



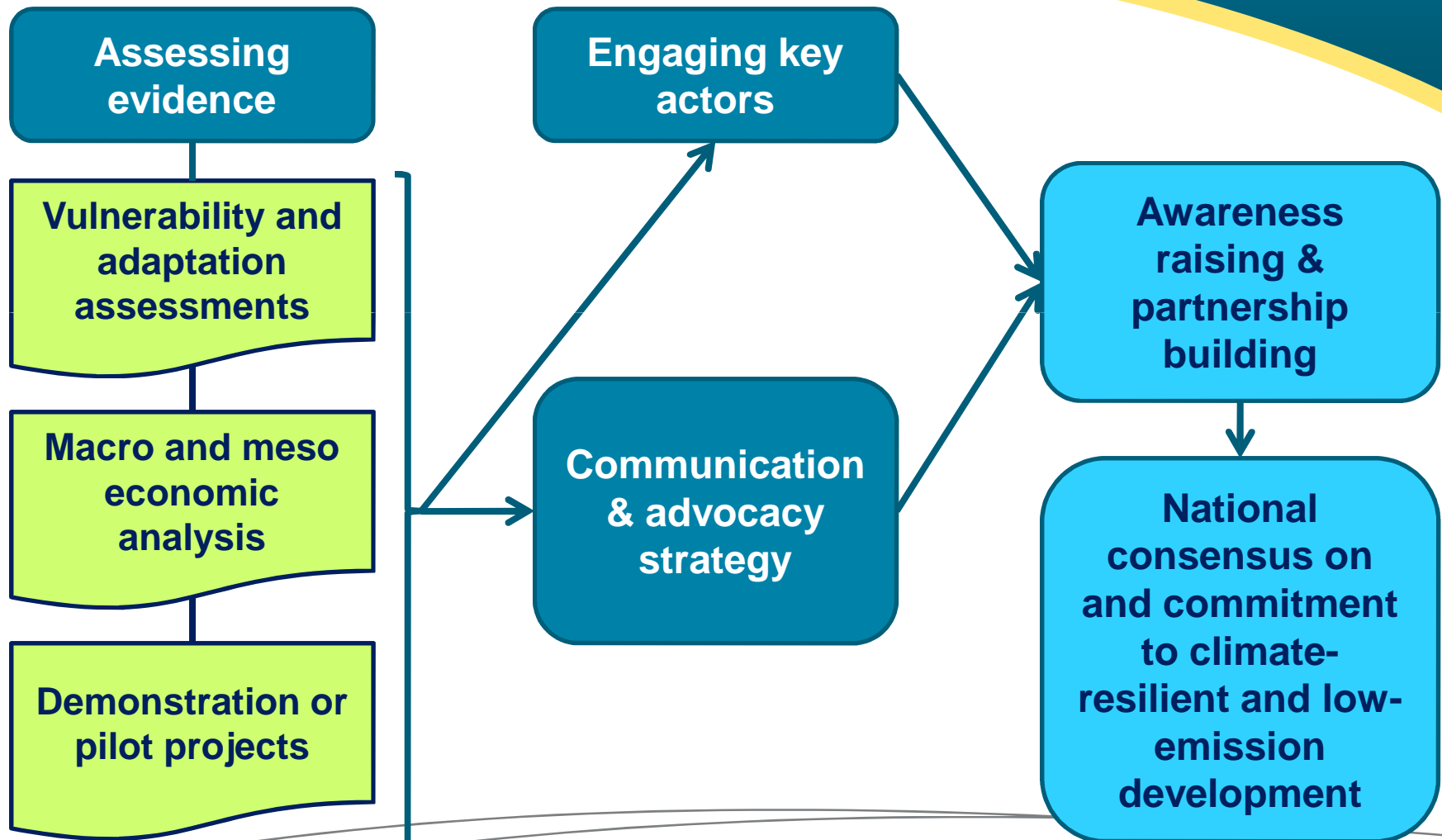
# **Module 5**

## **Raising awareness and building partnerships**

Training workshops on  
mainstreaming climate change

---

# Tools supporting awareness raising and partnership building



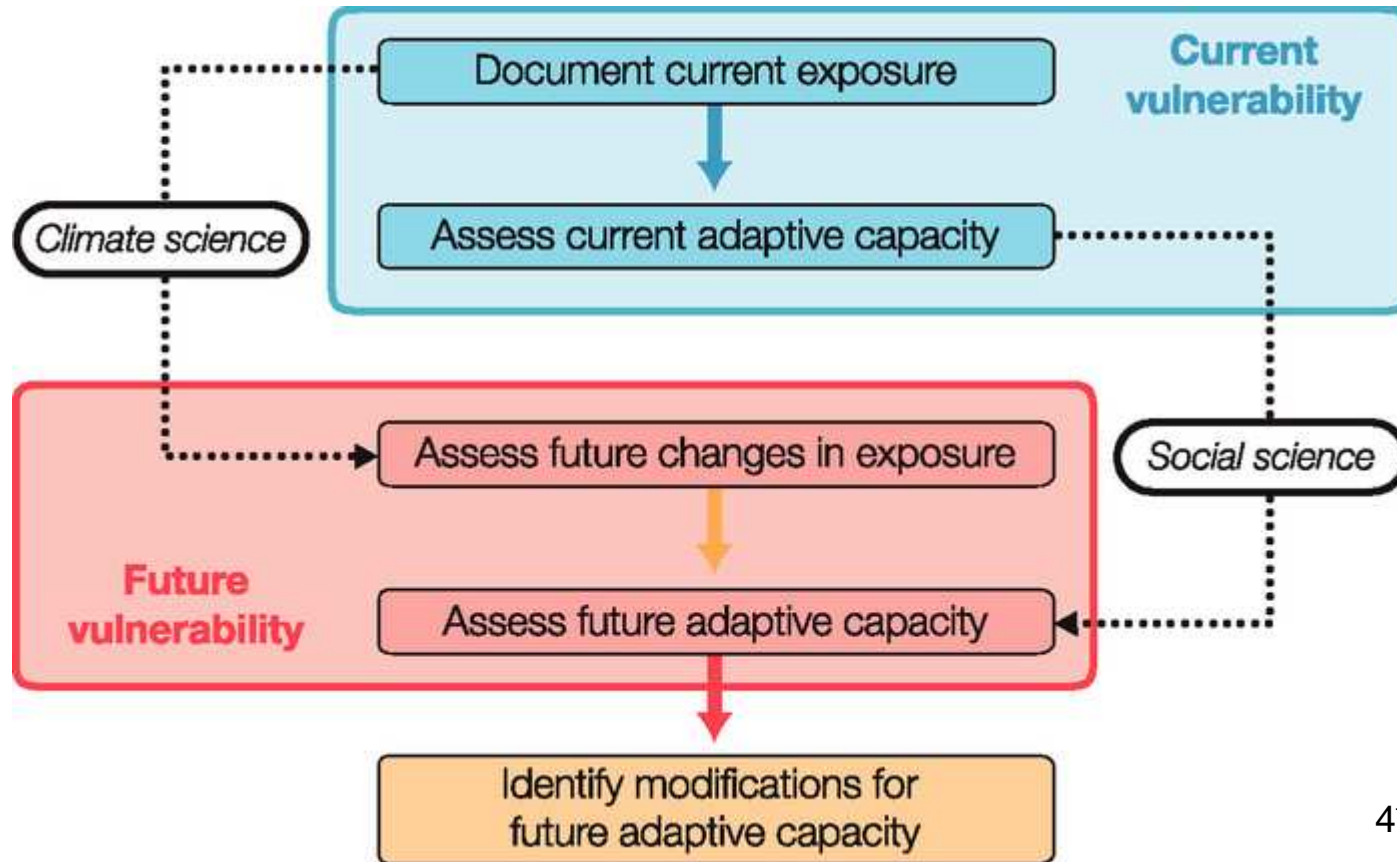
Adapted from: UNDP-UNEP (2011)

# Vulnerability and adaptation assessment



- A **vulnerability and adaptation assessment** would typically focus on 3 units of analysis:
  - *Places*: land, water, ecosystems, ‘natural capital’ and ‘built infrastructure’
  - *People*: individuals, communities, ‘human capital’, livelihoods
  - *Institutions*: sectors, organisations, how they relate to each other, ‘social capital’
- It should assess both current & future vulnerability to determine possible adaptation measures

