

**Multi-year Expert Meeting
on Transport, Trade Logistics and Trade
Facilitation:**

**Third Session:
Small Island Developing States:
Transport and Trade Logistics
Challenges**

24 – 26 November 2014

**Small Island Developing States (SIDS)
Challenges in Transport and Trade
Logistics**

Presentation by

Ms. Regina Asariotis
Chief, Policy and Legislation Section
Trade Logistics Branch
Division on Technology and Logistics, UNCTAD

This expert paper is reproduced by the UNCTAD secretariat in the form and language in which it has been received. The views expressed are those of the author and do not necessarily reflect the view of the United Nations.



Multiyear Expert Meeting on Transport, Trade Logistics and Trade Facilitation, 3rd session, Geneva, 24-26.11.2014

Small Island Developing States (SIDS): Challenges in Transport and Trade Logistics

Introduction and overview

Regina Asariotis
Chief, Policy and Legislation Section, TLB/DTL, UNCTAD

unctad.org/ttl/legal

Background and context

Doha Mandate:

UNCTAD to “advise SIDS on the design and implementation of policies addressing their specific trade and trade logistics challenges linked to their remoteness and geographical isolation”

- Ad Hoc Expert Meeting on the subject ahead of the Samoa Conference
 - Summary of discussions and outcomes UNCTAD/DTL/TLB/2014/1
http://unctad.org/meetings/en/SessionalDocuments/dtl_sids2014d01Summary_en.pdf
- Review of Maritime Transport 2014:
 - Special chapter on the maritime transport of SIDS
- “Closing the Distance: Partnerships for Sustainable and Resilient Transport Systems in SIDS” (forthcoming)
- Two UN Development Account funded projects



Structure of the Expert Meeting

Day 1: Transport for Trade and Tourism: Challenges, Intersectoral Linkages and Response Measures

- Shipping – international, regional and domestic
- Seaport infrastructure and equipment
- Air-transport and cruise-ship transport for tourism

Day 2: Disaster Risk Reduction and Adaptation to Climate Change Impacts in Transport

- Disaster risk: geological hazards and extreme weather events
- Climate change: potential impacts and adaptation needs

Day 3: Towards a way forward

3

Shipping – international, regional and domestic

1. Cargo volumes and imbalances

- Small cargo volumes: limited scope for SIDS to benefit from economies of scale or attract shipping services and investors
- Due partly to their small size/narrow resource base, SIDS face significant trade imbalances (imports exceeding exports); this increases transport costs

2. Access to global shipping networks

- Remoteness from the major global markets (E. Asia, N. America, Europe, the Mediterranean, W. Asia and the Indian subcontinent)
 - weighted average distance from these markets: about 8,200 km for Caribbean SIDS and 11,500 km for Pacific SIDS
- SIDS are not in the path of the main shipping lanes network, but are served primarily by N-S shipping routes through major relay or transshipment hubs located on the E-W container belt

4

Shipping – international, regional and domestic

3. Inter-island domestic shipping

- For some SIDS, inter-island domestic transport is vital to:
 - reach outer islands that are spread across vast distances and facilitate productive sectors (e.g. tourism, fisheries and agriculture)
 - ensure access to education, health and business and deliver service and infrastructure development
- The lack of adequate shipping services increases prices and discourages the production/marketing of local products

4. High degree of dependency on energy imports

- SIDS are highly dependent on fossil fuel imports (most spend more than 30 % of their foreign exchange earnings, annually)
- Transport consumes about 70 % of the total fuel imports in the Pacific region, with maritime transport being the majority fuel user for some States (e.g. in Tuvalu (in 2012), 38% of total fuel imports - 64 % of all transport fuel was for maritime use)

