Survey on Climate Change Adaptation - How to inform local, national and regional administration successfully

Deliverable of WP5 in the C3-Alps project

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Introduction

The Interreg-Alpine-Space Project-C3-Alps is a transnational capitalisation project. Building on the results of previous projects and initiatives on adaptation to climate change in the Alps, C3-Alps seeks to synthesize, transfer and implement in policy and practice the best available adaptation knowledge. By applying a knowledge transfer concept driven by the information and communication needs of target groups, the project optimizes the usability of available knowledge resources in an attempt to bridge the gap between the generation of adaptation knowledge and its application in real-world decision-making. C3-Alps supports bottom-up adaptation measures in Alpine regions and municipalities, contributes to the implementation of national adaptation strategies, and disseminates Alpine adaptation capital within the Alpine community and beyond. The project's main goals are:

- Preparing a state-of-the-art synthesized knowledge based on climate change and adaptation in the Alps, tailored to the specific needs of decision-makers
- Providing customized adaptation tools and action portfolios, harmonized across sectors
- Effective transfer and communication of information to target groups
- Analysing the performance of existing adaptation policies and the science-policy chain in Alpine countries and providing options for enhancing policy effectiveness
- Informing, initiating, supporting, and implementing adaptation processes, strategies, action plans, and measures in pilot regions and municipalities

But how to find out what people are interested in? Is it a field of interest for them? What do they know or want to know about climate change adaptation? The first step was to define the main dialogue groups of the C3-Alps-Project, who are decision makers on local and regional/national level:

**Dialogue Group 1 (DG1):** Local administration: mayors, members of municipal councils, employees of municipalities, staff of municipal administration

**Dialogue Group 2 (DG2):** Regional and national level administration: officers in public administration at national, regional and sub-regional level
The results of the online survey were collected from September to November 2012. The link to the survey was distributed through the Project Partners networks, such as emailing lists, newsletters, etc.

The survey was composed of 13 close-ended questions and the last question for leaving comments. Some of the questions also had an option to leave additional information or comments.

The results were conducted in 5 languages: English, German, Italian, French and Slovenian. 306 participants responded to the questionnaire, 138 from Dialogue Group 1 and 168 from Dialogue Group 2. All responses to the questionnaire reflect the subjective view of the participants.
Summary

How familiar are the dialogue groups with climate change adaptation (CCA)?

**Dialogue Group 1: Local Administration**
- Members see themselves as less experienced with CCA issues
- Weather and climate influence daily work and professional decisions of 60% of participants
- Members think that climate change in general will play a more important role in their future work

**Dialogue Group 2: Regional/National Administration**
- Nearly half of the members state they are familiar with CCA issues
- For more than 65% professional decisions are influenced by effects of climate or weather
- For 28% CCA is a main responsibility in their daily work

What kind of information do the dialogue groups need?

**Dialogue Group 1: Local Administration**
- Members want to have broad but not very detailed overviews on CCA, with further in-depth information available

**Dialogue Group 2: Regional/National Administration**
- Members want to have summarized information about state of knowledge and in-depth information on special aspects or regions

What types of information products do the dialogue groups look for?

**Dialogue Group 1: Local Administration**
- Overview on existing information sources
- Visualised information (maps, graphs, etc.)
- Geospatial information
Dialogue Group 2: Regional/National Administration

- Overview on existing information sources
- Visualised information (maps, graphs, etc.)
- Geospatial information

What information sources do the dialogue groups use in their daily work?

Dialogue Group 1: Local Administration

- Internet (Search Engines)
- Newspapers/General press
- Professional Journals

Dialogue Group 2: Regional/National Administration

- Internet (Search Engines)
- Project Reports, Studies
- Professional Journals

Which sectors are the dialogue groups interested in?

