Position paper WP5

Normative Principles of adaptation

Shifts in Defining the Public Interest and the Role of Principles with Regard to Adaptation to Climate Change

PhDs involved:	Herman Kasper Gilissen, Paul Heinsbroek, Petra Lindhout, Ismael Morales, Teresa Thorp
Senior researchers:	Andrea Keessen, Jan Robbe, Imelda Tappeiner
Research Leaders:	Marleen van Rijswick, Mark Wiering

Utrecht University/Radboud University Nijmegen

December 2011

Centre of Excellence:
the Governance of Adaptation
Knowledge for Climate
see www.kennisvoorklimaat.nl

Part I:
Introduction

1. Outline of the work package and researchers involved

This position paper concerns the research which will be done in work package 5 'Normative principles for adaptation', which aims to elaborate the principles of legitimacy, effectiveness and resilience and to analyze their impact for the Dutch governance of adaptation.
Research leaders of this work package are Marleen van Rijswick of the Department of Law (Faculty of Law, Economics and Governance) of Utrecht University and Mark Wiering from the Radboud University Nijmegen.

The work package has beside the above mentioned overall aim two projects:

a. **Developing a normative framework to assess and improve the governance of climate adaptation**.

Shifts in the conception of the public interest in climate adaptation and investigating and providing appropriate principles of legitimacy, effectiveness and resilience.

Andrea Keessen and Imelda Tappeiner (the concept of legitimacy and the decentralisation principle) , senior researchers at the Department of Law of Utrecht University, will together with the research leaders be responsible for the results of this project.
Furthermore several researchers and phd students as well as students from the Legal Research Master and the Excellent Master Track of Utrecht University will contribute to this project.
Untill so far work has been done by Herman Kasper Gilissen (the compensation principle and liability with regard to adaptation policies), Paul Heinsbroek (legitimacy and the concept of public interest in Dutch law), Ismael Morales (transboundary adaptation policies), Teresa Thorp (legal principles in the international climate law regime), and Petra Lindhout (the cost recovery principle) who are all working on a phd thesis. Furthermore contributions were delivered by Jurrien Hamer (Legal research master UU, research on concepts of the public interest), Sanne Schrijvers (Excellent Master Track UU, research on private possibilities for water storage 'de Waterhouderij'), Irma Kemp and Ernst Jan Boogaart (master thesis on public

participation with regards to dune reinforcement projects), Juliette Pelamonia (research on desalination as an adaptation measure).

b. Principles of transboundary governance of climate adaptation.

Exploring and connecting adaption strategies in transboundary areas and analyzing the enabling and constraining characteristics of EU policies.
Ismael Morales is a phd student from the Radboud University Nijmegen will be, together with the research leaders, responsible for project 5.2.

2. Introduction to Work package 5: Normative principles of adaptation

Over the last few centuries the Dutch have developed specific views on the governance of the public domain, especially on the involvement of market and civil society institutions and on underlying substantive (normative) and procedural principles related to governance. Climate change, however, puts existing normative principles and basic policy viewpoints to the test. E.g. in issues of flood safety, fresh water supply, availability of clean water, water ecology as well as land use for all kinds of functions, the basic views and ideas of what belongs primarily to state responsibility and what can be shared with – or taken over by - other institutions are in flux. This is also reflected in discussions on old and new guiding policy principles that, in turn, will be of influence regarding the choice of options for policy instruments and measures. We can find examples of possible shifts in these normative principles in practically every policy domain related to the governance of climate adaptation, but at the same time these discussions are hardly connected and clarified. What is actually at stake is not fully manifested in the daily practices of dealing with climate adaptation. It is therefore helpful and important to have a work package that seeks to clarify and structure the debates on normative principles in transition, and related substantive and procedural norms or guidelines in relevant policy domains - and that helps to develop (new) guiding principles.

The complexity regarding (shifts in) normative principles can be condensed by invoking the fundamental idea of the public interest in policy and planning.. Alexander (2002) distinguishes between four basic conceptions of public interest: the first is an *aggregative* conception, based on the individual interests of the different inhabitants of a community; the leading principle here being utilitarian: aggregating what is the maximum good ('pleasure') for the largest population of individuals. A second view is a *unitary* concept of public interest. Here the general community (over

generations) collectively identifies the public interest as part of a collective moral imperative; this can and must not be reduced to a sum of individual interests. The third conception of the public interest is called '*deontic*', that is based on rules and norms; it relates to an ethical content and it regulates through specifically defined rights and duties of a community or its subgroups. The deontic differs from the unitary conception because we now refer to a defined right of a (sub-)community instead of a much more vague idea of the 'general collective interest'. The deontic differs from the aggregative because we now speak of 'rights' instead of 'the maximum good'. Alexander illustrates this with the question 'is that action right?' rather than 'will it do good?'. The fourth and last conception can be summarised as *dialogical*; here the public interest is a product of interrelationships between the actors involved through a way of (horizontal) communicative action and reason.

