Workshop on
Technology needs of developing countries and
options to address them:
Focus on science and R&D capabilities
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Jorge Rogat
UNEP Risoe Centre (URC)
What is the TNA?

- A set of country-driven activities leading to the identification, selection and implementation of environmentally sound technologies to decrease CO₂ emissions (mitigation) and to decrease vulnerability to climate change (adaptation).

Origin

- Emanates from the Poznan Strategic Programme on Technology Transfer (14th UN Climate Change Conference, Poland 2008) leading to a new round of TNAs.
The TNA project

- It is implemented by UNEP/UNEP Risoe Centre and it is funded by the GEF.

- The project provides funding (USD120 thousand to each country) and targeted technical and methodological support to 36 countries to conduct Technology Needs Assessments (TNAs).

- Two rounds of countries (15 + 21) from Africa & Mediterranean, Asia & CIS and Latin America & the Caribbean started activities in early 2010.

- Project ends in April 2013.

- Countries will, in a participatory process involving local stakeholders, identify sectors, prioritise technologies, recommend an enabling framework for the diffusion of the technologies, and develop project ideas.

- Four reports: TNAs, BA&EF, TAPs and PIs.
Sectors prioritized by countries

**Mitigation Sectors**
- Energy: 40%
- Transport: 15%
- Agriculture: 12%
- Industry: 12%
- Other: 21%
- LULUCF & Forestry: 6%
- Waste management: 9%
- Residential & Commercial buildings: 4%
- Water: 1%
- Tourism: 1%

**Adaptation Sectors**
- Water: 35%
- Agriculture: 31%
- Other: 25%
- Coastal Zone: 9%
- Observation, Measurement & Modeling: 4%
- Infrastructure: 4%
- Public Health: 4%
- LULUCF & Forestry: 4%
- Tourism: 2%
- Natural Disasters: 3%
- Energy: 1%
- Waste management: 1%
- Biodiversity: 1%
- Education: 1%
## Technologies prioritized by countries

<table>
<thead>
<tr>
<th>Most prevalent technologies for mitigation</th>
<th>Most prevalent technologies for adaptation</th>
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<tbody>
<tr>
<td>• Solar PV</td>
<td>• Sprinkler and drip irrigation</td>
</tr>
<tr>
<td>• Hydro power</td>
<td>• Rainwater harvesting</td>
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<tr>
<td>• Wind energy</td>
<td>• Rainwater collection from ground</td>
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<tr>
<td>• Combined heat and power</td>
<td>Surfaces - small reservoirs and micro-</td>
</tr>
<tr>
<td></td>
<td>catchments</td>
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<tr>
<td>• EE lighting</td>
<td>• Wetland restoration</td>
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<tr>
<td>• EE buildings</td>
<td>• Increased reservoir technology</td>
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<tr>
<td>• Mode shifts (transport)</td>
<td>• Sustainable livestock management</td>
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<tr>
<td>• Urban Mass Transit</td>
<td>• Agro-forestry</td>
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<tr>
<td>• Biogas</td>
<td>• Biotechnology for climate change</td>
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<tr>
<td>• Tillage practices</td>
<td>Adaptation of crops</td>
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<td></td>
<td>• Crop diversification and new varieties</td>
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<td></td>
<td>• Seasonal to inter-annual prediction</td>
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</tbody>
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Current status of country outputs by region as per April 2013

**Asia and CIS**
- 12 TNA reports completed (except Kazakhstan and Nepal)
- 11 TAP reports completed (except Kazakhstan, Laos and Nepal)

**Africa and Mediterranean**
- 11 TNA reports completed (except Ethiopia)
- 11 TAP reports completed (except Ethiopia)

**Latin America and the Caribbean**
- 8 TNA reports completed (except Bolivia and Guatemala)
- 8 TAP reports completed (except Bolivia and Guatemala)

**In total:** 31 TNA reports completed + 30 TAP reports completed + 30 BA&EF reports + 30 PI reports
September 2012 Launching of 4 additional Guidebooks on:
Financing Adaptation, Financing Mitigation, 
Mitigation Building Sector and Mitigation Agriculture Sector
Implementation of the Results

**Ecuador**
The results of the TNA project will be used in the preparation of the National Climate Change Strategy.

**Indonesia**
Emissions reduction measures and technologies identified in the TAP will help define an enabling policy/regulatory framework for growth of a domestic solar PV panels manufacturing industry.

**Mauritius**
The prioritised mitigation technologies in the TAP, namely utility-scale wind, PV and waste heat recovery from boilers are closely linked with the Long-Term Energy Strategy 2009 – 2025 - the blueprint for the development of the energy sector in Mauritius.

**Thailand**
Assessment results will be used to establish a baseline for specifying mitigation and adaptation targets for the country.
Integration of TAPs with other processes

**Argentina**
- the Secretary of Industry will develop a Nationally Appropriate Mitigation Action (NAMA) on co-generation for heat and power in industrial plants based on the TNA report;
- the Ministry of Science, Technology and Innovation will call for proposals to further analyse the development and/or implementation of innovative fertilizers to optimize the use of nitrogen in crop lands;
- the Secretary of Energy is developing a NAMA on the use of agricultural waste for power generation

**Costa Rica**
TAP will be used as a platform to design and structure sectoral NAMAs in Transport and Energy.

**Vietnam**
Using results from the technology prioritization, Viet Nam is promoting preparation and implementation of activities to mitigate GHG emissions in line with NAMAs.
• **TNA process very useful to most of the participating countries**
  ➢ *Link the TNA process to national sustainable development plans*

• **Level of commitment varies tremendously among participating countries**
  ➢ *Identify key local partners and stakeholders*

• **Capacity level very poor in some of the countries**
  ➢ *Devote enough time, and if necessary, be intrusive in the identification and selection of local consultants*

• **Type of requested assistance to implement TNAs also varies**
  ➢ *Be flexible and adapt to the needs*
PIF including 24 countries submitted by end of November – cleared by the GEF in April 2013.

Three main components:
- Facilitate the preparation of TNAs/TAPs
- Improvement of existing methodologies/guidebooks and development of new ones.
- Identifying/strengthening networking activities towards development and better use of TNAs and TAPs.

Beneficiary countries:
Armenia, Bolivia, Burkina Faso, Burundi, Egypt, Gambia, Grenada, Guyana, Honduras, Jordan, Madagascar, Malaysia, Mauritania, Mozambique, Panama, Philippines, Seychelles, Swaziland, Tanzania, Togo, Tunisia, Turkmenistan, Uruguay, Uzbekistan
Thank you!

jorr@dtu.dk

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