Poverty reduction, climate change mitigation and adaptation : the importance of intermediate public policies for technology appropriation

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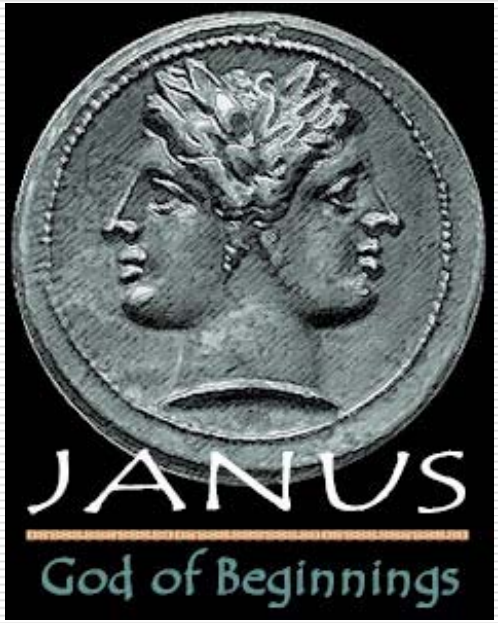
Overview

- Renewal of the S&T debate and its contribution to cutting the climate/development Gordian knot
- Key principles to harness technologies for sustainable livelihoods (bottom-up)
- Intermediate public policies building on scientific and t*raditional Ecological Knowledge* and *resilience strategies* : insights and possible linkages with the IMPACT methodology

Context and issues

- Global Environmental Change increases social vulnerability (Interagency report, 2003, VARG, 2005…)
- Changing lens : looking for alternative socio-economic development paths (Robinson, 2005, 2006 ; IPCC, 2007)
  - Growing interest for SD-PAMs (Winkler *et al*., 2002)
  - Any international architecture will need solutions that work
- Role of technologies for system innovation :
  - Which technologies : low/hard tech or “right” tech ?
  - Role of local knowledge practices and systems (Parajuli, 2001) ?
  - Governance of existing and emerging technologies along SD and poverty reduction principles ?
  - Enabling environments for Tech Transfer and Development ?
  - Existing capacities ?
  - Clarification of the specific targets for leapfrogging and policy intervention

Renewal of the S&T debate :
Contribution to cutting the Gordian knot of environment/development



