C3-ALPS

capitalising climate change knowledge for adaptation in the alpine space

Climate Adaptation Policies, Governance and the Science-Policy Interface in Alpine Countries and Regions

CLISP Transnational Strategy for Climate Proof Spatial Planning.

Deliverable of WP4 in the C3-Alps project

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Table of contents

1 Introduction

Climate change adaptation is increasingly becoming a subject on the political agenda at the international level. Already in the initial UN Framework Convention on Climate Change (1992), parties committed themselves to adapt to likely impacts of climate change and to set up national adaptation programmes. The Nairobi Work Programme on Adaptation (2005-2010) under the UNFCCC, and more recently the Copenhagen Accord (UNFCCC 2009), both emphasise the need for enhanced action on adaptation. The Cancun Agreement (UNFCCC 2010) acknowledges that "adaptation must be addressed with the same priority as mitigation". In 2007 the **European Commission** published the Green Paper "Adapting to climate change in Europe – options for EU action" followed by the White Paper "Adapting to climate change: Towards a European framework for action" in 2009. These policy papers set out a framework to reduce vulnerability to the impacts of climate change in European countries. Subsequently, the **European Climate Adaptation Platform** (CLIMATE-ADAPT)[1] was established in March 2012. It is a publicly accessible web-based tool, designed to provide support and orientation for climate adaptation policy-making at EU, national and local levels. As set out in the White Paper, a comprehensive EU Adaptation Strategy is currently being prepared and shall be launched in 2013.

The climate change sensitivity of the Alpine area has particularly been acknowledged by the **Alpine Convention** in the "Declaration on climate change" on the 9th Alpine Conference in 2006 as well as in the "Action Plan on Climate Change in the Alps" on the 10th Alpine Conference in 2009. The Alpine Convention calls Alpine countries to develop adaptation strategies to adapt to the effects of climate change. Today (2012), the Alpine countries France, Germany and Switzerland have adopted a **national climate change adaptation strategy**. The Austrian climate change adaptation strategy is well advanced in the development process, but still has to be adopted, while in the Principality of Liechtenstein, Slovenia and Italy the policy development process at a national level and including a majority of the sectors has either not yet started or is in an initial phase. Slovenia has a national (sectoral) climate change adaptation strategy for agriculture and forestry, which was adopted in 2008. Furthermore, the national low-carbon strategy which entails adaptation to climate change is in its second draft and practically ready to be presented for adoption - of course subject to political will.

Climate change adaptation is also becoming relevant for European spatial planning and development. The European Commission's White Paper explicitly stresses the necessity of a long-term and strategic approach to spatial planning in order to reduce vulnerability to the impacts of climate change (European Commission, 2009: 4). Moreover, the **Territorial Agenda of the EU 2020**

[1] http://climate-adapt.eea.europa.eu/

acknowledges climate change as one of the core challenges for territorial development and draws attention to the territorial coordination as regards adaptation policies (European Union, 2011).

1.1 The CLISP Transnational Strategy for Climate Proof Spatial Planning

The *CLISP Transnational Strategy for Climate Proof Spatial Planning* (in the following: the *CLISP TPS*)[2] was **funded by the Alpine Space Programme** under the European Territorial Cooperation 2007-2013. It was designed as one module within the project of CLISP (Climate Change Adaptation by Spatial Planning in the Alpine Space, 2008-2011), which was **led by the Environment Agency Austria**. The Office of the Provincial Government Styria (Austria), a project partner within CLISP, was in charge of the particular project module *CLISP TPS*. The private consulting company *stadtland* (Austria) was engaged as an external subcontractor managing, coordinating and editing the *CLISP TPS.* The whole elaboration process was supported by the CLISP partnership composed of spatial planning experts. The development of the *CLISP TPS* lasted for around one year as the final module.

In the beginning of the CLISP project in 2008, the topic of climate change adaptation in the Alpine space was considered an emerging topic in the European policy field. The *CLISP TPS* was considered a **pioneer project** originating in a political context in which only a few countries in the Alpine space had adopted either national or regional climate change adaptation strategies. Most countries were either in the very beginning of the policy development process or had climate change adaptation not on the political agenda at all. When starting the development process of the transnational strategy for climate proof spatial planning (2010), among the Alpine countries only Germany (2008) and France (2006) had adopted a national climate change adaptation strategy. At this stage, Switzerland and Austria were only at the very beginning of developing a national adaptation strategy. Slovenia had a sectoral strategy adopted and Italy had (and still has) no national adaptation strategy. Moreover, at this stage, there was no policy paper or other document dealing with climate adaptation by spatial planning at the transnational level in the Alpine space. To fill this gap, the *CLISP TPS* was developed as an instrument contributing to the transnational coordination of a "climate proof" spatial planning in the Alpine space (CLISP & stadtland, 2011: 8).

