

How are International Mechanisms Working for Adaptation to Climate Change?-finding opportunities

Shuzo Nishioka

National Institute for Environmental Studies, Japan

Institute for Global Environmental Strategies /CP

Global Environment Facility /STAP

AIACC Technical Committee /Steering Committee

IPCC WGII/ START/APN

Outline of presentation



- ⌘ **Adaptation - why now?**
- ⌘ **Enough fund? -COP agreement and decisions**
- ⌘ **How it works? - GEF mechanism**
- ⌘ **What should we consider in establishing strategy? - options, prioritization, assessment methodology, sustainability**
- ⌘ **conclusions**

Introduction: Why now?(1)

⌘ IPCC WGII Report:

- ☒ (New and stronger evidence of human attribution to recent warming)
- ☒ Recent regional climate change (temp., flood, drought) have already affected many physical and biological systems
 - ☒ glaciers, bird migration, flowering timing, ..
- ☒ Natural system is vulnerable to CC, and some will be irreversibly damaged
- ☒ Human system are sensitive/vulnerable to CC

Introduction- Why now?(2)

- ☒ **Projected changes in climate extremes could have major consequences**
- ☒ **Potential for large-scale/irreversible impacts pose risks (yet to be reliably quantified)**
 - ☒ **ice sheet melt, slowing of ocean circulation**
- ☒ **Adaptation is a necessary strategy at all scales to complement climate change mitigation efforts**
- ☒ **Those with least resources have the least capacity to adapt and are the most vulnerable**
- ☒ **Adaptation, Sustainable development, and enhancement of equity can be mutually reinforced**

Bonn Agreement on Funding (1) under UNFCCC



- ⌘ Increased GEF replenishment**
- ⌘ Special Climate Change Fund**
 - ⌘ Complementary to GEF**
 - ⌘ for: Adaptation, TT, Energy...,**
 - ⌘ Voluntary contribution from Annex I**
- ⌘ Least Developed Countries Fund**
 - ⌘ National Adaptation Programmes of Action**
- ⌘ Bilateral and multilateral channels**
- ⌘ Operated by an entity for financial mechanism (GEF?) under the guidance of COP**

Bonn Agreement on Funding (2) under Kyoto Protocol/ Adaptation Fund



- ⌘ To finance concrete adaptation projects and programmes**
- ⌘ Financed from share of proceeds on CDM (2%?) and voluntary contribution from Annex I Parties**
- ⌘ Operated and managed by an entity operating financial mechanism of Convention (GEF?)**
- ⌘ Guided by COP/MOP**

Bonn Agreement on Funding (3)

(scale of funding for adaptation?)

- ⌘ Former Pronx proposal: 1 billion / year**
 - ⊞ for adaptation: 1/2**
- ⌘ Political declaration: commitment**
 - ⊞ EU/Canada/NZ/Iceland/Norway/Swiss:
\$ 0.41 billion/year (UNFCCC/Kyoto)**
 - ⊞ Canada: C\$ 0.1 billion for LDC**
 - ⊞ (Japan: GEF II \$ 0.41 billion/ total \$2.75 /4 years)**
 - ⊞ (totally \$ 0.6 billion?)**
- ⌘ CDM share of proceeds: - \$ 0.12 billion/year**
(estimated by Matsuo)

Bonn Decision (Additional Guidance to an operating entity of the financial mechanism-GEF)- for adaptation

- ⌘ should provide financial resources to developing countries (in par. LDC, SIDS)**
- ⌘ Stage I and implementation of stage II activities**
- ⌘ establish pilot or demonstration projects**
- ⌘ recommend country team approach**
- ⌘ strengthen information networks for adaptation and other capacity building to cope with CC**

Stages-FCCC Decision 11/CP.1

- ⌘ **adaptation to the adverse effects of climate changeshould be implemented on a stage by stage basis in developing countries**
- ⌘ **Stage I: Planning to identify particularly vulnerable countries or regions and policy options for adaptation and appropriate capacity building**
- ⌘ **Stage II: Measures, incl. further CB, which may be taken to prepare for adaptation**
- ⌘ **Stage III: Measures to facilitate adequate adaptation, incl. insurance.**

Funding under the conventions (GEF)

- ⌘ **Guidance: Assembly/ Governing Council**
- ⌘ **Operation: Global Environmental Facility (GEF)**
- ⌘ **Implementation: UNEP/UNDP/World Bank
Regional Development Bank**
- ⌘ **Execution: Countries, Regional Development Bank, NGOs, academic society,...**
 - ⌘ **START/APN/IAI/ENRICH**
 - ⌘ **(APN: 2001 proposal
adaptation 1/4 out of 99 pre-proposals)**

Major Coverage of Organizations under International Collaboration

- ⌘ **UNEP: Enabling Activities (communication)**
AIACC (with START/TWAS/IPCC)
- ⌘ **UNDP: PDF for Capacity Building and Technology Transfer**
- ⌘ **World Bank: Investment**

- ⌘ **UNFCCC: Small Islands Developing States Workshop**
- ⌘ **Others: US country studies, Japan-Pacific Islands, CIDA, Germany,...**

Some of the recent works.....