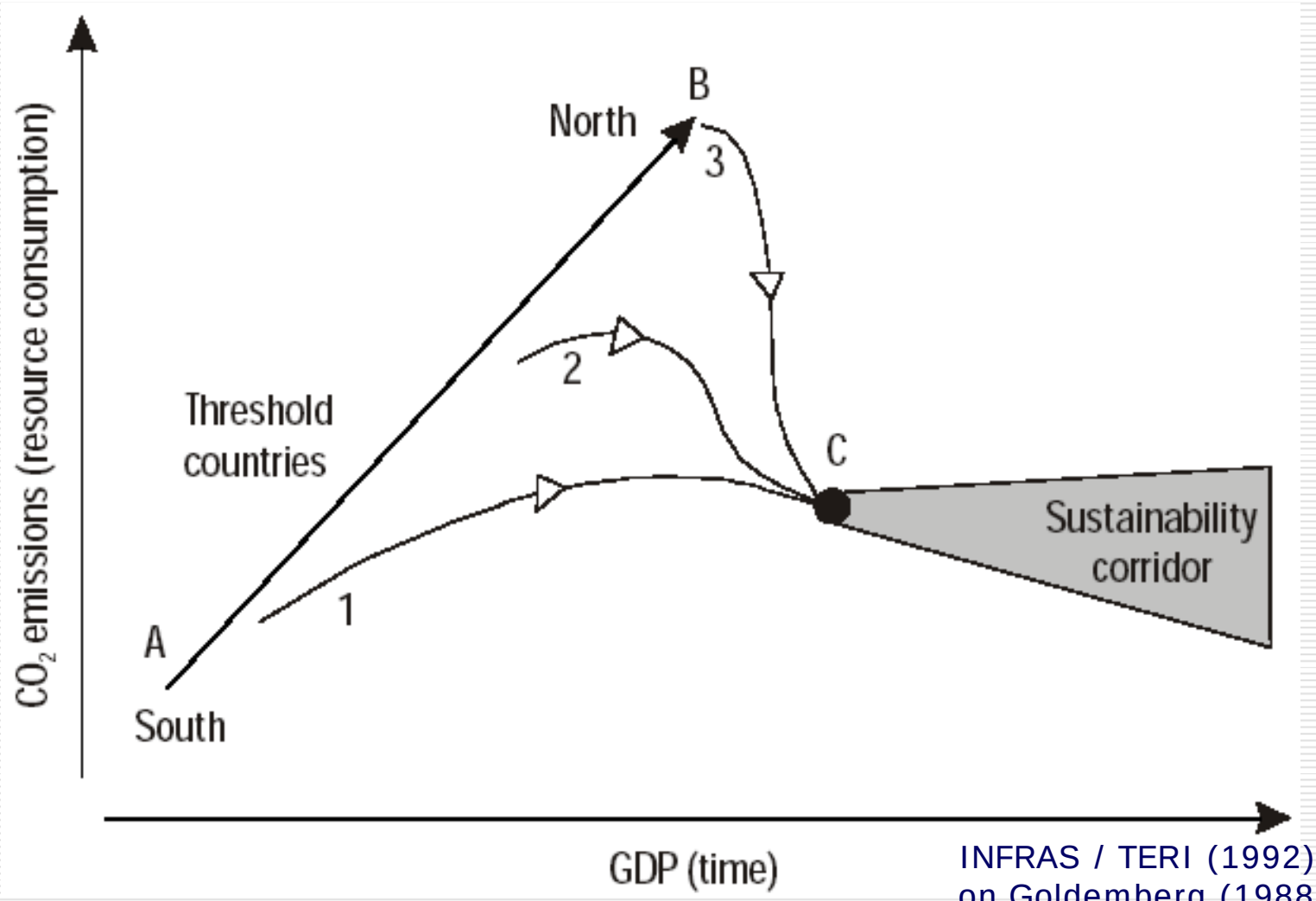
Focus on developing synergies

- Linkages between environment and development are increasingly being assessed
  - DevelopmentFirst focused on energy (missing MDG), food systems
  - Momentum for mainstreaming adaptation/mitigation into development policies
  - Innovation is needed not only in the energy sector or agriculture
- Technological transitions needed will go along social and institutional transformation
- Focus on human capital and institutions
  - Institutional capacity (Fukuda-Parr *et al*, 2002)
  - Adaptative and mitigative capacity (Yohe, 2001)
  - Mitigative capacities (Blanchard et al., 2006)

S&T dimensions in the international policy debate

- Science and technology for SD gained attention (WSSD, 2002 ; ICSU, 2002) but should be orientated to change significally UNsustainable modes of production AND consumption (Agenda 21)
- Re-emergence of debate about S and T in development – at a much high profile :
  - Commission for Africa, Millennium project, NEPAD etc..
  - Within UK : parliamentary enquiry on the role of S and T in international development ; DFID White Paper under consultation
  - USAID (2006) : "The Fundamental Role of Science and Technology in International Development: An Imperative for the U.S. Agency for International Development"
- BUT the purely technical treatment of science and technology misses the political and cultural aspects of its development (Leach & Scoones, 2006 ; Leach *et al.*, 2005)

Proposal for the least common denominator : leapfrogging imperative ?

