



Lessons in Business Continuity Post Irma & Maria

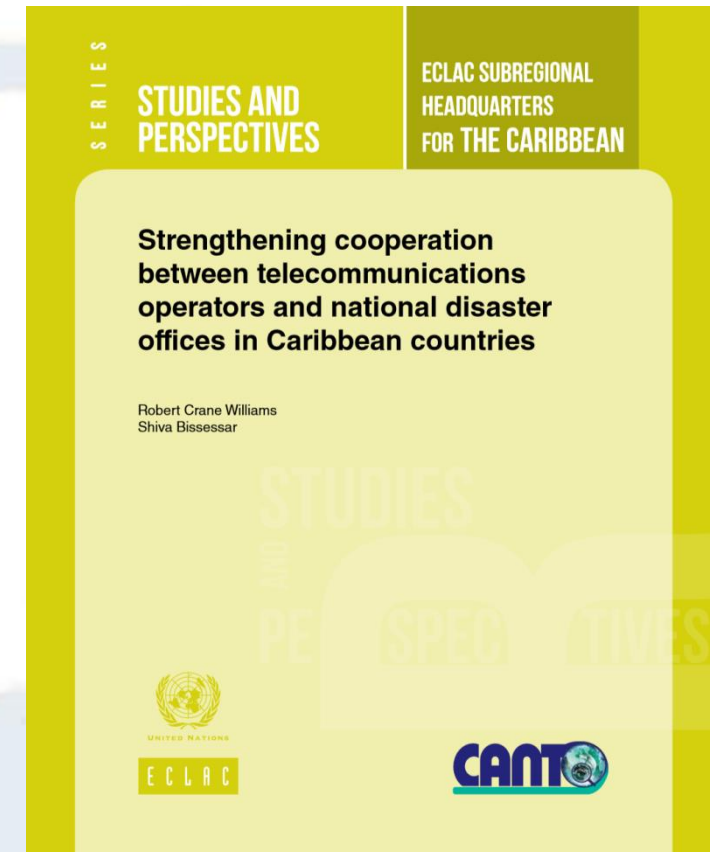
Shiva Bissessar
Pinaka Technology Solutions



5th Feb 2018

ECLAC involved in DRM

- Damage and Loss Assessments (DALA)
- 2013 ECLAC Study on ICT for Disaster Risk Management in the Caribbean
- Participation in CANTO (DRP) Committee
- 2016 study via interviews with National Disaster Organizations and CDEMA
 - British Virgin Islands
 - Cayman Islands
 - Jamaica
 - Montserrat
 - Saint Lucia
 - Trinidad and Tobago
 - CDEMA



Telecoms & National Disaster Offices



- Better coordination between Telecoms & NDOs is necessary for disaster mgmt.

