Environment and Climate Regional Accession Network ECRAN

Environment and Climate Regional Accession Network (ECRAN)

Workshop Report on National Climate Adaptation Policies and Legislation – Step B: Identification of Adaptation Options

03-04 June 2015, Zagreb

Enviroment and Climate Regional Accession Network ECRAN

ENVIRONMENTAL AND CLIMA REGIONAL NETWORK FOR ACCESSION - ECRAN

WORKSHOP REPORT

Activity No 3.4.2

WORKSHOP ON NATIONAL CLIMATE ADAPTATION POLICIES AND LEGISLATION – STEP B: IDENTIFICATION OF ADAPTATION OPTIONS

03-04 JUNE 2015, ZAGREB, CROATIA

This Project is funded by the European Union

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LIST OF ABREVIATIONS	
ATTC	Agriculture Technology Transfer Centre
DG	Directorate-General
DRR	Disaster Risk Reduction
ECRAN	Environment and Climate Regional Accession Network
ETC/CCA	European Topic Centre on Climate Change impacts, vulnerability and Adaptation (ETC/CCA
EU	European Union
M&E	Monitoring and Evaluation
MS	Member State
MMR	Monitoring Mechanism Regulation
NAP	National Action Plan
NAS	National Adaptation Strategy
UN	United Nations
UNFCCC	United National Framework Convention on Climate Change

I. Background/Rationale

General

Today, all countries recognise the reality and the challenges caused by global warming and its effects. Two subsequent World Bank 'Turn down the Heat' Reports confirm climate change as a fundamental threat to development.

Many countries are already affected by climate change including the Western Balkans and Turkey. These countries are considered to be highly vulnerable and expected to experience the effects of rising temperatures and disruption to their precipitation regimes, along with more extreme events, including droughts, floods, heat waves, windstorms and forest fires. Water availability and quality will be affected, energy supply disturbed, food production will come under pressure and food prices will rise while biodiversity will decline.

This makes it a must to manoeuvre economic, environmental and social interests and costs to safe havens through adaptation measures. Adaptation planning means anticipating the adverse effects of climate change and taking the appropriate action in order to prevent or minimise the damage that the effects of disrupted climate regimes can cause, or taking advantage of opportunities that may arise, such as e.g. through an increase in wind and solar options, adjustment of agricultural production practices, water farming and others. Identification of vulnerabilities and risks is at the forefront of adaptation action.

Climate Change Vulnerability

There are different ways in which vulnerability and risk can be defined and analysed. Vulnerability is often defined as a function of the character, magnitude, and rate of climate variation and change to which a system is exposed, together with its sensitivity and adaptive capacity. Humans can increase their vulnerability by e.g. urbanisation of coastal flood plains, by canalisation of rivers, the way energy production and supply has been shaped, deforestation of hill slopes or by constructing buildings in risk-prone areas.

In the framework of the UNFCCC seven criteria are distinguished to identify key vulnerabilities:

- magnitude of impacts;
- timing of impacts;
- persistence and reversibility of impacts;
- likelihood (estimates of uncertainty) of impacts and vulnerabilities and confidence in those estimates;
- potential for adaptation;
- distributional aspects of impacts and vulnerabilities;
- importance of the system(s) at risk.

Key vulnerabilities are associated with many climate-sensitive systems, including food supply, infrastructure, health, water resources, coastal systems, ecosystems, global biogeochemical cycles, ice sheets and modes of oceanic and atmospheric circulation.

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During the regional ECRAN Adapt Seminar in Skopje in July 2014, the ECRAN beneficiaries (Albania, Bosnia and Herzegovina, Croatia, former Yugoslav Republic of Macedonia, Kosovo*, Serbia, and Turkey) have identified the sectors in the Western Balkans and Turkey that are most vulnerable to climate change. Energy planning is one of these sectors.

Measures have been proposed for effective adaptation. However, the key to adaptation to climate change is the integration of the issue of climate change in the energy sector's relevant strategic, planning and programme documents both at national and regional levels as well as the local level.

The EU's Adaptation Strategy provides a framework for a more climate-resilient Europe by enhancing the preparedness and capacity to respond to the impacts of climate change at local, regional, national and EU levels. The Strategy consists of three priorities: (1) Promoting action by Member States, (2) Better Informed Decision making and (3) Climate proofing EU action.

Proper information about climate vulnerabilities is an important starting point for any form of adaptation action. Detailed understanding of vulnerable areas* brings focus to the adaptation priorities and the tools to be used.

ECRAN Support

Within its Climate Component, ECRAN will promote 'climate-proofing' action by further encouraging adaptation in key vulnerable sectors ensuring that the infrastructure is made more resilient, and will support better informed decision-making by addressing gaps in knowledge about adaptation. ECRAN will address adaptation action by optimizing the coordination of adaptation activities with the European Climate Adaptation Platform (Climate-ADAPT) as the 'one-stop shop' for adaptation information in Europe.

In October 2014 the ECRAN Environment Ministers/Climate Coordinators have been requested by the European Commission to nominate NATIONAL ECRAN ADAPTATION TEAMS which with the assistance of EU Member States experts will work together on the following:

- Climate Adapt tool – Prioritisation of Adaptation Needs
- Identification of Adaptation Options
- Prioritisation of Adaptation Options
- Policy and Legal Changes

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

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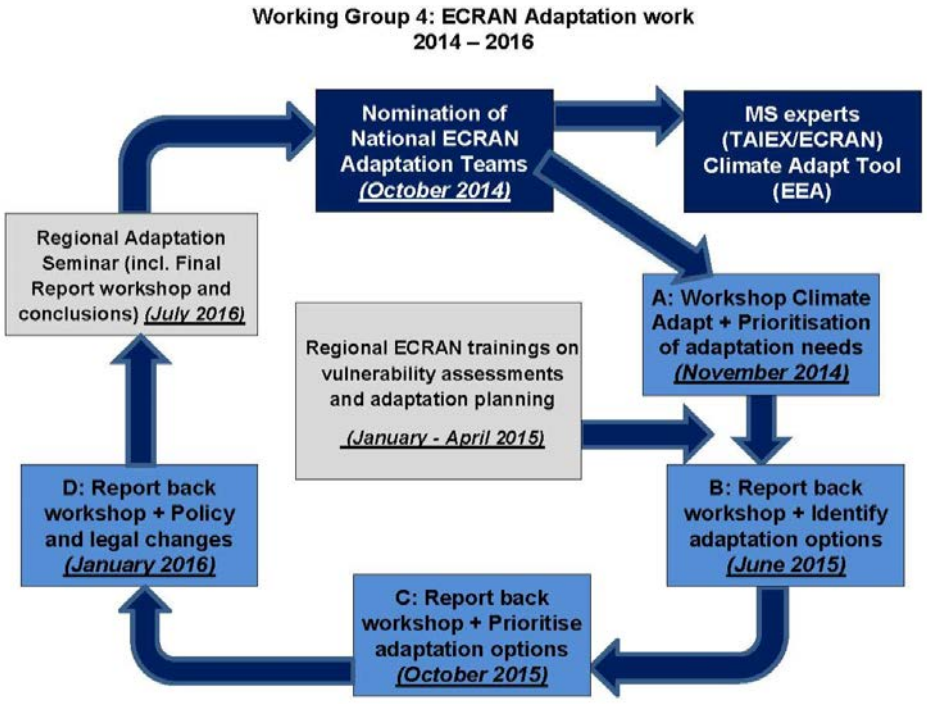

Training and Workshops Programme outline

General considerations

The ECRAN Adaptation Programme includes a series of workshops that will guide the National ECRAN Adaptation Teams through the different stages towards developing national climate adaptation policies and legislation, combined with regional technical training sessions that support Beneficiary Countries' experts from selected technical areas to carry out risk and vulnerability assessments and adaptation planning.

The programme envisages three regional technical training workshops, each to last for up to two days. The three priority fields that have been selected for the training are:

- Water Management;
- Urban Planning and Development;
- Energy Planning.

Each of these fields relates to a large variety of other (non-)selected fields, calling for strong cooperation among stakeholders in general and public administration sectors more in particular. The overall theme for the training inevitably includes aspects of cooperation and collaboration, mainstreaming, and inter linkages. These are aspects that are key to successful (adaptation) responses to climate vulnerabilities in each of the selected (and other) fields. In this context there is a link with disaster risk management, as disaster risk reduction and climate change mitigation and adaptation share common goals. Both fields aim to reduce the vulnerability of communities and achieve sustainable development. The training incorporates options for reducing disaster risks related to climate change.