5

Shipping – international, regional and domestic

5. Shipping market structure

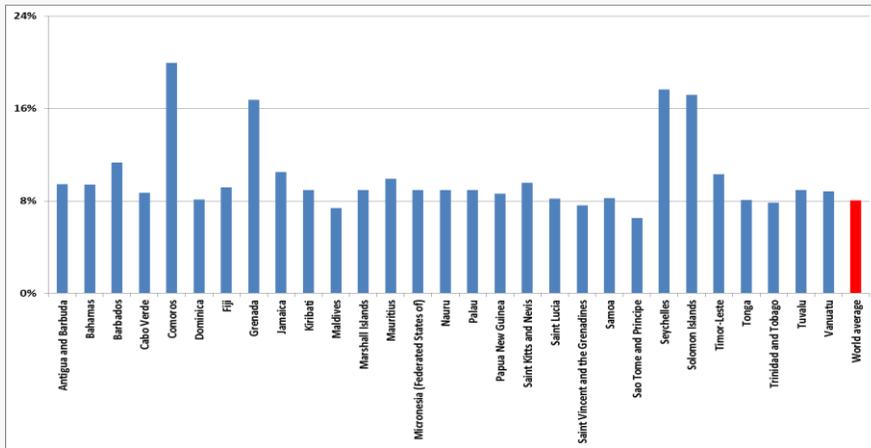
- Liner shipping is a highly concentrated industry: 10 companies account for about 60 % of global container-carrying capacity and 20 companies controlling 80 %
- In relation to the SIDS, concerns have been expressed about anticompetitive practices, including collusion in setting freight rates
- In response, two shipping Commissions have been established in the Pacific: (i) Micronesian Shipping Commission and (ii) Central Pacific Shipping Commission

6. Freight rates and transport costs

- SIDS generally face higher freight costs for their imports, due to their unique features/vulnerabilities, in particular, remoteness, smallness and insularity
- According to UNCTAD estimates (Fig. 1), the 10-year average (2004–2013) of selected SIDS expenditures on international transport costs as a share of their imports value was about 10 %, i.e. 2 % higher than the world average (8.1 %)

6

Fig. 1. 10-year average expenditure (2004-2013) of selected SIDS on international transport as a percentage of the value of imports



Source: UNCTAD estimates. UNCTAD Review of Maritime Transport 2014. Chapter 6.

Seaport infrastructure and equipment

Infrastructure and equipment

- Costly rehabilitation/reconstruction may be necessary; relocation of facility generally not an option
- Maintenance of port infrastructure/equipment is essential, but may be costly and available financing is often inadequate
- Port infrastructure facilities often pre-date containerization and do not meet requirements for rapid container handling
- Growing tourism has resulted in increased cruise ship calls; in the absence of dedicated berthing facilities, cruise ships may be given priority berthing at cargo-handling facilities, resulting in cargo-handling delays that increase imports costs and reduce export competitiveness

Financial constraints

- Financing is a key challenge when developing, rehabilitating and maintaining port infrastructure/facilities
- SIDS are often highly indebted and – in view of their classification as middle- income countries – may have limited access to concessionary loans and resources

Air-transport and cruise-ship transport for tourism

Strong nexus between transport and tourism:

- Tourism is a key source of export earnings for all SIDS and, on average, may account for about 30 % of total employment and up to 50 % of GDP
- Tourism arrivals by air are particularly high for the Caribbean SIDS as well as for Mauritius, Seychelles and Cabo Verde
- High air transport prices can lead to declining tourist flows/revenues, as price is an important tourist choice determinant
- The Caribbean is a major destination for cruise ships (18.2 million arrivals in 2008); other SIDS, such as Cabo Verde, Fiji and Seychelles, are also important ports of call
- Cruise ships require port investments to accommodate the increased size/number of vessels; since berthing space is limited, cruise ships often compete with cargo vessels to berth
- It should be noted that SIDS-tourism also generates significant revenues/jobs in the tourist home countries

9

Disaster Risk Reduction

Natural hazards: Geological hazards and extreme weather events

- Many SIDS lie at tectonically-active margins or volcanic 'hot spots' (e.g. Cabo Verde) and, thus, are vulnerable to earthquakes, volcanism and tsunamis
- SIDS are also exposed to extreme meteorological events, such as storms, floods/landslides, droughts and heat waves, as well as changes in the patterns of particular climatic systems, e.g. monsoons
- These events can compromise infrastructure integrity and disrupt/delay port and airport operations with detrimental effects on SIDS's economies
- **Disaster-risk reduction for transport infrastructure and services is key**

10

Climate Change Impacts on Transport

Climate change/extreme events likely to have *direct* and *indirect* impacts on transport infrastructure and services in SIDS

Sea-level rise, temperature and precipitation changes, extreme storms and floods and other climatic factors are likely to

- affect ports, airports and other coastal infrastructure, as well as hinterland transport nodes 
- affect demand for shipping/air transport, increasing transport costs
- exacerbate other transport-related challenges

