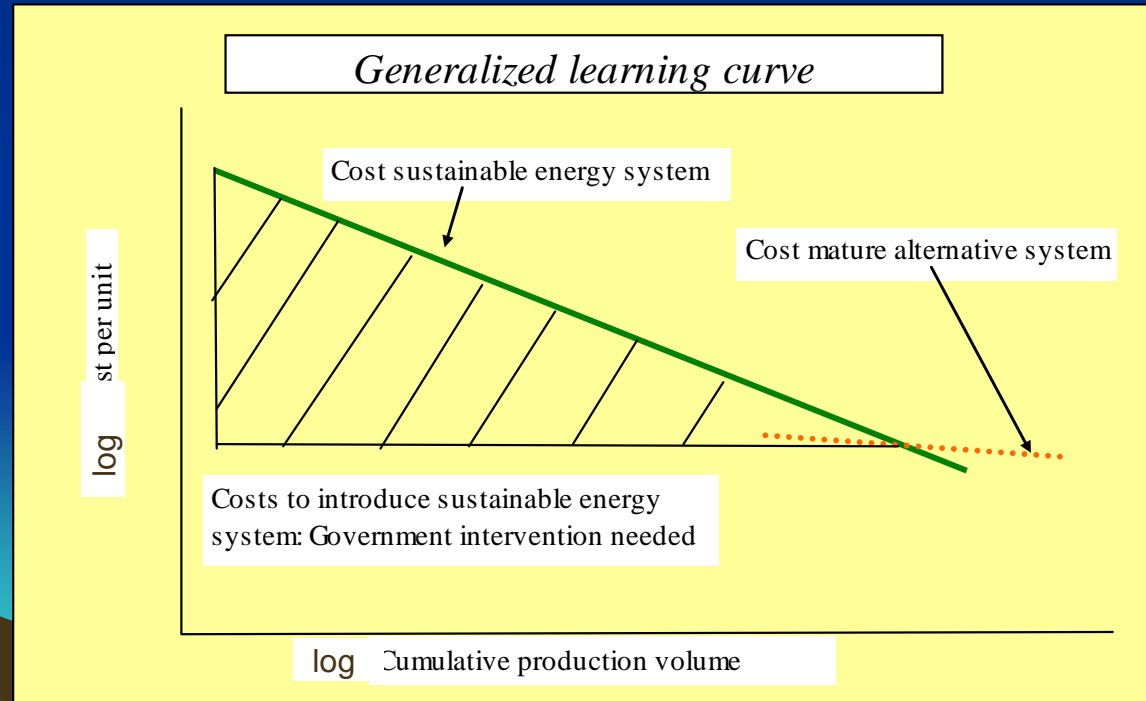
Barriers (I)

- Effects of cc impacts on the poor not widely recognised
- Benefits of integrating development policies and sustainable energy hampered by lack of co-ordination and political commitment to co-operate between ministries (Energy, Agriculture, Environment, Development, Finance)
- Lack of human capabilities
- Difficulties in dealing with uncertainties, complex situations, are we doing the right thing
- Economic prospects of rural communities to finance an energy infrastructure,
- low population densities prevents (costs) connection to the national grid

Barriers (II)

