



Climate Change & Resilience from an Urban Perspective



European Union



german
cooperation

DEUTSCHE ZUSAMMENARBEIT



Participatory Development
Programme in Urban Areas



Ministry of Planning



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Session's outline

Two overarching phenomena progressively inform the Arab region's development trajectory in the 21st century, namely ***rapid urbanization and climate change***.

The Arab region stands to be one of the most affected by climate change, often felt as extreme weather events. While the region's urban population continues to grow, ***climate change will have a significant impact on the future development of Arab cities***.

Despite urban areas are being particularly vulnerable to climate change cities also have enormous ***opportunities to adapt to impacts of climate change***, increase their resilience and mitigate disaster risks.



Session's outline

Key to success in fighting climate change induced hazardous impacts on the cities' infrastructure, economy and public health is a ***distinct shift in urban policies*** which help to prioritize the local authorities' and civil societies' support to urban communities most vulnerable to a variety of disaster risks.

Another success factor is a ***participatory, people-oriented approach*** where residents and civil society organizations become familiar with the concepts of climate change adaptation, urban resilience and disaster risk management, and where they can actively contribute to the implementation of their city's resilience action plans.



Climate Change from an urban perspective





Cities' vulnerability to impacts of climate change

- **Extreme weather** events damaging buildings and urban infrastructure
- **Water resources stress:** floods and droughts; sea level rise; water resource pollution
- **Human Health** threatened by heat and cold waves; waterborne and heat related diseases
- **Food Security;** urban cost of living
- **Climate change refugees** moving to informal urban settlements
- etc.





German Development Cooperation's profile in dealing with Urban Governance, CC and DRR

- Support for **institutional frameworks**; incentivization for national and local policies
- Facilitation of **policy dialogues** and negotiation processes
- **Capacity Development** strengthening municipal capacities in environmental affairs and climate change adaptation & mitigation (vulnerability & risk assessments, participatory adaptation planning, etc.)
- Set-up of **local and international partnerships** & networks tackling climate change
- Cooperation with **private sector**
- Spatial **planning**, land use & infrastructure planning



GIZ around the globe





Climate Change Adaptation in Cairo's Informal Settlements – GIZ support



Data SIO, NOAA, U.S. Navy, NGA, GEBCO

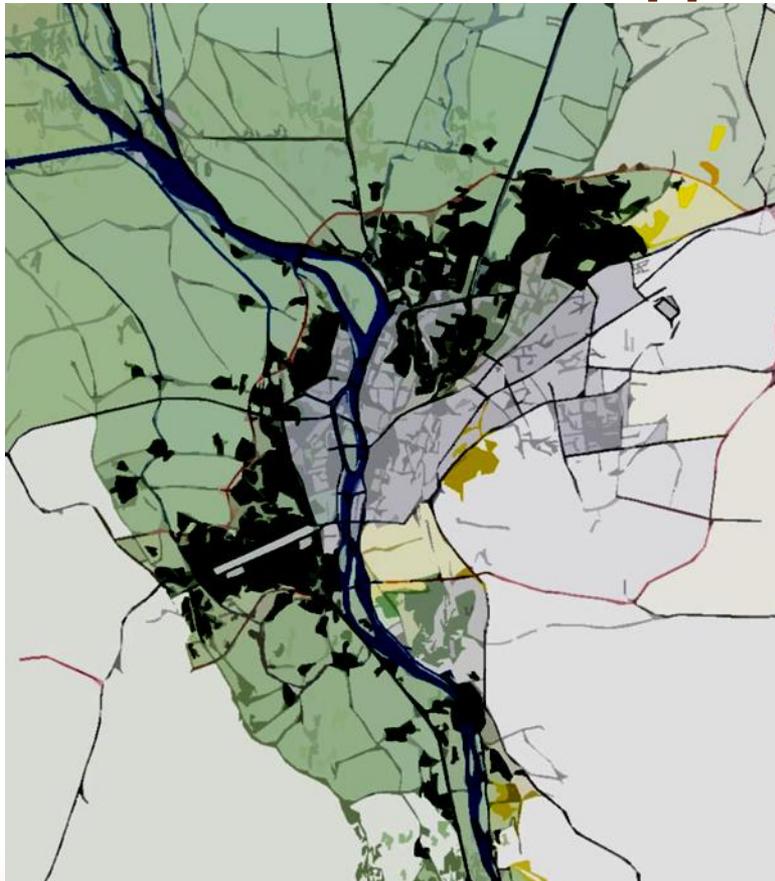
Image Landsat

Google earth

Imagery Date: 4/10/2013 29°38'10.28" N 31°52'17.10" E elev 1549 ft eye alt 425.51 mi



