



Supplement of

Selecting and analysing climate change adaptation measures at six research sites across Europe

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BINGO WP5 – Template for Governance Analysis per Adaptation Measure (part of T5.3)

Content Layer

The content layer comprises the first layer of water governance. Below, several indicators are formulated. The first set of indicators aim to characterize the adaptation measure. The second set of indicators assesses the types of knowledge needed to develop and implement the adaptation measure.

Characterization of the adaptation measure

Short description of the measure

Provide a short introduction to the measure: what are its main aims and characteristics?

Related BINGO objective

Mark the BINGO-risk(s) targeted by the measure in the table below with a yellow shading

Decrease of water quantity due to drought	Decrease of water quality due to drought	(Flash) Floods	Decrease of water quality due to increased precipitation
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Related BINGO scope

Mark the BINGO risk-scope addressed by the measure in the table below with a yellow shading

Continuity of service	Sustainable management of resources	Protection of the environment	People and property safety	Economic management	...
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Type of measure

Characterize the type of measure in terms of the IPCC's categorization of adaptation measures using a yellow shading in the table below.¹

Structural/physical				Social			Institutional		
Engineered and build environment	Technological (e.g. irrigation or fertilization)	Ecosystem based (using ecosystem functions to adapt)	(Basic public) Services (e.g. health, water, housing)	Educational (e.g. awareness raising)	Informational (e.g. hazard-mapping)	Behavioral (e.g. changing water use or cropping practices)	Financial (incentives or direct funding of activities)	Laws and regulations (e.g. protected areas, technological standards, building codes)	Government policies and programs (e.g. adaptation plans)

Targeted sector

Indicate the sector targeted by the measure in the table below with a yellow shading

Water Resource Management	Public Water Supply	Urban drainage	Flood safety	Agriculture
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¹ For more information on the categorization, see the IPCC's Fifth Assessment Report, chapter 14, pages 845-849: https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap14_FINAL.pdf (October 2016).

Knowledge requirements

What knowledge is required to develop and implement the measure? What level and detail of information about the addressed risk is needed to effectively implement the measure? What types of knowledge and skills are needed to develop and/or implement the measure (e.g. about the water system, the agricultural cycle, consumer behavior, process management)?

How can this knowledge best be classified? Please highlight in yellow.

Technical knowledge	Administrative knowledge	Knowledge about behavior, interests and preferences
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To what extent are the knowledge requirements met at the research site?

Institutional Layer

The institutional layer deals with the aspects that ensure an effective operation of the adaptation measure. Within the Three Layer Framework, this layer is further subdivided into an adequate organizational framework, necessary legal instruments and a good financing structure. Below, indicators are formulated for each of these aspects.

Organizational requirements

Responsibility structure

Which (constellation of) actor(s) should be involved in the development and implementation of the adaptation measure?

Are the necessary actors currently involved sufficiently?

What requirements are placed on coordination between actors, levels and sectors?

Are these requirements met at the research site?

Administrative resources

Which administrative resources are needed to implement the measure? For example, staff, administrative (e.g. accounting or monitoring) capacities, regulatory (e.g. independent standard-setting or adjusting) capacities, technical expertise, knowledge infrastructure, etc.

Are these administrative resources available at the research site?

Implementation level or scale

At which level or scale will the measure be implemented?

Implementation time

What is the expected time needed to implement the adaptation measure, from measure development to its implementation in practice?

Life time

What is the expected life time of the adaptation measure?

Legal requirements

Relevant EU legislation, policy and directives

What EU directives and regulations influence the governance of this measure?

Legal-operational requirements

Does the measure require setting legal standards (e.g. technological process-requirements, output standards) or the use of certain types of rights (i.e. land-use or taxation rights)?

Are these legal-operational requirements met at the research site?

Financial requirements

Costs

What types of costs are involved with the implementation and operation of the adaptation measure?

Financing structure

How can these financial means be generated; which sources can be used, which actor(s) should pay?

Are the necessary financial resources available at the research site?

Relational Layer

The relational layer deals with the requirements placed on the wider governance context of the adaptation measure. The Three Layer Framework makes a distinction between culture and ethics, and public accountability, communication and participation in this regard.

Culture and ethics

Which cultural or ethical issues either support or obstruct the implementation of the adaptation measure?

Public accountability, communication, and participation

Which public accountability requirements are there for the adaptation measure? Are there specific transparency requirements? What requirements does this place on communication of responsible actors and agencies, and public participation?

Are these requirements sufficiently met at the research site?

Summary

This section summarizes the key governance aspects, in terms of key advantages and governance challenges connected to the adaptation measure.

Key advantages of the measure

Shortly summarize the most important advantages of the adaptation measure; what are its key strengths, do they for example lie in technical robustness, integrative capacities, or financial security?

Key governance challenges

Shortly summarize the key governance challenges connected to the adaptation measure, e.g. in terms of costs, conflicts of interests, contested technologies, etc.

References

Add literature references and references to online resources used in this fact sheet.