AEA

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PIK

Climate Change Vulnerability Indicators
Option: Raise Awareness

Context: IA of White Paper

IA Highlights the importance of raising awareness to help build capacity. This is a key 'soft non-structural approach' to adaptation and is important for early action at a sectoral level

- Types of awareness raising

- **General (initial)– to build capacity, knowledge, focus attention etc.** **the most "vulnerable geographic areas in Europe" are "Southern Europe and the Mediterranean Basin, mountain areas, in particular the Alps, coastal zones, densely populated floodplains and the Arctic region"**

  'High-level'

- **Targeted (follow up)– precursor to action.** **E.g. Enabling specific sectoral or local policy mainstreaming**

  Developed to help facilitate specific outcomes – specific behaviours

Overview

Policy Objective: To raise awareness of vulnerability to climate change impacts across the EU

To explore issues, consider a specific perspective:

- **Forest fires are a major concern, particularly in southern Europe.**
- "40 000 fires each year destroy around 400 000 hectares of forests and other wooded land in the EU Member States, causing huge economic, social and environmental damage"

Raising awareness of forest fires

- **Risk of forest fires expected to get worse under projections of climate change**
  - **JRC – EEA indicator based assessment**

- **Existing risk management - Decision-support**
  - **Well-developed information system – The European Forest Fire Information System (EFFIS)**
    - European Forest Fire Risk Forecasting System (EFFRFS)
    - Fire Weather Index (FWI)

Raising awareness

What constitutes ‘adaptive capacity’ in this context?: What is the best way of understanding the capacity to respond to potential impacts?

- Adaptive capacity of species?
- Adaptive forestry management?

External risk factors – acknowledged but not included in European wide system (e.g. local factors)

- Density and distribution of trees
- Proximity to urban areas
- Type of management in place…

Approaches: Developing an indicator

Considerations:

- In order to raise awareness, measures of vulnerability would need to be presented as simply as possible. Providing relatively simple results for awareness raising frees practitioners from some of the difficult choices implied by the requirement for accuracy

- Priority is to communicate information about vulnerability; detail and accurate comparison between different areas probably less important for high-level awareness raising

- Use existing methods of risk assessment – how is risk currently understood in this context – how might this change?
  - Linking concept to variables
  - Validation – fire risk not necessarily lead to fire occurrence

- Stakeholder approaches could be used to select variables (normative approach). combined with deductive approach – presence of existing theory.
  - ATEAM Lessons

- Trade offs between criteria (simplicity, visual – for example mapping), availability of date and limitations of composite indicators

Composite Indicators

Combining several components to produce one numerical result

Advantages

- Clear outputs: strong message
- Easier to map
- Enables comparison between regions/ systems
- Easier to measure change over time
- Non-technical: no knowledge required to identify key messages

Disadvantages

- Aggregation
  - **Each component must be weighted: HOW?**
    - Use strength of statistical relationship of variables?
    - Derive from probability of impact?
    - Normative decision?
  - **Can hide important messages**
- Hiding uncertainty
  - **Over-confidence in outputs**

Suggestions

- **'High-level' VI could be developed for specific audiences at specific scales. This would be deliberately broad-brush and would not need the level of detail or reliability required for focused policy or project decisions**

- **Focus on generic components of adaptive capacity coupled with exposure term based on climate change scenarios**

- **Possible examples and uses:**
  - indication to EU adaptation decision makers of regions or areas where more detailed attention required,
  - Used by sectoral or functional decision-makers to highlight areas where project-specific interventions might be appropriate (e.g. reason to carry out more detailed impact assessment),
  - It could be an additional piece of evidence to support improvements in particular components of adaptive capacity (e.g. cc vulnerability becomes another reason for EU to continue to push for social reforms in parts of Europe)

Lessons

Even for relatively straightforward idea of raising awareness of climate vulnerability and risks, there are sectoral distinctions which will be important

For many sectors there are agreed systems in place to manage hazards and risks (including weather-related risks) which decision-makers are using

The purpose of the indicator will influence

- Method used
- Presentation

Questions to consider

How does information about vulnerability help raising awareness?

What is the additional value of developing vulnerability indicators?

What audience / level of governance should this information be targeted to?