

# Situer les connaissances climatiques des acteurs de l'aménagement du territoire:

retour sur une expérience de recherche  
qualitative aux Philippines



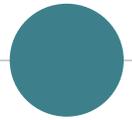
Webinaire - 15 mai 2020 - Séminaires de Développement  
Territorial: Outils d'analyse qualitative et recherche urbaine

*Dr Sébastien Dujardin - [sebastien.dujardin@unamur.be](mailto:sebastien.dujardin@unamur.be)*



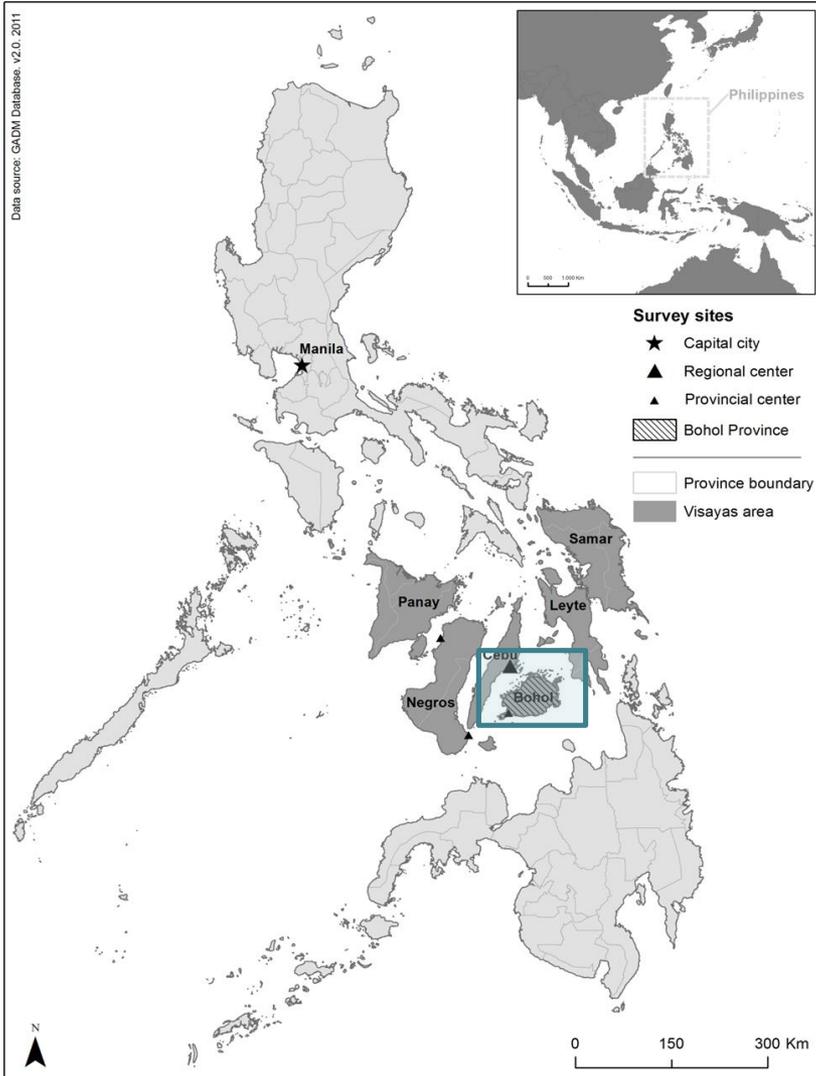
**UNIVERSITÉ  
DE NAMUR**

GÉOGRAPHIE



# Outline

- Research topic
- Conceptual framework
- Research activities
- Data collection and analysis using NVivo
- Main research results and insights
- Key learnings for qualitative research



## Climate change in the Philippines

- Over 7,000 islands
- 333 hab./km<sup>2</sup>
- 70% of municipalities located along the shoreline
- Ranks third in terms of global disaster risks (typhoons, floods, landslides, earthquakes)
- Impacts on livelihoods
- Climate change uncertainties coupled with fast growing population dynamics and a decrease in safer lands



## Urban flood in Metro Manila

August 2012



“

*Climate change - along with population dynamics and the gradual decrease in availability of safer land - means it is almost inevitable that humans are increasingly located in potentially dangerous places (Lavell and Mansilla 2003)*

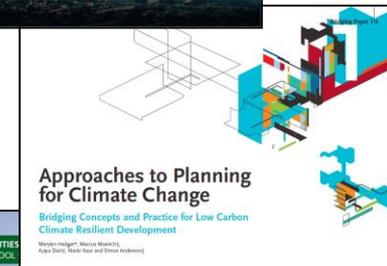
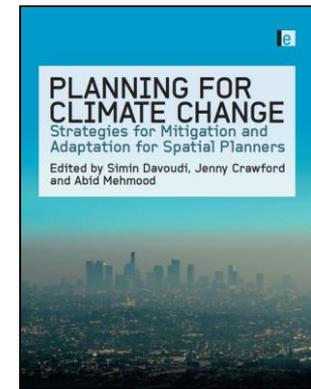


## Planning 'for' climate change

- Frequently promoted within the fields of planning and development
- Undertaking actions to reduce the risks and capitalize on the opportunities associated with climate change

E.g. Use of climate predictions to derive regulations for urban growth in flood prone areas

- Limitations:
  - Climate predictions presents fundamental, irreducible uncertainties
  - Climate change = slippery concept to demonstrate empirically
  - Adaptation strategies often focus on techno-managerial planning <> promote debates about future development pathways



# NVivo - Literature review



ThEse.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Go Refresh Open Properties Edit Paste Copy Merge Cut Copy Merge

Workspace Item Clipboard Format Paragraph Styles

Reset Settings Select PDF Selection Text Region

### Sources

- Internals
  - 1\_REF
    - Biblio
      - 0\_(Hum) Geog
      - 1\_CC et al
        - Author - Garschagen
        - Author - Hulme
        - Author - IPCC
        - Author - Pelling
        - Author - Stavros
        - Author - UN
        - Case study - Europe & Belgiu
        - Case study - SIDS
        - Flwg - IPCC-SREX
        - Flwg - S Blackburn
        - Journal - Climate & Developm
        - Journal - Environment and Urb
        - Journal - Global Environmenta
        - Journal - Regional Environme
        - Project - emBRACE
        - Topic - Assessment of CCA ini
        - Topic - DRR & DRM
        - Topic - Risk perception
        - Topic - Transformative capacit
      - 2\_Patricipatory planning
      - 3\_S-E Asia - Philippines