The programme outline is as follows:

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Step A	Climate Adapt Tool - Prioritisation of adaptation needs	24-25 November 2014
*Technical experts that will contribute to the step-by-step process carried out by the ECRAN ADAPTATION TEAMS will receive **specific technical training** after Step A. This will enhance Beneficiary Countries' adaptation skills securing a harmonised approach among all participants in the Teams and thus contribute to adaptation practice coherence and effectiveness.*		
***3 targeted training programmes** on vulnerability assessment and adaptation planning (**Water Management**, **Urban Planning and Development**, and **Energy Planning**) will be provided*		19-20 January 2015 23-24 February 2015 16-17 April 2015
Step B	Report back workshop + Identification of adaptation options	03-04 June 2015
Step C	Report back workshop + Prioritisation of adaptation options	15-16 October 2015
Step D	Report back workshop + Introduction of Policy and legal changes	14-15 January 2016
	Final Report at Regional Adaptation Seminar	28-29 July 2016

As shown in the outline the National Teams' workshops and development actions are supported through targeted training on vulnerability assessment and adaptation planning for selected categories of technical experts (January – April 2015). The first of these three training sessions was on Water Management (held in Ankara on 19 and 20 January 2015), the second on Urban Planning and Development (held in Podgorica on 23 and 24 February 2015), and the third on Energy Planning (held in Tirana on 16 and 17 April 2015).

ECRAN will assist the Beneficiary Countries in further enhancing their knowledge and understanding of their climate vulnerabilities and thus prepare them to take better adaptation actions[†]. The training also draws on the EU Guidelines for National Adaptation Strategies and strengthens regional climate adaptation networking. The outline of the trainings is basically identical for all three training sessions. However, the technical area to be addressed differs per training.

National ECRAN Adaptation Teams Workshops

As indicated above the National Adaptation Teams will, supported by EU Member States experts, carry out their activities in 4 steps. These will be addressed in 4 consecutive workshops: Steps A to D. The Teams consist of representatives of public administration sectors that are relevant for climate change adaptation. Their composition differs per country depending on the most important adaptation aspects and current possibilities to mobilise sectors.

The Steps A to D workshops accommodate up to 10 National Team members per country. The workshops programme will build on the Climate Adapt Tool to establish a common framework among climate adaptation practitioners in the region and will allow sufficient space until the next workshop for the teams to carry out the national policy development activities that are required in each phase

[†] ECRAN Climate Work Programme, Activity 4.1.b

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of the process, while inter alia supported by country experts that attended the technical training programme.

These three technical training workshops were delivered in January – April 2015, providing knowledge and skills that feed into the policy development process.

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II. Objectives of the training

General objectives

- To promote climate adaptation action in the Western Balkan countries and Turkey;
- To enhance the understanding about climate adaptation action among a core of Beneficiary countries' representatives, creating climate adaptation policies and planning as a basis for action.

Results/outputs

The expected results are:

- a further developed informal network of National Climate Adaptation Teams from Western Balkan countries and Turkey initiated and established;
- enhanced and harmonised understanding among National Climate Adaptation Teams about the identification of adaptation options;
- improved cooperation and coordination among authorities in and between Western Balkan countries and Turkey in the area of climate adaptation action;
- increased (steps towards) climate adaptation action planning in place in the Western Balkan countries and Turkey.

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III. EU policy and legislation covered by the training

EU Adaptation Strategy

Adaptation means anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause, or taking advantage of opportunities that may arise. It has been shown that well planned, early adaptation action saves money and lives later.

Examples of adaptation measures include: using scarce water resources more efficiently; adapting building codes to future climate conditions and extreme weather events; building flood defences and raising the levels of dykes; developing drought-tolerant crops; choosing tree species and forestry practices less vulnerable to storms and fires; and setting aside land corridors to help species migrate.

Adaptation strategies are needed at all levels of administration: at the local, regional, national, EU and also the international level. Due to the varying severity and nature of climate impacts between regions in Europe, most adaptation initiatives will be taken at the regional or local levels. The ability to cope and adapt also differs across populations, economic sectors and regions within Europe.

In April 2013 the European Commission adopted an EU Strategy on Adaptation to Climate Change. The strategy aims to make Europe more climate-resilient. By taking a coherent approach and providing for improved coordination, it will enhance the preparedness and capacity of all governance levels to respond to the impacts of climate change.

The EU Adaptation Strategy focuses on three key objectives:

- Promoting action by Member States: The Commission will encourage all Member States to adopt comprehensive adaptation strategies (currently 20 have strategies) and will provide funding to help them build up their adaptation capacities and take action. It will also support adaptation in cities through the Mayors Adapt initiative, a voluntary commitment within the framework of the Covenant of Mayors.
- 'Climate-proofing' action at EU level by further promoting adaptation in key vulnerable sectors such as agriculture, fisheries and cohesion policy, ensuring that Europe's infrastructure is made more resilient, and promoting the use of insurance against natural and man-made disasters.
- Better informed decision-making by addressing gaps in knowledge about adaptation and further developing the European climate adaptation platform (Climate-ADAPT) as the 'one-stop shop' for adaptation information in Europe.

EU adaptation actions include mainstreaming of climate change (mitigation and adaptation) into EU sector policies and funds, including marine and inland water issues, forestry, agriculture, biodiversity, infrastructure and buildings, but also migration and social issues.

The EU also addresses knowledge gaps through research and the European climate adaptation platform (Climate-ADAPT). This platform, launched in March 2012, provides several useful resources to support adaptation policy and decision making, such as: a toolset for adaptation planning; a projects and case studies' database; and information on adaptation action at all levels, from the EU through regional and national to the local level.

Moreover, stakeholders from the local, regional and national level are encouraged to participate in the development of the EU Adaptation Strategy. The EU is providing guidelines on integrating climate into policies and investments and on how to use the instruments and funds provided by the Commission for climate change adaptation.

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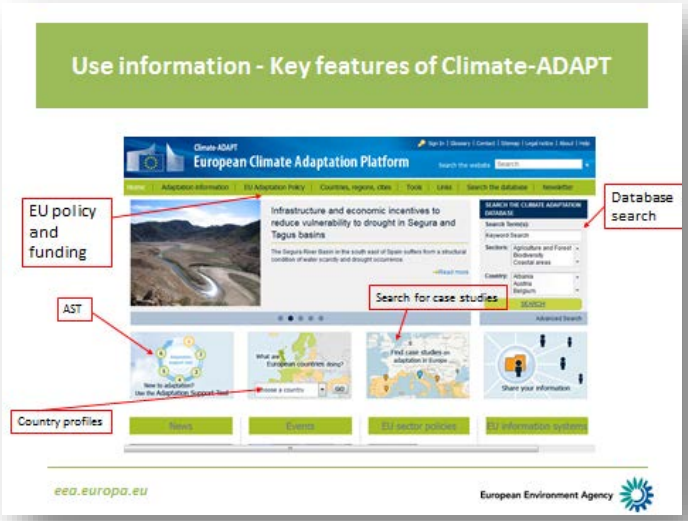
IV. Highlights from the training workshop

Day 1 – Zagreb, Croatia, 3 June 2015

Incorporation of ECRAN countries in Climate-ADAPT – Kati Mattern (European Environment Agency)

Climate-ADAPT's mandate is to support the development and implementation of adaptation strategies, policies and actions. The focus is on experts who work on different government levels (EU, transnational, national and sub-national), governmental decision makers and organisations providing them support, as well as boundary organisations and research institutes.



Climate-ADAPT is maintained by the European Environment Agency (EEA) with DG CLIMA and supported by the European Topic Centre on Climate Change impacts, vulnerability and Adaptation (ETC/CCA)

One of the key features of the Climate-ADAPT website (http://climate-adapt.eea.europa.eu/web/guest/home) is the overview on EU Adaptation Policy with subpages on the EU 2013 strategy, on mainstreaming of adaptation in EU policies (9 sectors), and on funding via LIFE Programme, ESI funds, Horizon 2020.