Climate Change Adaptation in Cairo's Informal Settlements – GIZ support





Climate Change Adaptation in Cairo's Informal Settlements – GIZ support

Participatory Development Programme in Urban Areas (PDP)

- **Objective:** Improving the living conditions of the poor urban population living in deprived informal areas; 9 targeted areas with approx. 2.6 million residents

- **Donors:**  Federal Ministry
for Economic Cooperation
and Development



BILL & MELINDA
GATES foundation



- **Tools and Activities:**



**Participatory Needs
Assessment (PNA)**



**Information Sharing
Systems and GIS**



**Awareness Raising
and Community
Mobilization**



**Establishment of Local
Area Dialogue
Committees (LADCs)**

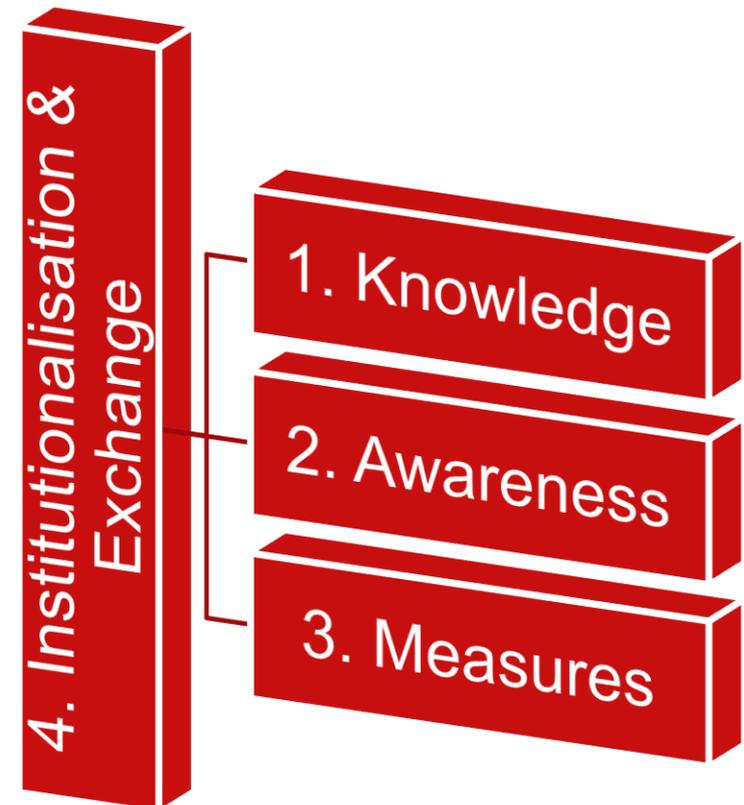


**Climate Change
Adaptation in Urban Areas**



PDP's conceptual approach in CCA

- Assessing the areas' exposure and residents' **vulnerabilities** and **adaptive capacities**
- Raising **awareness**
- Implementing **adaptation measures**
- Sharing knowledge & experiences with our partners (**MoP, EEAA, IDSC, UUU's, etc.**)

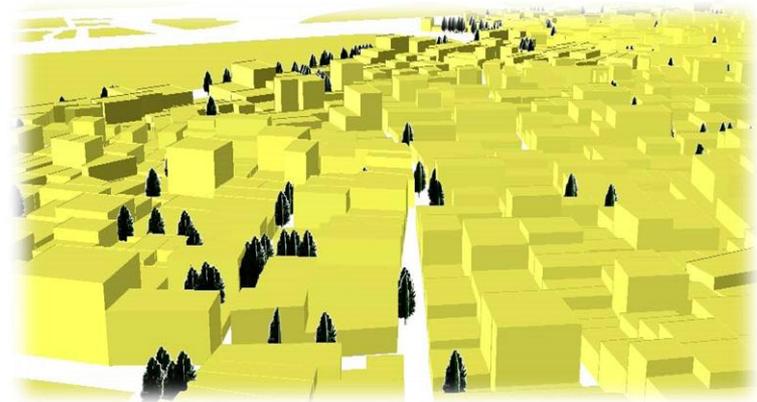




“Knowledge”: Adaptive Capacity Study

Conceptual Framework & Impact Chains

- exposure analysis; sensitivity analysis; impact assessment
- health; energy; food price; economy; infrastructure; water