Look for: Search In 1\_CC et al Find Now Clear Ad

### 1\_CC et al

Name	Nodes	Referenc
Adger (2003) Social capital, collective action, and adaptation to climate change	0	0
Adger et al (2003) Adaptation to climate change in the developing world	9	14
Adger et al (2004) New indicators of vulnerability and adaptative capacity	1	1
Adger et al. (2005) Successful Adaptation to CC across scales	2	5
Adger et al. (2009) Are there social limits to adaptation to climate change	0	0
Anthony et al (2012) Approaching a state shift in Earth's biosphere	0	0
Begum et al (2014) Toward conceptual frameworks for linking disaster risk reduction and climate	3	5
Berkes and Jolly (2001) Adapting to climate change - Social-ecological resilience in Canadian We	0	0
Biesbroek (2013) On the nature of barriers to climate change adaptation	0	0
Book - Adger et al (2009) Adapting to climate change - Thresholds, values, governance	8	21
Book - Barnes (2015) Climate cultures	7	12
Book - Inderberg et al (2014) Climate Change Adaptation and Development	11	47
Book - Leary (2008) Climate change and adaptation	3	5
Book - Obrien & Selboe (2015) The adaptive challenge of climate change - Index	0	0
Book - Schipper & Burton (2008) The Earthscan Reader on adaptation to climate change - Revie	0	0
Book - Schipper & Burton (2008) The Earthscan Reader on adaptation to climate change - Revie	0	0
Book - Tompkins (2005) Surviving climate change in small islands	0	0
Celliers et al (2013) Pathways of integrated coastal management from national policy to local impl	1	1
Cooper & Pile (2013) The adaptation-resistance spectrum - A classification of contemporary adap	0	0
Cutter et al (2003) Social vulnerability to environmental hazards	0	0
Daniels and Endfields (2009) Narratives of Climate Change - Introduction	1	2
Deppisch et al (2010) Plan Baltic A Social-ecological Approach to Climate Change Adaptation	0	0

The screenshot displays the NVivo software interface. The top menu bar includes File, Home, Create, External Data, Analyze, Query, Explore, Layout, and View. Below the menu is a toolbar with various icons for file operations, editing, and analysis. The main workspace is divided into three panes:

- Left Pane (Folders and Nodes):** Shows a hierarchical tree structure. The 'Nodes' pane is expanded to show a list of nodes under 'I\_LITERATURE REVIEW'. The selected node is '0-0\_Framing Climate Change', which includes sub-nodes like 'Attitude regarding risk', 'CC - Cultural appraisal', and 'CC as social construct'.
- Center Pane:** Displays a document titled 'Boundary Crossings' by Mike Hulme. The document content includes the title, author name, affiliation (School of Environmental Sciences, UEA, Norwich NR4 7TJ), and the start of the 'Introduction' section. The text discusses the relationship between climate and society and the emergence of climate change as a cultural object.
- Right Pane (Coding Density):** Shows a vertical bar chart representing the density of codes applied to the text. The chart has several colored bars corresponding to the nodes in the left pane, such as 'Climate', 'Geographer's skills needed', and 'Construction of narratives around global warming'.

At the bottom of the interface, there is a status bar showing 'SD 1750 Items', 'Nodes: 15 References: 39', and 'Page: 1'. The zoom level is set to 90%.



## Conceptual framework & epistemological stance

### Annals of the American Association of Geographers

Volume 110, Number 2, March 2020

SPECIAL ISSUE:  
Smart Spaces and Places  
Guest Editor: Ling Bian



Routledge  
Taylor & Francis Group

## Planning *with* Climate Change? A Poststructuralist Approach to Climate Change Adaptation

Sébastien Dujardin

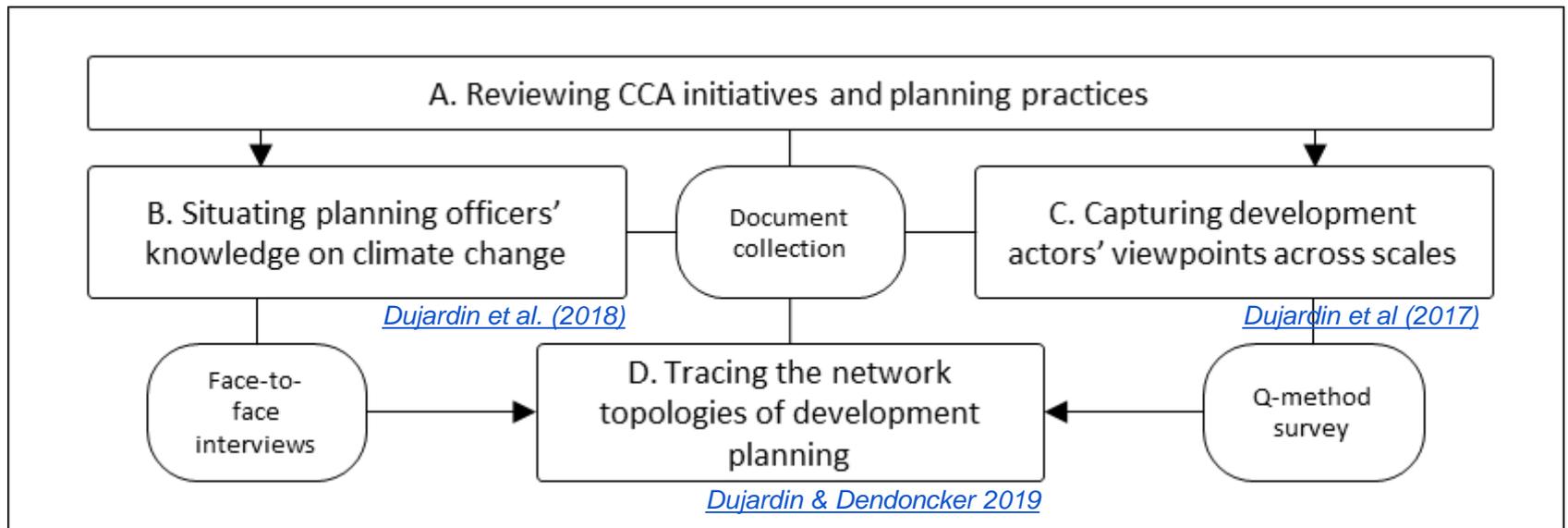
*Department of Geography, University of Namur*

This article calls for a stronger engagement by geographers with the concept of *socionature* as a vehicle for guiding adaptation thinking in development planning. Drawing on literatures from poststructuralist geographies, it argues for a relational, hybrid ontology of climate change adaptation grounded in multiple perspectives, knowledges, and more-than-human relations. Going beyond this stance, a framework based on the idea of planning *with* climate change is proposed for a revised approach to adaptation that calls for more-than-social planning practices embedded in radically more integrative planning processes and the redistribution of power across the climate and planning systems. The article ends by highlighting some of the key challenges that such a project faces for scholars working in the field of planning and development research. *Key Words:* *climate change adaptation, development, human geography, planning, poststructuralist theory.*

[Dujardin \(2019\)](#)