# Steps in community vulnerability & adaptation assessment



Source: IPCC (2007c)  
4<sup>th</sup> Assessment Report,  
WG II - Fig. 16.3

# Caribbean region: Vulnerability & capacity assessments (1)



## **Vulnerability and Capacity Assessment Methodology**



**A guidance manual for the conduct and mainstreaming of climate change vulnerability and capacity assessments in the Caribbean**

**CARIBBEAN COMMUNITY CLIMATE  
CHANGE CENTRE (CCCCC)**



# Caribbean region: Vulnerability & capacity assessments (2)



- Implemented in most Caribbean countries (including some OCTs)
- Key features of methodology:
  - Define scope of VCA
  - Assess past, current and projected climate conditions
  - Assess socio-economic trends and conditioning factors
  - Assess social capitals and vulnerability
  - Develop integrated vulnerability indicators
  - Develop national and community-level risk profiles
  - Identify entry points for mainstreaming in decision making
  - Evaluate scenarios in the context of mainstreaming

# Cayman Islands: Vulnerability & capacity assessment – Tourism (1)



- Contents:
  - Country characteristics
  - National climate assessment
  - Tourism sector assessment
  - Present day vulnerability
  - Sea-level rise static maps
  - Gap analysis (aspects to address in future assessments)
  - Adaptation and mitigation options
  - Conclusions and recommendations

# Cayman Islands: Vulnerability & capacity assessment – Tourism (2)



- Key conclusions & recommendations:
  - Tourism sector very much exposed, in particular to coastal flooding and storm/hurricane damage
  - Insurance currently the main coping mechanism, but getting prohibitively expensive
  - Need to climate-proof existing infrastructure and improve the design and siting of new tourism facilities
  - Plan for a 1-metre sea level rise, develop hazard maps, identify risk-prone areas to inform new planning
  - Implement new design and construction regulations
  - Establish a Climate Change Trust Fund to finance adaptation and mitigation projects