In the domain of water management one could argue that the Netherlands adopts a unitary conception of the public interest. This conception is connected to the responsibilities of governmental authority, in the Dutch case (a decentralised unitary state system) central and decentralised functional governmental authorities. They became responsible, to a large extent, for the availability of water, dry feet and clean water. With climate change, and the challenges of adaptation to anticipate more extreme circumstances, state responsibilities are being reconsidered and discussed. The state cannot meet expectations in taking care of water safety, water availability and quality in a context of climate change with increasing uncertainties and risks (see WP 3). The role of the government and civil society, the content of what is in the public interest and which principles could be the leading principles are in a state of transition. One of the questions which is central to the research in this work package is whether this debate (and illustrating practices) will lead to important shifts in the Dutch conception of the public domain and public interest. Anticipating climate change, new instruments and principles are being introduced which deviate from the traditional national unitary principle and the traditional (over-)load of responsibility on the part of the government towards more responsibility for civil society. That may require new and unorthodox instruments. Moreover, the idea of the public interest is increasingly being influenced and eroded by international legal and policy frameworks. These discussions and shifts address and reflect both the struggles between the legitimacy, effectiveness and resilience of existing and new normative principles and the sense of balance that is needed to reconcile these criteria.

We will structure the general discussion on shifting conceptions of the public interest and accompanying principles, related to the general "meta" criteria of the legitimacy, effectiveness and resilience of the governance of adaptation and will work towards a framework in which shifts, values and arguments are made visible. This framework

will be inspired and fuelled by practical experiences in other work packages (e.g. related to experiments, new practices, new policy instruments, shifting risk approaches and the variety of perceptions of climate adaptation) and other, related themes of the Climate adaptation programme. The objective is to assess and modernise the underlying normative principles of the governance of adaptation.

3. Transitions of the normative governance framework of climate adaptation. Rethinking the role of governance principles when achieving resilient ecosystems, supplying fresh water and protecting against flooding to provide appropriate principles of legitimacy, effectiveness and resilience (project 5.1)

3.1 Problem definition and aim

"Adaptation to climate change is in the public interest." This is one of the basic premises for governments to undertake action and to regulate and govern land and water use on the international, the European, the national and the regional level. Planning, regulation, decision making and distribution systems, dispute resolution and juridical review are based on necessity in the public interest, but the concept of 'public interest' may differ according to the kind of governmental action and is not unproblematic. The question arises whether adaptation to climate change is a new public interest or whether it requires a new way to deal with already existing public interests. Choosing a governance approach for adaptation needs a clear view of the concept of public interest and related norms and principles have to be legitimate, effective and resilient. The fact is that principles that concern the concepts of public interest are not always easy to trace and they differ according to the kind of governmental action and the kind of policy field, land use or water use. Rethinking the role of governance principles when achieving resilient ecosystems, fresh water supply and flood protection is one of the main goals of this work package.

Principles and norms offer legitimacy for the government to take measures, provide compensation, use regulatory or economic instruments and to protect all kinds of rights. For example, the right to fresh water or to safety is an aspect of the right to human dignity, the protection of property rights and equal treatment for citizens. Principles and norms are relevant for activities like urban development, water storage, transport and infrastructure, agriculture, energy, economic development, recreation, and a fresh water supply. Should old governance principles and related concepts of public interest in the various policy fields be reconsidered because of adaptation? An analysis of the existing views on public interest in these policy areas and the related governance principles is therefore necessary.
Each concept of public interest has with its own principles and approaches.

In the field of law a unitary approach, which starts from collective values, a moral public interest that goes beyond private interests, is classic. This view deals with societal stability, order and social justice, which allow the government to redress inequalities. Societal consensus on the public interest is based on approved laws, rules and plans and is nowadays often combined with a deontic (or a rule and norm-based) concept in which plans, decisions et cetera are judged by their ethical content and a rights-based approach. This approach has both substantive (human dignity, equal treatment and property rights) and procedural (fairness or due process, sound administration and transparency, and public participation) aspects.
At the same time there is a revival of elements of both a utilitarianism approach, e.g. aggregating individual preferences and the use of a cost-benefit analysis as an example of welfare economics as well as a dialogical approach in which the public interest is a result of an interactive process among concerned stakeholders and affected parties.

Several approaches and relevant principles will be analyzed so as to be able to make a legitimate choice of the appropriate measures to be taken and to deal with the distribution of responsibilities between governmental and private stakeholders. To assess and improve the governance of climate adaptation a clear insight into the normative backbone of governance is necessary to avoid future measures, decisions and investments being based on 'wrong' or not adequate assumptions, which may lead to a lack of legitimacy, effectiveness and resilient governmental action.

3.2 Research question:

Which concept of public interest and which guiding principles can best be leading in the governance of adaptation or may differentiation in public interest and the accompanying principles lead to a better governance of climate adaptation?

Sub-questions:

- Which concepts of public interest can be distinguished in theory and what principles relate to each concept?
- What are the relevant substantial aspects of public interest in the field of climate adaptation? Protection against flooding, a fresh water supply, adequate infrastructure, economic development, nature protection?
- Which concepts of public interest can be distinguished in the different actual practices of climate change adaptation and what principles relate to each concept?
- What are the reasons for the differentiation per problem, per solution, per policy field or per particular interest and are these reasons legitimate?

- What is the 'room for manoeuvre' when using different approaches for each adaptation measure?
- What are the practical consequences of the various approaches?
- Which approach offers in theory and practice the greater effectiveness and resilience?

Research from other work packages in this governance theme as well as research from other themes will be used to obtain proper answers to these questions. In the end a combination of the research results should lead to an analysis of the different approaches that are used nowadays and a sound normative framework for adaptation to climate change.

3.4 Approach and methodology

The scientific approach will be that of collaborative action research combined with traditional legal research by analyzing legal documents, literature and the case law.
In this project the focus will lie on principles that are related to three topics that are generally considered to be of great importance for climate adaptation:
(1) flood safety,
(2) creating resilient ecosystems
(3) fresh water supply .
First, a theoretical study will analyse the existing normative framework, based on a desk study. Comparative research will be carried out to study how other countries deal with these questions.
Next, in several case studies the role of principles in the three domains will be compared and investigated, to discover whether there are different approaches to different types of adaptation measures.