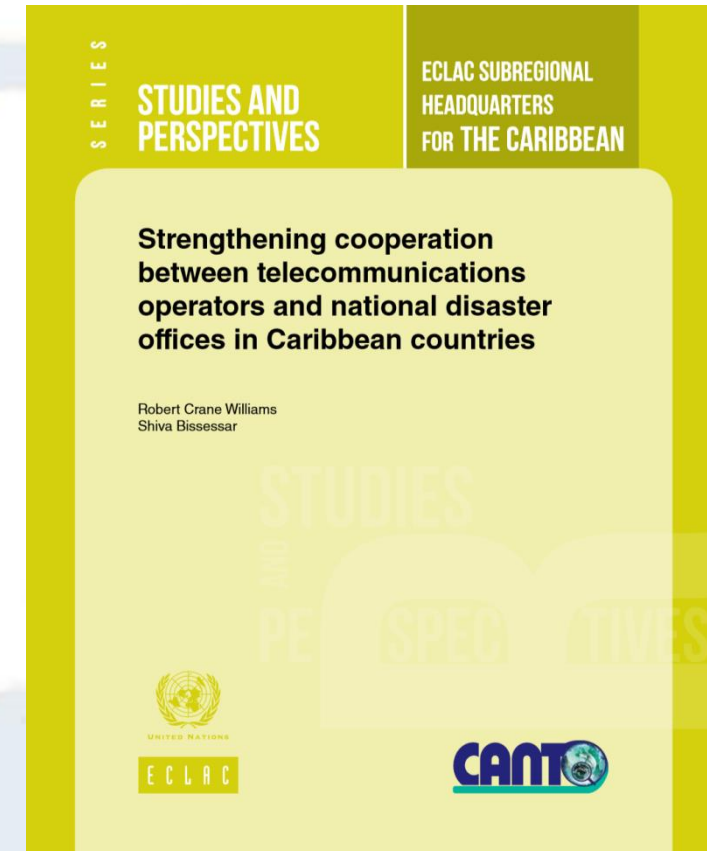
Co-location

- Operational equipment owned by some NDOs was housed at telco facilities

Information asymmetries

- CANTO has fielded requests for assistance on ICT matters

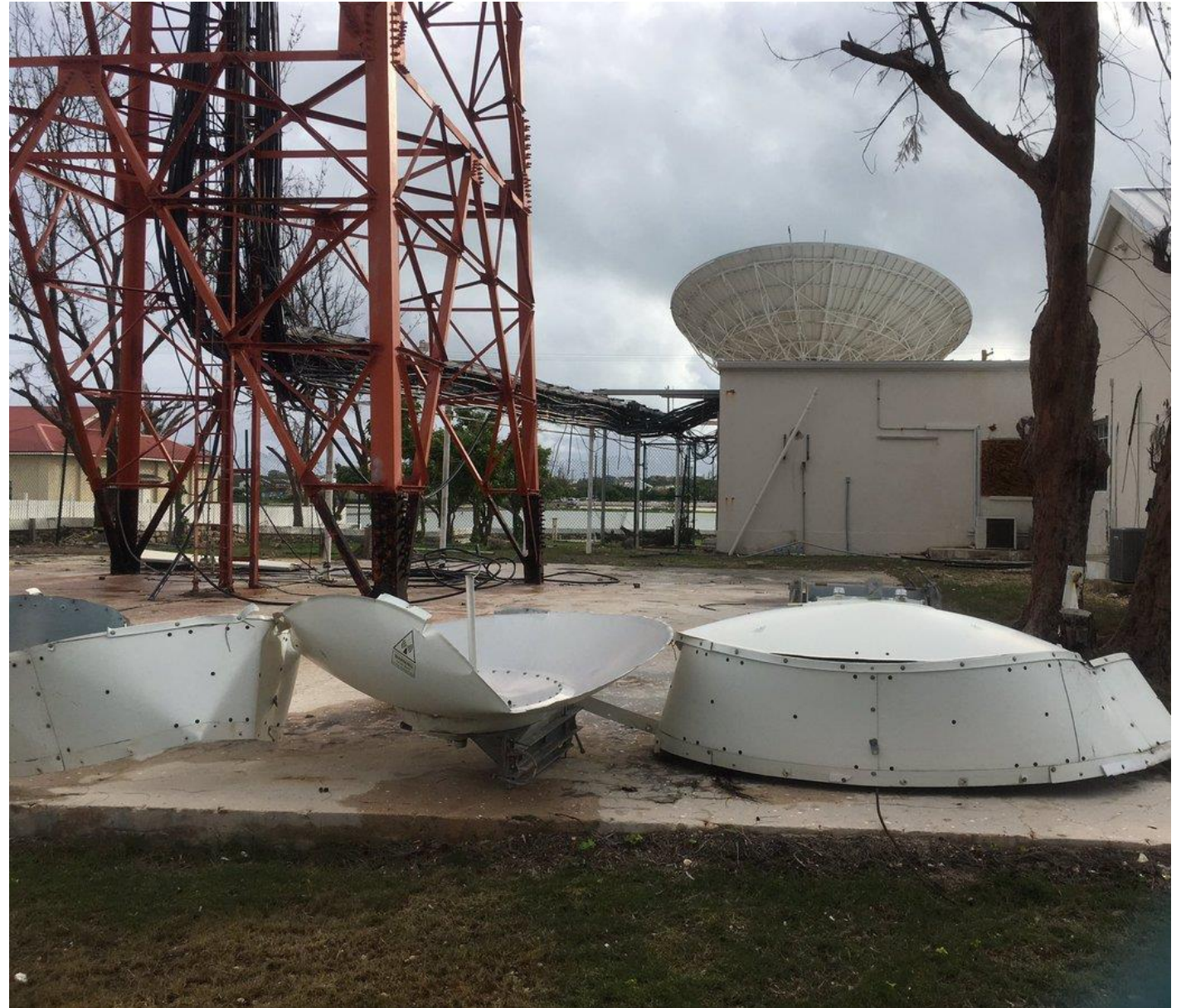
Do recent events warrant attention to national repositories of data & data centre