The website offers the Adaptation Support Tool, which is aligned with the EU Adaptation Strategy's Guidelines on developing adaptation strategies while describing the use of the tool. This includes explanations on the sub-structure of the steps in the Tool, including city specific guidance. For each step resources can be drawn from the database that is linked to the site. Also a checklist is available for each step, besides a dedicated section on funding.

The Urban Adaptation Support tool was launched in October 2014 and includes detailed guidance materials. A new tool is formed by the Urban Vulnerability Maps, to be launched on 9 June 2015 at the Resilience Cities Conference in Bonn. The tool contains interactive maps based on European data showing urban specific climatic threats: heat waves, floods, water scarcity and droughts, and forest fires. There are also maps on exposure, sensitivity, and response indices.

The Climate-ADAPT website furthermore includes information on inter alia:

- Case studies on implementation adaptation actions (Case Study Search Tool);
- Spatial and temporal specification of climate data (new tool ;

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- Time Series Tool (metadata, queries by point);
- A section with Adaptation information: Adaptation strategies map with links to country pages; resources for observations/ scenarios, vulnerabilities/risks; menu for generic adaptation options; meta data for important European research projects; uncertainty guidance.

The table below shows how the Climate-ADAPT tool will be further developed.

year	Content priorities	Functionality/tools priorities
2014	• EU policy /funding • AST update • Dissemination	• Develop cities submission forms and map-based search tool • Improve spatial climate data
2015	• City information • Reporting under MMR	• Overview on country information • User interactivity
2016	• Content links with Copernicus Climate Services	• Functionality links with Copernicus Climate Services
2017	• Content evaluation and revision related to EU Adaptation Strategy	• Functionality evaluation and revision related to EU Adaptation Strategy
2018	• Develop/Implement new content required from revised EU Adaptation Strategy	• Develop/Implement new functionalities required from revised EU Adaptation Strategy

For 2015, Mayors Adapt signatory cities'profiles will be included and made accessible through an interactive map. Also an interactive map book on urban vulnerability is added, further uncertainty guidance prepared, and improved adaptation options added. Furthermore, (additional) case studies are under preparation and revision. The search and help functions will be strengthened.

An overview of Adaptation Platforms in Europe is now available. In May 2015 the EEA published a technical report with the title 'Overview of Climate Adaptation Platforms in Europe'. The report can be downloaded from the EEA website: http://www.eea.europa.eu/publications/overview-of-climate-change-adaptation.

Important country information about climate adaptation can be found on the homepage of the site under the section 'Countries, Regions, Cities', one of the site's most visited pages. The country pages are updated by Member states on a voluntary basis. They include information reported by countries under the EU Monitoring Mechanism Regulation (MMR) (art 15 on national adaptation actions). An update of the section is expected later in 2015 after EEA quality assurance and individual consultation with countries.

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To remain updated on adaptation developments one can register for the Climate-ADAPT Newsletter. Registration through: http://climate-adapt.eea.europa.eu/newsletter. Other ways to remain informed are through the regular EEA Eionet Workshops in Copenhagen, webinars on Climate-ADAPT development (planned for end of October 2015), various European conferences and workshops, and of course through individual exchange.

MMR Guidance and its use for voluntary reporting under Climate-ADAPT and Evaluation of the EU MS Adaptation Strategies– Sami Zeidan (European Commission, DG CLIMA)

The EU's 2013 Climate Change Adaptation Strategy recognises three priorities:

1. Promoting action by EU Member States (MS);
2. Better-informed decision making;
3. Key Vulnerable sectors.

Some action points with key importance for this workshop include Action 1 (Encourage MS to adopt Adaptation Strategies (NAS) and action plans), Action 3 (Promoting adaptation action by cities along the Covenant of Mayors initiative: Mayors Adapt) and Action 5 (Climate-ADAPT).

To date 20 NAS have been adopted in the EU and several more NAS and action plans are under preparation. A draft version of the **Adaptation Preparedness Scoreboard** mentioned in the EU Adaptation Strategy was finalised in November 2014 and reporting was received from MS as part of the **Monitoring Mechanism Regulation** (MMR).

The Scoreboard is a system that aims to assess in a comparable way the level of preparedness of MS to the current and projected impacts of climate change, and thus the level of preparation of the EU as a whole. The focus will be on adaptation policies rather than on outcomes. It will follow the existing available structures of the Adaptation Support Tool (Climate-ADAPT). The Scoreboard results, as well as the MMR reporting information, will feed into the Commission's 2017 report on the EU Adaptation Strategy.

The general structure of the Scoreboard recognizes four main elements:

1. Each Member State's policy framework is recalled, indicating whether adaptation strategies and action plans have been adopted at national and sub-national levels;
2. The Scoreboard focuses on information to be collected for each of the "five steps" of adaptation policy making: (i) preparing the ground for adaptation; (ii) assessing risks and vulnerabilities to climate change; (iii) identifying and assessing adaptation options; (iv) implementing adaptation action; (v) monitoring and evaluation of adaptation activities;
3. Within each of the five steps, main performance areas (11 in total) are defined. They correspond to necessary components considered for an effective adaptation policy-making process;
4. Within each area, key domains of relevance (33 in total) are highlighted. They provide details on an array of issues to be considered to successfully deliver on each performance area.

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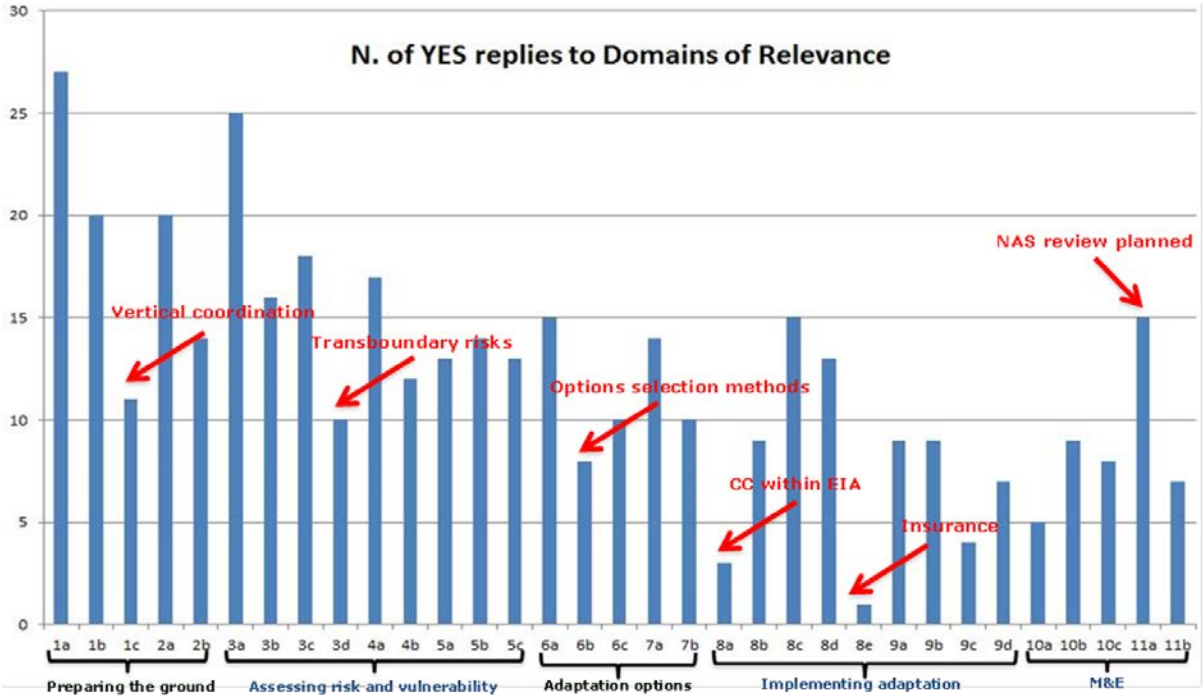
Adaptation policy-making process	Main areas of performance		Key domains of relevance	
	N	Definition	N°	Definition
Step 1: Preparing the ground for adaptation	1	A central administration body is in charge of adaptation policy making and vertical and horizontal coordination arrangements are in place with other governmental bodies	1a	A central administration body officially in charge of adaptation policy making
			1b	Horizontal (i.e. sectoral) coordination mechanisms exist within the governance system, with division of responsibilities
			1c	Vertical (i.e. across levels of administration) coordination mechanisms exist within the governance system
	2	Stakeholders (e.g. interest groups, scientists and general public) are involved in the preparation of adaptation policies	2a	A dedicated process is in place to facilitate stakeholders' involvement in the preparation of adaptation policies
			2b	Transboundary cooperation is planned to address common challenges with relevant countries

The first findings of the Scoreboard after MS provided their first information are that 20 NAS have been adopted and that 9 MS have National Action Plans (NAP). Actions to be taken are inter alia more research, identifying priority sectors, mainstreaming. There seems less emphasis on adaptation measures on the ground and there is relatively little on Monitoring and Evaluation (M&E). Public funding for adaption projects often focuses on water, agriculture and forestry.