In the case studies that deal with protection against flooding, the unitary concept of public interest and the related principles are analyzed concerning measures like new ways to build dikes and the equal distribution of safety standards, coastal protection, and areas designated for water storage. Basic principles like human dignity, property rights and equal treatment are further elaborated in the principle of *egalite devant les charges publiques*, the right to be compensated, the non-shift principle, and the proportionality principle.
The unitarian approach of public interest fits well in the old fashioned government approach. Because of the increasing role for governance in EC law, comparative research will be carried out to compare the role of norms and principles in the EC. This is of importance because one important aspect of the governance approach in EC water law is transboundary cooperation in river basin districts. When Member States use

different concepts and principles it may influence this necessary cooperation (see also WP 5.2).
The creation of resilience measures on behalf of nature conservation like the protection of peat soil, robust water systems and ecological zones (climate buffers) and specific drought measures are important when adapting to climate change. The utilitarian conception of public interest is assumed to be dominant here. Related principles are the user and polluter pay principle (the cost recovery principle), the non-shift principle, the precautionary principle and the protection of property rights.
Case studies will be based on measures taken in the hot spots *Ondiepe wateren and veenweidegebieden (peat soils)*, *Waddenzee (robust water systems)*, and *Droge rurale gebieden* (measures to avoid droughts). The utilitarian approach has elements from both a government as well as a governance approach. The need for comparative research follows from strictly binding EC law in the field of nature conservation and state aid, which may be of relevance for regional differentiation in adaptation measures.

A fresh water supply is of the greatest importance for a modern and well-developed society; it benefits individuals (drinking water), the economy (agriculture and water transportation) and is related to safety (the protection of dikes, lakes and rivers). It will be investigated whether there is a shift from a more unitary to other conceptions of public interest. This project will specifically elaborate the possibilities and constraints of a more deontic conception of the public interest in climate change issues. The 'deontic' approach seems to fit well within a governance approach, where proceduralization and a focus on procedural rights are important.
Important transitions from a right to fresh water offered by the government to more individual responsibilities are taking place. New economic instruments based on the cost recovery principle for water services are being developed, but it is not yet clear how they fit within existing European and national law systems. Lessons can be learned from those countries that already have experience with a more economic approach regarding water rights.
An important principle when adapting to climate change is the principle of subsidiarity and decentralization. Which governmental body should be responsible in the first place and how tasks, responsibilities and powers are divided between governments and private parties? Work package 3 deals with these questions , but the results will be taken into account in this work package when developing a normative framework for climate adaptation.
There will be close interaction with other work packages within the governance theme, but also with the other themes in the Knowledge for Climate project. An ongoing exchange of information is necessary both to supply this work package with information on relevant problems and suggested measures and to supply the other

themes with knowledge on the consequences of the several measures that are suggested and further researched.

4. Principles and practices of the transboundary governance of climate adaptation. Exploring and connecting adaption strategies in transboundary areas and analyzing enabling and constraining characteristics of EU policies (project 5.2).

4.1 Problem definition and aim

Climate change is a transboundary issue that requires international co-operation on different levels of governance, on the global, European, bilateral levels as well as cross-border on a regional level. Since the Netherlands is a delta area and its major rivers (the Meuse, Scheldt, Rhine and Ems) are all transboundary in nature and connect different European countries, and since several sites of the European ecological framework, Natura 2000, are located in its floodplains, it seems obvious to consider also climate adaptation in its transboundary and European context. However, adaptation policy has been, up until now, a predominantly domestic responsibility, e.g. in the form of National Adaptation Plans or related strategies. Although this is the case, the actual outcomes of these national adaptation strategies could have cross-border impacts on issues which are also addressed by EU legislative frameworks. For example, expected increases in discharges into the Rhine have led to adjustments in the national water safety standards in the Netherlands for the crucial downstream Rhine river branches (the Waal, the Lower Rhine/ Lek and the IJssel) but it is still unclear what will be the outcome of climate change adaptation in the upstream parts of the Rhine basin, in terms of new safety standards. Consequently it is uncertain which discharges can exactly be expected at the Dutch border and – maybe even more importantly - where they are to be expected. At the same time such traditional concerns of flooding are increasingly being supplemented by problems of low water levels in the Rhine and an increase in water temperature (in the summer). These issues not only threaten the navigation function of the river, but also the cooling function which the water has for power plants as well as the ecological function (biodiversity, nature conservation and nature development, wet nature). As the EU legislative frameworks, especially the Flood Directive, the Water Framework Directive (WFD), and the Birds and Habitat Directives, are increasingly connected and integrated, and since the Flood Directive and the WFD share a river basin approach, climate adaptation should also be part of an integrated policy, which recognizes the complex dynamics of specific areas or river basins (e.g. the policy for both high and low water levels, both flood safety and nature conservation, both economics and ecology).

This, of course, creates ambitious governance challenges that require (at least) the integration of sector-based policies (multi-sector governance) and multi-scaling (multilevel governance). As part of the Work Package on 'normative principles', we will focus on how specific (normative) governance principles influence the practices of climate adaptation in a transboundary context.

