



# Economics of Climate Change: What is Needed for Local Action

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# What is economics behind climate change

1. Climate change may be a human induced phenomena but its implications are purely economic
2. Climate change inflicts costs of varying degree on different stakeholders in the society
3. Costs have spatial dimension too
4. Designing and operationalisation of appropriate response (mitigation as well as adaptation)
5. Necessary local actions helps in synchronising the costs and (in)action

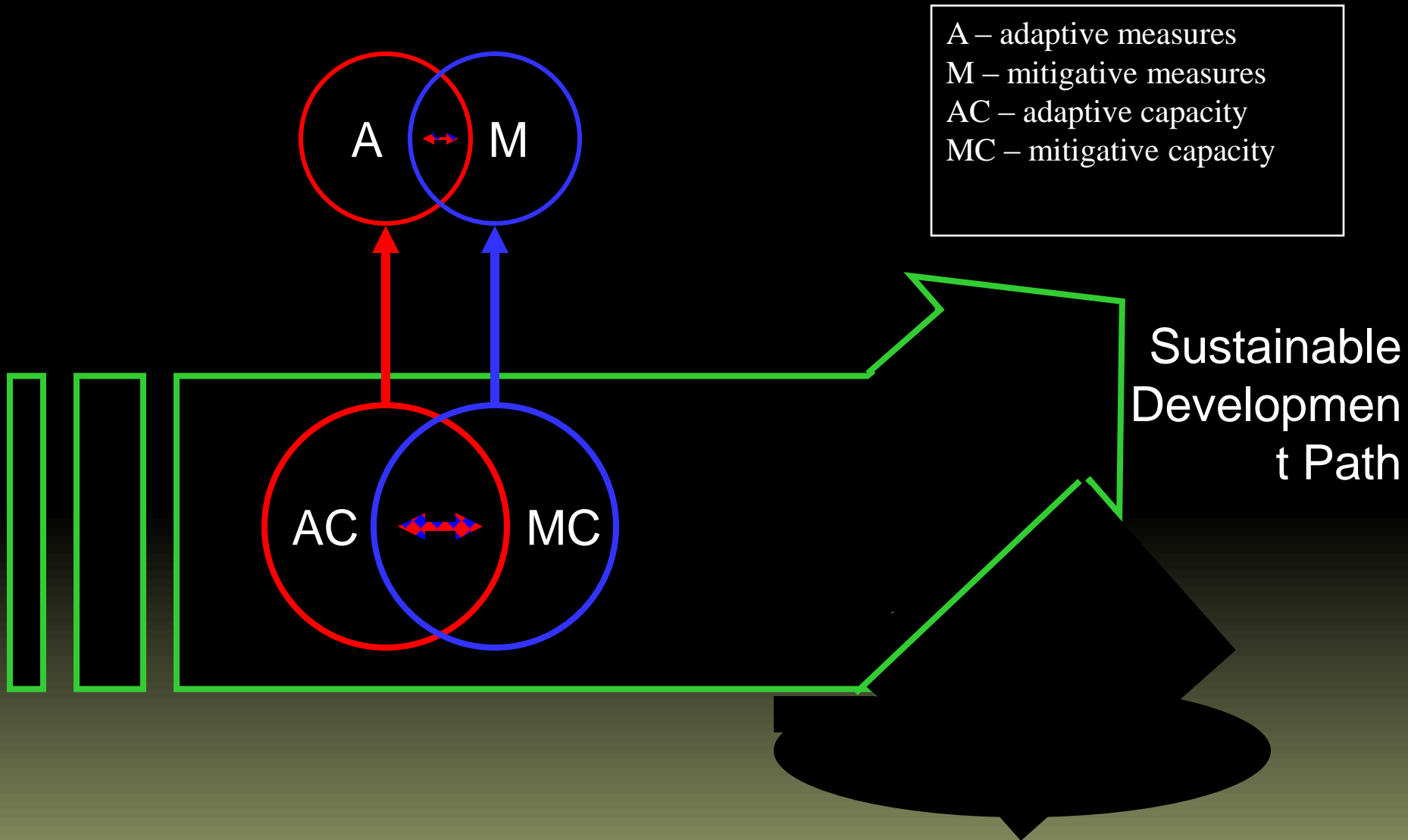
## What Stern Report 2006 Suggests

1. No action costs 5% of the global GDP, could go up to 20% of the GDP if comprehensive risks and impacts accounted
2. Actions (reducing GHGs) costs approximately 1% of the global GDP
3. Global investment and production pattern would further accelerate the problem of global warming
4. If no action taken, by 2035, the temperature to rise by 2 degree C
5. Responsibility is common but differentiated
6. The costs of taking action are not evenly distributed

## What 4AR of the IPCC 2007 Suggests

- Global GHG have grown by 70% between 1970-2004.
- By 2030 the economic costs of mitigation would go up to 3%
- Changes in the lifestyle (read consumption) can contribute significantly
- In 2050 the global economic costs for mitigation would be 5.5%
- Development paths of the major countries need to be changed
- There are some knowledge gaps esp. in Developing Countries

# Adaptation mitigation and development paths



# Global Trade Off: While poor countries need to keep the House in Order

- International trade and investment needs to be scrutinised
- Sectoral allocation of resources must be reconsidered.