Enhanced climate resilience / climate change adaptation for coastal transport infrastructure is key

Since 2008, UNCTAD has worked on Climate Change Impacts and Adaptation in Transport 

Climate change impacts on tourism

Coastal transport infrastructure (seaports and airports): critical lifelines for external trade, food, energy, tourism (cruise-ships and air transport)

These assets are threatened by extreme events (storms) and mean sea level rise 

Strong nexus between transport and tourism:

“Sun-and-sand-tourism”, often a very significant SIDS industry, is threatened by climate - driven coastal and beach erosion, together with its facilitating infrastructure (i.e. seaports, airports, coastal access roads) 

Towards a way forward

Considering measures and actions to address some of the key challenges and enhance transport infrastructure sustainability and resilience and adaptation to climate change

In the light of the outcome of the Samoa Conference, insight and guidance from the international port industry, collaboration with the insurance industry as well as partnerships and cooperation among and between SIDS will be discussed

13

Towards a way forward

More generally, experts are invited to reflect on, among other things, how best to follow through on the following issues:

- Addressing shipping connectivity requirements, port service levels and charges, port infrastructure development needs and maintenance issues, ageing fleets, low cargo and trade volumes, cargo imbalances, shipping market structure and transport costs;
- Strengthening domestic/regional connectivity and promoting infrastructure development;
- Building the resilience of coastal transport infrastructure in the face of disaster risks and climate change impacts;
- Raising levels and diversifying sources of funding for transport, in particular maritime transport infrastructure development, maintenance, sustainability and resilience;
- Increasing private sector involvement in transport and promoting collaborative approaches between public and private investment partners, including for investment in energy-efficient and climate-resilient transport systems and services;
- Encouraging the sharing of lessons learned, experiences and best practices both within and across SIDS regions

14

Thank you!

Caribbean SIDS: The most air-transported tourist dependent region

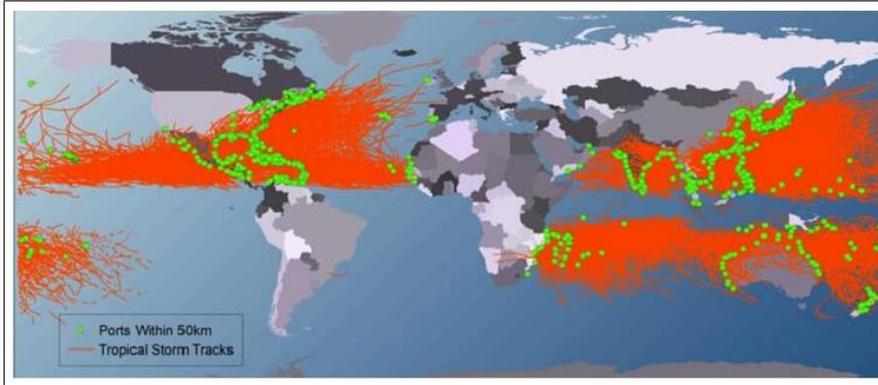
Country	Travel & tourism % of GDP (World Ranking, 2010)	% visitors arriving by air
Anguilla	61.0 (5)	84
Antigua & Barbuda	78.5 (1)	95
Bahamas (the)	46.5 (8)	88
Barbados	48.1 (6)	92
Belize	28.2 (17)	85
Bermuda	11.2 (65)	86
British Virgin Islands	43.7 (10)	94
Cayman Islands	23.3 (24)	67
Dominica	23.3 (23)	88
Grenada	24.4 (22)	96
Guyana	11.5 (63)	99
Haiti	7.0 (125)	n.a.
Jamaica	25.4 (20)	92
Montserrat	n.a.	99
St. Kitts & Nevis	30.5 (16)	91
St. Lucia	35.1 (13)	90
St. Vincent & the Grenadines	23.6 (23)	98
Suriname	4.6 (164)	93
Trinidad & Tobago	10.9 (66)	95

Tourism: 12% of GDP

In some Caribbean
SIDS more than 50 %
of GDP (ECLAC, 2011)



Shipping and seaports are vulnerable to storms



Seaports within 50 km of tropical sea storm tracks (1960–2010). Port and storm data from National Geospatial-Intelligence Agency (2011) and Knapp et al. (2010). (Becker et al., 2013)