The above-mentioned EU legislative frameworks already contain specific guiding principles. To avoid adaptation policies being isolated from the bulk of existing (domestic and international) policies in relevant policy domains and related EU legislation - and therefore to avoid inefficiency and inadequacy - it is important to obtain a better understanding of the mutual relationships between predominantly EU-based normative principles and transboundary policy practices.

4.2 Research questions

The aim of this project is to provide this understanding. Following this, the main research questions are:

- To what extent, in what way and with which results is the governance of climate change adaptation guided by principles which are relevant for transboundary coordination and co-operation, like the principles of solidarity, proportionality, subsidiarity, non-shift, the principle of river basin management and the general principle of 'good neighbourliness'?
- What are the enabling and constraining characteristics of the institutional context in which transboundary coordination and co-operation take place considering climate adaptation practices? More specifically, are EU-supported principles contributing to an integrated climate adaptation policy across borders? What are the relevant variables of this institutional, multi-layered context?
- What are the most important opportunities and threats for the transboundary governance of adaptation?

4.3 Approach and methodology

This work package 5.2 will focus on governance principles and practices of climate adaptation in transboundary regions. The project is especially relevant for international coordination between the Netherlands and the bordering regions in Germany and Belgium. In the case of the Rhine and Eems deltas we will focus on North-Rhine Westphalia and Lower Saxony; co-operation with Belgium is at stake in the South-West Delta and the Meuse river basin. The project will elaborate on the existing body of

knowledge on cross-border co-operation in river management in the Rhine river basin and river basin management in general. The International Commission for the Protection of the Rhine is renowned for its successful co-operation in issues of water quality and the ecology of the river basin. The mitigation of flood risks has been an issue on the agendas of different international river commissions. The Working Group on Flooding of the International Commission for the Protection of the Rhine has for instance issued an Action Plan on Floods in 1998 (IRC 1998) and regional co-operation has proved to be influential in the case of the Dutch-German working group on high water.
Besides the above-mentioned policy-oriented body of knowledge on cross-border management, the project will be based on the legal literature on transboundary co-operation and comparative research concerning EU regulations and their implementation.

The project is structured with the help of different research steps:

A. The project will first analyse the most relevant issues of climate change adaptation in transboundary areas (e.g. river dynamics, the temperature of river water, ecology, shifting frontiers of biodiversity and nature conservation). This analysis will be based on a review of relevant national studies (partly done under the headings of other KvK themes, e.g. water safety, drought etc.), international studies (e.g. climate adaptation of EU regions) and in-depth interviews with key informants from hot spots and (other) regions.

B. Following this, the relevant institutional arrangements in regional settings on both sides of the border will be studied. We will make use of a specific approach, called the Policy Arrangement Approach (PAA), that can generally be defined as the set of actors and coalitions, resources, rules and discourses that structure policy domains. These dimensions can be described on different levels (international regimes, the role of national, sectoral policy domain arrangements, and the specific regional arrangements in actual cross-border settings). Relevant data will be sought by in-depth interviews with key informants and by document analysis.

C. The project will assess possible similarities and differences between the arrangements to generate a general idea of the extent of the integration of policy domains - including the dominant conception of the public interest (see work package 5 in general and project 5.1) and the related policy strategies, It will further assess the degree of interdependency and the transboundary 'impact zone' as regards an integrated climate change adaptation policy Next, it will examine which issues of climate change adaptation and to what extent

principles of transboundary coordination and co-operation have or can have an impact on the policy arrangements involved. How, for example, does the non-shift principle impact the relationships between the Netherlands (as a downstream country) and Germany (upstream) and in what way can it be part of a legitimate, efficient and resilient integrated climate adaptation policy? Are the principles that are guiding the implementation of the EU Directives (solidarity, proportionality, subsidiarity, non-shift, the principle of river basin management) useful and relevant for an integrated transboundary governance of climate adaptation? Is the general principle of 'good neighbourliness applicable and helpful in area-specific transboundary policies? Besides the conception of the public interest, can explanations for the degree of applicability of principles be sought in differences in the risk approach and in the characteristics of the policy arrangements and governance capacities that might generate opportunities and barriers for co-operation and integration. The results of this research step will be part of the collaborative action research methodology and will be discussed by key informants, for instance by organising focus group sessions.

D. Finally, by analysing and comparing the results of several in-depth case studies the project will produce a set of the most important opportunities for and threats to the transboundary governance of adaptation and explain the enabling and constraining characteristics of the institutional context in which co-operation takes place and, specifically, the role of normative governance principles.

5. Work plan

5.1 Describing and analyzing the meta criteria Legitimacy, Effectiveness and resilience

In close cooperation with the other work packages the overall used meta criteria of Legitimacy, Effectiveness and Resilience will be analyzed and described, in a way that these criteria can be used and referred to in the research of the several work packages of the consortium. This is necessary to make comparative and multidisciplinary research possible. Especially the concept of Legitimacy will be elaborated in this work package.