Major challenges are obviously in achieving political commitment (adaptation departments small and decreasing), resources (human/capacity; financial), developing indicators and addressing knowledge gaps, vulnerability at local level and trans-boundary cooperation.



Reporting on national adaptation actions under the MMR

According to article 15 of the MMR Member States shall report to the Commission information on their national adaptation planning and strategies '… to facilitate adaptation to climate change…'. The first report had to be issued by 15 March 2015 and subsequently reports, every 4 years, aligned with the timing for reporting to the UNFCCC.

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To facilitate MS reporting DG CLIMA proposed to streamline the different reporting mechanisms (UNFCCC, Climate-ADAPT) and to ensure their consistency and homogeneity. Guidance in this area is built on the existing Climate-ADAPT 'country page' template.

All 28 MS have sent their MMR reports to the Commission. The quality and length of the reports are heterogeneous. Next steps include the use of the MMR reports in the Commission's 2017 report (see above), the update of the Climate-ADAPT country pages and further alignment with the UNFCCC reporting.

In March 2014 **Mayors Adapt,** the first pan-European Initiative to support cities in leading the way on adaptation to climate change, was launched. It complements mitigation efforts under the existing Covenant of Mayors. There is an annual signatory event in autumn; so far over 120 cities committed to taking adaptation action.

Mayors Adapt's key objectives are:

- to inform and inspire cities, regions and local governments to show leadership on climate change adaptation
- to support them in developing strategies for concrete action
- to translate and accelerate action on adaptation to improve local resilience to climate impacts

The website can be found under http://mayors-adapt.eu

Climate-ADAPT develop interfaces with other databases and climate services (incl. Copernicus). It is continuously improved and recently integrated Mayors Adapt; improved its usability and accessibility of information and data, as well as the interaction with national platforms, national and regional information. Other topics regard dissemination and capacity building, such as science/ policy forums (2014), communities of practice (2015) and the newsletter.

Short-term prospects are the update of sectoral pages and country information, the use of MMR reports information, ownership of countries, migration to the EEA's management system (2015-2016), and the updating and improvement of the database (currently 1,564 resources).

"One priority and responsibility for the Commission is to mainstream adaptation EU policies and programmes, as the way to 'climate-proof' EU action."

(EU Adaptation Strategy)

The Commission pays due attention to mainstreaming adaptation in other policies.

An important mainstreaming example is e.g. Disaster Risk Reduction (DRR), covering the Union's Civil Protection Mechanism (guidelines, peer reviews, involvement of enlargement countries), the United Nations (UN) Sendai Framework (priorities, 7 Targets, European Forum on DRR: CLIMA in WG1 on Adaptation), and insurance.

The EU's target is to further strengthen the climate dimension in its policies and funding (20% of the EU budget should have climate relevance).

In the medium term mainstreaming needs to anticipate new development by e.g. updating or revising legislation, reviews, guidance or discussions with MS, and consider whether and how climate change adaptation considerations could be included in EU law.

ECRAN Countries Position Papers on Climate Modelling (Task 1)

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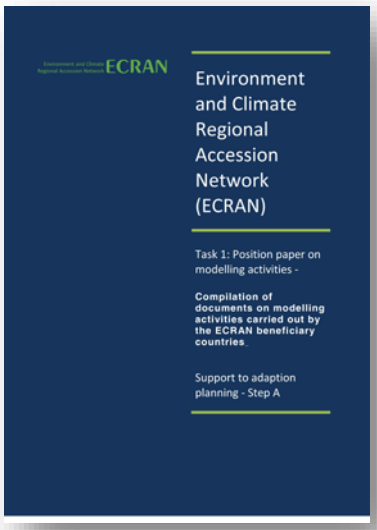
At the November 2014 Step A workshop it was agreed that all ECRAN country teams would submit a position paper on their Climate Modelling (indicated as task 1). All country papers were received at the ECRAN secretariat.

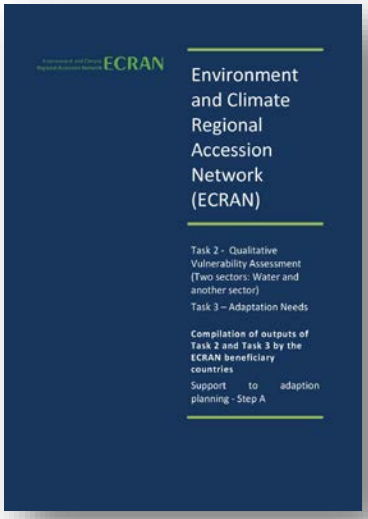


The papers were, with the consent of each beneficiary country, shared with all other beneficiary countries and compiled in an ECRAN report which was placed on the ECRAN project website prior to the Step B workshop. At the Step B workshop in Zagreb one representative of each country presented the main results and the content of this paper.

The country presentations during the Step B workshop are also placed on the ECRAN website.

The experts present at the workshop positively commented on the quantity and quality of modelling information available as shown by most of the countries.

ECRAN Countries Position Papers on Qualitative Vulnerability Assessment (Task 2)



At the same Step A workshop it was also agreed that country teams would prepare a position paper on Qualitative Vulnerability Assessment for their country (task 2) as well as a description of their Adaptation Needs (task 3). The task 2 assessment was asked to be made for the Water Management sector and one other sector at the choice of the country.

All country papers were received by the ECRAN secretariat with a vast majority taking 'agriculture' as the second sector. With the consent of all countries the papers were shared with the other ECRAN beneficiaries and compiled in a report which was placed on the ECRAN project website prior to the Step B workshop. All workshop participants were kindly requested prior to the workshop to carefully read through the country papers to be prepared for and contribute to the learning effect of the Step B workshop.

At the Step B workshop the participants were asked to break out per country and to list the three (3) most important aspects of their position paper on Qualitative Vulnerability Assessment in each of the areas of Water Management and the other chosen area. Findings were to be reported on flipcharts, taped to the wall in the plenary room and commented on by the team of international experts present at the workshop.

The table below provides an overview of the findings that were reported by the country teams.

QUALITATIVE VULNERABILITY ASSESSMENT

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Country	Water Management sector	Second sector
Albania	- Modification in rainfalls (seasonally, geographically) - Loss of underground water (drinking water, other use) - Wetland losses (precipitation/rainfalls, salinization of fresh water and underground water)	AGRICULTURE - Droughts (loss of crop yields, horticulture, livestock) - Flooding (agricultural land, livestock mortality rate) - Pests and diseases (vector-borne diseases and macro parasites)
Bosnia and Herzegovina	-	AGRICULTURE - Most vulnerable to climate change (GDP 7%, 160,000 employed) - Positive impact of climate change (options for other crops) - Negative impacts (summer droughts, storms increase, warmer winters-less fuel)
Croatia	- Flood risk management (floods recently in area where not expected; higher water levels than designed for) - High sea levels - Drought risk assessment (enough water, but lack of irrigation)	SPATIAL PLANNING - Natural disasters (content of spatial plans, sensitivity zones, protection measures) - Planning of space (reduction of vulnerability: natural resources – water use and protection) - Spatial plans (protection of natural values, prevent adverse environmental impacts, protect all built up areas) - Protection of green spaces
Kosovo‡	- Flood risks (agriculture, urban areas) - Droughts (low levels in lakes, affected water accumulation) - Eco system degradation (incl. forest fires) - Increase and new forms of pollution and water related diseases - Inappropriate construction and urbanisation (illegal construction in hazard zones)	AGRICULTURE - Degradation of agricultural land(change of destination, erosion risk, lack of irrigation and drainage) - Deforestation (illegal logging, forest fires, inadequate forest planning) - Loss of biodiversity (illegal hunting, plant collection for commercial benefits, lack of awareness and enforcement)
Montenegro	- Lower snowfall (accumulation), higher rainfall - Increase in the total number of hydrological droughts - Higher temperature, less precipitation - Lower water levels in rivers - Increase in number of droughts (over 30 d.)	URBAN PLANNING - Insufficient level of knowledge - Interest for climate change by decision makers
Former Yugoslav Republic of Macedonia	-	-
Serbia	- Flood protection - Drinking water use and quality - Irrigation	AGRICULTURE - Increased length of vegetation period (affected crop phenology, reduced yield

