Dialogue 5: Ports and logistics

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Context

Ports and logistics serve a vital function within the local, regional, and global economy. It is estimated that between 80 and 90% of the world's freight are moving by sea. Demand on ports is likely to grow in the coming century.

Ports and logistics are vulnerable to the impacts of climate change both from a structural and operational perspective. Ports are often located in coastal areas susceptible to sea-level-rise, increased storm surge, changes in current and wind patterns, and other climate change impacts. Ports located in sensitive estuarine environments or at mouths of rivers are susceptible to flooding. Seaward-side operations and supply chain hinterland are also vulnerable to climate variability, impacting ports operations.

Current forecasts range from one-half to 2m of SLR by 2100 and project an overall shift toward meteorological instability including changes in storm frequency and intensity; likewise, it is projected a doubling of category 4 and 5 hurricanes in the Atlantic basin by the same horizon.

While ports are rapidly expanding, with projects for new infrastructure development over the next 5 to 10 years, very few of them (mainly in high and middle income countries) have policies in place that specifically address climate change adaptation and are integrating corresponding measures in their development plans. More work related to this topic needs to be carried out to help decision-makers to be better informed about potential climate impacts and the way to deal with it.
Unless the risks are addressed, climate change threatens to reverse ports and overall economic development progress. Therefore, it is imperative to improve the resilience of ports and logistics to climate change impacts.

Climate change risks and impacts on ports and logistics

Key risks

- Sea-level rise
- High winds
- Storms surges
- Strong wells
- Fog
- Heat waves
- Heavy rainfall
- Flooding
- Droughts
- Cyclones
- Snow

Impacts on ports (and beyond)

Economic damages (US$ tens of bio. in 2010)
- Damages to port infrastructure (breakwater, sea walls, levees, drainage systems, lightning, etc.), lifting equipment (cranes, tugboat,…), stored cargo and transport systems
- Change in navigability of access channels
- Business interruption in port operations (including cargo handling activities: loading / unloading of weather sensitive goods; …)
- Disruption of movements of ships, movements within ports, ferry services…

Displacement of people
Food crisis

Risk Management, Adaptation / Mitigation measures

Policy/Regulatory

- Highlight changing climate-related risks to policy makers
- Adopt **National Risk Management System** [e.g.: Climate Change Adaptation Plans (MRU); National disaster management policy (KE)]
- Strengthen coordination and partnerships

Ports Strategy/ Operations

- Understand risks associated with climate change impacts and port vulnerability
- Adopt climate change adaptation plans that improve resilience and enhance adaptive capacity
- Consider deployment of early warning system
- For extreme cases, envisage port relocation

Infrastructure

- Strengthen soft and hard protective structures (e.g.: natural and/or manmade breakwaters or storm barriers that increase defenses against flooding and wave damage)
- Consider robust and resilient infrastructure design
- Review resilience of navigational safety systems
- Sustain maintenance of harbor facilities

Questions to consider in this session

1. **While climate change risks are real, responses are not always adequate. What are the key obstacles that hinder African states to create the conditions for a suitable port and logistics development? What are the steps which will trigger the change?**
2. **Are there "new" business opportunities? Do the key stakeholders have sufficient capacity to address the challenges?**
3. **Knowing that adaptation measures may involve huge and risky investments, how can the public and private partners may share the risks? Role of technical and financial partners?**
4. **How to give a sense of emergency to climate change adaptation projects to compete for scarce resources with other priorities (health, education, etc.)? What resources are available? From where?**
5. **What is the role of different stakeholders (in particular, private sector, communities and government) in preparing adaptation measures and implementing them? What support/information/advice can the various stakeholder provide to each other?**
6. **Is there a "right" level of preparedness?**