

National Vulnerability Assessment for Italian NAS

Sergio Castellari, CMCC / INGV

EIONET Workshop

National, sectoral and transnational vulnerability and risks assessments

EEA, Copenhagen, June 24, 2014



The drivers of the Italian NAS:

- **Increasing concern from National Institutions**
(2007 – National Conference on Climate Change)
- **Emerging scientific knowledge**
(IPCC, EEA, EU projects and National Projects)
- **EU Adaptation Strategy**

EU Guidelines on developing adaptation strategies

page 5 footnote:

“Strategies shall be understood in this document as an umbrella term for adaptation policies (including strategies, action plan and potentially sectoral plans).

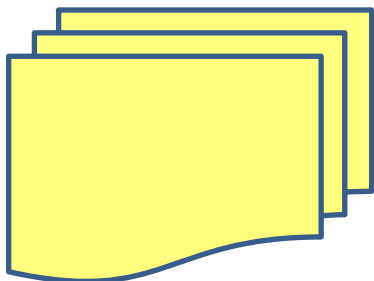
EU Guidelines on developing adaptation policies

1. Step 1: Preparing the ground for adaptation
2. Step 2. Assessing risks and vulnerabilities to climate change
3. Step 3. Identifying adaptation options
4. Step 4. Assessing adaptation options
Prepare a strategy document and get political approval
5. Step 5: Implementation
Develop an action plan
6. Step 6: Monitoring and evaluation

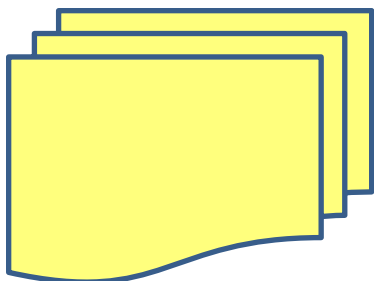
A National Project for NAS

- National Project SNAC *'Elements for the elaboration of a National Adaptation Strategy to climate change'*
- Institutional Coordinator:
Italian Ministry for Environment Land and Sea
- Technical Coordination: *Sergio Castellari (CMCC)*
- Start: *July 2012*
- End: *June 2014*

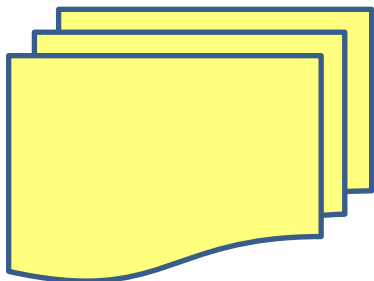
NAS: *a package of knowledge*



1. **SCIENCE** - *Vulnerability Assessment*



2. **LAW** - *Analysis of EU Acquis communautaire relevant for CCIVA and its implementation in Italy*



3. **VISION** – *Strategic document*

Vulnerability Assessment: *purpose*

- It is an assessment about raising awareness of the implications of climate change and the need for action
- The intended audience is national and local stakeholders

NAS process: *structure*

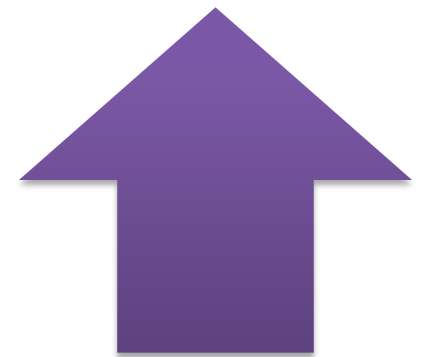
TOP DOWN

Technical Panel – approx. 100 Italian scientists/ sectoral experts. *Coordinator: Sergio Castellari (CMCC, INGV)*

Institutional Panel – Ministries, regional authorities, province authorities and municipalities, Civil Protections, Nat. Env. Agency. *Coordinator: Ministry of Env., Land and Sea*

BOTTOM UP

Participative process - transparency, sharing with national stakeholders (civil society, scientific community, private sector...)