- There should be synchronisation of priority and policy

BUT

- Global consumption pattern must be brought under lens of close scrutiny

## Kyoto Protocol was a good beginning BUT....

- Between 1990 and 2003, emission of CO<sub>2</sub> increased by 18.9 percent
- Carbon intensity of GDP declined in developing countries by 28.5 percent
- Carbon density declined in high income countries by 12.59 percent
- Poor countries are still struggling to cope with poverty and hunger and mitigating the impact of climate change can't become their priority!

# Consumption Patterns is the Driving Force

- 75% of energy resources are consumed by 25% of the population in industrialised countries
- They also consume more than
  - 70% of mineral resources (copper, steel, aluminum. Etc)
  - 75% of cars
  - 75% of newsprints, timber, etc.
- 70% of carbon emitted by them
- One American child requires more than 30 times as much resources as an Indian child



# Consumption Patterns the Driving Force (Contd)

- Decarbonisation requires
  - Shifts in energy policy
  - Dramatic technical progress
  - Major changes in consumption patterns of the rich....Which the poor aspire to follow tomorrow

# Consumption Patterns or Population Growth ?

- 12 billion persons at India's lifestyle emitting  $< 0.3$  t/person...

total emissions  $0.3 * 12 = 3.6$  bt

- 6 billion persons at US' lifestyle emitting  $> 5.0$  t/person...

total emissions  $5 * 6 = 30$  bt,

>>> Absorptive capacity

Of course population growth should be curbed  
but it is Cons. patterns → → → Climate change

# Highest Priority to Hunger and Poverty

**Gandhi said**

*Even God does not  
Dare to appear before  
A hungry person  
In any form  
Other than food*