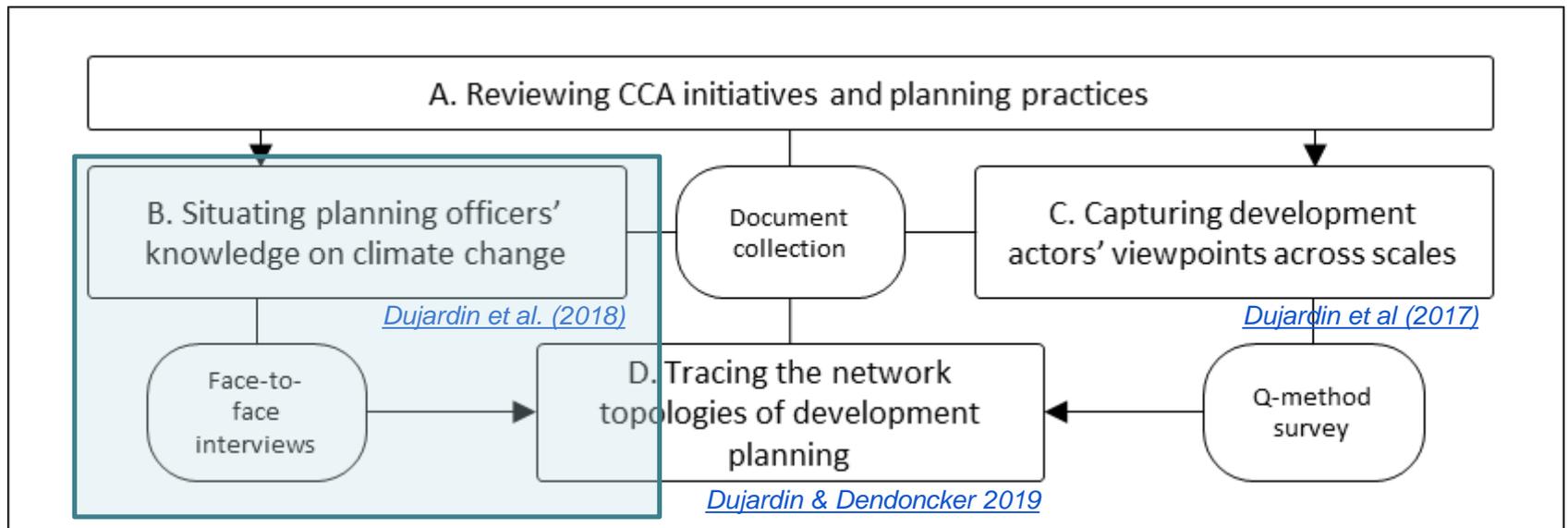
## Main research activities



- A. Overview of current planning practices and adaptation initiatives in the Philippines
- B. In-depth understanding of planning officers' perspectives as it is revealed in their everyday experience
- C. Systematic comparison of actors' viewpoints on adaptation from government and civil society organizations at the local, regional, and national level
- D. Relational analysis including more-than-human actors involved in local development planning



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## Research gaps & research questions

### Research gaps (Hulme 2008)

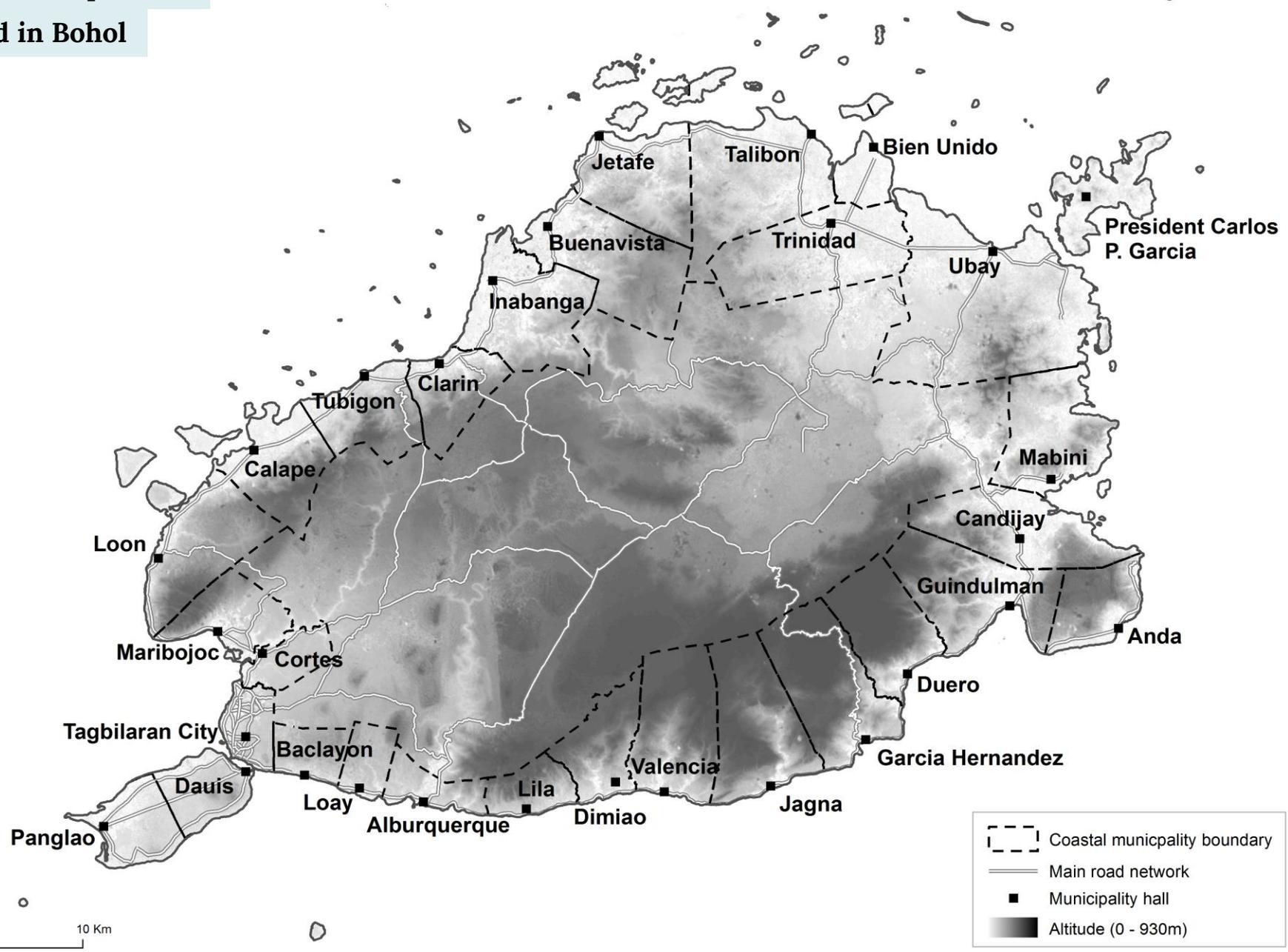
- Need for reconnecting climate with cultures
- Moving climate across scales
- Spatial ordering of CC knowledge

### Research questions

- How municipal planners engage with the idea of climate change?
- What types of knowledge is involved?
- Where does it come from (within/outside the planning system)?

# Coastal municipalities surveyed in Bohol

Data source: Philippine GIS Data Clearinghouse (PhilGIS)



## South: Steep coastline

> landslides and coastal erosion

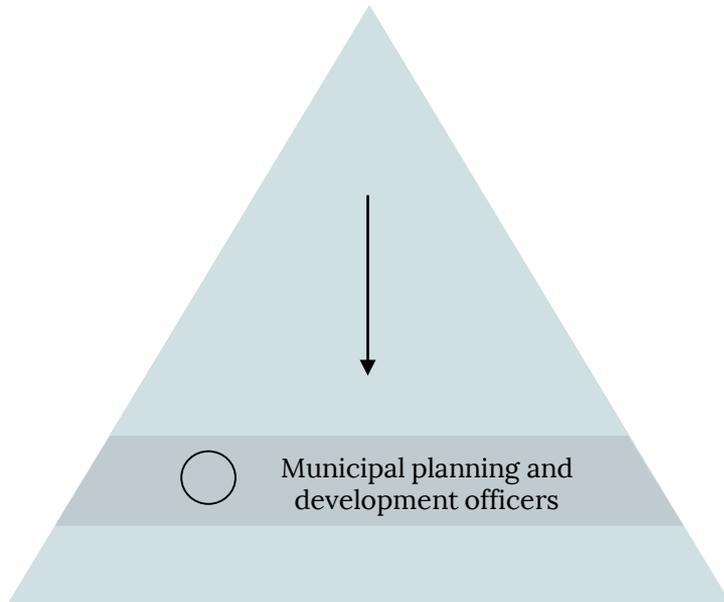


**North: lower lands  
& small islets  
> sea level rise and  
storm surges**





## Municipal planning and development officers (MPDCs)



### Investigating municipalities

- Key actor in the national strategy of mainstreaming CCA into local development plans (2009 CC Act)
- Potential for building place-specific responses to climate change