5.2 Framing the normative aspects of climate adaptation policies

Adaptation to climate change is a complex process of societal change and should be studied as such. Attention to issues of climate adaptation has increased considerably

over the past few years. Up to now, less attention has been paid to questions concerning normative issues of societal change. In this part address three important questions on the normative level are addressed:
(a) What kind of legal and policy principles should public and private actors take to heart when formulating and implementing adaptation measures?
(b) Which societal interests should be protected by a climate-adaptation policy and in what order?
(c) To what extent are governments responsible for adaptation to climate change and what are the responsibilities to be borne by private parties and citizens?
We treat these questions from a mix of legal, administrative, and economic perspectives and conclude with some recommendations on how to deal with these normative aspects in policy-making processes.
Paper published in Climate Law, 2011/4, p. 1-23: P.P.J. Driessen and H.F.M.W. van Rijswick, Normative aspects of climate adaptation policies (included hereafter part II

5.3 Adaptation and shifts in the concept of public interest

Governmental action has to be in the public interest to justify state regulation or public interventions . What is in the public interest can be researched in two ways. The first is a one-dimensional empirical way, looking at what a State or government is actually taking care for. It does not give any insight in why the government is taking care, although one can analyze what factual action a government is undertaking itself, what is only planned and/or regulated and what action is left to 'the market', or other private actors.
Looking at conventions, treaties, EU legislation and national legislation, a governments budget and it expenditures can give insight in the formal ideas on what a government sees as being in the public interest. This will however be very descriptive. What's in the law is in the public interest.

> All policy fields on which the international and European community is acting, are in the public interest, being it the protection of biodiversity, classical human rights, an open or protected trade market, or avoiding or adapting to climate change. In spatial planning and in environmental and water policy, as in many other public domains, we frequently come across an implicit or explicit notion of 'the public interest' when legitimating governmental action. The Dutch spatial planning doctrine, for example, is built upon the duty to contribute to a "good spatial planning" and this is in more general terms "the hability of the country" laid down in Dutch constitutional law. When it comes to the protection against flooding a classic phrase in Dutch constitutional law is "The State IS the dikes" and its scope was similar to defense against foreign attacks.

The scope of the concept of public interest will differ however per country, per political system and it will differ per time period depending on actual needs. Theoretical approaches of what is 'the public interest' also differ depending on the discipline one is analyzing, although common bases may be found. We will discuss the concept of the

public interest from a legal-theory and a planning theory approach, followed by the legal discussions on the public interest in the Netherlands.
However, it is clear that the challenge to deal with climate change and the success of planned measures may depend on the concepts of public interests that are being used. Therefore a more normative approach of the public interest is necessary. Tricky is that a normative approach is dealing with ideals, a normative approach should give insight in what is worthy or justified to be taken care of by a government. This can be done by a procedural and a substantive approach. Before one could discuss the procedural aspects properly, it is necessary to analyse the various substantive approaches. Both ways are elaborated below. So answering questions on what the public interest is, how it is defined and what procedures or principles are used to generate it, is not unproblematic.

Papers:

Jurrien Hamer: Resilience in concepts of public interest; A comparison of political-theoretical approaches and their potential for acceptable adaptation policies in the field of water management.

Heinsbroek: The concept of public interest in Dutch Law

Hamer, Van Rijswick, Wiering: Ways towards resilience: shifts in defining the public interest with regard to adaptation to climate change (included hereafter)

van Rijswick and Robbe: Essay for the Delta Programme Fresh Water: normative choices, theoretical underpinning and instrumental work out.

5.4 Analyzing relevant principles in the international, regional and national climate regime

After the more general descriptions of the role of principles in climate adaptation policies as described in paragraph 5.2 (Normative framework), the research will focus on specific principles in the climate adaptation regime.
Some principles regarding climate change follow directly from the international legal framework, namely the UNFCCC. The UNFCCC is based on the idea that adaptation must be addressed with the same priority as mitigation. More general principles of international law might also be relevant, but principles derived directly from the UNFCCC will prevail, since they can be seen as *lex specialis*. Besides the principles deducible from the UNFCCC and its implementation in domestic law, most states rely on legal and policy principles that are of a more general kind within their legal system, but which are also relevant for national (and, in the EU, regional) climate-adaptation policy. However, the role that normative principles play in practice will strongly depend on one's view on the public and private interests at stake.

International level:

Principles of the United Nations Framework Convention on Climate Change will be researched by Teresa Thorp. In this part of the research the principles of the UNFCCC will be analyzed in a theoretical way and discussed in relation to general principles of international law. Furthermore derivative or auxiliary principles of the general principles will be part of the research project.
Finally there will be a closer examination of the Equity Principle as part of the international climate regime.
We distinguish five main principles in the UNFCCC:

- equity,[1]
- solidarity,[2]
- precaution,[3]
- sustainability,[4] and
- good neighbourliness.[5]

The UNFCCC also recalls in its preamble that states, in accordance with the UN Charter and the principles of international law, have the sovereign right to exploit their own resources under their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or to areas beyond the limits of national jurisdiction.

The backbone of the UNFCCC is the principle of equity, laid down in Article 3. Equity concerns present generations as well as future generations. It concerns fairness, or, to be precise, substantive and procedural fairness.
Distributive fairness is based on the principle of solidarity, and may require a rebalancing of inequalities in wealth, risk, and financial or other excessive burdens.

European and national level:

The principles following from the UNFCCC can also be found in European and national law. They will be discussed not only from the international perspective, but attention is also paid to the way they are elaborated and function on the regional/European level as well as the national level. But principles following directly from the UNFCCC are not the only principles that can be important for initiating and shaping an adaptation policy. The following principles are important as well and will therefore be part of the research within this work package:

[1] Article 3 (1) of the UNFCCC.
[2] Article 3 (2) of the UNDCCC.
[3] Article 3 (3) of the UNFCCC.
[4] Article 3 (4) of the UNFCCC.
[5] Article 3 (5) of the UNFCCC.

