

**SCIENCE, DRR/CCA POLICY  
PLANNING AND ACTION: IS THERE A  
CONNECTION?**

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SALISES Conference May 11, 2012

The use of Science in Disaster Risk Reduction  
and Climate Change Adaptation policy and  
planning in Jamaica –

Is there an evidence-based approach ?

Brief look at science and community resilience

# Clarification

For this presentation:

Research – specific enquiries made so as to inform policy or planning

As distinct from -

Data gathering and analysis carried out as part of agencies' mandates

# Definitions

DRR - Disaster Risk Reduction

The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters :  
reduce exposure to hazards, lessen vulnerability

manage land and the environment wisely.

(UN ISDR 2009)

# Definitions

CCA - Climate Change Adaptation

Practical steps to protect countries and communities from the likely disruption and damage that will result from effects of climate change

(OECD, 2006)

# Method

Unstructured interview with Cabinet Office

Structured interview with .....GOJ agencies  
related to Disaster Risk Reduction and Climate  
Change Adaptation – 4 in time available.

Limitations:

Time, No. of agencies

# Scientific data and policy

Is scientific data routinely and deliberately incorporated into GOJ policy ?

There is no requirement for inclusion of scientific data in policy – ministries/agencies will include data which they have

# Research in Govt. Agencies

Research is not always included in strategic or corporate plans

Research is not included as a line item in recurrent budgets or where included is not funded

Research is funded from budget for projects – Capital A or B



# Research in Govt. Agencies

All agencies interviewed wished to do more research

Obstacles – inadequate numbers of staff, inadequate funding, trained but inexperienced staff, slow procurement process (equipment)

# Research in Govt. Agencies

How is research done?

Through projects – bi-lateral funding and through Capital A (GOJ funded) projects

Through partnerships – supporting research students, multi agency partnerships

# Research in Govt. Agencies

Use of Research data:

Development approval – used to recommend mitigation measures

Building code review

Spatial Planning Policy

Development Orders revision

Investor attraction

Hazard Mitigation Policy

# Research in Govt. Agencies

Plan development – contingency plans,  
mitigation plans

Water resources management

Creation of tools – hazard maps, vulnerability  
ranking

Development of projects

# Research in Govt. Agencies

S &T agencies routinely gather data as part of monitoring or other processes.

This data is included in programmes/plans

# In Summary...

Scientific data is not routinely incorporated into GOJ policy, however technical agencies do include data during the review process

There is no dedicated funding for research in recurrent budgets in agencies interviewed, but research is done

Data is incorporated into programmes and projects, plans and used in some cases to inform decision-making e.g. development approval process

This situation leaves Universities as a major source of research.

Climate scientists have been doing a good job in providing the science but that leaves us with the challenge of its application, since evidently existence does not mean use.

# Resilience

So how does all this tie into rural resilience?