### Valuing planning officers' experiences

- 'On-the-ground' experiences and practical knowledge
- Bridge between policy (political component) and practice (community needs)



## Data collection & Analysis

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### Face-to-face interviews

- 30 municipal planning and development officers
- Semi-structured interview guide > Key themes, Flexibility

### Mental maps

- Simplified map of the Municipality
- > Identification and spatialization of vulnerable areas

### Planning documents

- Comprehensive Land Use Plans (CLUPs)
- Disaster risk reduction management (DRRM) plans
- ...

Municipalities surveyed (n=30)



# Interview guide

## SEMI-STRUCTURED INTERVIEW

### **Municipal Planning and Development Coordinator (MPDC)**

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#### **Officer's perception of climate change impacts**

Q0. What about the 'climate' in your Municipality? Is it important in people's daily life?

Q1. Do you perceive signs in your area that the climate is changing?

*e.g.: unpredictable season, excessive heat, temperature change, heavy rains and flooding, drought, rising sea level*

Q2. Does it affect people more than before? How?

*e.g.: increase of natural hazards (floods, landslides, storm surges, tropical cyclones, sea level rise, droughts), flood damages, disease outbreaks, water resources depletion*

Q3. What are the specific areas and populations affected in your Municipality? How do they perceive it? Are they requesting for interventions?

Q4. Do you think this lead to more environmental problems?

*e.g.: Waste management, deforestation, natural hazards, overfishing, soil depletion, water management*

#### **Municipality response to climate change**

##### (Development) Planning tools

Q5. Does your office have a role to play in responding to climate change impacts? How?

Q6. Did your office elaborate specific plans, programmes or projects which aim at addressing climate change impacts?

*e.g.: CLUP, CDP, DRRM Plan, LCCAP*

Q7. What about the other departments from your Municipality (engineer office, health, etc.)? Have they undertaken specific initiatives? Have they taken measures?

Q8. In which ways those initiatives (plans, programmes, projects, etc.) will benefit the community?

*e.g.: Improving disaster response vs building resilience and adaptive capacity*

##### Openings for participation

Q9. Was there people/public participation in the elaboration of those plans?

Q10. What type?

*e.g.: Information – Consultation – Partnership*

Q11. Who participated? Which stakeholder?

*e.g.: NGOs, POs, University/ Scientific institutions, Parishes*

Q12. How did you proceed? Length of the process? Types of activity? Types of output? Number of meetings?

Q13. What benefits participants gained from their participation?

Q14. Did it imply changes in any of the following policies?

*e.g.: Settlement policies, protection land policies, production land policies, infrastructure policies*

##### (Spatial) planning measures

Q15. Can you tell me in what way urban planning and land use management can help facing climate change impacts?

*e.g. individual vs collective measures*

Q16. Which measure do you think would be the most suitable? Why?

*e.g.: Zoning, infrastructure building (sea walls, bridges), setbacks and easement zones, improving construction types and materials, relocation*

#### **Civil society response to climate change**

Q17. Are there community-based organizations in your Municipality that can help facing climate change impacts?

Q18. Are there community initiated projects which address climate-related environmental issues?

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#### **Documents to be collected**

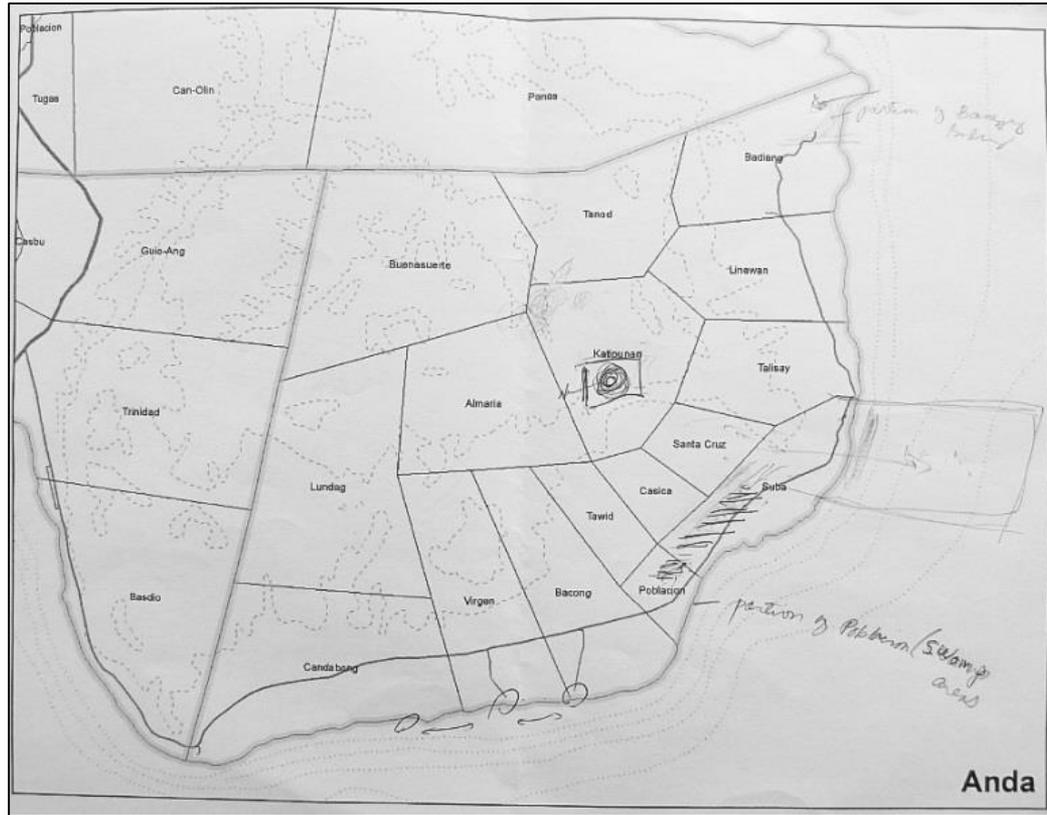
- CLUP – Comprehensive Land Use Development Plan
- LCCAP – Local Climate Change Adaptation Plan (Municipal Local Government Officer – MLGO?)
- Ordinances which address CCA/DRM

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#### **Officer's characteristics**

*Gender, Age, How long have you been serving as a MPDC? E-mail address*

# Mental Maps





## Interpretational strategy

### Cloke et al (2004)'s 'artisanal' approach

- Grounded theory based theory' (Glaser and Strauss 1967)
- Top-down (research questions) & Bottom-up (topics raised)
- Mutually informative, iterative