The **CLISP project aimed** at developing an integrated, cross-border document providing transferable approaches and proposals for actions in the varying spatial planning systems of the Alpine countries in order to adapt to climate change. "Adaptation to climate change should become a prioritised field of action of spatial planning" (CLISP & stadtland, 2011: 7). The ***CLISP TPS***

[2] http://www.clisp.eu/content/sites/default/files/CLISP_Transnational%20Planning%20Strategy.pdf

addresses policy makers and administrative officers working on various political and administrative levels. It has no binding character, but serves as a guideline, orientation and catalogue with recommended actions towards climate proof and resilient spatial development.

1.2 Objective and research question of the presented study in the frame of C3-Alps

The **objective of this study** is to analyse *ex-post* the strengths and weaknesses of *CLISP TPS and its impacts* with regard to the policy process of climate change adaptation in the Alpine countries. In particular the study seeks to highlight the impacts in the field of spatial planning. Therefore, the **research questions** are: Have *there been any impacts due to the CLISP TPS on the national, regional or municipal level with regard to climate change adaptation processes? Have there been impacts specifically in spatial planning?*

The analysis is conducted in the course of the **C3-Alps project** (Capitalising climate change knowledge for adaptation in the Alpine space) also funded by the Alpine Space Programme. C3-Alps is an Alpine-wide capitalisation project. Based on the results gained from previous projects and initiatives, C3-Alps aims at synthesising available climate change adaptation knowledge and bridging the gap between the generation of knowledge and its use in policy-making and decision-making. Therefore, the **work package "Adaptation Policy and Governance"** within C3-Alps analyses what kind of policies and initiatives led to "good performance" in climate change adaptation. In the frame of this work package, the results of the presented study contribute to a better understanding on how to optimise future project designs in order to ensure the knowledge transfer from to the use of policy-makers and decision-makers.

1.3 The methodological approach

We conducted **guideline-based expert interviews** with eight persons who participated in the development of the *CLISP TPS*. Four persons interviewed are spatial planners from the public administration, whereas three interviewees represent the expertise in climate change adaptation. One person in the sample represents the perception of the external contractor, who both coordinated and drafted the *CLISP TPS*. For the analysis of the national/regional impacts of the document and its transnational elaboration process, this sample includes all countries and regions that participated in the development of the *CLISP TPS*.

Interview partner	**Institution**	**Date of interview**	**Years of work experiences in the field of climate change adaptation**
Lead Partner CLISP, climate change expert	Environment Agency Austria	19 July 2012	7 years
External contractor	*stadtland* Sibylla Zech GmbH, Austria	03 September 2012	4 years
Administrative officer	Office of the Provincial Government Upper Austria, Department of Spatial Planning	13 August 2012	4 years, since the CLISP project
Administrative officer	Bavarian Ministry of Economic Affairs, Infrastructure, Transport and Technology, Department for Regional Planning and Development	22 August 2012	only during the CLISP project
Administrative officer	Stabsstelle für Landesplanung, Liechtenstein	10 August 2012	4 years, since the CLISP project
Administrative officer	Swiss Federal Office for Spatial Development, Strategy Group Politics of Rural Areas	12 July 2012	5 years
Climate change expert	Urban Planning Institute of the Republic of Slovenia	21 August 2012	8 years
Climate change expert	European Academy of Bolzano	14 August 2012	4 years

The interviews were held during the months of July, August and September 2012. They were carried out by telephone lasting between 1 and 1.5 hours. With the consent of the interview partners the interviews were taped, later partially transcribed, and finally analysed by means of a **qualitative content analyses** following Mayring (2008).

2 Results

The *CLISP TPS* was designed as one of the final products of the entire CLISP project. The coordination and drafting of the document was subcontracted to the private spatial planning bureau *stadtland*. During the development process of the *CLISP TPS*, which covered a period of around one year, workshops with climate change experts and spatial planners from the CLISP consortium were held every other month. In these workshops the state of the work and its further development were discussed. Beside the workshops, it was also possible to provide expert and practical inputs by written feedbacks and by telephone. Besides the human capital of the spatial planners and the climate change adaptation experts, the knowledge base the *CLISP TPS* built on were the empirical results and reviews developed during the CLISP project, which comprise (1) data of diverse vulnerability analyses for different sectors and regions, (2) assemssments of the existing spatial planning systems, instruments and planning processes in the Alpine space taking into account the subject of climate change adaptation, (3) knowledge developed about communication and awareness building.