‡ Kosovo: This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

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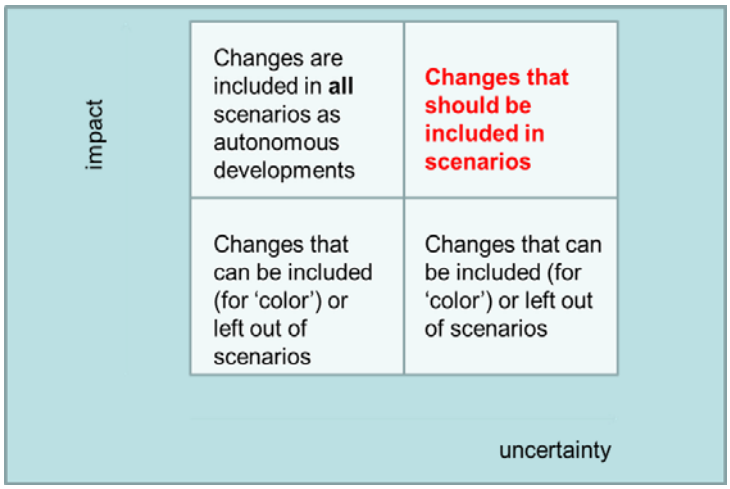
		potentials, increased inter-annual variability, affected animal production) - Reduced soil fertility (damage to important soil functions, soil erosion) - Shift and change in occurrence of diseases and pests
Turkey	- CC impact on water reserves - Küçük Menderes River Basin - Inter-sectoral water allocation (reliable data) - Water saving measures	AGRICULTURE - Food security (effects on prices) - Irrigation management (agriculture uses over 70% of water resources) - Socio-economic aspects (employment 25%, immigration)

Disaster Risk Management (DRM) aspects explored – Ad Jeuken (Deltares, Netherlands)

The steps distinguished under Climate-ADAPT cannot be set in isolation of each other!

In assessing climate vulnerability scenarios variables are to be considered which are formed by key performance metrics that include parameters, resolution (time, space) and downscaling methods. The latter can also be other than climate, e.g. spatial developments, autonomous erosion, subsidence. The choice of performance metrics also influences the set-up of monitoring (step 6 of the Adaptation Support Tool).



Important aspects to bear in mind when assessing vulnerabilities and the actions to be taken to address them are impact and uncertainty, e.g. what is the expected return period of an event? Does such period justify any action or just limited action or should no action be taken at all? What are the drivers for change?

As a starting point common scenarios can be used. Visualisation of scenarios (see as an example the picture below) can help to illustrate the magnitude of potential disasters/events and can have a probing effect on the awareness of citizens and decision makers.

Risks of climate related disasters to happen can be estimated by the formula **Probability x Exposure x Vulnerability**. For the Netherlands for instance the probability of critical events inter alia includes:

- Sea level rise/ storms
- River discharges
- Precipitation/drought events

Exposure relates for instance to:

- Topography

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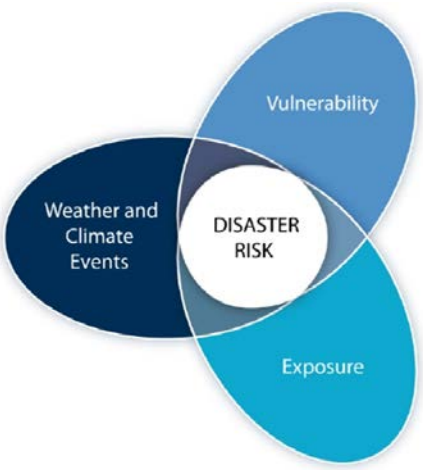
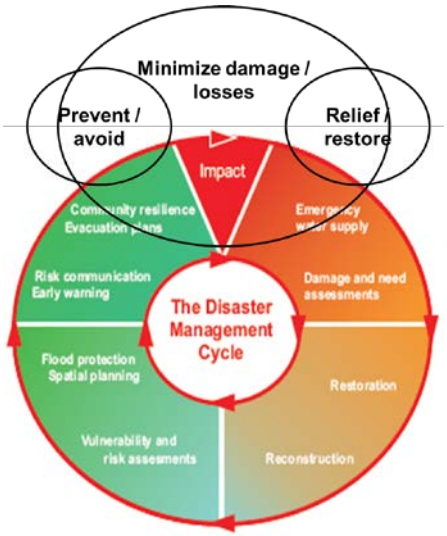
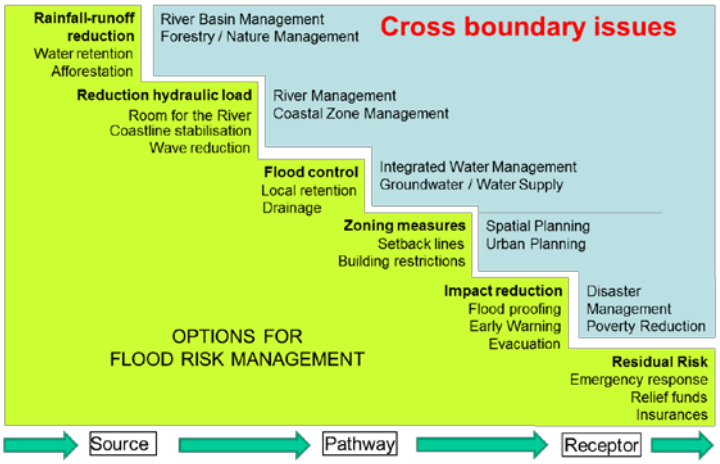
- Speed and depth of flood
- Duration and timing of a drought
- Subsidence

And Vulnerability links to people, assets, crops, awareness, coping capacity, recovery capacity etc.



In line with the EU's Floods Directive (2007/60/EC) The Netherlands carried out a preliminary assessment to identify flooding risks (2011). Based on the finding flood risk maps were drawn (2013) taking into account a variety of risk receptors (human health, environment, cultural heritage, economic activity). The maps formed the basis for creation of flood risk management plans (2015) focusing on prevention, protection and preparedness.





Setting of flood risk target levels can reduce the risk of excessive spending to a level where such spending is no longer balanced with the savings that are made by investing. An example can be that flooding once in 100 years is acceptable. A target of 10 years would be a far cheaper option, but a target of 1,000 year excessively more expensive. The aim of the target is to make a cost-benefit analysis that:

- provides economic justification for the investment in flood risk reduction measures;
- it urges to think critically about alternative approaches to justify the investment.

Over a period of five years (2010-2015) the Netherlands made a general problem analysis with a set of potential strategies to address the problems. A number of strategies were identified as 'promising', out of which a number of 'preferential' strategies were selected. The latter were included in the National Water Plan which, in turn, forms the foundation under regional plans, legislation, project decisions, and implementation action.