### Coding

- Close reading of interview transcripts (89.155 words) and documents
- Thematic > Axial > Selective

# Nvivo - Organising interview records

ThEse.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Go Refresh Open Properties Edit Paste Copy Merge B I U A Format Paragraph Styles PDF Selection Text Region

### Folders

- Internals
  - 1\_REF
  - 2\_DATA
    - Preconstructed
    - Self-constructed
      - 1 - Key informant interviews
      - 2 - MPDC interviews
      - 3 - Q Methodology
  - 8\_Partnership & Networking
- Externals
- Memos
- Framework Matrices
- Nodes
  - Evernote Tags
  - Relationships
  - Node Matrices
  - Source Classifications
  - Node Classifications
  - Relationship Types
- Sets
- Search Folders
- Memo Links
- See Also Links
- Annotations
- Queries
- Results
- Reports
- Extracts

### 2 - MPDC interviews

Name	Nodes	References	Created
20130617o MPDC Maribojoc - [redacted] - 1min	2	5	26/11/2013
20130617o MPDC Maribojoc - [redacted] - NOTES	1	1	23/05/2013
20130729o MPDC Dausi - [redacted] - 40min	61	101	26/11/2013
20130729o MPDC Dausi - Ms [redacted] - 40min NOTES	0	0	13/07/2013
20130805a MPDC Jagna - Mr [redacted] - 70min	79	175	26/11/2013
20130805a MPDC Jagna - M [redacted] - 70min NOTES	0	0	14/07/2013
20130805b MPDC Duero - Mr [redacted] - 37min	56	132	26/11/2013
20130805b MPDC Duero - Mr [redacted] - 37min NOTES	0	0	14/07/2013
20130805c MPDC Albuquerque - [redacted] - 37min	37	108	26/11/2013
20130805c MPDC Albuquerque - [redacted] - 37min NOTES	0	0	14/07/2013
20130807o MPDC Baclayon - [redacted] - 39min	38	94	26/11/2013
20130812o MPDC Tagbilaran - [redacted] - 39min	45	130	26/11/2013
20130812o MPDC Tagbilaran - [redacted] - 39min NOTES	0	0	14/07/2013
20130813a MPDC Cortes - [redacted] - 36min	38	110	26/11/2013
20130813b MPDC Panglao - [redacted] - 50min	30	123	26/11/2013
20130814a MPDC Loon - Mr [redacted] - NOTES	0	0	26/11/2013
20130814b MPDC Tubigon - Mr [redacted] - 39min (10min missing)	45	134	26/11/2013
20130814b MPDC Tubigon - Mr [redacted] - 39min (10min missing) NOTES	0	0	14/07/2013
20130816o MPDC Loay - Mr [redacted] - 29min	56	118	26/11/2013
20130816o MPDC Loay - M [redacted] - 29min NOTES	0	0	14/07/2013
20130827a MPDC Ubay - [redacted] - 30min	36	88	26/11/2013
20130827a MPDC Ubay - [redacted] - 30min NOTES	0	0	14/07/2013
20130827b MPDC Bien Unido - M [redacted] - 23min	39	104	26/11/2013
20130828a MPDC Valencia - [redacted] - 29min	44	95	26/11/2013
20130828a MPDC Valencia - [redacted] - 29min NOTES	0	0	14/07/2013
20130828b MPDC Garcia H. - Mr [redacted] - 62min	65	171	26/11/2013

# Nvivo - Transcription

ThEse.nvp - NVivo

Media Tools

File Home Create External Data Analyze Query Explore Layout View Media

Navigation View Find Quick Coding Workspace

Docked Bookmarks Close Window

Zoom Layout List View Coding Highlight

Annotations See Also Links Relationships Links

Node Node Matrix Report Detail View

Framework Matrix Classification Report

Previous Next Reference

20130729o MPDC [x]

Coding Density

	Timespan	Content	Comment
1	0:12.2 - 0:19.8	S - [Introducing]	
2	0:19.8 - 3:10.6	S - What about the climate here in [redacted] ? How is it? It it important to people? Does it impact people's life a lot? Like I know that sometimes for fisherfolks [...] I - Yes that is a great factor in the livelihood of our people. It may be the farmer or the fisherman. Because you know the fisherman cannot go fishing at bad weather. Also the farmer cannot plant during dry/hot [?] season. Even the daily life of people. The weather affects. Because we do not like to go to work on rainy days. And not only that. This weather condition. This global warming affects our shorelines. The rise of sea water. The houses here in Poblacion are experiencing the rise of the sea water. Which is already entering/introduce [?] into the houses. Some 1 foot or more. And yes, during stormy weather. It is very dangerous to the households, especially strong winds. In fact during the last storm. Last December. There were 6 boats that were destroyed. Typhoon Pablo. That was our big disaster so far. S - Which part of [redacted] ? I - In Catarman. S - Yes, because the other side is a bit more protected. I - Yes, the fishing boats that were anchored on that part were destroyed.	
3	3:10.6 - 5:13.0	S - I see. And was it the first time you experience this kind of event here in [redacted] ? From what you can recall. I - No, no that is not the first. In 1991, typhoon Nitang. I was so much afraid because there were roofs that were destroyed. Strong winds. S - So it's not the first time you experience typhoons here in [redacted]. It's kind of regular? I - No, no. Not regular. Only in 1991... [asking her colleague]...1986, 1987, 1983. S - But you cannot tell there are more Typhoons than before. It's not really that. I - No, no I came from [redacted] to here in [redacted] in 1977 and I experienced only one typhoon that was so hard. Signal number 3. Since that, no typhoon as strong as that. Except Pablo last December. Strong winds Sir. S - And it impacted fishermen and other sectors maybe?	Nitang in 1984. Disaster recall pretty accurate

Are there CSOs addressing some specific issues

PADAYON Management Council

Coding Density

- 1. Floods - Coastal (storm surges)
- Recalling Pablo
- 0. Is the weather important in people's life
- Z Reasons why the weather and seasons are important in people's daily life
- Z Damages - Material
- Strong winds affecting main coast (storm surges)

# Nvivo - Coding (open/topic)

ThEse.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Navigation View  Find  Quick Coding  Dock All  Undock All  Close All  Docked  Bookmarks  Close  Zoom  Layout  List View  Coding Stripes  Highlight  Annotations  See Also Links  Relationships  Node  Node Matrix  Relationships  See Also Links  Relationships

Workspace Window Coding Links Detail View

### Folders

- Internals
  - 1\_REF
  - 2\_DATA
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  - Relationships
  - Node Matrices
  - Source Classifications
  - Node Classifications
  - Relationship Types
- Sets
- Search Folders
- Memo Links
- See Also Links
- Annotations
- Queries
- Results
- Reports
- Extracts
- Models