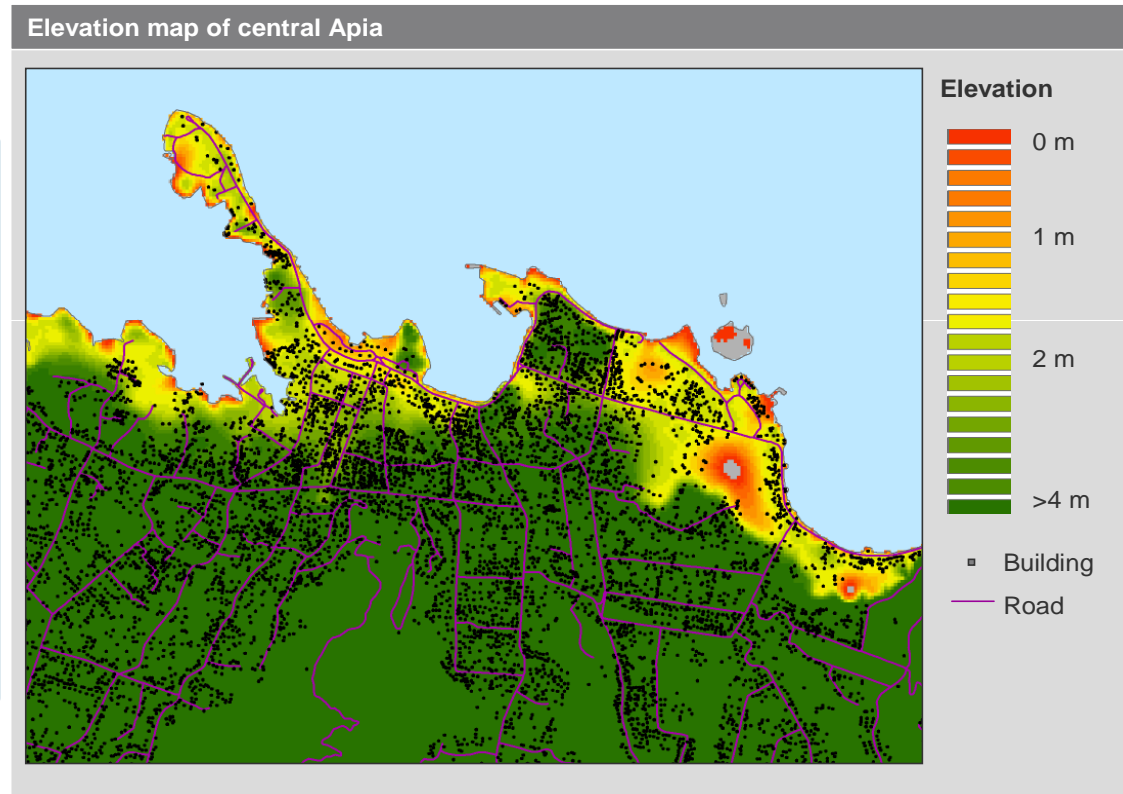


# Mapping vulnerability

Exhibit 3 – Highly granular geographic information has been used to segment assets according to their elevation above sea level

## Approach

- Starting point was a digital map of Samoa with contour lines (2m lines in coastal areas)
- In a second step, a more granular segmentation of coastal areas was obtained by using state-of-the-art GIS software
- Finally, geo-coordinates of buildings and roads, were used to determine the asset exposure to coastal flooding risk



SOURCE: Team analysis

Source: *Economics of Climate Adaptation (2009) Test case on Samoa – Focus on risks caused by sea level rise, Fig. 03, p. 122*

# Macro- and meso-economic analysis



- **Economic analysis** may be a powerful tool for motivating policy makers to take action
  - Macro level: analysis of the impact climate change may have on the national economy
  - Meso level: analysis at the level of key sectors or sub-sectors of the national economy
- The costs of inaction (climate-related losses) are compared with the net benefits of taking action (avoided losses minus costs)
- The analysis should also consider the distribution of losses and benefits (among social groups, regions...)

# Economic losses from extreme climate events (1)



- Cook Islands, 2000 – Exceptional drought and high temperatures
  - Reduced oxygen level in lagoons
  - Massive mortality among pearl-producing oysters
  - Economic loss 22 million EUR
- Martinique & Guadeloupe, 2007 – Hurricane Dean:
  - Complete destruction of banana plantations
  - Economic loss 115 million EUR

# Economic losses from extreme climate events (2)



- Cayman Islands, 2004 – Hurricane Ivan:
  - Economic losses 2,800 million KYD (approx. 3,300 million USD)
  - Equivalent to 183% of the 2003 GDP
- Jamaica, 2004 – Hurricane Ivan:
  - Economic losses 500 million USD, primarily in the agriculture and tourism industries