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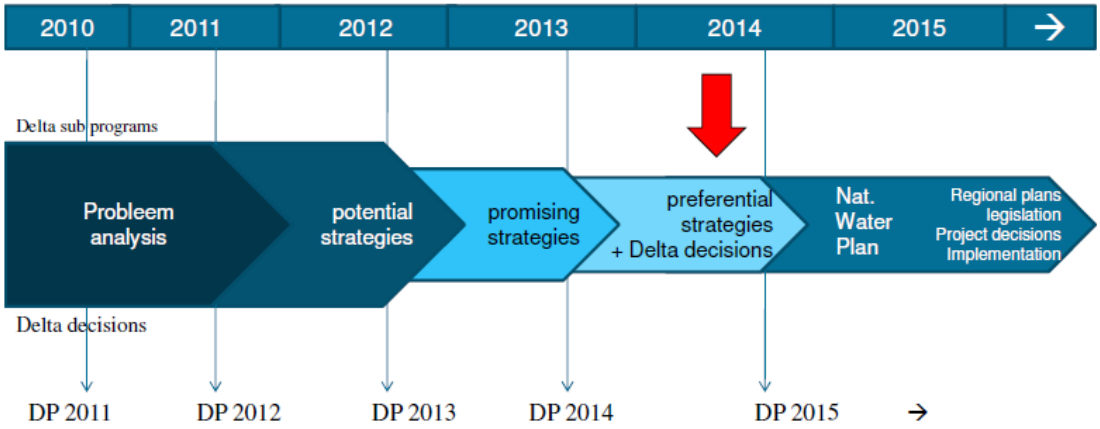
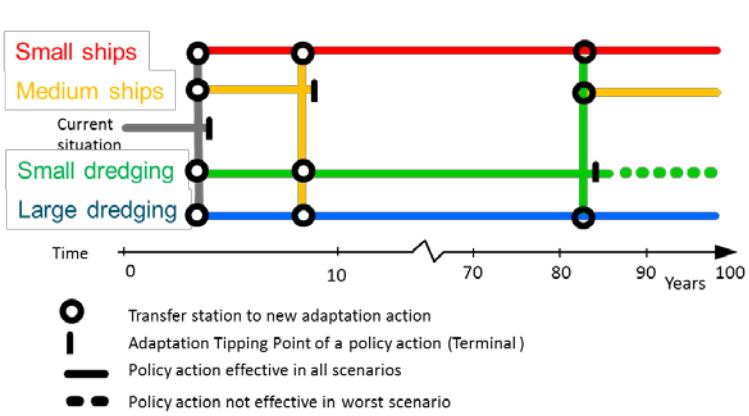
Strategy development and decision making



An important lesson learned is that not everything has to be decided at once; think in steps and keep options open.

Adaptation pathways describe a sequence of policy actions or investments in institutions and infrastructure over time to achieve a set of pre-specified objectives under uncertain changing conditions. An adaptation pathways map shows different possible sequences of investment decisions. A scorecard helps to evaluate the decisions. As an example: how to keep a river navigable in a changing environment that may result in lower water levels in the river?



Scorecard for Pathways

	Path actions	Costs	Target effects	Side effects
1		+++	+	0
2		+++++	0	0
3		+++	0	0
4		+++	0	0
5		0	0	-
6		++++	0	-
7		+++	0	-
8		+	+	---
9		++	+	---

During the stage of design of adaptation measures adaptation itself can be made more specific. Developing different scenarios can enhance understanding of problems and options that may be best to apply. Through software dynamic effects of adaptation measures can be visualized.

In any case the creation of resilience is important. Resilience can be created through a process of dialogue, design and engineering. The knowledge, data and model base needed should in no way be underestimated.

Once scenarios have been defined they should be connected to the performance metrics.

Not unique for the Netherland, but some remarks that would apply in many places:

- politics to not naturally follow the Climate-ADAPT structure and tools;
- look for policy opportunity windows or try to create them"

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  - National risk assessment (UK)
  - National high level committee (NL)
  - Where are the disasters
  - Where are the large investments
- Changing the mind-set from 'we have to report' to 'we really want to do this'!

As a conclusion with regard to 'Preparing the ground':

- Establishing leadership
- Setting clear objectives

With regard to 'Vulnerability analysis & scenarios':

- Use range, ensembles of models and RCP and simplify
- Link to performance metrics, indicators (still HUGE effort)
- From donor studies to accepted (customers) basis for robust decision making

With regard to 'Identification and assessment of options':

- For the water sector DRR and Climate adaptation naturally connect
- From exploration to design may take many years (iterative)
- Think in steps

Day 2 – Zagreb, Croatia, 4 June 2015

ECRAN Countries Position Papers on Adaptation Needs (Task 3)

In a break out session each country studied the position papers on adaptation needs of the other countries. Participants were asked to identify from these papers three adaptation needs that would be interesting to include in their own country's set of adaptation needs. Only two countries came up with suggestions, others included their own country needs.

ADAPTATION NEEDS		
Country	**Identified Adaptation Needs**	**From**
AL	Combining data and information among institutions	KOSOVO*
	Pressure the irrigation system	TURKEY
	Strengthen the network to measure hydro-meteorological and meteorological data	MONTENEGRO
	- To improve low adaptive capacity, improve cooperation (collective capital) and improve market structure - Improved hydro-meteorological information to go against damage of climate extremes - Improvements in the Albanian Agriculture Technology Transfer Centre (ATTC) (soil, agronomy, drainage) to go against the lack of water and the inadequate agricultural system.	

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BiH	n.a.	
HR	n.a.	
KS*	Agriculture, forestry and biodiversity: - restriction of building development in risk prone areas - deepening and rehabilitation of river beds - landscape planning measures to improve water balance - information exchange (early warning system) for droughts and floods - water reclamation, reuse and recycling - leakage reduction in drinking water distribution network - improve water retention in agricultural areas	
ME	- improvement of water storage system - early warning system - encouraging eco system based adaptation - urban planning: different level of elaboration - address problems with landslides	
fYROM	n.a.	
SR	Raise public awareness (from bottom to top, from top to bottom)	ALBANIA
	New standards for spatial planning and design (combining different stakeholders)	MONTENEGRO
	- Improve the observational system (more hydro-meteo stations at higher elevations, more phonological stations and digitalization of data, more soil moisture observations) - Drought monitoring and forecasting (hydrological drought, satellite monitoring) - Improve dissemination of hydro-meteo information and disseminate seasonal forecasts - Rainwater harvesting - Biofuel – using local products	
TR	n.a.	

Pending questions

Countries were invited in groups of 2 to identify at least 3 questions to be asked to all experts present at the meeting. The following questions were brought forward on flipchart and responded to:

QUESTIONS AND ANSWERS PANEL
Serbia and Croatia
1. What does the European Commission do for Serbia in the area of Disaster Risk Reduction? 2. Can you give an example of low cost adaptation measures in the case of landslides? 3. Can you, from your experience, give an example of good practice in the implementation of adaptation options in your country (pluses and minuses)? 4. What can be the influence of salt water on agriculture in the Neretva River Delta?

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5. What can be the impact of the rise of the sea level on tourism?

Kosovo* and Montenegro

1. What would be the best solutions (options) to solve problems with droughts?
2. How to adjust existing building stocks to climate change?
3. How to protect against the loss of agricultural land?
4. What's the main cause of climate change: man or nature?
5. What are the most valuable lessons you learned from us?

Turkey and Albania

1. What are the optimum methods for water storage? What is (could be) the maximum amount of water to be stored?
2. How to improve the data for soil moisture (monitoring)? How to prevent erosion?
3. Is there are any study to calculate the adaptation level in countries on an MRV basis?
4. What are the methods of reducing leakage and discharge, especially in irrigation systems?

Adaptation planning actions to be taken – Imre Csikos

Since its start the ECRAN Adaptation Working Group organised a regional conference in Skopje (July 2014), the STEP A workshop of the ECRAN Adaptation Network in Tirana (November 2014) and three regional technical working groups on water, urban planning and energy, respectively in Ankara (January 2015), Podgorica (February 2015) and Tirana (April 2015). Today is the Step B workshop and after that the current planning foresees three more workshops.

At the Step A workshop it was agreed that each country team would prepare three option papers, respectively on climate modelling, qualitative vulnerability assessment and adaptation needs. This was carried out as agreed. The options papers feed into the work of this workshop.

Where and how to start with adaptation? There is no single approach. National appropriate methods can be developed. The use is suggested of the Adaptation Support Tool (under Climate-ADAPT).

The Adaptation Support Tool encompasses the following steps:

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

Step 2 can be subdivided in:
2.a. Analyse how past weather events have affected your country
2.b. Undertake a climate change risks and vulnerability assessment
2.c. Take trans-boundary issues into account
2.d. Develop an approach for addressing knowledge gaps and for dealing with uncertainties
The table below shows methods of measuring physical vulnerability.

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Group	Method	Description
Empirical methods	Analysis of observed damage	Based on the collection and analysis of statistics of damage that occurred in recent and historic events. Relating vulnerability to different hazard intensities.
	Expert opinion	Based on asking groups of expert on vulnerability to give their opinion e.g. on the percentage damage they expect for a particular sector having different intensities of hazard/impact.
	Score Assignment	Method using a questionnaire with different parameters to assess the potential damages in relation to different hazard levels.
Models	Climate/impact/ adaptation Models	Projection of potential future climale and potential future physical, ecological, social and economic impacts.