- the principle of proportionality,[6] which will be researched by Andrea Keessen and Herman Kasper Gilissen
- the principle of subsidiarity and decentralization[7] , which is researched by Imelda Tappeiner, and
- the cost-recovery principle[8] (including the polluter-pays principle[9] and the payment for water as an ecosystem service), which will be researched by Petra Lindhout.

5.5. Case study research / collaborative action research

After the theoretical framework is made, case studies concerning the adaptation to climate change from the Dutch 'hot spots' will be used to see whether there is a shift in

1) defining the public interest and/or

2) the importance of specific principles can be seen.

At the same time the developed theoretical framework can be used by the hot spots to develop or improve their adaptation strategies in a more legitimate, effective and resilient way.

[6] See for example for the European region: Art. 5 EU Treaty.
[7] See for example for the European region: Art. 5 (3) EU Treaty.
[8] See for example for the European region: Art. 9 of the Water Framework Directive (WFD).
[9] See for example for the European region: Art. 191 (2) Treaty on the Functioning of the European Union (TFEU).

Part II:
Normative Aspects of Climate-Adaptation Policies

Peter P. J. Driessen and Helena F. M. W. van Rijswick[*]

I. INTRODUCTION

The amount of attention given to climate adaptation has increased dramatically over the past few years. The reason for this is that the effect of mitigation efforts intended to restrict the increase in the average temperature on earth by reducing greenhouse gas emissions will probably be inadequate, and these mitigation efforts will certainly not lead to results in the short and medium term. Moreover, there has been an increase in awareness that the consequences of climate change can be extremely serious and can lead to social disruption.[10] The societal impacts of climate change are varied: threats to water safety, loss of biodiversity, economic damage, and other effects in a variety of social sectors, such as human habitation (heat stress in urban areas, urban flooding), agriculture (salinization, aridity, rural flooding), infrastructure (disruption), and food supplies (threats to agricultural production). The threats to public health have also been given more attention over the past few years.[11] Climate change is not only a threat, however, opportunities may arise for new economic development, such as in the agricultural sector with the cultivation of alternative crops.

Adaptation to climate change is complex for several reasons.[12] First, it is a matter of uncertainty and ambiguity. The knowledge base for defining the problem and identifying possible solutions is both insufficient and disputed: what, exactly, is the problem and what specific actions should be undertaken? Second, confusion results from multiple interpretations and framing differences. The nature of the problem and the human role therein are continuously being debated from a normative or a scientific

[*] This paper is based on the article 'Normative Aspects of Climate-Adaptation Policies'by P.P.J. Driessen and H.F.M.W. van Rijswick, published in Climate Law 2011/4, p. 1-23.

[10] IPCC, *Climate Change. The Fourth Assessment Report*, WMO (2007); European Commission White paper COM (2009) 147. Adapting to climate change; towards a European framework for action; EEA, *Impacts of Europe's changing climate 2008 indicator-based assessment*. Report no 4/2008, Copenhagen, 2008.

[11] Anathony Costello et al., 'Managing the health effects of climate change', *The Lancet*, vol. 373, 2009, pp. 1693-1733.

[12] Peter P. J. Driessen, Kim van Nieuwaal, Tejo Spit and Katrien Termeer, *Bestuurskundig onderzoek naar klimaatvraagstukken*, in Klimaatneutrale of klimaatbestendige bestuurskunde?, 18 (4) Bestuurskunde 7 (2009); Heleen Mees and Peter P. J. Driessen, *Adaptation to climate change in urban areas: climate-greening London, Rotterdam, and Toronto*, 2 Climate Law, 1 (2011).

angle. Furthermore, investment in adaptation is not only a matter of infrastructural adjustment, like building dikes and improving irrigation, waste, or drinking systems; it also involves broader issues such as ecology, agriculture, urban and regional planning, nature preservation, and energy supply.

Climate change is a global phenomenon and it therefore requires collective and international agency. This implies scaling problems, as the effects are felt at the national, regional, and local levels. In practice, they are either the result of implementing adaptation measures or the consequence of not doing so. Threats and opportunities deriving from climate change differ from place to place; moreover, climate adaptation takes place in a multi-actor setting. Together, these processes blur the traditional boundaries between countries, between administrative scales, between the public and the private sector, and, last but not least, between the international, supranational, national, regional, private, administrative, and environmental legal regimes. At each of these levels, the actors bring in a variety of values, interests, resources, and perspectives. The problem cuts across the jurisdictions and routines of organizations and sectors. Moreover, the dynamism of the social and ecological processes requires long-term horizons, which in turn demand a specific commitment by taxpayers, politicians, and scientists. Despite the panoramic perspectives of the predictions, adaptation is also a matter of the here and now. People expect that they will be safeguarded by the government from flooding, drought, and the health effects of climate change. As a consequence, climate adaptation requires a constant interplay between short-term intervention and long-term vision.

