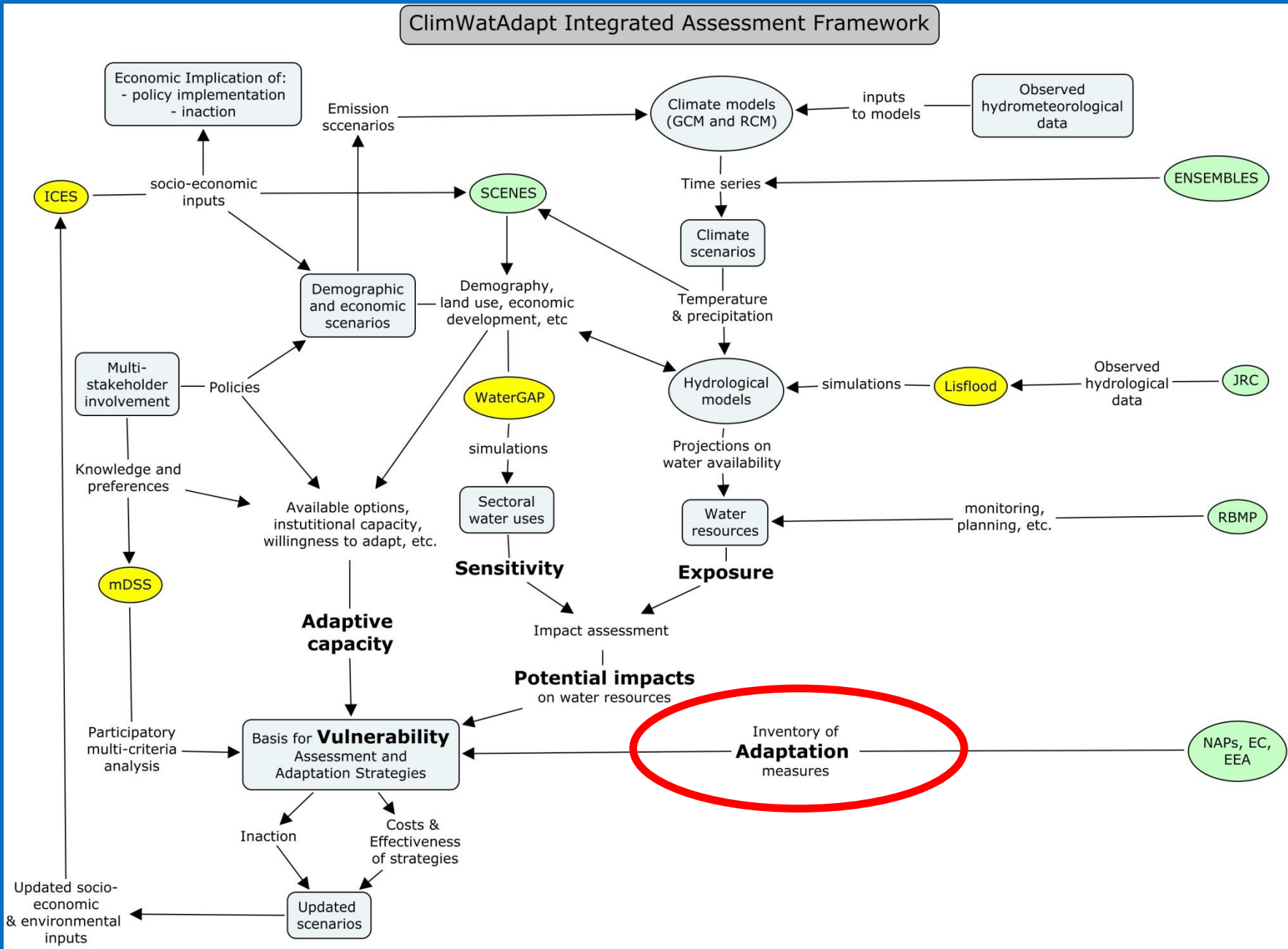


Database on adaptation measures for water management

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What is this presentation about?



Purpose of this database

- Set up an data pool that allows decision makers from European, national, and regional level to draw on when looking for adaptation options in water management.
- Use in the the integrated assessment framework of this project and in a wider sense will contribute to the adaptation knowledge base.