Step 3 can be subdivided in:

3.a. Collect appropriate adaptation options

3.b. Explore good practices and existing measures

3.c. Describe adaptation options in detail

3.d. Self-check

Step 4 can be subdivided in:

4.a. Assess options in terms of time, cost, benefits and efforts

4.b. Assess cross cutting issues / synergies of options

4.c. Prioritise options and select preferred ones (a multi-criteria analysis can be useful here: significance/relevance, urgency, robustness, flexibility and reversibility, cost/benefit ratio, positive side/effect, simultaneous mitigation efforts, interaction with other recommended actions, political feasibility)

Effective options reduce a particular vulnerability or a number of vulnerabilities to a desired level.

Efficient options are those whose benefits exceed costs and are more cost-effective than the alternatives.

A feasibility assessment of economic, social and environmental benefits should be made. A multi-criteria analysis can prove useful for ranking and selecting preferred options. Evaluations typically include an assessment of effectiveness and efficiency.

4.d. Prepare a strategy document to implement options

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V. Evaluation

Statistical Information

Reference is made to Annex IV for the detailed evaluation

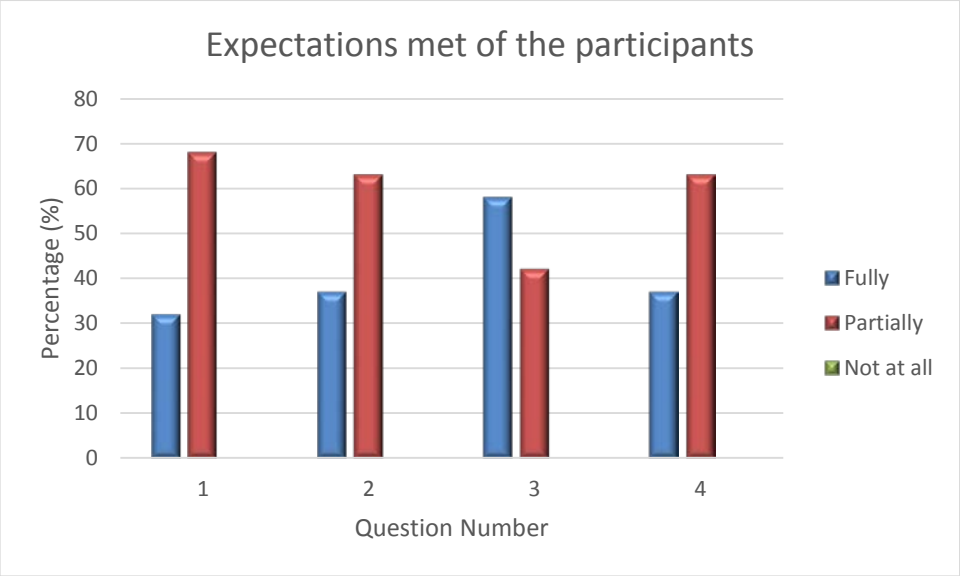
In the evaluation of the workshop a two third majority of participants indicated that their expectations were partially met in the areas of further developed informal networking among ECRAN countries, enhanced and harmonised understanding among National Climate Adaptation Teams about the identification of adaptation options, and on increased (steps towards) climate adaptation action planning in the ECRAN countries. The remaining one third of workshop participants indicated that their expectations on these topics were fully met.

Concerning the achievement of improved cooperation and coordination among authorities in and between Western Balkan countries and Turkey, almost 60% mentioned that his/her expectations were fully met, where a bit over 40% indicated that these were partially met.

A bit over 80% of the evaluation scores regarding the quality aspects of the workshop such as presentations, facilitators, and logistics, obtained the marks 'excellent' (36%) to 'good' (46%) with 16% scoring 'average' and 2% 'acceptable'. Almost 85% of all participants indicated that they found the workshop 'time well spent'.

EXPECTATIONS OF PARTICIPANTS

1.	The workshop further developed informal network of national Climate Adaptation Teams from Western Balkan countries and Turkey initiated and established.
2.	The workshop Enhanced and harmonised understanding among National Climate Adaptation Teams about the identification of adaptation options.
3.	The ECRAN Adapt work achieves improved cooperation and coordination among authorities in and between Western Balkan countries and Turkey in the area of climate adaptation action.
4.	The workshop contributed to increased (steps towards) climate adaptation action planning in place in the Western Balkan countries and Turkey.



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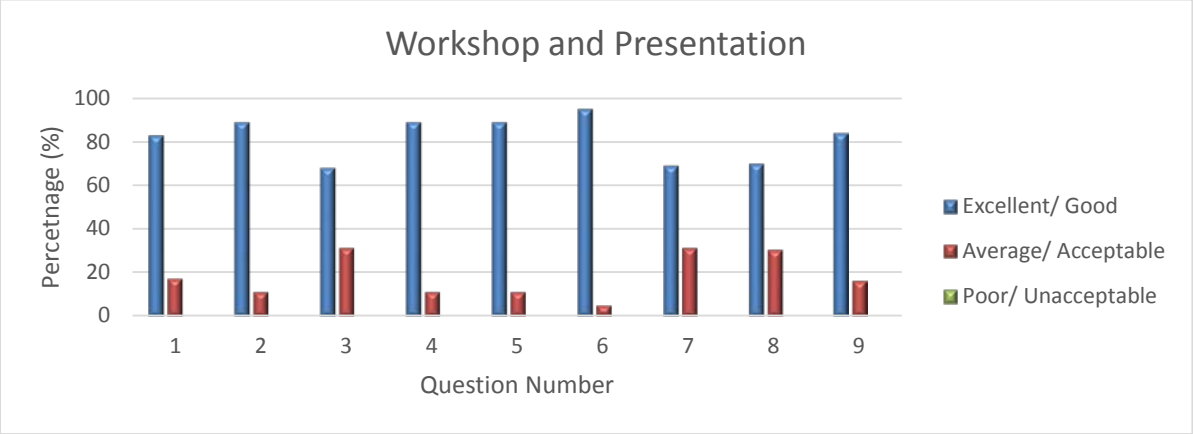
WORKSHOP AND PRESENTATION

1. The workshop achieved the objectives set
2. The quality of the workshop was of a high standard
3. The content of the workshop was well suited to my level of understanding and experience
4. The practical work was relevant and informative
5. The workshop was interactive
6. Facilitators were well prepared and knowledgeable on the subject matter
7. The duration of this workshop was neither too long nor too short
8. The logistical arrangements (venue, refreshments, equipment) were satisfactory
9. Attending this workshop was time well spent



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ANNEX I – Agenda

Day 1: June 3, 2015

Topic: Identification of Adaptation Options

Chair and Co-Chair: Rob Bakx, Imre Csikós

Venue: Zagreb, Croatia

Start	Finish	Topic	Speaker	Sub topic/Content
09:00	**09:30**	***Registration***		
09:30	09:45	Welcome and Introduction	**Rob Bakx**, Moderator	- Introduction participants - Programme outline and logistics
09:45	10:05	Incorporation of ECRAN Countries in Climate Adapt	**Kati Mattern,** European Environment Agency	- Climate Adapt: latest developments - (Pre-)accession countries: opportunities to participate - Prerequisites for participation
10:05	10:35	MMR Guidance and its use for voluntary reporting under Climate Adapt Evaluation of EU MS Adaptation Strategies	**Sami Zeidan,** European Commission, DG CLIMA	- Monitoring Mechanism Regulation – brief outline - Member States Adaptation Reporting under the MMR - Link between Climate Adapt and Adaptation Reporting under the MMR - Presentation of the scoreboard of the EU Adaptation Strategy
10:35	10:45	Questions that arise, steps to be taken	**Rob Bakx,** Moderator **Kati Mattern,** European Environment Agency **Sami Zeidan,** European Commission, DG CLIMA	- Questions and answers on Climate Adapt and MMR developments - Discuss and clarify steps required for (pre-)accession countries to join on adapt reporting on a voluntary basis
10:45	**11:15**	***Coffee Break***		
11:15	11:30	Tasks from Step A Workshop	**Imre Csikos, Rob Bakx,** ECRAN	- Review on the scope of the agreed tasks on modelling, qualitative vulnerability assessment and identification of adaptation needs - Results submitted
11:30	12:30	Position papers on climate modelling (task 1)	**Representatives of beneficiary countries**	- Country wise 5 minutes presentations of position papers on climate modelling - Which common lessons can be drawn?