The following chapters present the result of the study. The report continues with section 2.1 discussing the strengths and weaknesses of the *CLISP TPS*. Section 2.2 deliberates on the challenges and benefits of collaborations between different actors from different disciplines and different countries. In section 2.3 the impacts of the *CLISP TPS* in the countries and regions involved in CLISP are presented; conclusions are drawn in section 3.

1.1 Assessment of the *CLISP Transnational Strategy for Climate Proof Spatial Planning*

The *CLISP TPS* has no binding character but mainly provides guidance for action both in a general sense (e.g. awareness-raising) and in specific fields of action (e.g. water resource management) that are relevant to spatial development and subject to the steering capacity of spatial planning. The document closes with recommendations on implementation on regional and local levels, on communication of the TPS and on monitoring and evaluation. A compilation of practice examples is annexed to the document. In the following the assessments of the *CLISP TPS* by the interviewees are summarised.

The strengths of the CLISP TPS

All interviewees in the sample consider the *CLISP TPS* **very comprehensive** and appreciate having a large collection of options and recommendations for action, which are at the same time in compliance with international policy documents under the Alpine Convention and EU policies. Therefore, almost all persons interviewed state to take the *CLISP TPS* as a **knowledge inventory**, a **guidance/reference work** and/or as an **awareness-raising instrument**. It provides orientation and support in taking decisions for spatial planners and policy makers dealing with the topic of climate change adaptation.

Overall, the elaboration process of the *CLISP TPS* was typically characterised as bottom-up, iterative and participatory. Almost all of the participants perceived the decision-making about the structure of the document, its content and the definitions used as consensus- and compromise-orientated. In this sense, seven of eight interviewees highly value the *CLISP TPS* as a **bottom-up developed document** with **practice orientation** and a **scientific basis**. In other words, it reflects the common denominator of representatives from different countries with different experiences and challenges and of both climate change scientists/experts and spatial planners from the public administration.

Besides concrete attributions, some ”indirect benefits” **resulting from the elaboration process** were mentioned as **strengths** of the *CLISP TPS*. For example, the majority of the interview partners reported to have benefited from various possibilities of exchange in the course of the project: First, the **cross-border exchange** and overview of both challenges and experiences in the field of climate change adaptation in spatial planning was assessed positively. The transnational comparison was also a stimulus for self-reflection and positioning in the international policy field of climate change adaptation. Moreover, the transnational exchange gave new ideas, inspiration and has widened the knowledge horizon, e.g., by good practice examples from other countries. Second, the spatial planners in the sample particularly emphasised the **peer exchange** among spatial planners. The understanding of different spatial planning systems from different countries and the learning of different and/or similar experiences and approaches towards climate change impacts was very much appreciated. Finally, the **“science-practice” exchange** between climate change experts/scientists and administrative officers in spatial planning was considered as important for matching generated knowledge and its usability in “real-world” decision-making. The interaction among planning practitioners and climate change experts was particularly valuable; both sides learned different approaches and concepts to approach the topic of climate change that result from different needs and interests regarding this topic (see more about that in chapter 2.2).

Another positively assessed process effect due to the *CLISP TPS* was the **raised awareness** for climate change adaptation. According to a large number of the interviewees, the in-depth

confrontation with the topic of climate change adaptation and the long development process of an overall and transnational "strategy" document widened the knowledge horizon on the subject. This, in turn, emphasised the potential of spatial planning as response to climate change impacts. One interviewee stated, the involvement in the *CLISP TPS* promoted individual identification with the topic of climate change adaptation. This identification creates commitment makes people carry on the topic with conviction.

Last but not least, the *CLISP TPS* is generally regarded as one important **building block in the process** of working towards a "climate proof" spatial planning and spatial development in the Alpine space.

The weaknesses of the CLISP TPS

A large number of persons interviewed reported a lack of obligation and assigned responsibilities after completion of the project; no one felt (and feels) responsible to pursue the goals of the *CLISP TPS* and no one can be obliged to implement proposed measures. Hence, positively assessing the *CLISP TPS* has to be regarded with caution. A couple of interviewees stated that the comprehensiveness of the *CLISP TPS results precisely from* its **non-binding character** and the **absence of (financial) commitments**. These circumstances of lacking commitments and missing binding responsibilities (and subsequent absent resistance) led to a large number of recommendations to be included in the document, which are considered as unrealistic or, in the words of one interview partner, as an **utopian wish list**. Moreover, a couple of persons interviewed state that the document – albeit comprehensive – includes **inconsistencies**: the *CLISP TPS* provides climate change adaptation recommendations for different sectors. However, a coherency in recommendations across sectors was not entirely attained. For example, recommendations for natural hazard management and for hazard zone planning remain conflicting.