# British Virgin Islands – Economic value of mangroves



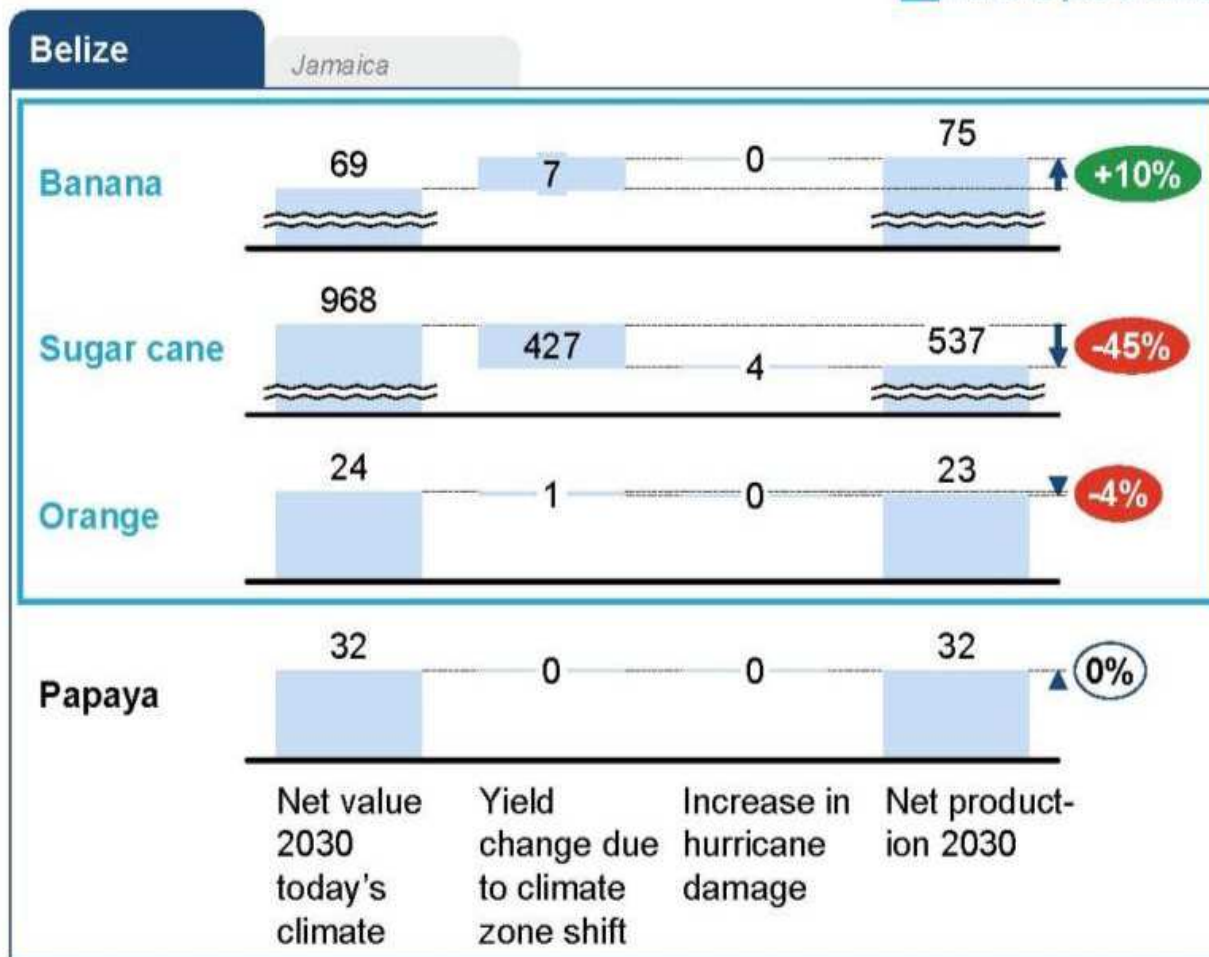
- Mangroves under threat from tourism and infrastructure development – and also from rising sea level and increased frequency of tropical storms
- Protecting and restoring mangroves supports important ecosystems and coastal protection
- Total economic value calculation shows annual economic benefits of US\$ 200,000–900,000/ha
- Costs of restoring mangroves range from US\$ 225/ha to US\$ 216,000/ha