Vulnerability assessment:

the scientific process

Technical Panel

(about 100 scientists/sectoral experts):

- 1) **National and Regional Public Institutions:** INGV, CMCC, ISPRA, CNR, ENEA, INEA, OGS, CRA, ISS, ARPA, Istituto Zooprofilattico Sperimentale delle Regioni Lazio e Toscana,
- 2) **Other Institutions:** Museo delle Scienze di Trento, EURAC
- 3) **International Institutions in Italy:** ICTP, EC-DG JRC
- 4) **Universities:** Torino, Milano, Milano Bicocca, Venezia, Bologna, Firenze, Roma, Roma3, Pavia, Padova, Salento, Tuscia, Sassari, Brescia, Parma, Basilicata, l'Aquila, Palermo, Marche, Ferrara, Pisa, Insubria
- 5) **Fondations:** FEEM, FLA, CIMA, Mach, MEDES
- 6) **Private Sectors:** RSE, Ciset

Vulnerability assessment:

the institutional process

The **different drafts of Vulnerability Assessment** has been shared in three meetings of the **Institutional Panel** coordinated from the Min. Env. Land and Sea.

- *MIPAAF – Ministero delle Politiche Agricole, Alimentari e Forestali*
- *MIBAC - Ministero per i Beni e le Attività Culturali*
- *Ministro della salute*
- *MIT - Ministero delle infrastrutture e dei trasporti*
- *Ministero dello Sviluppo Economico*
- *Ministero dell'Istruzione, dell'Università e della Ricerca*
- *Ministero per gli affari regionali, il turismo e lo sport*
- *Conferenza Stato-Regioni ed Unificata*
- *UPI - Unione delle Province d'Italia*
- *Dipartimento della Protezione Civile*
- *ANCI - Associazione Nazionale Comuni Italiani*

NAS: *Vulnerability assessment*

- A desk study - review of CCIVA scientific literature for Italy (*IPCC-like*)
- Definition and identification of **sectors**
- Assessment of **present** and **expected impacts** of climate change for each sector
- Assessment of **vulnerability** of each sector to the present and future climate
- **Estimate of cost of inaction and adaptation** for some sectors
- Review of already ongoing adaptation actions

NAS: *sectors*

12 sectors
9 micro-sectors
2 special cases

1. **WATER RESOURCES** (quantity and quality)
2. **DESERTIFICATION, SOIL DEGRADATION and DROUGHTS**
3. **HYDROGEOLOGICAL RISK**
4. **BIODIVERSITY and ECOSYSTEMS**
 - *Terrestrial ecosystems*
 - *Marine ecosystems*
 - *Inland water ecosystems and transition ecosystems*
5. **HEALTH**
6. **FORESTRY**
7. **AGRICULTURE, ACQUACULTURE, FISHERY**
 - *Agriculture and Food Production*
 - *Marine Fishery*
 - *Aquaculture*

8. **ENERGY** (production and consumption)
 9. **COASTAL ZONES**
 10. **TOURISM**
 11. **URBAN SETTLEMENTS**
 12. **CRITICAL INFRASTRUCTURES**
 - *Cultural Heritage*
 - *Infrastructures for Transport*
 - *Dangerous industries*
- SPECIAL CASES:**
- *Mountain Areas (Alps and Apennines)*
 - *Po river basin*

Italy: *expected key impacts and vulnerabilities*

Climate change is likely to magnify the **regional differences** in terms of quality and availability of natural resources and ecosystems at the European level (IPCC, 2007, 2014). **Such a dynamic could hold true also for Italy.**

- **water resources** and areas at risk of **desertification**;
- **coastal areas** prone to erosion and flooding and susceptible to alterations of **marine ecosystems**;
- **Alpine area** and **mountain ecosystems** experiencing glacial loss and snow cover loss;
- **areas prone to flood and landslide risk** (including the risk of flash floods, flash mud/debris flows, rock falls and other mass movements related to soil and land management) and, in particular, the **hydrographical basin of the Po River**, as well as the **Alpine and Apennine areas**.

Italy: *expected key impacts and vulnerabilities*



To get more detailed description of key impacts and vulnerabilities in Italy

Vulnerability Assessment:

pros and cons

- Involvement of the majority of national scientific community in CCIVA
- Multi-sectoral approach
- Strong participation of Institutional stakeholders
- Only a qualitative study
- Not a common set of climate scenarios used for the analysis
- Few publications on cost/benefit analysis at sectoral level

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