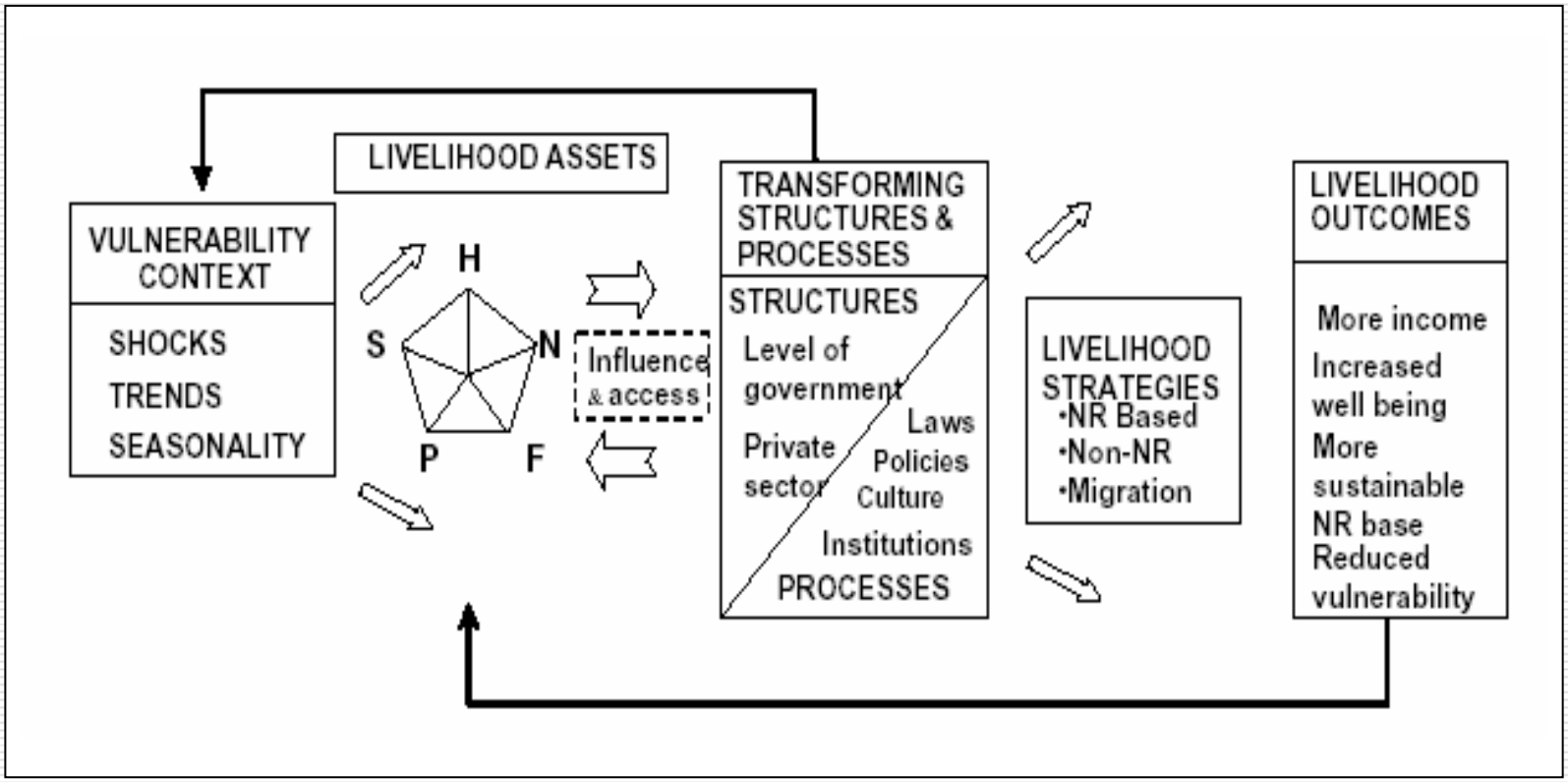


INFRAS / TERI (1992), based on Goldemberg (1988)

Mainstreaming leapfrogging objectives

- One challenge is to make recognise the importance of technology development in the international agendas and the need for empowerment of relevant stakeholders (Juma, 2001)
- Perkins (2003, 2005) reviewed critically the existing approaches to leapfrogging and called for a better understanding of the technological and policy requirements :
  - defining more specific targets of leapfrogging,
  - targeting priority sectors of investment,
  - supporting for the development of leapfrogging capabilities and technologies,
  - promoting cooperation between key actors

Principles to harness technologies for sustainable livelihoods



Sustainable Livelihoods Chambers & Conway (1992)

Maximising cultural acceptance and poverty-reducing effects of S&T

- Technologies could be defined as “configurations” that work (Kemp and Rip, 1998) : know-how, but also know-why and know-what-for

- Sustainable technologies and “technology democracy” should benefit to the vulnerable groups

- For all types of tech : need for capabilities to identify technology’s potential benefits and adapt new tech to the country’s needs AND constraints : **Need of intermediary organisations**

Harnessing technologies for sustainable livelihoods : a system approach

- Underlying principles and challenges
  - Participatory assessment for technology priorities
  - The role of innovation system and links between micro-meso-macro level
  - Funding technology and the role of public-private sectors and partnership between them
  - Monitoring and evaluation…
- Offer the poor real technology choice over affordable, appropriate and accessible options (ITDG, 2003) : “A people-centred approach”

adapted from Pauli, 1999, *Towards a Technology Strategy for Sustainable Livelihoods* (TSSL)

Enabling technology receptivity (in progess)

- The traditional definition of Intermediate/appropriate technologies :
  - low in capital costs, uses local materials as much as possible, uses decentralized, low GhG energy sources
  - creates jobs, small scale, can be understood, maintained and repaired locally, does not involve patents, royalties etc.