### Nodes

Name	Sources	References	Created On
I_Literature Review	0	0	29/03/2016 11:55
II_ANALYSIS	0	0	29/03/2016 11:56
1. MPDCs Interviews	0	0	18/09/2015 10:14
0_Respondents	0	0	18/09/2015 10:17
cA. Main questions groups	0	0	18/09/2015 10:17
A. Regarding climate change	0	0	18/09/2015 10:17
B. Regarding MPDC responses	0	0	18/09/2015 10:17
cB. Open and Topic coding	0	0	18/09/2015 10:17
[By names] Critical barangays reported	0	0	18/09/2015 10:17
0. Perceptions-observations of (climatic) change	0	0	18/09/2015 10:17
1. Perceived impacts	0	0	18/09/2015 10:17
2. MPDC responses	0	0	18/09/2015 10:17
z_Other	0	0	18/09/2015 10:17
cC. Analytic-Axial and Selective coding	0	0	18/09/2015 10:17
1. Planners' understandings-perceptions of CC	0	0	18/09/2015 10:17
Knowledge (types) involved in CC(A)	1	1	18/09/2015 10:17
Modes of (spatial) ordering	0	0	18/09/2015 10:17
Motion of CC knowledge	0	0	18/09/2015 10:17
cD. Others	0	0	18/09/2015 10:17
CLUP documents analysis	0	0	18/09/2015 10:17
2. Q-Method	0	0	18/09/2015 10:16
3. Post-Analysis	0	0	18/09/2015 10:36
IV. DOCS	0	0	29/03/2016 11:56



# Nvivo - Coding (open/topic)

ThEse.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View Media

Navigation View Find Quick Coding Workspace

Docked Bookmarks Close Window

Zoom Layout List View Coding Highlight Links Detail View

Annotations See Also Links Relationships Node Node Matrix Report Framework Matrix Classification

Navigation View Find Quick Coding Workspace

20130729o MPDC Daus -

Nodes\III\_ANALYSIS\1. MPDCs Interviews\0\_Respondents\20130729o MPDC Daus - 40min

Nodes\III\_ANALYSIS\1. MPDCs Interviews\0\_Respondents\FULL Transcript

Nodes\III\_ANALYSIS\1. MPDCs Interviews\cA. Main questions groups\A. Regarding climate change\0. Is the weather important in people's life

Nodes\III\_ANALYSIS\1. MPDCs Interviews\cB. Open and Topic coding\0. Perceptions-observations of (climatic) change\z Reasons why the weather and seasons are important in people's daily life

Nodes\III\_ANALYSIS\1. MPDCs Interviews\cB. Open and Topic coding\1. Perceived impacts\Floods\1. Floods - Coastal (storm surges)

Nodes\III\_ANALYSIS\1. MPDCs Interviews\cB. Open and Topic coding\1. Perceived impacts\Sea level rise - High tides

Nodes\III\_ANALYSIS\1. MPDCs Interviews\cB. Open and Topic coding\1. Perceived impacts\Typhoons & Storms\Damages - Non-human affecting human activities

Nodes\III\_ANALYSIS\1. MPDCs Interviews\cB. Open and Topic coding\1. Perceived impacts\Typhoons & Storms\Recalling Pablo

Nodes\III\_ANALYSIS\1. MPDCs Interviews\cB. Open and Topic coding\1. Perceived impacts\z Damages - Material

Framework	2	0:19.8 - 3:10.6	<p>S - What about the climate here in Daus? How is it? It it important to people? Does it impact people's life a lot? Like I know that sometimes for fisherfolks [...]</p> <p>I - Yes that is a great factor in the livelihood of our people. It may be the farmer or the fisherman. Because you know the fisherman cannot go fishing at bad weather. Also the farmer cannot plant during dry/hot [?] season. Even the daily life of people. The weather affects. Because we do not like to go to work on rainy days. And not only that. This weather condition. This global warming affects our shorelines. The rise of sea water. The houses here in Poblacion are experiencing the rise of the sea water. Which is already entering/introduce [?] into the houses. Some 1 foot or more. And yes, during stormy weather. It is very dangerous to the households, especially strong winds. In fact during the last storm. Last December. There were 6 boats that were destroyed. Typhoon Pablo. That was our big disaster so far.</p> <p>S - Which part of Daus?</p> <p>I - In Cataman.</p> <p>S - Yes, because the other side is a bit more protected.</p> <p>I - Yes, the fishing boats that were anchored on that part were destroyed.</p>	
Nodes	3	3:10.6 - 5:13.0	<p>S - I see. And was it the first time you experience this kind of event here in Daus? From what you can recall.</p> <p>I - No, no that is not the first. In 1991, typhoon Nitang. I was so much afraid because there were roofs that were destroyed. Strong winds.</p> <p>S - So it's not the first time you experience typhoons here in Daus. It's kind of regular?</p> <p>I - No, no. Not regular. Only in 1991... [asking her colleague]...1986, 1987, 1983.</p> <p>S - But you cannot tell there are more Typhoons than before. It's not really that.</p> <p>I - No, no I came from Bilar to here in Daus in 1977 and I experienced only one typhoon that was so hard. Signal number 3. Since that, no typhoon as strong as that. Except Pablo last December.</p> <p>Strong winds Sir.</p> <p>S - And it impacted fishermen and other sectors maybe?</p> <p>I - Yes, all sectors</p>	<p>Nitang in 1984. Disaster recall pretty accurate</p>

Framework

Nodes

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Annotations

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1. Floods - Coastal (storm surges)

Recalling Pablo

0. Is the weather important in people's life

z Reasons why the weather and seasons are important in people's daily life

z Damages - Material

Strong winds affecting main coast (storm surges)

ingement Council

s addressing some specific issues

nitang



# Nvivo - Coding (open/topic)

The screenshot displays the NVivo software interface for a project named "ThEse.nvp - NVivo". The interface is divided into several main sections:

- Top Ribbon:** Contains standard software menus (File, Home, Create, External Data, Analyze, Query, Explore, Layout, View) and various toolbars for file operations, editing, and proofing.
- Left Panel (Folders):** A tree view showing the project's organizational structure, including folders for Internals, Externals, Memos, Framework Matrices, Nodes, Relationships, and various matrices and classifications.
- Central Panel (Nodes):** A hierarchical tree of nodes. The selected node is "1. MPDCs Interviews", which is further divided into sub-nodes like "0. Respondents" and "cA. Main questions groups". A specific node under "cB. Open and Topic coding" is highlighted: "[Bgy names] Critical barangays reported".
- Right Panel (Text View):** Displays the content of the selected node. It shows a list of references with their respective coverage percentages. For example, a reference from "MPDC interviews\20130805a M\70min" has a 2.02% coverage. The text includes phrases like "Some portions in our Barangay Angilan... have a landslide." and "Barangay Canlulong".
- Far Right Panel (Coding Density):** A vertical bar chart showing the density of codes applied to the text. It features a legend with categories like "Coastal erosion", "Landslides due to heavy rain", "FULL Transcript", and "Coding Density". The chart shows varying levels of coding density across different parts of the text.

At the bottom of the interface, there is a status bar showing "1995 Items", "Sources: 6", "References: 7", and "Unfiltered". The zoom level is set to 100%.