Data

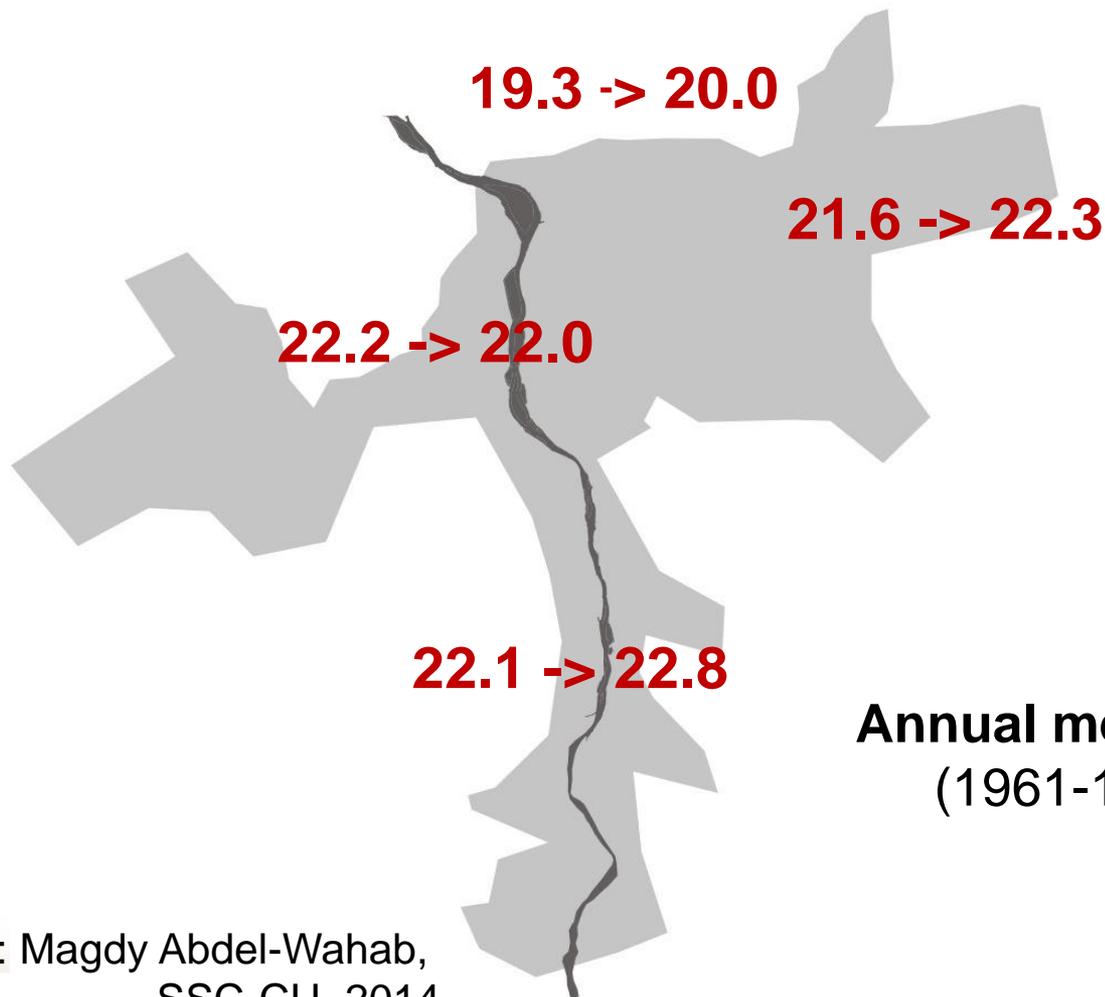
- Baseline & PNA
- climate data (heat stress)
- GIS data (topographical conditions)
- residents survey

Expected results (October 2014)

- vulnerable areas and social groups
- adaptive capacities
- project ideas



“Knowledge”: Climate change in Greater Cairo



Annual mean air temperature
(1961-1990) -> (2021-2050)