- Local knowledge and interdisciplinary research (anthropology/ethnology) are more and more requested for resource management

- Research on community-based strategies
  - Examples : Kuyasa (SSN project) ; Leh (GERES)…
  - Challenge : replicability, issues of power
  - **Case studies will provide insights on the conditions of robustness of social-ecological systems from an institutional perspective (Anderies *et al.*, 2004).**

Insights and linkages with IMPACT methodologies

Originality of the IMPACT network (IRD, GRET, MAE)

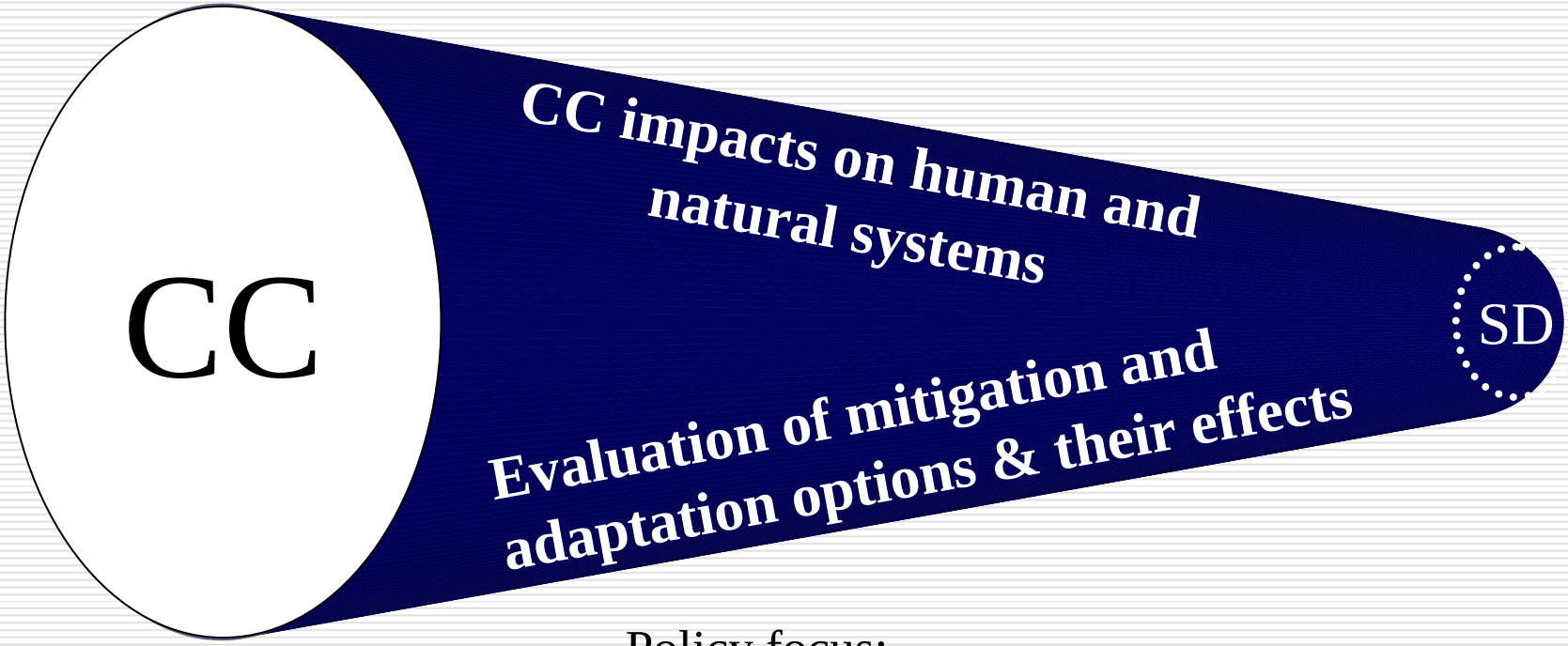
- Addresses the causes of structural inequalities and not their repercussion…
- …therefore, poverty alleviation and inequality reduction are linked
- Proposes a methodological grid for analysis and design of
- …intermediate public policies
  - Inclusive in their design and building on the new role of recognised collective stakeholder
  - Ensuring consistency between local actions and structural reforms
  - Aiming at the distribution of strategic resources (land, training, health care, credit…)

Results and prospects

- The methodology has been tested on sector-based policies
  - Health care, education
  - Land and rural development
  - Urban water management
  - Urbanism : program Twize (Mauritanie)
  - Micro-enterprises
- and highlights the role of non market institutions
- Methodologies exist for helping in constructing the compromises (link with SCOT theories)
- Challenges :
  - **Mainstream CC adaptation and mitigation objectives**
  - **Increase resilience of the systems**

Annex

Sustainable Development through a Climate Change lens



Policy focus:
international climate change negotiations
(sustainability as ancillary benefit)

Climate Change through a Sustainable Development lens

Policy focus:
Achieving sustainable (low emission) futures
(climate goals as ancillary benefit) - Robinson's approach (Ambio article)