# Nvivo - Coding (Analytic/Axial)

ThEse.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Navigation View  Find  Quick Coding  Dock All  Undock All  Close All  Docked  Bookmarks  Close  Zoom  Layout  List View  Coding Stripes  Highlight  Annotations  See Also Links  Relationships  Node  Node Matrix  Relationships  See Also Links  Relationships

Workspace Window Coding Links Detail View

### Folders

- Internals
  - 1\_REF
  - 2\_DATA
    - Preconstructed
    - Self-constructed
  - 8\_Partnership & Networking
- Externals
- Memos
- Framework Matrices
- Nodes
  - Evernote Tags
  - Relationships
  - Node Matrices
  - Source Classifications
  - Node Classifications
  - Relationship Types
- Sets
- Search Folders
- Memo Links
- See Also Links
- Annotations
- Queries
- Results
- Reports
- Extracts
- Models

### Nodes

Name	Sources	References	Created On
I_Literature Review	0	0	29/03/2016 11:55
II_ANALYSIS	0	0	29/03/2016 11:56
1. MPDCs Interviews	0	0	18/09/2015 10:14
0_Respondents	0	0	18/09/2015 10:17
cA. Main questions groups	0	0	18/09/2015 10:17
A. Regarding climate change	0	0	18/09/2015 10:17
B. Regarding MPDC responses	0	0	18/09/2015 10:17
cB. Open and Topic coding	0	0	18/09/2015 10:17
[By names] Critical barangays reported	0	0	18/09/2015 10:17
0. Perceptions-observations of (climatic) change	0	0	18/09/2015 10:17
1. Perceived impacts	0	0	18/09/2015 10:17
2. MPDC responses	0	0	18/09/2015 10:17
z_Other	0	0	18/09/2015 10:17
cC. Analytic-Axial and Selective coding	0	0	18/09/2015 10:17
1. Planners' understandings-perceptions of CC	0	0	18/09/2015 10:17
Knowledge (types) involved in CC(A)	1	1	18/09/2015 10:17
Modes of (spatial) ordering	0	0	18/09/2015 10:17
Motion of CC knowledge	0	0	18/09/2015 10:17
cD. Others	0	0	18/09/2015 10:17
CLUP documents analysis	0	0	18/09/2015 10:17
2. Q-Method	0	0	18/09/2015 10:16
3. Post-Analysis	0	0	18/09/2015 10:36
IV. DOCS	0	0	29/03/2016 11:56

# Nvivo - Coding (Analytic-Axial)



ThEse.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Go Refresh Open Properties Edit Paste Copy Merge B I U Format Paragraph Styles Editing Proofing

- Folders
- Internals
- Externals
- Memos
- Framework Matrices
- Nodes
- Relationships
- Node Matrices
- Source Classifications
- Node Classifications
- Relationship Types
- Sets
- Search Folders
- Memo Links
- See Also Links
- Annotations
- Queries
- Results
- Reports
- Extracts
- Models

Look for: Search In Nodes Find Now Clear Advanced Find

### Nodes

- Name
- I\_Literature Review
- II\_ANALYSIS
  - 1. MPDCs Interviews
    - 0\_Respondents
    - cA. Main questions groups
    - cB. Open and Topic coding
    - cC. Analytic-Axial and Selective coding
      - Knowledge (types) involved in CC(A)
        - (Cultural-Religious accounts)
        - Embodied and experiential knowledges
        - Institutional knowledge
        - Lay knowledge about the climate
          - Habagat
          - Historical meanings of place
        - Local knowledge for identifying hazardous areas
        - Scientific knowledge
          - Geo-hazard maps
          - Measurements
          - Municipal database-survey
          - Reference to the Corona classification
          - Scientist expertise
        - Vernacular knowledge
      - Local meanings of CC
      - Modes of (spatial) ordering
      - Motion of CC knowledge
    - cD. Others
    - CLUP documents analysis
  - 2. Q-Method
  - 3. Post-Analysis
  - IV DOCS

Habagat x

<Internals\2\_DATA\Self-constructed\2 - MPDC interviews\20130828a MPDC Val 29min> - § 1 reference coded [8.91% Coverage]

Reference 1 - 8.91% Coverage

I - [...] but in disaster case we have not...  
S - No big disaster?  
I - No  
S - But do you perceive there is a change...winds?  
I - Winds... And also what we call the... Habagat. Yes. It's stronger than before.  
A - And the direction is still the same or has it changed?  
I - Not changed. Only the waves...

<Internals\2\_DATA\Self-constructed\2 - MPDC interviews\20130903e MPDC Gu Bertumen - 36min> - § 1 reference coded [8.76% Coverage]

Reference 1 - 8.76% Coverage

- Yes, there are a lot of hazards, like... geologically speaking... and ...well you location, the typhoons coming all the time...

I - Not from June to September. Always coming from the [...]. You know why? Because of the typhoon? [?] monsoon. Yes. The air [?] is going that one. So the Typhoon is always going up. Going during September, November. The rain is coming from the north. So almost all the typhoons going down.

S - Yes, that's true.

I - That is November, December typhoon [...] because the air is coming from the north [...]

S - Ok, and when it's coming from the north, you are pretty well protected... Well, at some times...  
I - But if the [...] southwest monsoon. [...] is always hitting Luzon.

S - But in terms of waves, you have stronger waves during Habagat than when... the other typhoons...  
I - Even during...from the month of June, July, August, [...] September, the Habagat is always stronger.

S - Stronger than the rest of the year.

I - Yes, and it's become more stronger if there is a typhoon coming here.

S - Yes. Low pressure area... Because the water is higher and then...plus the wind. It's adding...

Coding Density

# Nvivo - Building memos

ThEse.nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Workspace Item Clipboard Format Paragraph Styles Editing Proofing

**Folders**

- Internals
- Externals
- Memos
  - 0\_ADMIN
  - 1\_Literature Review
  - 2\_DATA
  - 3\_ANALYSIS
    - R1 - Q-Method
    - R2 - MPDC Interviews**
    - R3 - Post-
  - 4\_DOCs
  - 5\_PUBLI-COM
  - 6\_CONF
  - 8\_Partnership & Networkin
  - Academic writing
  - Framework Matrices
  - Nodes
    - Evernote Tags
    - Relationships
    - Node Matrices
    - Source Classifications
    - Node Classifications
    - Relationship Types
  - Sets
  - Search Folders
  - Memo Links
  - See Also Links
  - Annotations
- Queries
- Results
- Reports
- Extracts
- Models

**R2 - MPDC Interviews**

- Name
- by mapping road networks
- [1.] Methodological note 2 - MPDC Interviews
- [cA] Main questions group
- [cA] What about climate change
- [cA] What about storm surges
- [cA] What about this DRRM fund
- [cB] Open and Topic coding
- [cC] CC as an agent of place disordering
- [cC] Knowledge (types) involved in CC(A)**
- [cC] Modes of (spatial) ordering
- [cC] MPDCs embodied experience of disaster
- [cC] The Inabanga River case
- [cC] Vernacular knowledge for DRRM & CCA
- 0. Perceptions of (climatic) change
- 1. Perceived impacts
- 2. MPDC responses
- 3. Building or enhancing hazard-mitigating infr
- 4. Setting-up education-awareness-training pr
- Barriers - Elections
- Barriers - Expertise
- Barriers - Financial
- B-DRRM Plan
- CLUP - Accounts of 'participation'
- CLUP - Actors involved in the preparation
- CLUP - CCA Integration
- CLUP - Data gathering
- CLUP - DRRM (Plan) integration
- CLUP - Elaboration-Revision process
- CLUP - Links with the FLUP
- CLUP - Purpose
- CLUP - Weaknesses & limitations
- CLUP - Zoning revision

[cC] Knowledge (types) involve [x] [cC] CC as an agent of place [o] Local knowledge for identifiyn [o] Reference

Hulme's idea of center-periphery regarding CC knowledge: PAGASA and the national government (mine and geoscience bureau) in general is seen as the producer on CC knowledge by respondents. See AKP 2012, p27 ("Climate Science").

