



ClimaSouth

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Euro South Mediterranean Initiative
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National Capacity Building Workshop on Climate Change for EEA Junior Staff

ورشة العمل الوطنية لبناء القدرات في موضوعات تغير المناخ
لشباب الباحثين بجهاز شئون البيئة

Overview on UNFCCC & Kyoto Protocol and Beyond

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Climate Change Research Programmes and Technology Needs

المنعقدة بالتعاون بين برنامج كليماساوث (الممول من الاتحاد الاوروبى) وجهاز شئون البيئة

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Definitions

Research

- The systematic investigation into and study of materials and sources in order to ***establish facts and reach new conclusions***

Definitions

Technology Transfer

- Technology Transfer is the process of transferring skills, knowledge, technologies, **methods of manufacturing**, samples of manufacturing and facilities among governments or universities and other institutions to ensure that scientific and technological developments are accessible to a wider range of users **who can then further develop and exploit the technology into new products**, processes, applications, materials or services.

Research and Technology in the UNFCCC and Kyoto protocol



Articles from the UNFCCC

Article 4.1

- All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall: (c) **Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases**

Articles from the UNFCCC

Article 4.3

- ***The developed country*** Parties and other developed Parties included in Annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1. ***They shall also provide such financial resources, including for the transfer of technology,*** needed by the developing country Parties to meet the agreed full incremental costs of implementing measures.....

Articles from the UNFCCC

Article 4.5

- ***The developed country Parties*** and other developed Parties included in Annex II shall take all practicable steps to promote, ***facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies***

Articles from the UNFCCC

Article 4.7

- ***The extent to which developing country Parties will effectively implement their commitments*** under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to ***financial resources and transfer of technology***.....

Articles from the Kyoto Protocol

Article 10.1 (c)

-access to, environmentally sound technologies, know-how, practices and processes pertinent to climate change, in particular to developing countries, including the formulation of policies and programmes for the effective ***transfer of environmentally sound technologies that are publicly owned or in the public domain***;

Climate Technology Centre and Network

- Functions of CTCN:
 - Stimulate technology cooperation
 - Enhance the development and transfer of technologies
 - Assist developing country Parties at their request
 - Strengthen capacity to identify technology needs
 - Facilitate the preparation and implementation of technology projects and strategies
- The Technology Executive Committee, together with the CTCN is mandated to facilitate the effective implementation of the Technology Mechanism



UNFCCC Third Synthesis Report – Technology Needs Assessment

- Parties drew on completed nationally appropriate mitigation actions (NAMAs) and national adaptation programmes of action (NAPAs)
- Some parties identified the outputs of their TNAs as inputs to the work on their national communications, NAMAs or national adaptation plans (NAPs)
- TNAs conducted by Parties led to the development of national technology action plans (TAPs)

UNFCCC Third Synthesis Report – Technology Needs Assessment

- Prioritized Technologies for Mitigation

- Solar photovoltaic
- Biomass/biogas electricity generation
- Efficient lighting
- Waste to energy
- Wind turbines
- Hydropower



- Prioritized Technologies for Adaptation

- Biotechnologies, including technologies related to crop improvement, new varieties and drought-resistant

Efforts Exerted in Egypt



Transfer of Technology

- **Local manufacturing** of energy efficient light bulbs
- The promotion of a **local manufacturing base** for wind energy equipment
- **Local Implementation** of biogas units in Assiut and Fayoum



Transfer of Technology

- **Local manufacturing** of some components of Photovoltaic cells
- The utilization of solar thermal energy applications in tourist resorts and new villages in desert areas



Transfer of Technology

- Using compressed natural gas in taxis and busses
- **Local manufacturing** of some components of solar water heaters



Research Agriculture

- Impact of climate change on the production of different cultivars of maize
- Investigating potato productivity and wheat production under changing climate
- Developing cultivars of the main crops tolerant to heat and soil salinity



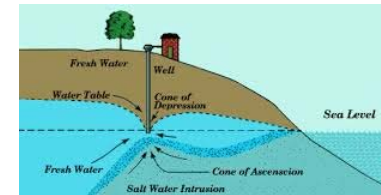
Research Agriculture

- Impact of climate change on rust disease of wheat and potato blight
- Impact of climate change on agricultural water demands
- Socioeconomic analysis of the adaptive capacity of agricultural stakeholders to climate change



Research Water Resources

- Building a regional circulation model for the River Nile
- Determining the impact of climate change on ground water resources
- Applying desalination on a large scale



Research Coastal Areas

- Incorporating the management of sea level rise risks into the development plans of Egypt
- Developing an adaptation policy framework for the low elevation coastal zone areas



Transfer of Technology Other Initiatives

- Use of RDF and biomass use in cement industry
- Industry Energy Efficiency Project (IEE)
- Sustainable Transportation Project
- Climate Change Adaptation for Nile Delta (UNDP)
- Cairo University CSP project
- Ongoing efforts to establish a national center on climate change adaptation

Egypt NEEDS for Climate Change



Egypt NEEDS

Mitigation – Energy Sector

- BAU scenario: includes wind farms with a capacity of producing 220 MW annually, a nuclear power plant with a 1000 MW capacity up to 2017, and solar energy
- Scenario II: includes energy efficiency, wind farm capacity by 500 MW annually and nuclear power capacity by 400 MW annually till 2026
- Scenario III: clean energy production beyond 2020 and includes options such as grid-connected PV and fuel cells

Egypt NEEDS

Mitigation – Energy Sector

- Prioritized Options
 - Large-scale grid-connected wind farms
 - Integrated combined cycle solar system (ICCSS)
 - Solar water heating units
 - Photovoltaic systems for different applications
 - Efficient lighting systems
 - Nuclear power plants
 - Gas-fired combined cycle power plants
 - Gas-fired steam thermal power plants
 - Replacement of aging taxi vehicles



Figure 2: Solar Power Generation Deployment



Egypt NEEDS

Adaptation – Water Resources

- Improving irrigation and draining systems
- Developing new water resources



Egypt NEEDS Adaptation – Agriculture

- Changing sowing dates and cultivars
- Improving surface irrigation system efficiencies



Egypt NEEDS

Adaptation – Coastal Resources

- Changes in land use
- Integrated coastal zones management
- Proactive planning for protecting coastal zones



Conclusion



Conclusion

- Egypt should work more aggressively on technology development
- Investing in mitigation and adaptation technologies fulfill the national development priorities of Egypt e.g. current energy crisis
- Egypt should persist in obtaining funding to prepare its Technology Needs Assessment (TNA) and in turn its Technology Action Plan

Thank You

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