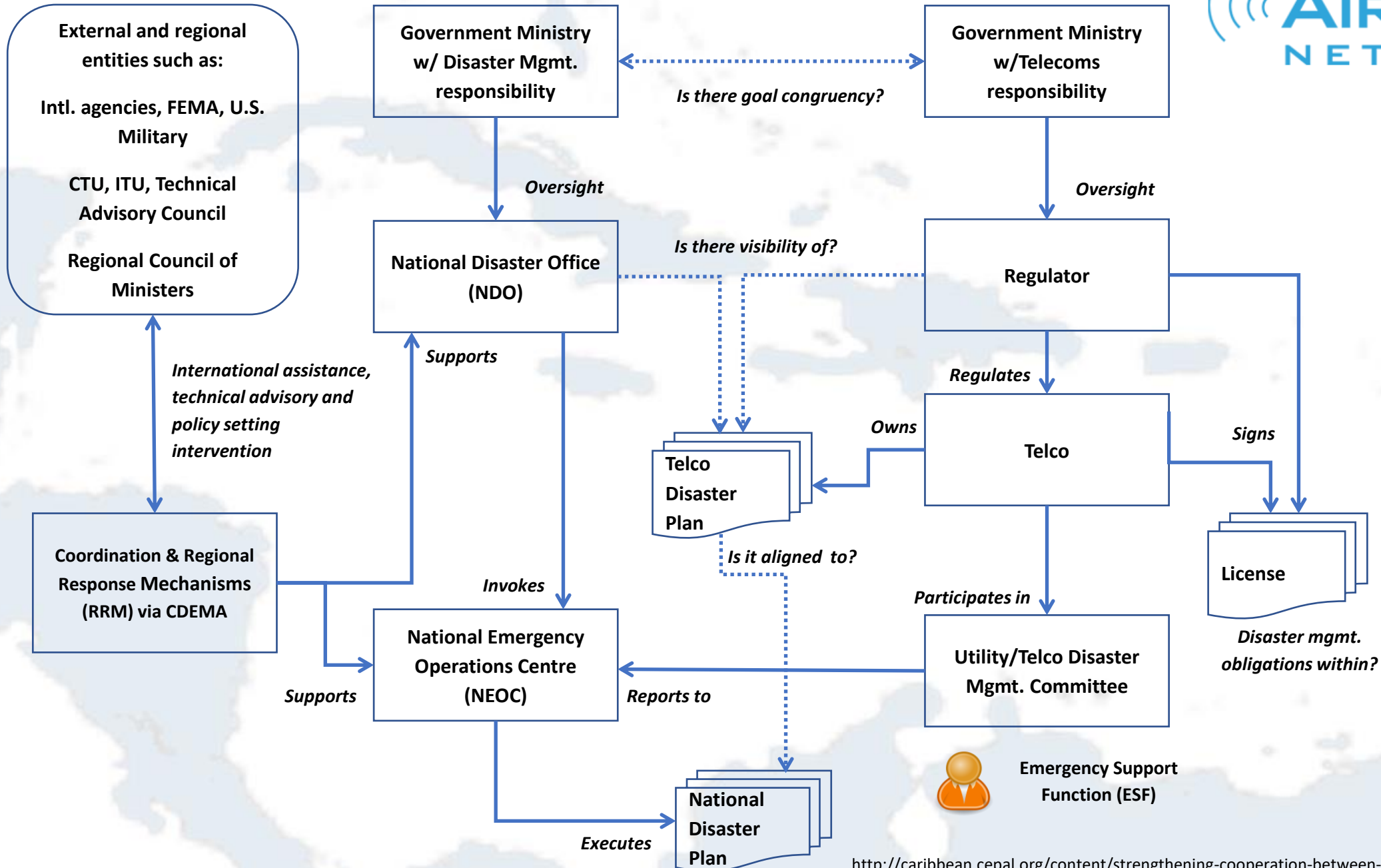




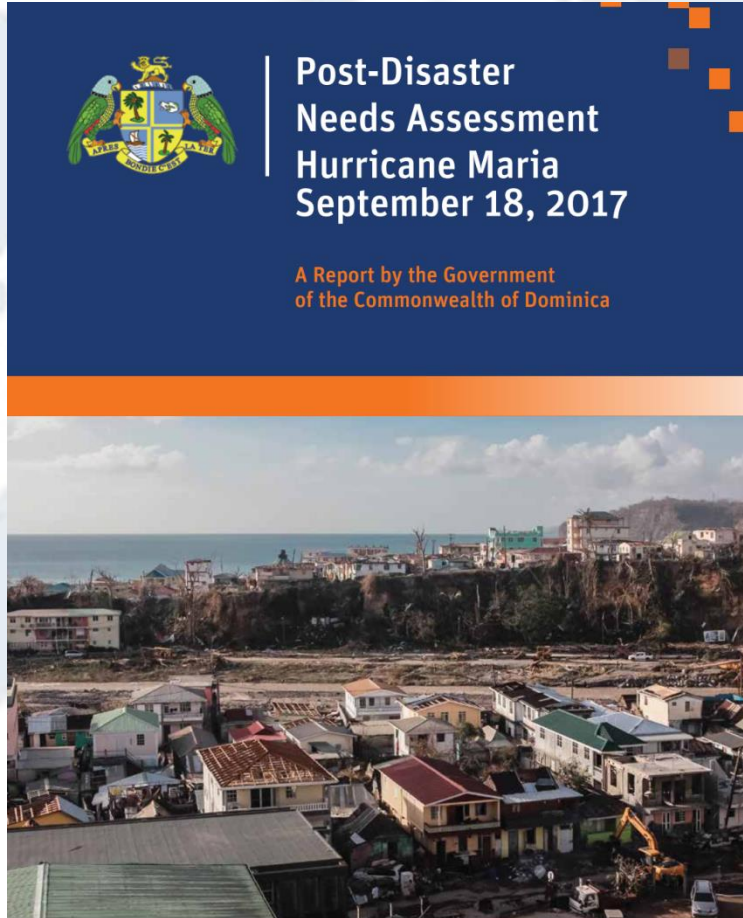
Devastation
Post Irma,
Grand Turks

Courtesy J
Casswell, GSMA





Government ICT infrastructure & services compromised



- Three public ICT centres were structurally compromised & equipment damaged.
- Gov't main server room in Roseau was flooded; equipment damaged
- ***Unfortunately data on these servers was not backed up offsite***
- *Attempting to clean equipment and*

Short, Medium & Long-term Recovery Initiatives

Item		Description	Cost (M)	
			EC\$	US\$
Short Term	Emergency Communications Network	Rehabilitation of the National Emergency Communications Network. -Redesign for expansion of the existing network and creation of deployment/maintenance plans. -Purchase of amateur radio equipment (HT/HF/VHF) and repeaters. -Purchase of satellite phones and other technology required for the network	1.41	0.52
	ICT Data Recovery, Server Room Re-instatement	Evaluate damages and recover data from damaged storage devices. Purchase new hyper-converged server infrastructure and off-site backup.	2.16	0.80
Medium Term	Repair Cellular Sites	Install flood proofing measures. 71 cellular sites suffered varying degrees of damage and 33 are completely destroyed. The sites which are not completely destroyed are in the process of being repaired and restored.	27.00	10.00
	Restore Northern Fiber Loop	Replace damaged fiber plant and associated equipment	2.70	1.00