- ⌘ **2000 May: GEF/ UNDP WS on V & A (Jakarta)**
- ⌘ **2001 March: GEF/STAP brainstorming on Adaptation**
- ⌘ **2001 June AIACC Amsterdam Meeting**
- ⌘ **2001 June UNDP/GEF WS on Methodology of CC impacts and adaptation near Montreal**
- ⌘ **2001 July: FCCC COP6 part II**
- ⌘ **2001 Sept. UNDP, PIK WS on resilience**
- ⌘ **2001 Oct. ? GEF/STAP WS on Adaptation**

Assessment of Impacts and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC) (1)

- ⌘ New GEF Project implemented by UNEP**
- ⌘ to strengthen S&T capacity of Developing C. to deal with V & A for most vulnerable region and sectors**
- ⌘ Primary aspect: Science capacity building (for IPCC IV)**
- ⌘ Executing Agency:**
 - ⊞ START(System for Analysis, Research and Training for Global Change Research)**
 - ⊞ TWAS(Third World Academy of Science)**

Assessment of Impacts and Adaptation to Climate Change in Multiple Regions and Sectors (AIACC) (2)

- ⌘ 4 regions (Africa, Asia, Latin America, SIDS)**
- ⌘ 1-3 year project (2001-)**
- ⌘ using a consistent methodology and scenario**
- ⌘ Total \$12.46M (GEF \$7.85M)**
 - 20-75 thousands US\$/ project/year**
- ⌘ 120 pre-proposals received, 50 sent to full proposal**
- ⌘ still inviting for filling the gap (see table)**

Element for Consideration: adaptation options (1)



⌘ Behavioral Adaptation

- ☑ Prevention of loss: coastal retreat
- ☑ Tolerating loss: crop mix
- ☑ Spreading or sharing loss: government disaster relief
- ☑ Changing use or activities: public relief work
- ☑ Changing location: re-siting hydro-plant
- ☑ Restoration: historical monument

Element for Consideration: adaptation options (2)



⌘ Proactive management measures

- ☒ Structural/ infrastructural measures
- ☒ Changes in Legal/ legislative system
Institutional/administrative/organizational
measures
- ☒ Regulatory measures/ Education
- ☒ Financial incentive, subsidies
- ☒ Research and development
- ☒ Tax/tariff/ user fee/ Market Mechanism
- ☒ Technology change

Element for Consideration: adaptation options (3)



⌘ Term of consideration

- ☒ Long range strategies: river basin planning, institutional allocation for water allocation
- ☒ Tactical strategies (mid term): flood proofing, water conservation measures)
- ☒ Contingency strategies (short term): emergency drought management, flood forecasting

Element for Consideration: prioritizing adaptation options



⌘ Applicability of GEF guidelines

- ☑ Country drivenness/UNFCCC ratified
- ☑ Sustainability
- ☑ Replicability
- ☑ Stakeholders' involvement
- ☑ Monitoring and evaluation
- ☑ Cost/effectiveness
- ☑ Incremental cost

Element for Consideration: assessing adaptation options (1)



⌘ What kind of change we will face to?

☑ Change in average climate

☑ Change in climate variability: seasonal shift, regional shift

☑ Extreme events: heavy rain and drought, storm, high-tide, heat waves

☑ Sea level rise, high tide

☑ Abrupt change: weakening of ocean circulation, melting of anti-arctic ice sheet

Element for consideration in assessing adaptation options (2)

⌘ Scientific and technological soundness- IPCC (1994) assessment methodology (7 steps)

- ⌘ Definition of the problem
- ⌘ Selection of the method of assessment
- ⌘ Testing of method and sensitivity analysis
- ⌘ Selection of climate scenarios
- ⌘ Assessment of biophysical and socio-economic impacts
- ⌘ Assessment of autonomous adjustment
- ⌘ Evaluation of adaptation strategies

Elements for Consideration: assessing adaptation options (3)



- ⌘ Application of regional/local model-
common/standardized?
- ⌘ Modeling for evaluating impacts in
individual sector
- ⌘ data availability

Element for Consideration: sustainability goal (by IIED)



- ⌘ Sustainable livelihoods/ Poverty Alleviation**
- ⌘ Democracy/ Equity/ Accountability**
- ⌘ Response Production and Consumption**
- ⌘ Environmental Security/ Diversity**

Conclusions



- ⌘ **Global warming is proceeding and becoming inevitable**
- ⌘ **Establishment of adaptation strategy in country scale, regional scale (e.g., AIACC) and global scale (GEF) urgently needed**
- ⌘ **FCCC is strengthening adaptation policy and its financial and operational background**
- ⌘ **There are expanded opportunity to access international mechanism**