It is thus fair to say that adaptation to climate change is not only, or not particularly, a technical issue. Rather, it is a complex process of societal change and should be studied as such.[13] It requires difficult, non-evident, and often contradictory solutions in the face of uncertainty, as well as large-scale environmental and social change, involving many actors in society from different institutions and with different value systems.[14]

While many definitions of adaptation to climate change are in circulation, one of the most commonly used definitions is the IPCC's, which defines adaptation as "the adjustment in natural or human systems in response to actual or expected climatic

[13] See Catrien Termeer, Art Dewulf, Helena van Rijswick, Arwin van Buuren Dave Huitema, Sander Meijerink, Tim Rayner and Mark Wiering, *The regional governance of climate adaptation: a framework for developing legitimate, effective and resilient governance arrangements*, 2 Climate Law 1 (2011), in which a multidisciplinary approach is being developed for the governance aspects of adaptation to climate change.
[14] Irene Lorenzi, Mavis Jones and John R. Turnpenny, *Climate change, human genetics and post-normality in the UK*, 39 Futures 65 (2007).

stimuli or their effects, which moderates harm or exploits beneficial opportunities".[15] Thus adaptation measures deal with avoiding or reducing climate change impacts for current and future generations. Adger and colleagues describe the three cornerstones of adaptation as: "reduce the sensitivity of the system to climate change; alter the exposure of the system to climate change; and increase the resilience of the system to cope with changes".[16] Sensitivity and exposure are often linked to "vulnerability".[17] Resilience, a concept originating within the domain of natural science to address changes in equilibria in ecological systems, has entered the field of social sciences related to the study of socio-ecological systems.[18] Resilience is often used to mean the amount of change or disturbance that a socio-ecological system can absorb and persist with before it is reorganized into a new equilibrium.[19] Although there is much debate about the two concepts and their interrelations, we view vulnerability and resilience as being opposites. In this view, high levels of vulnerability mean low levels of resilience and the converse. A policy directed towards climate adaptation may thus be described as aiming to decrease the vulnerability of a system to climate change and increase the system's resilience in coping with climate change.

In a legal context, vulnerability and resilience may have a specific meaning. Vulnerability could refer to a duty of care, for instance the protection of the living environment and public health. Resilience might relate to the strength and flexibility of a legal system to cope with problems of climate change. The law is meant to offer a stable basis for organization, as well as legal certainty and protection against unlawful or arbitrary behaviour. Legal resilience is therefore limited among other things by the rule of law and the need for legal certainty.[20] Our argument is that a legal system should support, at least should not counteract adaptation policies and still safeguard legal certainty and the rule of law. Therefore clarity is needed as to the main normative goals in society and the way in which responsibilities are shared between public and private parties.

---

[15] IPCC, *Climate Change. The Fourth Assessment Report*, WMO 6 (2007).
[16] W.Neil Adger, Nigel W. Arnell and Emma L. Tompkins, *Successful adaptation to climate change across scales*, 15 Global Environmental Change 77 (2005).
[17] W.Neil Adger, *Vulnerability*, 16 Global Environmental Change 268 (2006).
[18] Carl Folke, *Resilience: The emergence of a perspective for socio-ecological systems analyses*, 16 Global Environmental Change 253 (2006).
[19] C.S. Holling, *Resilience and stability of ecological systems*, 4 Annual Review of Ecology and Systematics 1 (1973).
[20] Jonas Ebbesson, *The rule of law in the governance of complex socio-ecological changes*, Global Environmental Change 20 (2010); Jutta Brunnée, and Stephen T. Toope, *Legitimacy and legality in international law, an interactional account* (2010); Helena van Rijswick, *Moving water and the law, on the distribution of water rights and water duties within river basins in European and Dutch water law* (2008).

In this paper we discuss normative aspects of climate adaptation, as they influence or should influence international, national, and regional climate-adaptation policies. Starting from a general and international perspective, we use examples from European and Dutch climate-adaptation law and policy to illustrate our argument. The main reason for this choice is that we have familiarity with legislation and policies in Europe and the Netherlands. Nevertheless, we expect that our analysis is relevant for, and applicable to, other regions in the world that have to deal with the same threats.

II. NORMATIVE LEGITIMATION OF ADAPTATION TO CLIMATE CHANGE

While there is increasing attention to the issue of climate adaptation, less attention has been given so far to the normative aspects of the problem. A policy directed towards climate adaptation is always value-laden. Normative judgements can be based on world views and principles as to what should, and what should not, be done in our society, and on the societal and economic interests that are at stake.[21] Some of these normative opinions are embedded in national legislation and regulations (and, in Europe, at the EU level), for instance in the form of guiding principles and standards. Other normative positions are not similarly embedded, and as a result can vary considerably in time and place. Normative aspects are occasionally touched upon in the academic debate on climate adaptation, but seldom are they brought into the open.[22] We feel that insufficient light has been shed on three questions at the normative level:

- *Which legal and policy principles should public and private actors take to heart when formulating and implementing adaptation measures?*

In most modern societies there are certain principles—often, but not always, embedded in laws and international treaties—which are taken as points of departure for intervening or not intervening in societal processes.[23] These points of departure must

[21] Helena van Rijswick and Willem Salet, *Een strategisch kompas voor duurzame beheersing van klimaatvraagstukken*, 37(1) Beleid en Maatschappij 43 (2010).
[22] Rosalind Cook, *Legal responses for adaptation to climate change. The role of the principle of Equity and Common but differentiated responsibility (* 2010), available at: www.milieurecht.nl; Rosalind Cook and Eljalill Tauschinsky, *Accommodating human values in the climate regime*, 4(3) Utrecht Law Review 18 (2008); Antonius A.J. de Gier, Joyeeta Gupta, and Helena van Rijswick, *State of the Art on the Legal and Policy Literature on Adaptation to Climate Change: Towards a Research Agenda*, Kennis voor Klimaat, report nr. KfC001/09, 2009 (available at www.climateresearchnetherlands.nl); Joyeeta Gupta, *Climate change and International relations: Urgent challenges anno 200'*, in: Jan H. G. van den Broek et al, Klimaatverandering en de rol van het recht (Climate change and the role of environmental law), 27.
[23] Nicolas De Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (2005); Maria Lee, *EU Environmental Law, Challenges, Change and Decision-making* (2005); Jan H. Jans and Hans D. Vedder,

result in interventions being legitimate, both in the sense of "legally based" and "acceptable and transparent". A climate-adaptation policy can also be based on normative principles. The question then is, which principles and what legal meaning to assign to them?