# Poverty and Global Warming

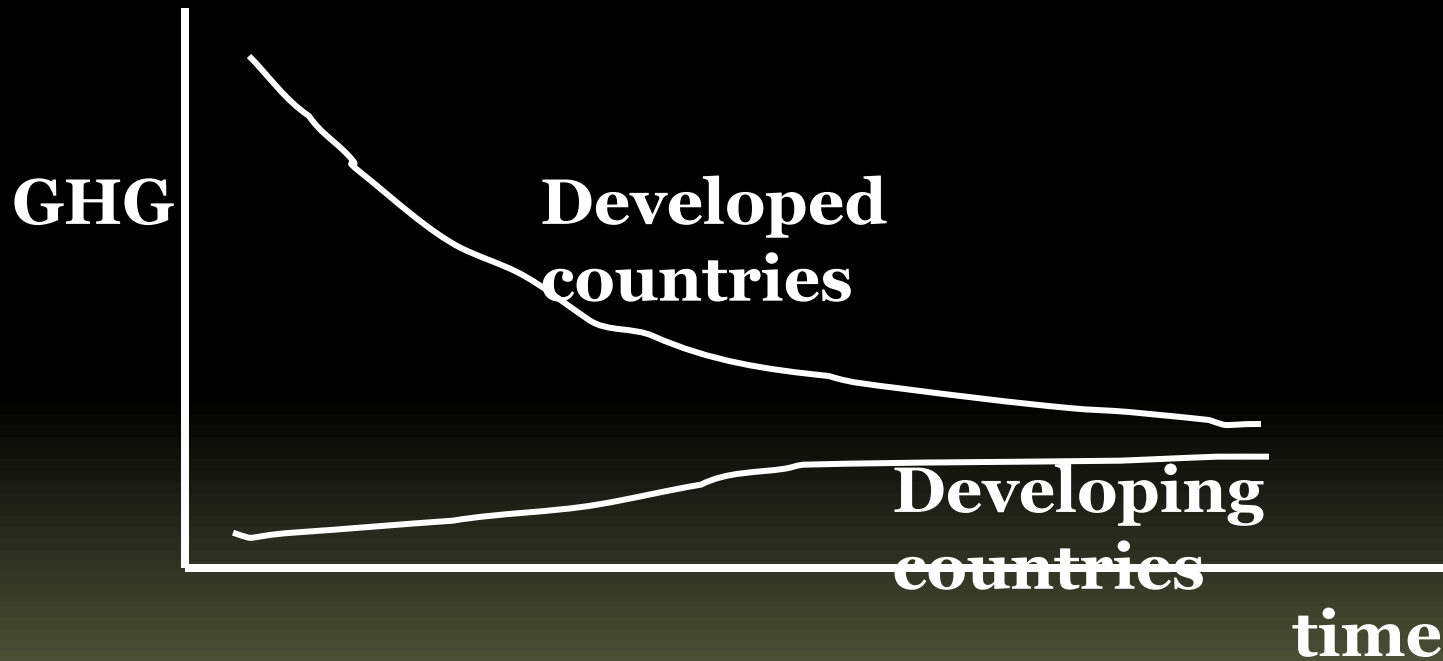
- Poor always more vulnerable
  - deaths due to earthquake of similar intensity
    - 10,000 in India
    - 100 in California
- Rich can spend more on hedging
  - Netherlands and Bangladesh against Sea Level rise
- Submergence of island states
  - 35% of Bangladesh under water
  - extreme events
    - increased homelessness and poverty
    - lost livelihoods from fisheries, agriculture
    - large scale migration: 7 million in Indian cities and towns