Particularly, the spatial planners interviewed complain that the *CLISP TPS* contains too many compromises and consider it therefore **rather shallow.** They are aware that this is the price for a transnational cooperation, however, from the point of view of a "classical spatial planner", the recommendations developed in the *CLISP TPS* remain rather scientific and abstract. Therefore, its effectiveness in the practice of a spatial planner is questionable. In short: The *CLISP TPS* **lacks precise or visualised definitions of measures**.

The *CLISP TPS* is also been criticised as being rather **conventional**. According to two interview partners, the document does not provide new knowledge or recommendations for spatial planning. They rather consider it a state of the art document highlighting specific existing spatial planning goals and measures, which now gain importance in the context of climate change. Further, these interviewees argue that the document lacks innovative and courageous thinking

going beyond the conservative concepts of spatial planning. They argue that whenever thinking about climate change, including in the *CLISP TPS*, it is commonly accepted to have a conserving discourse counteracting climate change impacts. These interviews would favour to harness climate change to take daring and new paths instead of merely constructing climate change as a threat[3]

Two interviewees consider the *CLISP TPS* only existing in **English** language as a hindering factor for its promotion. When their compatriots such as policy-makers or spatial planners are expected to work with it in their everyday work, the document has to be translated in the according national language.

Finally, some **aspects of the *CLISP TPS* development process** were negatively assessed. Half of the interview partners report an **unsatisfactory project management**: On the one hand, the starting point of the *CLISP TPS* development process within the overall CLISP project was considered too late. On the other hand, some preceding modules building the knowledge basis for the *CLISP TPS* were not finished when starting the CLISP TPS as final module. Essential data were only fragmentary existent and some basic work even finished only at the end of the *CLISP TPS* development process. Hence, in this process one was faced with the challenge to work with estimations instead of measured data. Apart from time shortage, some interviewees criticised the quality of the data on which the *CLISP TPS* built on. It was also argued that a **more integral project design** conceptually incorporating the *CLISP TPS* in the preceding modules would have led to more compatible and useful results for the final document. This would have required the development of a rough concept of the *CLISP TPS* at the beginning of CLISP.

Some interview-partners judged the *CLISP TPS effectiveness as low*, given that hardly any attention was dedicated to the follow-up process. At the end of the project it was unclear to some project partners how to concretely continue the use of the *CLISP TPS*, how to transfer the technical document into practice and, finally, who would be in charge of further developing and communicating the document. Basically, all this remained subject to the individuals involved in CLISP. In these circumstances, one interview partner is concerned of having produced a **paper tiger**. In this sense, a couple of spatial planner interviewees stated that a **more foresighted approach** might have facilitated developing a communication strategy for the *CLISP TPS* within the project, e.g., by presenting it and discussing its potential, usability and weaknesses at (political) conferences, spatial planners' symposia or regional meetings of policy makers and administrative officers.

The performance of the *CLISP TPS* development process with regard to **participatory elements** was judge as only possible to a limited degree by a minority of the persons interviewed. This resulted from time shortages of the development process. A couple of interviewees could not

[3] One single person in the sample thinks the document exactly to be innovative and courageous because of the absence of a binding character: The ideas flow more freely without political resistance.

always understand decisions made, especially, toward the end of the project (when time was particularly short). More transparency would have been appreciated regarding the questions why some points, topics or priorities came into the document while some were dropped. In this sense, **methodological inconsistency** was perceived as problematic aspect of the development process, as some voices in the consortium successfully prevailed over others.

2.1 Assessment of the stakeholder cooperation

The *CLISP TPS* is a product developed by representatives of different Alpine countries. The project consortium was composed of both climate change adaptation experts as well as administrative officers working in the public administration of spatial planning and their subcontractors, who often were spatial planning consultants. This chapter reflects on the benefits and challenges that emerged from this cooperation.

Different expectations by planning practitioners and climate change experts

In the interviews, **different approaches** towards the topic of climate change became visible. While the experts of climate change think in longer time horizons and work with uncertain prognoses and tendencies, persons from the spatial planning administration are more used to working with exact information and in short time horizons. These different approaches were reflected in different expectations towards the *CLISP TPS,* which challenged the cooperation in the project.