Dialogue Group 1: Local Administration

- Energy
- Health
- Spatial Planning

Dialogue Group 2: Regional/National Administration

- Spatial Planning
- Nature and Biodiversity
- Natural Hazard Management
 Dialogue Group 1 “Local political decision makers and local administration”

This group is composed of 138 respondents with one of the following three occupations or roles: mayors (30; 21.7%), members of municipal council (17; 12.3%) and staff members of municipal administration (91; 65.9%).

Countries distribution:

Most responses to the Online Survey were received from Austria, Switzerland and Germany.
Influence of climate or weather (e.g. extreme weather events, such as heat, drought, heavy precipitation etc.) on the work or professional decisions of the participants:

![Bar chart showing the percentage of participants influenced by climate or weather](chart1)

Around 60% of participants state that their work is definitely or rather influenced by effects of climate or weather, although only 8.7% fully agree. Out of all participants in DG1, 10% are convinced that climate or weather do not at all have an effect on their work, and 29.7% think they rather have no influence on their work.

Participants’ opinion regarding whether in the future effects caused by climate change (e.g. temperature increase, precipitation changes, more frequent or more intense extreme weather events) will have an influence on their work or on the professional decisions they take:

![Bar chart showing the percentage of participants expecting future effects](chart2)
Although around 40% believe that effects caused by climate or weather (rather) do not influence their work in the present, this perception changes for future perspectives; respondents expect climate change (CC) effects to be more relevant in the future.

**Extent / share of activities related to adaptation to climate change in the participants’ professional responsibilities and/or daily work:**

![Chart showing extent of activities related to CCA]

For around one fifth of respondents from DG1 climate change adaptation (CCA) is a main responsibility in their daily work, while for nearly half of them it is just one of many responsibilities.
Kind of adaptation aspects participants are interested in:

What kind of adaptation aspects are you interested in?

- very high interest
- rather high interest
- medium interest
- rather low interest
- no interest

1. Past climate trends and impacts
2. Climate projections, future climate scenarios
3. Knowledge about climate change impacts and vulnerabilities
4. Adaptation policy and strategies
5. Adaptation options, actions, measures
6. Assessment and adaptation tools, decision support

Kind of adaptation aspects participants are interested in:

- very high interest
- rather low/low interest

1. Knowledge about adaptation policy and strategies
2. Knowledge about climate change impacts and vulnerabilities
3. Knowledge about adaptation options, actions, measures
4. Knowledge about assessment and adaptation tools, decision support

Kind of adaptation aspects participants are interested in:

- very high interest
- rather high interest
- medium interest
- rather low interest
- no interest

1. Guidance for adaptation, preparedness
2. Good practice examples of adaptation strategies
3. Change impacts, adaptation needs, costs
4. Information, communication, sustainability activities support
5. Information about climate variability
The target group declares rather high interest in information about all listed adaptation aspects that directly relate to future developments. In comparison, past climate trends and impacts are not of a very high interest. The altogether highest interest is declared in climate projections and future climate scenarios as well as good practice examples of adaptation activities, but interest in a range of other aspects is similarly high. The aspects receiving comparatively lesser interest, besides past climate trends and impacts are: support for information, communication, and awareness-raising activities; information about uncertainties; as well as guidance for governance and strategy processes. However, more than half of the respondents state that they have very high or high interest also in these aspects.

**Participants’ familiarity with climate change adaptation issues, how much they know about climate change impacts and adaptation:**

![Familiarity Chart]

<table>
<thead>
<tr>
<th>Familiarity Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very familiar</td>
<td>2%</td>
</tr>
<tr>
<td>Fairly familiar</td>
<td>20%</td>
</tr>
<tr>
<td>Medium familiarity</td>
<td>53%</td>
</tr>
<tr>
<td>Barely familiar</td>
<td>16%</td>
</tr>
<tr>
<td>Unfamiliar</td>
<td>1%</td>
</tr>
</tbody>
</table>
Almost 70% of participants are barely or not very familiar with CCA issues. However, there are only 1.4% of all participants considering themselves totally unfamiliar with CCA issues. The distribution of professions among the group that is fairly and very familiar with CCA (together about 30%) is presented in the next graph. According to the results, members of municipal councils are most familiar with CCA issues, although they only make up 12.3% of DG1.
Levels of information participants would like to receive regarding adaptation aspects they are interested in:

All levels of information would be very or rather interesting for more than 57% of participants. Most participants declare interest in broad, but not very detailed overviews. The strongest rather low or no interest (15%) is expressed regarding in-depth information.
Type of various information products participants are most interested in:

The ones polled are most interested in visualized information, as more than 70% of participants declare very high or rather high interest in this product. Other products of higher interest are overviews on existing information sources (64%) and geospatial information (60%). Compared to the other mentioned products, in-depth reports score highest for rather low and no interest.
Type of media / information sources respondents use in their work on a regular basis:

Electronic social media and scientific journals are the least frequent information sources used on a regular basis by DG1. Of most frequent use are easily accessible media and information sources such as Internet, newspapers/general press and professional journals. Project reports, studies and television are regularly used by around 40% of participants to acquire information. Specialised Internet portals/web platforms are used by 34.8% of participants.
Participants’ first step when searching for information on climate change adaptation:

What would be your first step when searching for information on CCA?

- Internet is not just used most frequently as information source, but also when it comes to start researching on CCA. The search begins in most cases either via search engines (Google) or relevant websites are approached directly. The group that starts investigations on CCA via general press or exchanges with colleagues is the smallest one in the sample.
Mayors use the mentioned popular options for investigating CCA the least. For mayors the direct use of relevant websites and search via Google are the most popular first steps, but not as popular as within municipality staff members or members of municipal councils. Apparently, there must be other first steps used by this part of the dialogue group.

Two outliers come from answers provided by members of Municipal Councils: they prefer more looking into specialized press and attending conferences/information events than other members of DG1, but their preference is also use of Google and relevant websites. The first step in which mayors take the lead is looking into relevant projects/studies.
Level of participants’ interest in different sectors:

For 40% to 50% of the questioned participants all sectors are rather interesting. The sectors of very or rather high interest are energy, health, spatial planning, and natural hazard management. In comparison, forestry and tourism are of lower interest.
Participants’ preferences regarding getting information through personal talks (e.g. to one of our experts) and in a written form (via internet, e-mail, print media etc.):

Do you prefer to get information through personal talks or in written form?

- Written information: 118 (86%)
- Personal talks: 20 (14%)

Clearly, written information is preferred to personal talks.
Dialog Group 2: “Regional /national level administration”

This group is composed of 168 participants with one of the following three occupations: officer in public administration on national level, officer in public administration on regional level, officer in public administration on sub-regional level.

Countries distribution:

Most participants are from Italy (35.1%) and Austria (31%). Another 13.7% of the participants are from France, 7.7% from Slovenia, and 6% from Germany.
Influence of climate or weather (e.g. extreme weather events, such as heat, drought, heavy precipitation etc.) on work or professional decisions of the participants:

More than 65% of participants’ state that the decisions they take are influenced by effects of climate or weather, 24.4% are even determined of that. Only 6.5% of participants are convinced that climate or weather do not at all have an effect on the decisions they take and 26.8 % think that climate or weather rather have no influence on their decision-making.

Participants’ opinion regarding whether in the future effects caused by climate change(e.g. temperature increase, precipitation changes, more frequent or more intense extreme weather events) will have an influence on their work or on the professional decisions they take:
Change is definitely expected in the future. Compared to the question about the current influence of CC on decisions taken at work, a strong shift can be observed from no/rather no to yes/rather yes.

**Place of activities related to adaptation to climate change in the participants’ professional responsibilities and/or daily work:**

![Bar chart showing the extent of activities related to CCA](chart.png)

A total of 28% of participants state that CCA is a main responsibility of their daily work. For half of those polled, it is just one of many responsibilities they deal with from time to time. For less than 4% it is not responsibility at all.
Kind of adaptation aspects participants are interested in:

What kind of adaptation aspects are you interested in?