# Belize – Expected CC impact on some crops

## Climate change impact on agriculture production in Belize

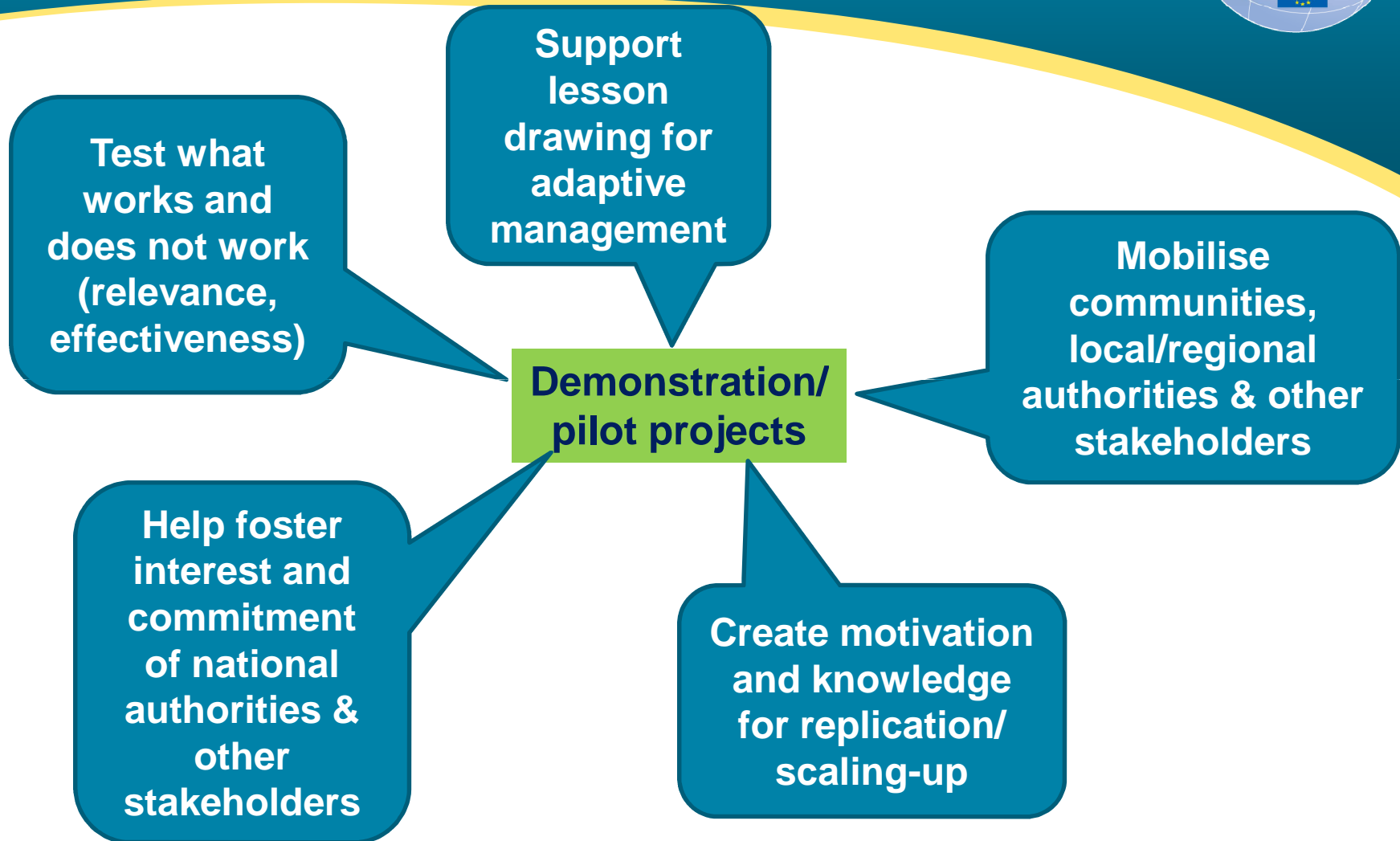
Production in thousand tons

Incl. analysis of climate zone



Source:  
CCRIF (2010)  
Figure 10,  
p. 22


# Demonstration projects



# Raising awareness and building partnerships (1)



- **Assessing available evidence:**
  - using the findings of relevant studies and demonstration/pilot projects
- **Engaging key actors:**
  - identifying and mobilising key organisations involved in development at the national and sector levels
  - identifying and mobilising ‘champions’

A thought bubble graphic with a pink outline and a blue fill. It has three small circles leading up to the main bubble. The text inside is white and bold.

**Who might be good  
champions?  
Are there already  
champions?**



# Raising awareness and building partnerships (2)



- Developing and implementing a communication and advocacy strategy in support of mainstreaming:
  - Define the target audience to be informed or influenced
  - Develop policy-relevant messages and materials based on evidence collected (e.g. policy briefs, radio programmes)
  - Select and use appropriate communication channels for the various target groups (e.g. media, sector working groups)

# British Virgin Islands: the Climate Change Green Paper



- Objectives in producing the Green Paper:
  - Help the general public and policy makers learn more about the emerging issue of CC and its projected impacts
  - Prepare the ground for a climate change adaptation policy and strategy
- Contents:
  - Virgin Islands context
  - Projected and existing changes in climate
  - Potential and existing CC impacts (+ prioritisation)
  - Institutional, legal and management arrangements
  - Towards an adaptation strategy: options, funding