Primarily, the scientists and climate change experts were expected to provide the basic knowledge on climate change and scientific-based maps on climate change impacts in certain regions. However, almost all administrative persons–the planning practitioners–interviewed found the results in the *CLISP TPS* **rather general, abstract or too technical** in order to be useful for the everyday work in spatial planning. There was much discussion about the level of detail in the results developed. The practitioners expected an (detailed) overview on where vulnerable areas lie and in how far they are affected by climate change impacts. This would be necessary, so planning practitioners argued, in order to take appropriate spatial planning measures. One administrative officer expressed **need for action in climate change science**: if spatial planning is supposed to be active in climate change adaptation, the scientists must provide detailed data about climate change impacts on the regional level. This person further elaborated that change in spatial planning can politically only be realised when spatial planners can precisely present what impacts climate change has in the region. Spatial planners have to be able to argue why spatial planning needs to take action. In short: at the moment, there is an emergency in arguments when spatial planners propose measures to adapt to climate change. There is a lack of scientific facts and figures in order to reach a common problem definition. As long as precise information is missing

and as long as scientists "only" provide tendencies (e.g. "there will be more precipitation") spatial planners respond with goals whose effectiveness for adaptation is low.

The scientists, on the other hand, could not meet these expectations of detailed information due to the **framework conditions** of the project (time, budget, data basis). In addition, the climate change experts reported that planning practitioners had insufficient understanding of scientific feasibility. A couple of interview partners argued that the high expectations from administrative spatial planners could have been lowered when the potential of the *CLISP TPS* had been clarified at the beginning of the project: in future projects, the lead partner as well as scientists were addressed to make the (limits of) feasibility of information generation more transparent; this feasibility communication concerns (limits of) spatial resolution and uncertainties in assessments.

Nevertheless, most of the participants of CLISP **appreciated** having had cooperation among scientific experts and administrative officers to improve the mutual understanding between scientists and practitioners and that also advanced the topic of climate change adaptation in spatial planning.

Unclear responsibilities between lead partner and project partners

Given that the project partners have no commitment towards the *CLISP TPS*, no one who was interviewed in the course of this study feels **in charge of distributing** and **promoting** the *CLISP TPS.* Typically, interviewees argue that they lack time and financial resources to promote the *CLIPS TPS*. One project partner thinks that the responsibility to distribute the *CLISP TPS* lies with the lead partner. This interviewee proposed the lead partner initiated a transnational committee, e.g., within the Alpine Convention, in order to make the document known. The lead partner, on the other hand, hopes that the administrative officers involved in the project will take care of the transfer of the *CLISP TPS* into their own administrative institutions. At the time of the interview the lead partner had considered the follow-up process to be the project partners' field of responsibility. When this report was written the lead partner realised that the question of ownership should have been resolved during the course of the CLISP project.

2.2 Impacts of the *CLISP Transnational Strategy for Climate Proof Spatial Planning*

On transnational level, the *CLISP TPS* hardly has had any impacts, so far. According to some interviewees the **C3-Alps project** can be considered a follow-up project to CLISP. The project (again) provides a transnational platform for institutions from different Alpine countries to jointly develop and capitalise knowledge to facilitate climate change adaptation measures. Also, largely the same partners as in CLISP are involved. Apart from this project, no transnational

institutionalised group, forum or the like was mentioned in the interviews as a result of CLISP or the *CLISP TPS*.

On national level, the project partners do not feel responsible to spread the *CLISP TPS* due to its non-binding character (as seen in the previous chapter). Most of the interviewees see the *CLISP TPS* as a reference guide when they face climate change adaptation in their work. Overall, the study reveals that in the Alpine countries the subject of adaptation to climate change has not priority in the spatial planning policy. However, the topic slowly gains attention and awareness is rising. The following sub-sections go into the impacts in every region that participated in the development of the *CLISP TPS.*