	Install microwave links on Flow towers (49 towers)	All Digicel towers already have these links, 49 Flow towers do not but they awaiting on the shipment of the technology required to install on certain towers.	3.51	1.30
	Replace overhead fiber plant	Northern Loop	8.10	3.00
	Replace destroyed towers	Replace the 33 destroyed towers and associated transmission/reception infrastructure	54.00	20.00
Long Term	Create disaster recovery and continuity of operations plans for ICT.	Consultancy to create plans and provide implementation assistance for a period of 2 years.	0.32	0.12
	Rebuild Destroyed Support Buildings	Satellite farm, engineering support buildings	17.55	6.50
	Public ICT Center Reinstatement	Perform structural assessment of centers, repair structural issues and restore electrical wiring. Purchase replacement networking and computer equipment.	1.62	0.60
	Underground fiber plant	Undergrounding of the southern fiber loop.	10.80	4.00
Totals			129.17	47.84



Business continuity demands



- Data classification scheme and segmented data
- Offsite backup for data storage
- Restoration of services to designated locations
- Connectivity
- Documented processes
- Business continuity plan
- Drills and exercise of plan
- Integration into telco plans & national disaster plan



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DATA CENTER & COLOCATION



TELEPORT SOLUTIONS



MANAGED VIDEO TRANSPORT



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