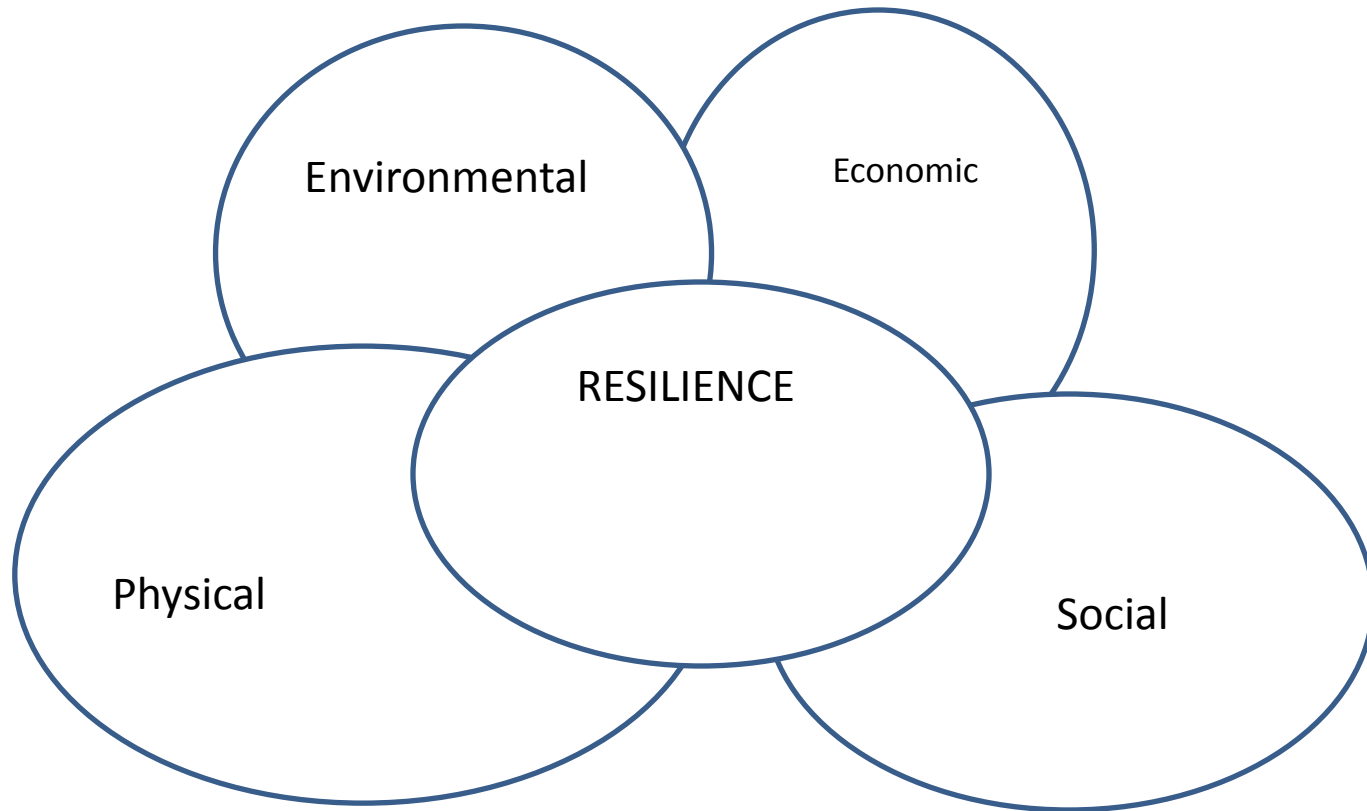
Resilience is multi-faceted

Any intervention to increase resilience should  
address all aspects



# NATIONAL/COMMUNITY RESILIENCE

Resilience is multi- faceted:



21<sup>ST</sup> C community development requires rethinking of our approach if we are to truly build resilient communities.

All community interventions should be done with the goal of enabling sustainable and resilient communities

Interventions should be customised,  
And therefore require multi-disciplinary research to provide specific solutions for challenges facing the community including climate change

Such an intervention would require inputs from:

Physical, earth sciences – hazard assessment, risk assessment, e.g. climate modelling, risk mapping

Social Sciences – Vulnerability assessments, behavioral assessments, gender analysis

Economics/agri-economics – sustainable livelihoods, finance mechanisms, risk transfer mechanisms

- Engineering Science – infrastructure design
- Health sciences - mental and physical well-being of population

Given the number of inputs, players

How can we ensure that science informs  
community resilience-building in the face of  
hazards including those posed by a changing  
climate?

One solution lies in the concept of the **Boundary Organisation** –

Originally conceived as a way of bridging the divide between policy and science, boundary organisations can provide a ‘transfer of usable knowledge’ (Guston et al 2000)

# Boundary Organisations

- provide the opportunity to create or use instruments, techniques, methods, mechanisms to mediate between science and policy
- Involve participation of both sides of the boundary



# Boundary organisations

- Able to operate in different cultures (Guston 2001)
- Bridge different scales or functional levels
- (Cash and Moser 2000)

# Boundary Organisations

Application of the idea to DRR/CCA and resilient communities would require adjustments to the model. A boundary organisation in this context would operate as an interface among

Politics, policy, multi-disciplinary science and communities

# Boundary Organisations

And must be capable of :

- understanding the science
- translating it for varying clients
- facilitating dialogue among parties
- ensuring relevance to specific clients
- continually adapting to changing situations
- ***ensuring the capture of local knowledge***

# Boundary Organisations

So where would one find this organisation which would be :

‘all things to all persons’

# Opportunity for UWI?

Advantages:

Regional reach

Multi-disciplinary environment

Already carrying out some functions –

Individual faculty, specialised units – SRC, DRRC,  
SALISES

Strong research base including in CC/DRR

Students as a resource and as future leaders

## In Summary

If we are to build resilient communities and by extension countries :

Policy and practice must be underpinned by science

There must be deliberate investment in research

Science must be translated into usable  
knowledge for communities

Local knowledge must be included in solutions  
to increase resilience

Adapted Boundary Organisations are needed to  
provide an interface among multiple interests

# Acknowledgements

Ambassador Douglas Saunders – Cabinet Office

Herbert Thomas – WRA

Norman Harris and Larry Henry – MGD

Ronald Jackson – ODPEM

Jeffrey Spooner – NMS