Austria

Overall, the CLISP project has **raised awareness**, **interest** and **sympathy** for the topic of climate change adaptation in spatial planning and also generated knowledge in this field. On the national level, the elaboration of the **Austrian national climate change adaptation strategy** (adopted by the Council of Ministers on October 23rd 2012) took place almost simultaneously with the development process of the *CLISP TPS*. The Environment Agency Austria, as the Lead Partner of CLISP, was assigned by the Federal Ministry of Agriculture, Forestry, Environment and Water Management to integrate the results of the *CLISP TPS* into the national strategy. Therefore considerable transfer occurred from the generation of knowledge into the "real-world" policy-making: the Austrian Climate Change Adaptation Strategy contains an own action field and a comprehensive action plan for spatial planning, which reflects concrete content of the *CLISP TPS*. The interviewee assessed that the inclusion of spatial planning in the strategy would have not been possible without the work done in CLISP. Further, in the **new Austrian spatial development concept 2011** (*Österreichisches Raumentwicklungskonzept ÖREK*) developed by the Austrian Conference on Spatial Planning, climate change adaptation is—for the first time—emphasised explicitly as an action field of spatial planning. Moreover, there are explicit recommendations included in the concept for actions to adapt. One interviewee assumed that both participation of provincial spatial planning administrations in a partner role and of the Austrian Spatial Planning Conference (ÖROK) in an observer role in CLISP contributed to putting adaptation on the agenda of spatial development policy (partly, the same persons involved in CLISP also took part in working groups of the ÖREK).

On the regional level, in parallel with CLISP an **inter-sectoral working group** on climate change adaptation was founded on the administration level of the Länder (=provinces, federal states) in Upper-Austria. During CLISP both working groups were mutually supportive. Finally, an interview partner reports that the *CLISP TPS* is used as a reference work in the **Vienna University of Technology.**

One Austrian interviewee emphasises the effectiveness of **human-based knowledge transfer**. For Austria the awareness raising for climate change adaptation in the Austrian administration was strongly supported by involving the Austrian Conference on Spatial Planning (*Österreichische Raumordungskonferenz*) as well as the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water (*Österreichisches Lebensministerium*) in the project (as observers). The former is a central coordination committee on the national level for spatial planning; the latter co-financed CLISP and leads the Austrian national climate change adaptation strategy.

Bavaria

According to the interviewee from Bavaria, some key elements of the *CLISP TPS* were "indirectly" implemented in the **Bavarian climate change adaptation strategy,** which is currently in the "pipeline". Some components out of CLISP are integrated even though they do not make the link to the project.

Currently, the **regional development programme** (*Landesentwicklungprogramm*), a legally binding programme, is further elaborated and contains a chapter on climate change. This recognises the need for climate change adaptation and emphasises the potential of the spatial planning sector in this field of action.

Further, the Bavarian State Ministry for Economic Affairs, Infrastructure, Transport and Technology (*Staatsministerium für Wirtschaft, Infrastruktur, Verkehr und Technologie*) develops a **planning guide**. This is supposed to be a guide for regional planners in decision-making.[4] According to the Bavarian interviewee the instrument is basically the translation of the *CLISP TPS* for their region: it is in German language and thematically as well as institutionally aligned with the Bavarian context. This planning guide makes a direct reference to CLISP.

As it is in the Austrian case, the Bavarian interview partner also **stresses the human-based knowledge transfer**. Inspired by CLISP the Federal Institute for Research on Building, Urban Affairs and Spatial Development (*Bundesinstitut für Bau-, Stadt- und Raumforschung-BBSR*) has launched a **model region project** that uses elements of the *CLISP TPS*. Further, the BBSR considers developing a guideline for vulnerability assessments on the regional level.

However, at the moment other topics than adaptation have higher priority in Bavaria. The interviewee representing Bavaria reasoned so emphasising the already good *flood protection* and a generally good *settlement policy* in the region, which are seen as the main action fields in the context of climate change adaptation. After all, Bavaria uses the *CLISP TPS* content but does not greatly promote the document itself. *Asked for an explanation, the interviewee explained that* the

[4] Decision making on questions such as: How do I take into account climate change adaptation in my regional planning? Which aspects are relevant? What is my data basis? How can I integrate all that into the legally binding regional plan? Where can I get informed?

lacking legitimacy of the *CLISP TPS* explains this line of action, adding that the *CLISP TPS* is neither an officially adopted document nor produced by a known and recognised institution.