- Very high interest
- Rather high interest
- Medium interest
- Rather low interest
- No interest

### Kind of adaptation aspects

#### Past climate trends and impacts
- No of responses: 117
- Very high interest: 38
- Rather high interest: 54
- Medium interest: 21
- Rather low interest: 3
- No interest: 18

#### Climate projections, future climate scenarios
- No of responses: 135
- Very high interest: 34
- Rather high interest: 57
- Medium interest: 15
- Rather low interest: 1
- No interest: 26

#### Knowledge about climate change impacts and vulnerabilities
- No of responses: 289
- Very high interest: 10
- Rather high interest: 7
- Medium interest: 168
- Rather low interest: 9
- No interest: 9

#### Adaptation policies and strategies
- No of responses: 129
- Very high interest: 15
- Rather high interest: 13
- Medium interest: 3
- Rather low interest: 1
- No interest: 8

#### Adaptation options, actions, measures
- No of responses: 139
- Very high interest: 9
- Rather high interest: 11
- Medium interest: 2
- Rather low interest: 1
- No interest: 11

#### Assessment and adaptation tools, decision support
- No of responses: 149
- Very high interest: 11
- Rather high interest: 12
- Medium interest: 17
- Rather low interest: 4
- No interest: 11
Those polled are highly interested in nearly all adaptation aspects, with good practice examples of adaptation activities and knowledge about impacts and vulnerabilities receiving the highest scores. Regarding past climate trends and impacts, however, most of the questioned have only medium interest in. Guidance for adaptation processes is of very high interest for around 30%, and even more respondents consider it only of a rather high interest. Comparatively lower interest has been expressed for information about uncertainties, support for information/communication/awareness-raising activities, past climate trends and impacts, and (to some extent) guidance for adaptation processes.

**Participants’ familiarity with climate change adaptation issues, how much they know about climate change impacts and adaptation:**

![Bar Chart](chart.png)

Almost 50% of participants are very or fairly familiar with CCA issues, and another 38.7% express medium familiarity. Only 12.5% of participants state that they are barely familiar, none is though totally unfamiliar with the topic.

The distribution of professions among the group that is fairly and very familiar with CCA is shown in the next graph – 72.5% of all participating officers in public administration on national level claim they are very or fairly familiar with CCA issues. Thus, this part of DG2 is by far the most familiar with CCA issues.
Level of information participants would like to receive regarding adaptation aspects they are interested in:

**Percentage of professions/roles familiar with CCA**

- Officer in public administration on national level: 73%
- Officer in public administration on regional level: 41%
- Officer in public administration on sub-regional level: 43%

**Interest in different levels of information on CCA**

- **Broad, but not very detailed overviews (easy to read, with links to start further in-depth investigations)**
  - Very high interest: 34%
  - Rather high interest: 28%
  - Medium interest: 12%
  - Rather low interest: 3%
  - No interest: 3%

- **Summarized information about state of knowledge; concise synthesized information**
  - Very high interest: 39%
  - Rather high interest: 38%
  - Medium interest: 16%
  - Rather low interest: 4%
  - No interest: 2%

- **In-depth information on special aspects or regions**
  - Very high interest: 37%
  - Rather high interest: 33%
  - Medium interest: 19%
  - Rather low interest: 6%
  - No interest: 6%
Participants from DG2 show the highest interest in summarized information about state of knowledge, quite closely followed by in-depth information. Significantly lower interest is expressed in broad, but not very detailed overviews.

**Type of information products participants are most interested in:**

![Interest in various information products](image)

Those polled are most interested in visualized information (76% very/rather high interest) and geospatial information (67% very/rather high interest). The comparatively highest shares of respondents declare rather low/no interest in how-to-do manuals (23% rather low/no interest),
databases (21% rather low/no interest), in-depth reports and technical reports, as well as compendiums and fact sheets (20% rather low/no interest).

