Climate resilient infrastructure in a city environment

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ICE, Chair Sustainability Leadership Team
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Climate emergency – a 20 years paradigm shift

September 1999

The dilemma that confronts the world

In a devastating assessment on the future for the human race in the early part of the next century Klaus Töpfer, the executive director of the UN environment programme, said yesterday that the main threats to human survival were posed by water shortages, global warming, and a new danger – worldwide nitrogen pollution.

“A series of looming crises and ultimate catastrophe can only be averted by massive increase in political will. We have the technology but we are not applying it,” he said.

Launching a report called Global Environment Outlook 2000 in London yesterday Mr Töpfer said it was possible to reverse the process but conspicuous overconsumption by the world’s rich countries had to be cut by 90% to do so. He said it did not mean a lowering of living standards but an application of existing science, through recycling, for instance.

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Climate change, the great leveller

Christopher Caldwell DECEMBER 11 2009

The Copenhagen summit on climate change is starting to resemble the August 1928 meeting in Paris at which more than a dozen nations, including Britain, France, Germany, Japan and the US, signed a treaty to abolish war. A real problem, a commitment to solving it and a large dose of arrogance convinced the world – 65 countries, eventually – to sign the Kellogg-Briand pact, named after the American and French ministers who devised it. But the reality of perpetual peace proved harder to advance than the ideal of it.

The leak of a 13-page Danish government document that looked like a draft fo
Exposure to natural hazards
Vulnerability of human settlements to natural hazards
Vulnerability to climate change
The “science” of extreme weather events

Small change in the mean

Large change in magnitude and frequency of extreme events

ACUTE

CHRONIC
No evidence of impacts found | Evidence of climate-change impacts

**Fig. 1 | Impacts of climate change on the achievement of the SDGs.** Each rectangle to the right of the relevant SDG represents a Target. For Targets highlighted in red, we found published evidence of impacts. The absence of highlighting indicates the absence of identified evidence, which does not necessarily mean absence of an impact. Credit: United Nations.
New York City
East Side Coastal Resiliency
What happened during Sandy?

Normal River Conditions
What happened during Sandy?

Storm Surge Flooding
Types of flood protection

- Deployable
- Flood Wall
- BERM / LEVEE
Deployable

Storm Surge Flooding
Flood wall

Storm Surge Flooding
Flood wall

FLOOD WALL
Bad Neustadt, Germany
Berm / levee

Storm Surge Flooding
Berm / levee

BERM / LEVEE
Scheveningen, Netherlands
Social infrastructure

Resiliency infrastructure can double as infrastructure for people
Workshop – designing with the community
Key issues identified by the community

**PEDESTRIAN BRIDGE CONNECTIONS**
- Locations
- Bridge Design

**BIKEWAY/WALKWAY**
- Narrow Segments
- Emergency and Maintenance Access

**WATERFRONT VIEW CORRIDORS**
- Height and Width of Flood Protection Elements
- Look and Feel

**PARK ECOLOGY**
- Plants & Trees
- Upland Connections
Coordination with existing projects

COMPLEMENTARY INITIATIVES
The ESCR Project will be coordinated with other initiatives in the area.

PROJECT LIST
1. EAST SIDE COASTAL RESILIENCY PROJECT
2. LOWER MANHATTAN COMPREHENSIVE PROTECTION PLAN (ORR)
3. MULTI-PURPOSE LEVEE STUDY (EDC)
4. PIER 42 PARK (ORR)
5. LOWER EAST SIDE ECOLOGY CENTER (ORR)
6. RESILIENT NEIGHBORHOODS STUDY (DCP)
7. CON EDISON
8. SOLAR ONE
9. HOSPITAL ROW INVESTMENTS
Collaboration with local community
Thank You