Principality of Liechtenstein

In the Principality of Liechtenstein, it was less the *CLISP TPS* itself that had an impact than the entire CLISP project. The Principality of Liechtenstein has especially benefited from the intensive discussions of different water and water management systems within the consortium of CLISP. The project partner particularly took advantage of the intensive and bilateral exchange with Grisons, the adjacent Swiss canton sharing the catchment area of the river Rhine. Through dealing intensively with the water sector and comparing different water systems in the Alpine space, CLISP stimulated to deliberate more deeply about the own water system and its legal framework. As a result, a lack in legal regulations regarding water extraction from rivers for the Liechtensteiner agriculture sector was detected in the course of CLISP. As consequence of the CLISP project, the Office of Agriculture (*Landwirtschaftsamt*) and the Office for Environmental Protection (*Amt für Umweltschutz*) of the Principality of Liechtenstein launched an **in-depth study**.[5] The study showed water demand for agriculture and water disposability. A key result of the study was that there is a sufficient amount of water, if water extraction can be regulated by appropriate water management. If implemented, water allocated for agricultural use would be defined legally by concession and controlled to hold the minimum level of water for the ecological stability.[6]

Additionally, the land-use planning unit of the Principality of Liechtenstein (*Landesplanung*) has distributed the *CLISP TPS* to all public offices. The *CLISP TPS* was also presented in the working group "Environment and Space" (*Umwelt und Raum*) dealing with spatial planning and climate change. However, as stated by the representatives of the previous countries, the interview partner representing Lichtenstein believes also in **the human-based knowledge transfer:** people, who were not involved in the CLISP project do probably not work with the document. According to the Liechtensteiner interviewee the biggest impact of CLISP was the involvement of the two public Offices of Agriculture and for Environmental Protection in the project. This contributed to raising awareness in public administration for the importance of environmental questions in spatial planning.

South Tyrol, Italy

[5] Both Offices are in charge of the water extraction in agriculture with the aim to maintain the ecological stability of the rivers and ground water in the Principality of Liechtenstein. Furthermore, two water associations do the monitoring of the water in the whole country. That means they collect the data on water quantity flows in and out the country.

[6] In the study analyses how much water is at least necessary in order to have an ecological minimum stability in the waters of the Principality of Liechtenstein. It further investigates which farmers belong to the big water extractors as well as which farmers have priority when it comes to water scarcity (depending on the crops). The study was presented in Mai 2012 and will be further developed in autumn.

According to the representative of South Tyrol, there are no observable impacts due to the *CLISP TPS* as far as climate change adaptation in regional planning is concerned. The challenge in Italy is that there is so far no officially established climate change adaptation strategy. Subsequently, climate change adaptation is only indirectly addressed, for example, by means of hazard zone plans at the municipal level. Therefore, the *CLISP TPS* could not challenge or be integrated in an existing or an emerging policy development process of climate change adaptation.

In general, the *CLISP TPS* has contributed to a raised awareness for climate change adaptation in the region. However, the South Tyrolean interview partner regrets not having had more representatives from the administration involved in the CLISP project. The partner states that greater participation of administrative officers might have brought more impacts for the region as the result of **human-based knowledge transfer**.

Slovenia

Slovenia so far lacks a national adaptation strategy it has also no document that would exclusively deal with climate change adaptation in spatial planning. In this sense the *CLISP TPS* is the first document that explicitly deals with climate change adaptation and spatial planning. Nevertheless, the process of preparation of the Slovenian low-carbon strategy started in 2010 and the first draft was finished in September 2011. The draft contains a chapter on territory/spatial planning. Also, in the second draft of the **low carbon strategy for Slovenia 2060** the CLISP project and the *CLISP TPS* are mentioned as good practice examples. Additionally, the *CLISP TPS* was distributed within the Directorate for spatial planning, who was also an observer in the CLISP project. However, there is no proposal for a concrete use of the document until now. To foster the attention paid to the *CLISP TPS* and its use, the Urban Planning Institute of the Republic of Slovenia (*Urbanistični inštitut Republike Slovenije UIRS*) would have to perform further activities, such as presentations for, or workshops with, target groups. However, resources are lacking for such activities outside of projects. At this stage, the UIRS takes the *CLISP TPS* as basis for the work in **C3-Alps**.

In the future, strategic documents in spatial planning at the national level will presumably be revised, where the *CLISP TPS* is potentially one of the inputs for the preparation of the parts of the documents concerning climate change adaptation. However, at the moment other topics than climate change adaptation receive more attention in the country.[7]

Switzerland

[7] In he past half year, in Slovenia the national administration was reorganised and therefore other topics advanced in the list of priorities.