Climate change knowledge coming to MPDC from the higher levels of the planning hierarchy provide them with additional/greater bargaining power for renegotiating relocation with informal settlers.

(!) When referring to this kind of scientific knowledge, MPDC Trinidad perceive the climate as an "index" rather than an "agent" of change. Not usual comparing to other responses.

The knowledge involved is a scientific one.

(this a kind of counter evidence with the idea that local knowledge should be put forward).

SD 61 Items Linked Nodes: 0 References: 0 Editable Line: 12 Column: 0



## ‘Qualification’ of the ways municipal planners relate to climate change

Reality	Problem	Agenda
“Erratic weather” (unseasonal rains, high-heat days)	Increase of disaster risks (floods, landslides)	Part of their mandate to integrate CCA
“Abnormal tides” (coastal/estuarine areas)	Negative impacts on livelihoods (farmers, fishers)	Training attendance
Unexpected extreme events (heavier rainfalls, stronger <i>Habagat</i> [monsoon] winds, bigger waves/ storm surges)	Land use change (e.g sea salt intrusions > conversion of lands from ricefields to mangrove plantations)	Integration of DRRM plans and geo- hazard maps into land use plans



## Building planning significance through scientific and non-scientific knowledge

### Scientific

CLUPs and geo-hazard maps as technical planning tools defining “climate risk free” areas for future developments

Yet, many raise the issues: coarse resolution, « general description », not accessible for local communities

**> Technical, scientific knowledge of climate-related risks orienting (long term) planning practices**

### Non-scientific

Personnal experience with “disaster prone areas” (residential flood)  
Professional experience (rescue or disaster relief operations)  
Context-specific understanding of their local exposure and vulnerability (lagoon, double reef barrier protection)

**> Local, grounded knowledge of what climate change ‘feels like’ and involves in terms of (short term) responses**



## Notion of ‘experiential knowledge’

### Key quote

*“During signal number 2, about 36 hours before the typhoon arrives, I will start contacting all the barangay officials through our communication systems and instruct them to cut all the leaves of the coconut palms within the vicinity of houses” [...] [As] the tree can fall down because of the wind, if you cut those palms you lessen the stress on the branches. [People] have been doing that as early as... A long time ago. It's been tested already. So it's just our way of informing them. This mechanism system is a way of mitigating. Simplest way.”*

### ‘Experiential knowledge’

= A combination of both scientific and non-scientific ways of knowing about whether extremes allowing for building planning significance in a local planning context



## Key insights

- CC has multiple meanings within municipal planning contexts
- Not only a physical transformation, but also a cultural object: i.e. reality, problem, agenda
- The notion of ‘experiential knowledge’ = useful analytical lens for bridging both scientific and non-scientific ways of knowing about CC
- Beyond the (national) scientific VS (local) non-scientific binary opposition
- Allows shifting from a ‘top-down VS bottom-up’ approach to CC knowledge towards a multi-scale, horizontal approach to CC knowledge

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Page 1 of 10 Original Research

AOSIS

### Making space for experiential knowledge in climate change adaptation? Insights from municipal planning officers in Bohol, Philippines

ConsMark

Climate change is a global phenomenon that has multiple local effects on people and places. Yet, climate change knowledge often travels uncomfortably across scales and needs constant re-interpretation as it is applied in different spatial contexts. This requires to examine how scientific and local knowledge about climate change travel across social systems and shape local meanings and adaptive actions on climate change. Using an interpretive social science analysis of environmental change, this study investigates development planning as a key boundary object for handling both kinds of knowledge, and explores experiential knowledge of climate change held by planning officers from the coastal landscape of the island province of Bohol, Philippines. Drawing upon face-to-face interviews, mental maps, and planning documents review, main results first characterise three experiential ways of knowing about climate change across spaces of lived experiences and spaces of maps and plans. Then, we show how planners engage with climate change adaptation by combining both national, techno-scientific and local, on-the-ground ways of knowing, offering a venue in which experiential knowledge on climate change is used for building planning significance and making more grounded accounts of adaptation moving forward in planning policy and practice.

#### Introduction

##### Background

Climate change is perhaps the greatest challenge facing society as it is a global phenomenon that has multiple local effects on people and places. These effects will increase over time, and require planning and policy solutions far beyond the future that is usually imagined in the human lifespan and the world of politics. Although historically adaptation planning and policy has focused mainly at the national level (Agrawal 2010; Tompkins 2005), attention to adaptation at the local level has received an increasing interest during the last decade. This emphasis on local adaptation stems from a prevailing opinion in the adaptation literature that ‘adaptation is local’ (Masham et al. 2011:890). The impacts of climate change are experienced locally, and therefore, geographic variability in climate impacts requires ‘place-based’ approaches to climate vulnerability analysis and adaptation (Cutter, Mitchell & Scott 2000; Groulx et al. 2014; Storbjork 2007).

Integrating local level and scientific knowledge is often highly valued for effectively addressing climate change (Cash & Moser 2000). The Intergovernmental Panel on Climate Change (IPCC), for instance, supports with ‘robust evidence’ that the ‘integration of local knowledge with additional scientific and technical knowledge can improve disaster risk reduction and climate change adaptation’ (IPCC 2012:15). Scientific knowledge is commonly understood as a knowledge generated systematically from formalised, explicit processes and principles, such as scientifically acknowledged methods and theories. Local knowledge, in turn, often refers to a broad set of knowledge situated in specific locales that reflects expertise and understanding of local phenomena (Raymond et al. 2010). However, the status of local knowledge in relation to scientific knowledge and its relevance in the face of future climate change remain contested (Adger et al. 2009). Bringing together and making use of local and scientific knowledge is not straightforward (Krisjanson et al. 2009) and it is often difficult for individuals and organisations to handle both kinds of knowledge.

As a response, this article aims at exploring the multiple understandings of climate change by enrolling the conceptual lens of experiential knowledge to examine how scientific and local knowledge about climate change travel across social systems and shape local meanings and actions on climate change within the field of development planning. Within the next sections,

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## NVivo as a tool for qualitative research

### Pros

- Good at centralizing research material (notes, interview records, pdfs, questionnaires, pictures)
- Facilitates the comparison of information, in-depth (re-) interpretations
- Advanced queries (case based)

### Cons

- Bias of focusing on the 'technicalities', categorization, formalization of text information/extracts.
- Easy to duplicate nodes > sometimes difficult to find where to stop topic/axial/selective coding
- Sides notes (memos) must remain central in the process of theory building.



## Think before investigating

Approach	Quantitative	Qualitative
Research problem	Well defined, unambiguous	Complex, fuzzy, ambiguous
Questioning	Closed questions	Open questions
Objective	Identify specific categories before the research starts	Identify categories that evolve throughout the research process
Research model	Relationship clearly defined between a limited number of categories. Look for simplicity	Many interrelations between categories. Capturing complexity.
Intend	Mastering generalisation and distribution issues	Stimulating a thorough appraisal of a phenomenon
Strengths	Representativity Reproducibility Standardization	Flexibility Relevance Adequacy
Weaknesses	Causality Coarse resolution	Singularity Contextual results



**Thank you/  
Salamat!**



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