Content of the database

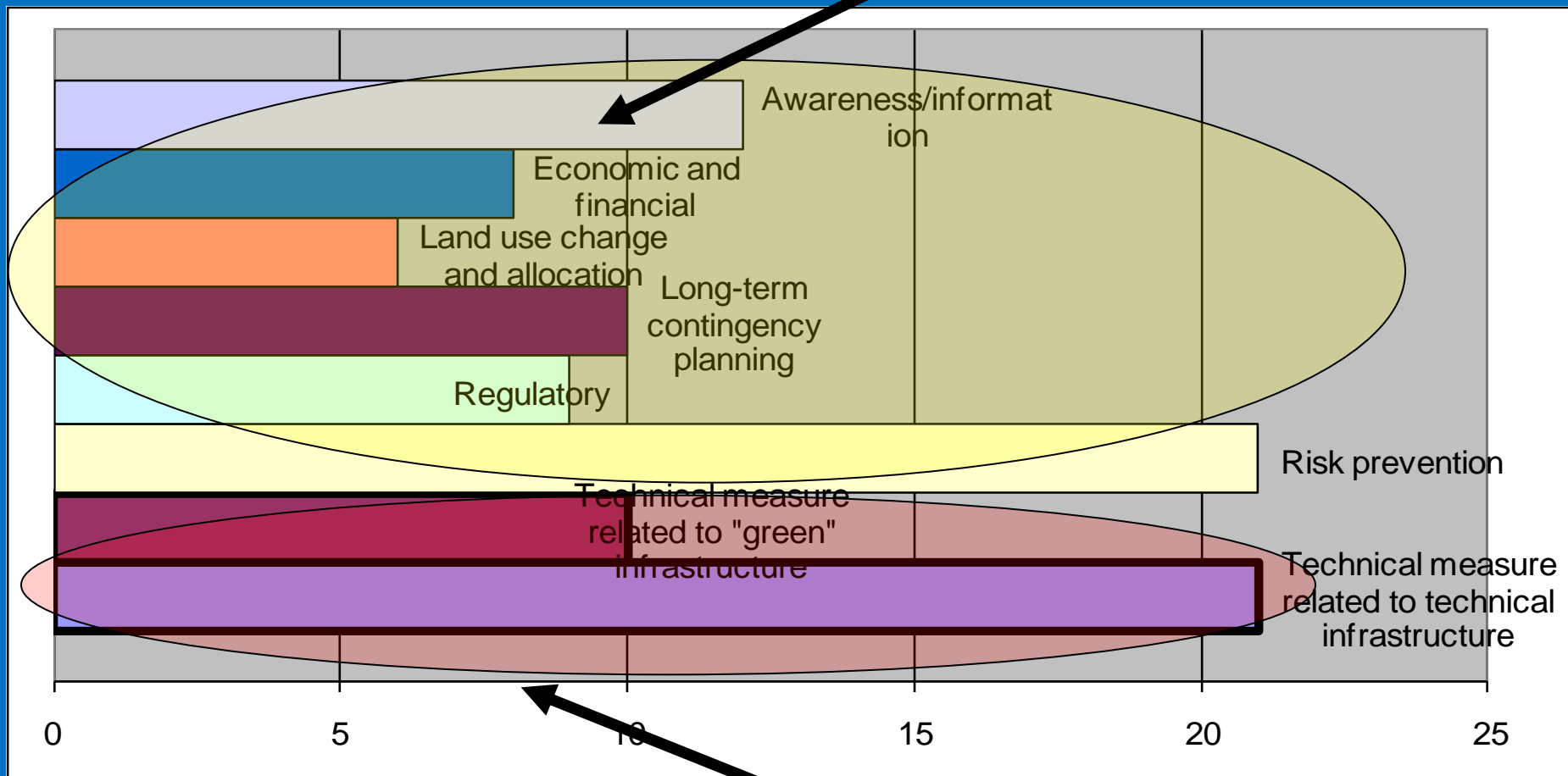
- Database of 110 measures in Excel
- Both “hard” and “soft” measures
- “Hard” measures are measures related to infrastructure
- “Soft” measures mostly supporting instruments
- List of attributes against these measures will be assessed
- Limited Number of examples
- → Several gaps that needs to be closed

Measures relate to

- The measures in the database address
 - Scarcity
 - Droughts
 - Floods
 - Snow
 - (Water quality)
- Cover several sectors (agriculture, households, industry, etc...)

Types of measures

Soft measures / Supporting measures/ instruments



Hard measures / Technical options

Other characteristics of measures

- ***Character of measures:*** Preventive (63), Preparatory (42), Reactive (13), Recovery (10)
- ***Objective of measures:*** reduce exposure and sensitivity (96); increase adaptive capacity (17); to exploit benefits (20)
- ***Climate events:*** Not enough water (67), too much water (72), impaired water quality (29), snow related events (13)
- ***Sector affected:*** Water management (87), Agriculture (34), Energy (13), Industry (18), Forestry (21), Shipping (10), Domestic / Tourism (17)

Main attributes to measures

- **effectiveness:** to what extent does the measure reduce vulnerability to climate change impacts (from not at all to very much)
- **economic effects:** what are the investment/operational/transaction/social costs (as a function of GDP?, from very high to very low)
- **side-effects:** which other positive or negative effects other than reduced vulnerability and economic impacts does the measure have? (from primarily very negative to primarily very positive)
- **flexibility:** to what extent can the measure be adjusted/complemented/reversed when resulting to be inadequate or inappropriate (from very rigid to very flexible)
- **acceptance:** how feasible is the implementation of the measure taking into account issues such as public acceptance? (from not to very acceptable)

A snapshot on the database

- The latest draft of the database can be found on circa

http://circa.europa.eu/Members/irc/env/climwatadapt/library?l=/background_stakeholder/inventory_100910xlsx/_EN_1.0_&a=i



To the
datab
ase

Assessment of the attributes

- **effectiveness:** model analysis where possible (Watergap, Lisflood), complemented by literature results, expert judgment
- **economic effects:** model analysis where possible (ICES), complemented by literature results, expert judgment
- **side-effects:** model analysis where possible (ICES), literature results, expert judgment
- **flexibility:** literature results, expert judgment
- **acceptance:** literature results, expert judgment

**All converted to relative scales
from high to low**

How to close data gaps?

- Include replies to the questionnaire (15 MS)
- Use stakeholder meetings to ask for further information
- Expert judgement within the project team
- Perform model runs in the context of the IAF
 - Lisflood and Water gap for hydrological attributes
 - CMCC for socio-economic attributes
 - mDSS for decision making

Evaluation of measures

- Time and budget reasons do not allow a full evaluation of all measures
 - selection of measures for further evaluation needed
- How to do the selection? Different methods:
 - popularity/voting
 - occurrence in NAS
 - Technical/non technical measures
 - Focus on sector

Questions to participants

- Comments on contents and structure of database?
- Are measures missing?
- Agreement with attributes?
- What kind of concrete indicators they see for each attributes?
- Special wishes/suggestions with respect to further development of database and evaluation procedure?
- What would be a good format of the database (Excel, Access, others)?
- Which type of queries do you expect/are considered to be useful?
- Which measures should be evaluated more detailed