In 2008 all Federal Offices were asked8 about their need for and interest in participating in the **Swiss national climate change adaptation strategy**. They were also asked to contribute by developing sectoral sub-strategies. At this time and in the frame of the CLISP project, the Federal Office for Spatial Development (ARE) only began to engage in the topic of climate change adaptation. According to the representative of the Federal Office of spatial planning, the CLISP project was decisive for the engagement of ARE in the national climate change adaptation strategy. Furthermore, the knowledge gained from the overall CLISP project was useful for the spatial planning sub-strategy within the national adaptation strategy, states the Swiss interview partner. However, the development process of the *CLISP TPS* did not coincide with the national climate change adaptation strategy, as the latter was almost finished when the former started off. Nevertheless, a few points of the *CLISP TPS* could be integrated in the Swiss sub-strategy for spatial planning, for example, the field of action 'development of open space' has been introduces as a result of involvement in the CLISP TPS.

In the frame of the **Swiss Action Plan** for climate change adaptation, ARE intends to apply the "CLISP Climate Change Fitness Checklist" (Pütz et al., 2011) elaborated for spatial planners. ARE[9] launches a study this year (2012) to make the CLISP checklist applicable for the Swiss context. The goal is to have a guideline mid next year (2013) for the cantonal planners in Switzerland. At present, ARE tries to integrate the topic of climate change in the **national law of spatial planning,** which is currently under revision. Following the Swiss interviewee "climate change adaptation" should be named explicitly in the legislation of spatial planning in order to enhance the legitimacy for spatial planners to take action in this field.

Finally, due to the entire CLISP project the subject of climate change adaptation gained in importance in the administration of spatial planning. As result, in the Federal Office for Spatial Development **0.4 full time equivalent** has been devoted to deal with climate change adaptation, only

[8] The Federal Office for the Environment (FOEN) led the survey.
[9] It is he ARE taking over the lead, an external planning office in cooperation with the cantons, municipal and cities will carry out the adaptation of the transnational checklist to the Swiss context.

3 Conclusion

The study showed that the *Transnational Strategy for Climate Proof Spatial Planning* had varying impacts in the Alpine countries. In sum, the document and particularly its development process has generated climate change knowledge and increased awareness for the topic of adaptation to climate change impacts. As a general tendency, Alpine countries, which were in the process of a national climate change adaptation strategy, benefited most from the C*LISP TPS. C*ountries not (yet) having climate change adaptation on their political agenda record fewer effects from it. Apart from raising awareness, typical impacts due to C*LISP TPS* were the integration of its content in national, regional or local documents, binding or non-binding in nature. Apart from that, a few follow-up studies emerged from the C*LISP TPS,* but no transnational institution was established in order to further develop or implement the C*LISP TPS*.

The **lessons learnt** and the **next possible steps,** particularly, with regard to the question on how to increase impacts from project products is addressed in the following. Most of the interview partners consider the C*LISP TPS* a guidance or reference work without a clear mandate. Although the lack of a legally binding character is a limiting factor of the CLISP TPS, transnational binding adaptation measures in spatial planning do not appear feasible: different countries have different spatial planning systems, different natural challenges and finally different (economic) interest. After all, the question arises of the responsible and legitimised institution adopting a transnational strategy. Instead of a transnational binding document, the study shows the potential to integrate the content of an output that was developed in a transnational project into national policy strategy documents, spatial planning laws or in spatial planning principles.

The awareness-raising process strongly takes place on an individual level as the result of dealing personally with a subject in greater depth. In accordance, the results show that the integration of decision makers and/or policy makers in projects such as CLISP is decisive in order to gain a broader human-based knowledge transfer from the scientific knowledge generation into the “real world” decisionmaking.

Further, the study shows the importance of reflecting in the frame of a project on how to capitalise generated knowledge: How should the results such as the final product of a project, such as CLISP TPS be spread? Who is responsible for its distribution? Where and how is C*LISP TPS* supposed to be implemented and/or further developed? If these questions remain open, the C*LISP TPS* runs the risk of being not considered in any policy process.

The English language of the *CLISP TPS* document is considered as a limiting factor when decision-makers and policy-makers are supposed to refer to it in their everyday work. The translation of the document into corresponding national languages would support its broader use.

The authors of this report would like to add their opinion on the frictions that emerged between spatial planners and climate change adaptation experts. The former expected exact knowledge and predictions on a fine spatial scale from the latter. Scientists, on the contrary were not able to provide this information. This, however, is not a failure of scientists involved in CLISP. Rather, climate change is a complex and global phenomenon that makes it very difficult to provide exact predictions about what will happen in the future at a particular spot and what impact adaptation measures will have. We argue that the expectation of "society", here represented by planning practitioners, have not adapted to the changing role science can play under the condition of uncertainty and unpredictability. We suggest that scientists should be more transparent in their communication and clearly admit the limitations of scientific methods even though this might lower (in the short term) the respect scientist receive in and by society.

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