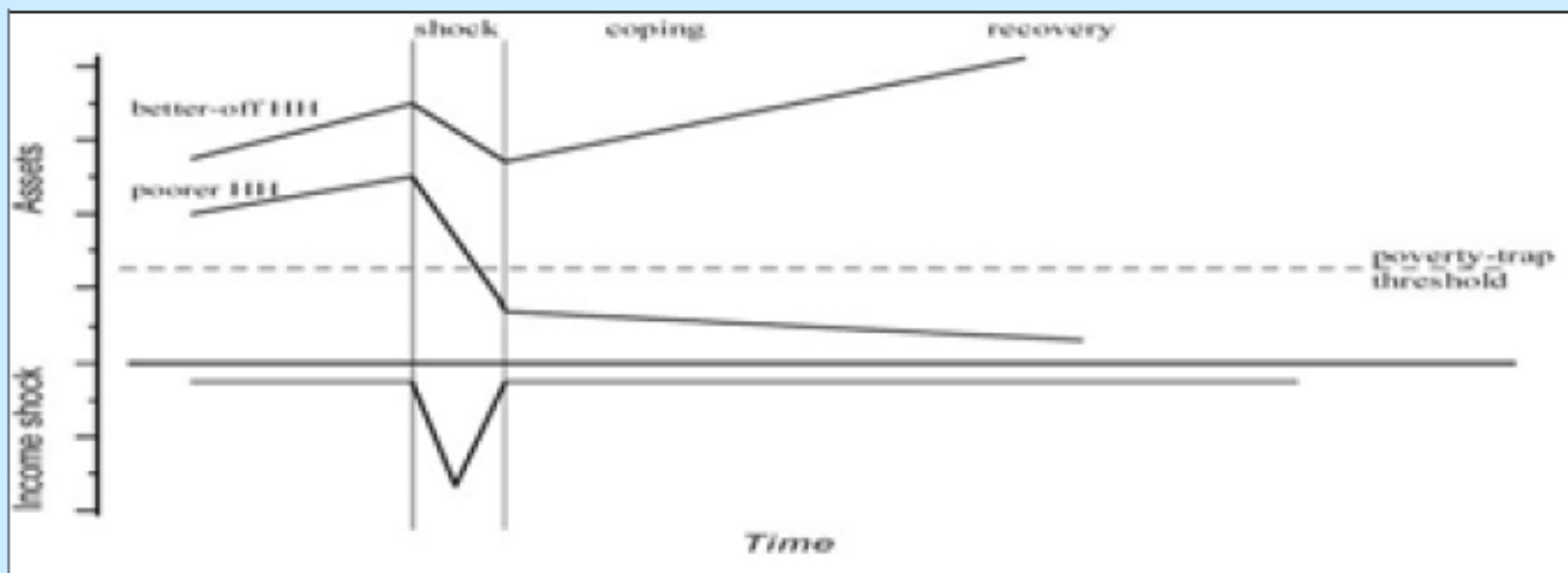
- Targeted R&D by the private sector to develop small, low costs off grid energy systems lacking due to economic perspective
- Cost reduction can be reached by increasing the volume of produced off grid energy systems but how to finance early non-competitive investments

success of wind energy from 25-50 Kw systems late 1970s to 5000 Kw systems now-a-days by systematically subsidize wind-energy wind turbines in Europe has paid off
→ Countries like India start to profit from these investments



Increased frequency of extreme weather events and the impact on the poor communities

This diagram illustrates: a) the period of shock itself (e.g. hurricanes or drought), b) the coping period in which households deal with the immediate losses created by the shock, and c) the recovery period where a household will try to rebuild the assets they have lost as a result of the climate shock or through the coping strategy they adopted.



Source: Carter et al (2005)

Copied from Stern 2006 report

Adaptation to climate change: global action

- Strengthen adaptation component in UNFCCC post 2012 regime
 - Preventing/moderate effects of climate change/natural disasters by:
 - Land-use planning tools → sensitive areas
 - Information systems → Know what to do if an extreme event occurs
 - R&D to develop cost-effective protective system
 - Create innovative insurance systems for vulnerable societies
 - Creating financial instruments to bare the costs and distribute the burden to polluters
 - Stimulate action and financial means to preserve species/ecosystems
- Beyond UNFCCC:
 - Link with UNISDR Hyogo Framework
 - Make full use of development assistance and poverty reduction programmes
 - Human Rights Convention to deal with climate refugees
 - **Insurance systems important**
 - Link with UN CCD and CBD to deal with ecosystems
- Integration helps to reduce administrative burden in developing countries

Finance

- Making development less vulnerable, more sustainable and creating clean energy systems
- Large additional funds are required (WB estimates 80-110 billion US \$/ year)
- Current provisions (CDM, GEF, SCCF, AF) inadequate
- Improve investment climate, put attention to innovative insurance schemes

Technology development and diffusion through climate action

- Combined technology push (RD&D) and pull (carbon market) needed
- UNFCCC to provide long term price signal (beyond 2012)
- Possibility of UNFCCC sector agreements with technology standards
- Beyond UNFCCC:
 - Technology partnerships (IEA, Hydrogen etc)
 - New financial instruments to change investment patterns (Clean Energy and SD Framework)

Thank you!

www.developmentfirst.org
www.developmentfirst.org/india

<http://www.mnp.nl/bibliotheek/digitaaldepot/IDCP-Paris-report.pdf>