# Yet, the Nations (Read Rich) Delay Action

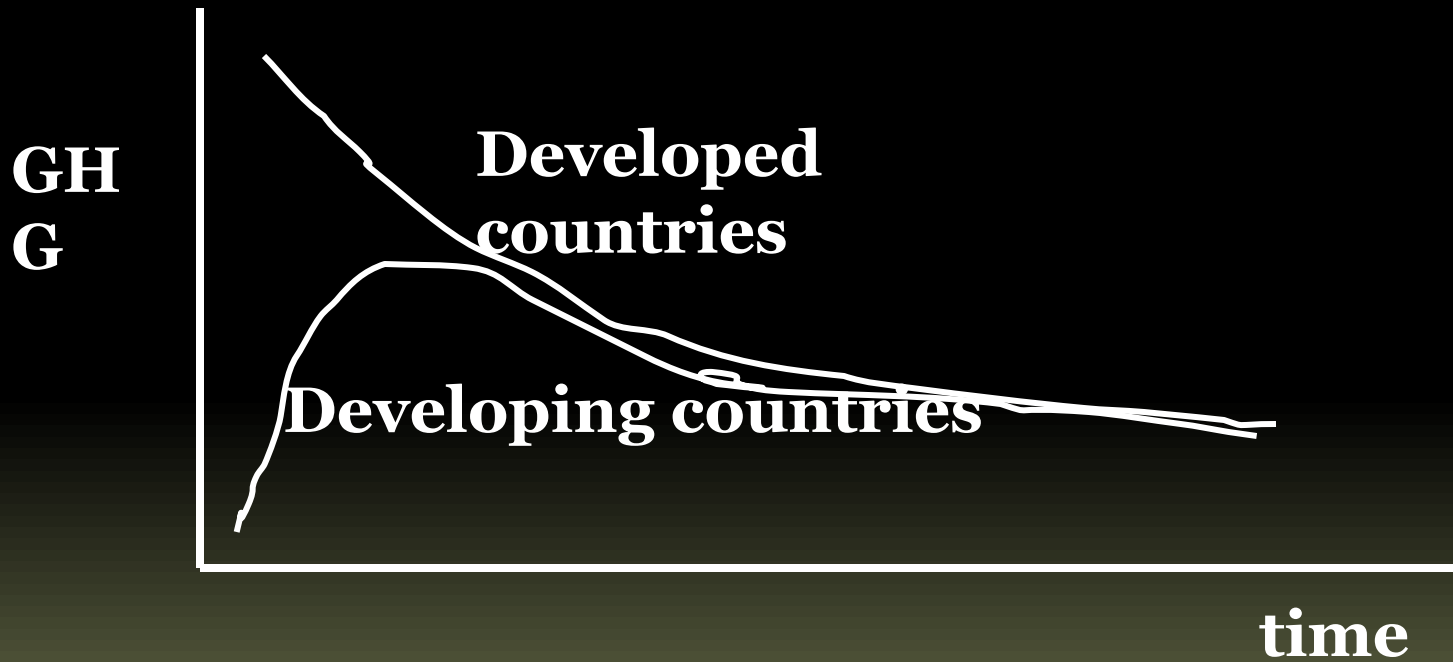
- ✓ Action delayed till India, China, Brazil commit to GHG reduction.
- ✓ Recognize that Consumption Patterns Matter
- ✓ Don't let the poor bear the burden of Climate Change
- ✓ I won't mitigate, you adapt is not fair
- ✓ Equitable Efficient Solution is possible

# Convergence and Contraction

## UNFAIR



# Convergence and Contraction EQUITABLE



# Problems with CDM

- **Base Line**

**Incentives to Inflate**

- **Technology Transfer**

**Forgotten in the new CER regime**

**Sequestration Programme**

**A Technology Acquisition Fund**

- **Transaction Costs**

- **Bundling of small projects**

- **Market Risk**

- **Passed on the developing countries**

- **Perverse policy incentives**



# CDM: A Success Story but Not enough to influence the global scenario

- CDM has 824 registered projects (India: 283, China 123)
  - Much ahead of the rest - Korea, Brazil, Chile, Mexico and Egypt (UNFCCC, Oct, 2007)
  - Global GHG: 45GT CO<sub>2</sub>; Kyoto Allowances: 11GT; Carbon Mkt so far: 1.7GT; CDM: 0.4 GT; India's project: 0.06GT
    - Sequestration potential limited
    - Storage not yet defined
  - Alternatives:
    - Annual farming income from clearing the forest of one Ha: Eur 200
    - Carbon footprint of 4 Ha forest land: Eur 650 p.a.
    - Therefore an average European family can actually GRANT for example an average Indian Tribal family more money to protect its forest
- Win-Win!!!!**
- Poor Nations: reduce poverty, enforce Property Right, protect forest
  - Europe (applicable for Liverpool): Buys Carbon neutrality

# Technology Transfer

- Major attraction of Kyoto Protocol to developing countries
- Yet now it is virtually forgotten
- Also sequestration programmes involve little hi-tech
- Under KP, a technology acquisition fund should have been created
  - Fund given to developing countries to buy technology from wherever and whomsoever



Come on, let us have concrete ACTION and COMMITMENT and not the lip service!