**Type of media / information sources participants use in their work on a regular basis:**

Electronic social media are the least frequent information source used on a regular basis by DG2. Of most frequent use as a media source is Internet, followed by project reports/studies, professional journals, newspapers/general press and professional journals. Scientific journals (31%) and television (22%) are used on a less regular basis.

**Participants’ first step when searching for information on climate change adaptation:**

When searching for information on CCA: What would be your first step?
The most frequent first step when searching for information on CCA among all the questioned professions is direct approach to relevant websites, followed by searching via Google, which is to a small extent less relevant for officers in public administration on a national level. Another frequent first step is to look for relevant projects/studies, again a very precise and already direct approach to information on CCA. Receiving information by personal contact with experts or colleagues is also an important first step.

Level of participants’ interest in different sectors:

To which extent are the following sectors of interest to you?

![Interest Levels Diagram]

To which extent are the following sectors of interest to you?

![Interest Levels Diagram]
The ones responding are the least interested in the sectors forestry and especially tourism, although more than 50% of respondents still voted for very high/rather high interest in these two sectors. There are clear peaks of very/rather high interest in spatial planning, natural hazard management as well as nature and biodiversity. Agricultural sector is also of rather high interest; a comparatively high portion, however, declares rather low/low interest in this sector.

**Participants’ preference regarding getting information through personal talks (e.g. to one of our experts) and in written form (via internet, e-mail, print media etc.):**

![Pie chart showing preference for information](chart)

- 137 respondents (82%) prefer written information.
- 31 respondents (18%) prefer personal talks.

Clearly, written information is preferred to personal talks.
Annex 1: Additional comments in the questionnaire

Dialogue Group 1

- We can’t stop climate change, because most of the countries in Europe or the whole world aren’t interested in doing so. The campaigning has just the advantage of creating jobs, and let the economy grow. Climate protection and nature protection is just affordable for wealthy democracies. I’ve been to South-East Asia recently, and concerning nature or climate protection the situation is catastrophic. The alpine Region is that small, that we have absolutely no chances to avoid climate change, in the northern hemisphere or even influence the world’s climate. I know about Meteorology and weather events, because I’m a private pilot.
- In the List of issues you don’t mention the very important topic Transport/Mobility. The topic has a huge impact on climate change and is regularly forgotten, when it comes to climate change, environment or energy.
- Concerning question 13: Personal talks and written information is helpful. It depends on the task and challenges of specific situations. Best-Practice examples are always helpful as information source or for decision making.
- At a first stage it is important to inform decision makers on this issue, mainly those who decide about projects and budgets.

Dialogue Group 2

- Regular information events are also useful
- Every effort concerning “climate change” is praiseworthy seen from my point of view!
- It’s unclear from the questionnaire if personal interests or professional necessities are meant
- If the so called climate change isn’t man made, for me that’s still an open question
- If the so called climate change is manmade and not naturally caused, is an open question to me. In the working field of torrent control/geology/natural hazard management it is clear, that energy always emits into atmosphere, with all the consequences (like boiling water in a cooking pot)
- It is very important, to make climate change visible, and how this affects our daily lives. Concrete situations in daily life should be visualised including the changes/or possible future scenarios related to climate change.
- I am a coordinator for climate change protection (Climate Protection Officer)
- Transferability of regional results?
If you want to communicate and transfer messages, you have to use a language everyone understands; don’t use foreign words, technical wording, English language. This excludes lay people.

Climate change studies relying on flowing waters are always based on runoff measurements. Most of them are incorrect, because the metering devices are not correctly calibrated. Furthermore the monitoring network of runoff measurement and natural river wash is still sparsely used. Average rainfall measurements in the alpine region are even more erroneous. This means all studies on climate change are ridiculous, as long as measurement systems are not taken serious.

Regarding 13: written information is an approach to the topic, furthermore personal talks are of relevance

I love you all!

Good luck, looking forward to seeing the results!