Major climate change impacts on coastal transport infrastructure

Factor	Impacts
Sea level (mean and extreme)	Coastal transport infrastructure
<ul style="list-style-type: none"> • Mean sea level changes • Increased destructiveness of storms/storm surges • Changes in the wave energy and direction 	Damages in port infrastructure/cargo from incremental and/or catastrophic inundation and wave regime changes; higher seaport construction/maintenance costs; sedimentation/dredging issues in port/navigation channels; effects on key transit points; increased risks for coastal road links; relocation of people/businesses; insurance issues
Precipitation	
<ul style="list-style-type: none"> • Changes in the intensity and frequency of extremes (floods and droughts) 	Seaport, airport and road infrastructure inundation; damage to cargo/equipment; and vital node damage (e.g. bridges)
Temperature	
<ul style="list-style-type: none"> • Higher mean temperatures, • Heat waves and droughts • Increased variability in temperature extremes 	Damage to infrastructure/equipment/cargo and asset lifetime reduction; higher energy consumption for cooling cargo; changes in transport demand; lower aircraft loads allowed-need for runway extension



Climate change and transport: related work by UNCTAD

2009	UNCTAD Multiyear Expert Meeting: “Maritime Transport and the climate change challenge”
Follow-up	UNCTAD (ed.) Maritime Transport and the Climate Change Challenge Earthscan (Routledge/Taylor&Francis) (2012) 327 pp
2010	Joint UNECE-UNCTAD Workshop: “Climate change impacts on international transport networks”
Follow-up	UNECE Group of Experts on Climate Change Impacts and Adaptation for International Transport Networks (2011-2014) 2012 International Conference - including session on SIDS 2014 Final Report - Climate Change Impacts and Adaptation for International Transport Networks
2011	UNCTAD Ad Hoc Expert Meeting: “Climate change impacts and adaptation: a challenge for global ports”
Follow-up	Academic paper co-published by Experts (2013) Becker et. al, A note on climate change adaptation for seaports, Climatic Change, 2013
2013-2014	UNCTAD Port-Industry Survey on Climate Variability and Change

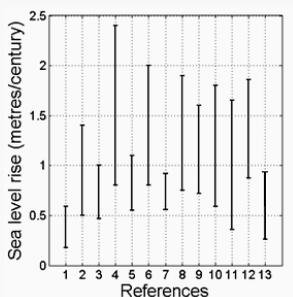


Trends and projection in extreme events and mean sea level rise



Trends in frequency/intensity of climate extremes (arrow direction shows the change sign) since the 1950's (for N. Atlantic storms since the 1970s). Most of these trends will continue/ accelerate in the current century (IPCC, 2013).

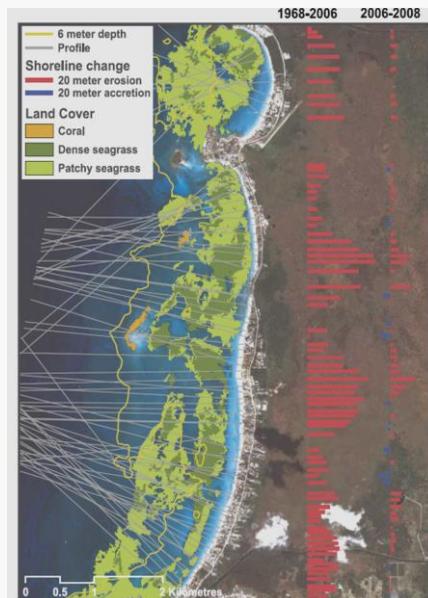
Mean sea level rise projections (2100)



Key: 1, IPCC (2007), 0.18-0.59 m; 2, Rahmstorf et al. (2007); 3, Horton et al. (2008); 4, Rohling et al. (2008); 5, Vellinga et al. (2008); 6, Pfeffer et al. (2008); 7, Kopp et al. (2009); 8, Vermeer and Rahmstorf (2009); 9, Grinsted et al. (2010); 10, Jevrejeva et al. (2010); 11, Jevrejeva et al. (2012); 12, Mori et al. (2013); and 13, IPCC (2013). Projection variability reflects differences in approaches (UNECE, 2014).



Touristic beach erosion



Negril beach, Jamaica

Many SIDS beaches are under severe threat of CC-driven erosion

For example, for many Caribbean islands, average beach retreat/erosion is 0.5-1.0 m/yr - (Cambers, 2009; Peduzzi et. al 2013).