Source: Magdy Abdel-Wahab,
SSC-CU, 2014

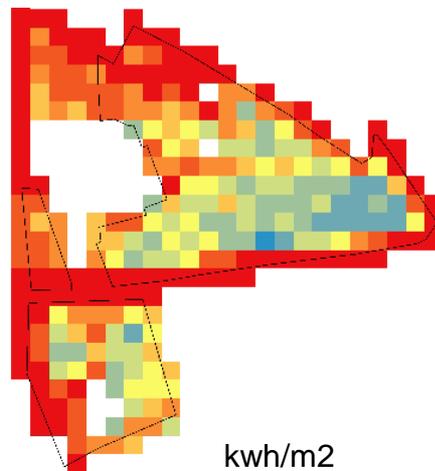


Sensitivity to climate change in informal settlements

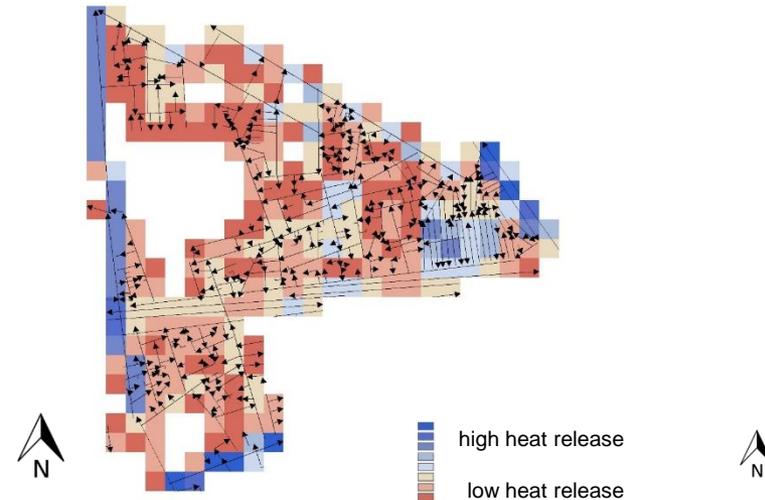
**Solar Radiation
(summer)
on streets
(20x20cm)**



**Solar Radiation
(summer)
on streets
(50x50m)**



Street Ventilation





Impacts of climate change in informal settlements

Climate change seems to mostly worsen existing health problems and sensitivities.

According to the interviews, the most severe problems affected by climate and climatic changes are:

- Arthritis, joint aches
- Allergies, skin rashes
- Asthma, colds, fevers

Climate change seems to affect mostly already vulnerable groups.

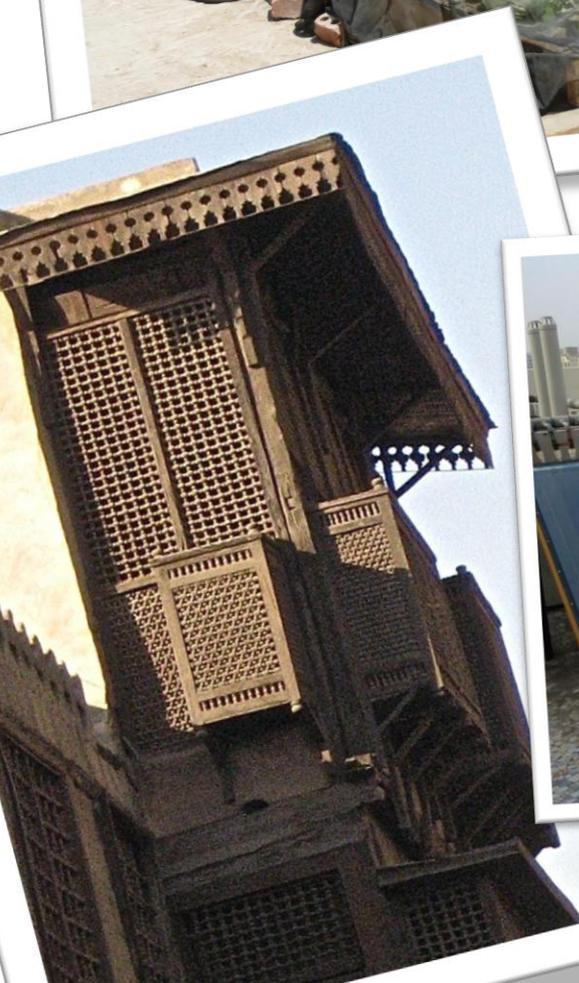
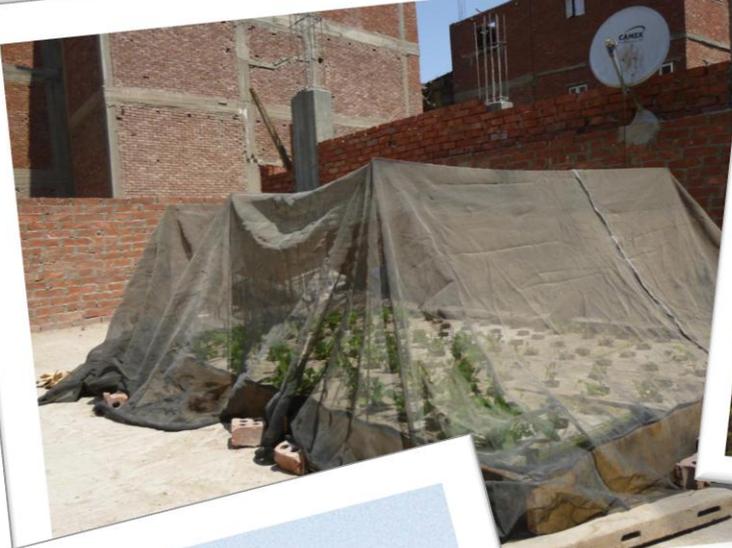
The most vulnerable groups (according to the interviews) seem to be:

- Children
- Elderly
- Sick people
- People living in top floor apartments
- People working outside



“Measures”: Roof Top Farming







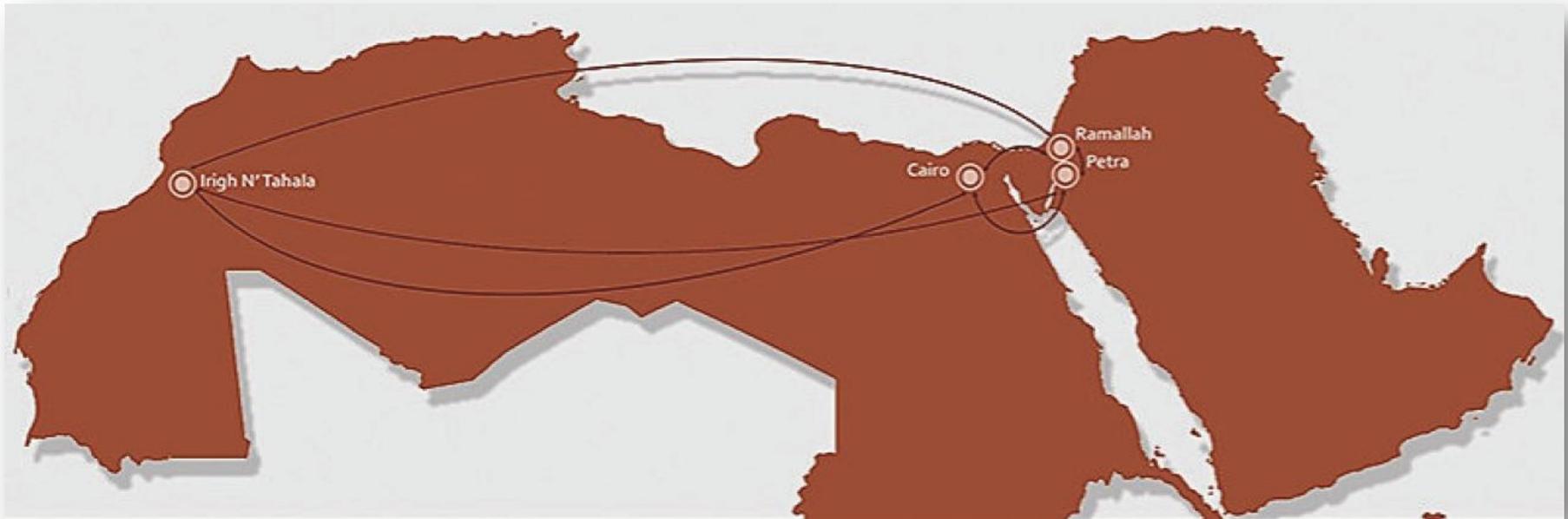
“Exchange”: AB-CCC (in Egypt)

(national) Advisory Board for Climate Change in Cities (in Egypt)

- hosted by Egyptian Environmental Agency (EEAA)
- function: technical advice to government
- broad thematic mandate; e.g. sea-level rise at Egypt’s north coast
- regular meetings of national government, academia, governorates, CSOs



“Urban Profiles”:





“Urban Profiles”:

- 1) What are your city’s experiences with climate change having an impact on the frequency and/or intensity of disasters?
- 2) Does your city have high risk areas? What are their physical and social features? Which risks threaten their residents?
- 3) Is your city able to cope with the growth of urban population? What does this mean for your disaster risk management and your means of adaptation to climate change?
- 4) Which step recently taken proved to be successful for making your city’s residents aware of impacts of climate change on their livelihoods and disaster risks challenging their lives?
- 5) Has your city been one of the signing members of the Aqaba Declaration on DRR? Which elements have you managed to resolve?



Thank you!



Participatory Development
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