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			Imre Csikos, Rob Bakx, ECRAN	- Is there a need to further develop the papers? - Are the papers suitable for publication on the Climate Adapt site?
12:30	**13:30**	***Lunch Break***		
13:30	14:45	Position papers on qualitative vulnerability assessment – Water sector (task 2)	**Rob Bakx**, Moderator **Representatives of beneficiary countries** **Sami Zeidan,** European Commission, DG CLIMA **Linda Romanovska,** Fresh Thoughts, Latvia **Kati Mattern,** European Environment Agency **Ad Jeuken**, Deltares, Netherlands	- Country wise 7 minutes presentations of position papers on qualitative vulnerability assessment in the water sector - Concise country wise feedback sessions by experts - Experts' conclusions and recommendations
14:45	15:25	Disaster Risk Management (DRM) aspects explored	**Ad Jeuken,** Deltares, Netherlands	- Reaction to DRM aspects in position papers from task 2 - Suggestions and recommendations
		DRM is important in this step B phase, not least because the EU adaptation strategy states: "Adaptation action is closely related and should be implemented in synergy and full coordination with the disaster risk management policies that the EU and the Member States are developing." Therefore, this synergy is important as adaptation options get developed by the ECRAN countries.		
15:25	**15:45**	***Coffee Break***		
15:45	17:00	Position papers on qualitative vulnerability assessment – other sectors (task 2)	**Sami Zeidan,** European Commission, DG CLIMA **Linda Romanovska,** Fresh Thoughts, Latvia **Kati Mattern,** European Environment Agency **Ad Jeuken (Water),** Deltares, Netherlands **Koen Rademaekers (Energy),** Triple E Consulting, Netherlands **Inge Heim (Health),** WHO, Croatia **Ana Iglesias (Agriculture),** Madrid University, Spain	- Break out session per country defining 3 main issues from the position paper - Back in the main room countries write the 3 issues on their country flipchart - 'Flipcharts Promenade' - Forum discussion reacting to the issues on the flipcharts - Audience – experts interaction: opportunity for discussion and questions and answers - Conclusions and recommendations

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			Gordana Petkovic (Infrastructure), Norwegian Public Roads Administration, Norway **Alvaro Moreno (tourism),** Independent consultant, Spain	

Day 2: June 4, 2015

Topic: Identification of Adaptation Options

Chair and Co-Chair: Robert Bakx, Imre Csikós

Venue: Zagreb, Croatia

Start	Finish	Topic	Speaker	Sub topic/Content
08:30	**09:00**	**Registration**		
09:00	10:30	Position papers on adaptation needs (task 3)	**Rob Bakx,** ECRAN, Moderator **Sami Zeidan,** European Commission, DG CLIMA **Linda Romanovska,** Fresh Thoughts, Latvia **Kati Mattern,** European Environment Agency **Ad Jeuken (Water),** Deltares, Netherlands **Koen Rademaekers (Energy),** Triple E Consulting, Netherlands **Ana Iglesias (Agriculture),** Madrid University, Spain **Gordana Petkovic (Infrastructure),** Norwegian Public Roads Administration, Norway **Alvaro Moreno (tourism),** Independent consultant, Spain	- Break out session per country - 'Carrousel of Thoughts' - Identification of the most valued adaptation need in position paper (task 3) of one other country that deserves replication elsewhere; note on flipcharts - Plenary session - Forum reactions to the findings - Discussion, recommendations and conclusions
		Country representatives will break out per country and review the position papers of the other countries that were submitted under task 3 of the Step A Workshop. The country break out groups will discuss these papers and select the (one) most valued adaptation		

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		need in terms of 'deserving replication in other countries'. The aim is to contribute to strengthen countries' understanding of possible needs that they also may wish to take on board. It will furthermore support enhanced understanding of the situation in other countries, including with a view on possible cooperation, and strengthen the networking role of the workshop. *The break out findings will be presented in plenary and form the basis for reactions by the experts (Forum) and interaction between experts and workshop participants. Conclusions and recommendations are aimed to be drawn.*		
10:30	10:50	***Coffee Break***		
10:50	12:30	Identification of country adaptation options	**Rob Bakx,** ECRAN, Moderator **Sami Zeidan,** European Commission, DG CLIMA **Linda Romanovska,** Fresh Thoughts, Latvia **Kati Mattern,** European Environment Agency **Ad Jeuken (Water),** Deltares, Netherlands **Koen Rademaekers (Energy),** Triple E Consulting, Netherlands **Ana Iglesias (Agriculture),** Madrid University, Spain **Gordana Petkovic (Infrastructure),** Norwegian Public Roads Administration, Norway **Alvaro Moreno (tourism),** Independent consultant, Spain	- Break out session per country - Brainstorm on adaptation options - Plenary feedback - Expert advice and recommendations
12:30	14:30	***Lunch Break (extended, allowing participants to collect per diems)***		
14:30	14:45	Adaptation planning actions to be taken	**Imre Csikos,** ECRAN	- Explanation - guidance - Identify country adaptation options - Describe the identification and decision making process for the selected options
14:45	16:15	Updating the country planning	**Rob Bakx**, ECRAN, Moderator Break out groups moderated by experts	- Break out groups, plenary feedback and conclusions - Exchange of thoughts for tasks to be carried out prior to and feeding into the next workshop
		Countries will discuss the actions to be taken between the Steps B and C Workshops. Agreement will be sought on common tasks that will feed into the Step C Workshop while		

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		serving the countries' needs in the area of developing their national climate change adaptation strategies and/or legislation.		
16:15	16:30	Conclusions and wrap-up	**Rob Bakx**, ECRAN, Moderator	- Conclusions workshop - Workshop evaluation - Next workshop(s)

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ANNEX II – Participants

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ANNEX III – Presentations (under separate cover)

Presentations can be downloaded from:

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ANNEX IV – Evaluation

Expectations

The extent to which specific expectations were met, or not met:

My Expectations	My expectations were met		
	Fully	Partially	Not at all
1. The workshop further developed informal network of national Climate Adaptation Teams from Western Balkan countries and Turkey initiated and established.	IIIII I (32%)	IIIII IIIII III (68%)	
2. Enhanced and harmonised understanding among National Climate Adaptation Teams about the identification of adaptation options.	IIIII II (37%)	IIIII IIIII II (63%)	
3. The ECRAN Adapt work achieves improved cooperation and coordination among authorities in and between Western Balkan countries and Turkey in the area of climate adaptation action.	IIIII IIIII I (58%)	IIIII III (42%)	
4. The workshop contributed to increased (steps towards) climate adaptation action planning in place in the Western Balkan countries and Turkey.	IIIII II (37%)	IIIII IIIII II (63%)	

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Workshop and Presentations

Aspect of Workshop	Excellent	Good	Average	Acceptable	Poor	Unacceptable
1. The workshop achieved the objectives set	III (17%)	IIIII IIIII II (66%)	III (17%)			
2. The quality of the workshop was of a high standard	III (17%)	IIIII IIIII III (72%)	II (11%)			
3. The content of the workshop was well suited to my level of understanding and experience	IIIII II (37%)	IIIII I (31%)	IIIII I (31%)			
4. The practical work was relevant and informative	IIIII (28%)	IIIII IIIII I (61%)	II (11%)			
5. The workshop was interactive	IIIII IIIII II (63%)	IIIII (26%)	II (11%)			
6. Facilitators were well prepared and knowledgeable on the subject matter	IIIII II (39%)	IIIII IIIII (56%)	I (5%)			
7. The duration of this workshop was neither too long nor too short	IIIII II (37%)	IIIII I (32%)	IIII (21%)	II (10%)		
8. The logistical arrangements (venue, refreshments, equipment) were satisfactory	IIIII II (41%)	IIIII (29%)	IIII (24%)	I (6%)		
9. Attending this workshop was time well spent	IIIII III (42%)	IIIII III (42%)	III (16%)			

Comments and suggestions

The following comments and/or suggestions were submitted in addition to the questions already answered:

Workshop Sessions:

- Workshop is too theoretical. It could be more practical, focusing certain area and period
- Well structured

Facilitators:

- Interested and competency

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Workshop level and content:

- Very high level

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