# Caribbean (regional): CC Handbook for Caribbean Journalists



## Mainstreaming Adaptation to Climate Change (MACC) Project



Climate Change Handbook for Caribbean Journalists

# References (1)



- Burnett Penn A. (2010) *The Virgin Islands Climate Change Green Paper*. Prepared by the Conservation and Fisheries Department, Ministry of Natural Resources and Labour. Caribbean Community Climate Change Centre, Belmopan, Belize, and Government of the Virgin Islands. Available from: <http://www.caribbeanclimate.bz/projects/enhancing-capacity-for-adaptation-to-climate-change-ecacc-in-the-uk-caribbean-overseas-territories-project.html>
- CCRIF (2010) *Enhancing the climate risk and adaptation fact base in the Caribbean: An informational brochure highlighting the preliminary results of the ECA Study*. CCRIF's Economics of Adaptation (ECA) Initiative. Caribbean Catastrophe Risk Insurance Facility, Grand Cayman, Cayman Islands. Available from: <http://www.ccrif.org/sites/default/files/publications/ECABrochureFinalAugust182010.pdf>
- Downing T. & Patwardhan A. (2004) *Assessing Vulnerability for Climate Adaptation*. In: Lim B. & Spanger-Siegfried E. (eds.) (2004) *Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures*. United Nations Development Programme/Cambridge University Press, New York. Available from: <http://www.undp.org/climatechange/adapt/apf.html>
- Economics of Climate Adaptation Working Group (2009) *Shaping climate-resilient development: a framework for decision-making*. Climate Works Foundation, Global Environment Facility, European Commission, McKinsey & Company, The Rockefeller Foundation, Standard Chartered Bank & Swiss Re. Available from: [http://www.mckinsey.com/client-service/Social\\_Sector/our\\_practices/Economic\\_Development/Knowledge\\_Highlights/Economics\\_of\\_climate\\_adaptation.aspx](http://www.mckinsey.com/client-service/Social_Sector/our_practices/Economic_Development/Knowledge_Highlights/Economics_of_climate_adaptation.aspx)

# References (2)



- Hurlston-McKenzie L-A., Olynik J., Montoya Correa J. & Grant L. (2011) *Vulnerability and Capacity Assessment of the Climate Change and Sea-Level Rise Impacts on the Cayman Islands' Tourism Sector*. Caribbean Community Climate Change Centre, Belmopan, Belize. Available from: <http://www.caribbeanclimate.bz/projects/enhancing-capacity-for-adaptation-to-climate-change-ecacc-in-the-uk-caribbean-overseas-territories-project.html>
- IPCC (2007c) *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Parry M.L., Canziani O.F., Palutikof J.P., van der Linden P.J. & Hanson C.E. (eds.)]. Cambridge University Press, Cambridge, UK & New York, NY, USA. Available from: [www.ipcc.ch](http://www.ipcc.ch)
- MACC Project (2005) *Climate Change Handbook for Caribbean Journalists*. Mainstreaming Adaptation to Climate Change (MACC) Project, Caribbean Community Climate Change Centre (CCCCC), Belmopan, Belize. Available from: <http://www.caribbeanclimate.bz/macc/macc.html>
- Petit J. & Prudent G. (eds) (2008, reprint 2010) *Climate Change and Biodiversity in the European Union Overseas Entities*. IUCN, Gland, Switzerland and Brussels, Belgium. Available from: <http://data.iucn.org/dbtw-wpd/edocs/2010-064.pdf>

# References (3)



- Pulwarty R. & Hutchinson N. (2008) *Vulnerability and Capacity Assessment Methodology: A guidance manual for the conduct and mainstreaming of climate change vulnerability and capacity assessments in the Caribbean Region*. Caribbean Community Climate Change Centre, Belmopan, Belize. Available from: <http://www.caribbeanclimate.bz/macc/macc.html>
- UNDP-UNEP (2011) *Mainstreaming Adaptation to Climate Change into Development Planning: A Guide for Practitioners*. UNDP-UNEP Poverty-Environment Initiative. Available from: <http://www.unpei.org/knowledge-resources/publications.html>