- *Which societal interests should be protected by a climate-adaptation policy and in what order?*

This question focuses on the actual goals of a climate-adaptation policy. Policy goals are usually based not only on available scientific knowledge but on political and societal preferences. Moreover, there are often several paths that can lead a solution to a problem, and therefore there is choice. One crucial question in this respect is whether adaptation measures, or the legal and institutional system on which they are based, must be aimed wholly and specifically towards maintaining the current situation and protecting existing interests, or whether changes in the current situation are necessary, desired, permitted, or should be encouraged to improve the resilience and adaptive capacity of the system, and, if so, under what conditions.

- *To what extent are governments responsible for adaptation to climate change and what are the responsibilities to be borne by private parties and citizens?*

Concerning such an extensive social issue as climate change it is only natural to think of the government as the provider of the solutions. Yet the problem-solving capacity of governments is—as is evident from many legal, policy, and economic studies—somewhat limited.[24] Because of this, it is worthwhile considering other societal actors able to help with solutions. Furthermore, in principle it may be better to place some responsibilities with societal organizations rather than with governments. How should that division of responsibilities be visualized?

The above three questions are clearly interrelated. For instance, the nature of the legal and policy principles will influence the question of whether existing situations should or should not be maintained, and whether private parties do or do not have responsibility for climate adaptation.

European Environmental Law (2008) 35-46; Richard Marcrory (ed.), *Principles of European Environmental Law* (2004).

[24] Helena van Rijswick and Willem Salet, supra note 12; Peter P. J. Driessen and Pieter Glasbergen (eds.), *Greening society: The paradigm shift in Dutch environmental politics* (2002).

The objective of this paper is to clarify the normative aspects of climate adaptation and indicate where societal choices are both necessary and beneficial. The aforementioned questions will be dealt with in succession, although we do not claim to answer them fully. After all, answers will differ according to different states or regions, depending on the main problems that have to be solved, the political preferences, historical views, the actual preferences as to how to deal with certain public interests,[25] the way a state is organized,[26] and the obligations following from international and other law. More specifically, our goal is to present the main aspects that have to be considered when answering these questions and, by doing so, to put these questions and considerations on the adaptation agenda. Raising the questions invites policy-makers and lawyers to reflect on the normative aspects of adaptation. Answering the questions is necessary for the transparency, and therefore legitimacy, of the solutions as well as the acceptance of the choices that have to be made.

III. WHICH LEGAL AND POLICY PRINCIPLES SHOULD TAKE THE LEAD OR NEED RETHINKING FOR CLIMATE ADAPTATION?

Climate change is a phenomenon that is not only complex but also entails major uncertainties. Modelling of climate change only allows estimates to be made. A situation of this kind is particularly troublesome. In acting too eagerly, investments will probably be made which in hindsight might not have been necessary. Waiting too long before implementing measures could mean that important adaptation options are no longer available, the cost of measures increases significantly, and the risk of disaster and societal disruption is intensified. In such a case we need to look to potential normative principles that we can use as guidelines for policy and decision-making, because consensus on normative principles may promote a more predictable and stable rule of climate law and policy. Principles are able to facilitate flexibility and resilience in further implementing adaptation policies and measures, because they provide a more general direction towards solutions for climate change and may avoid legal instrumentalism.

---

[25] Jurrien Hamer, *Resilience in concepts of the Public Interes. A comparison of political-theoretical approaches, and their consequences for climate adaptation water policies*, Utrecht University (2011), who discusses Libertarianism, Free market environmentalism, Liberalism, Rawls' Theory of Justice and Communitarianism with regard to adaptation to climate change.

[26] Stefano Moroni, *An Evolutionary Theory of Institutions and a Dynamic Approach to Refor'*, 9(4) Planning Theory 275 (2010); Elinor Ostrom, Understanding Institutional Diversity (2005); Willem Salet, *Evolving institutions; an international exploration into planning and law*, 22 Journal of Planning Education and Research 26 (2002).

Some principles regarding climate change follow directly from the international legal framework, namely the UNFCCC. The UNFCCC is based on the idea that adaptation must be addressed with the same priority as mitigation. More general principles of international law might also be relevant, but principles derived directly from the UNFCCC will prevail, since they can be seen as *lex specialis*. Besides the principles deducible from the UNFCCC and its implementation in domestic law, most states rely on legal and policy principles that are of a more general kind within their legal system, but which are also relevant for national (and, in the EU, regional) climate-adaptation policy. However, the role that normative principles play in practice will strongly depend on one's view on the public and private interests at stake.[27]

1. UNFCCC Principles

We distinguish five main principles in the UNFCCC: equity,[28] solidarity,[29] precaution,[30] sustainability,[31] and good neighbourliness.[32] The UNFCCC also recalls in its preamble that states, in accordance with the UN Charter and the principles of international law, have the sovereign right to exploit their own resources under their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or to areas beyond the limits of national jurisdiction.

The backbone of the UNFCCC is the principle of equity, laid down in Article 3.[33] Equity concerns present generations as well as future generations. It concerns fairness, or, to be precise, substantive and procedural fairness. Distributive fairness is based on the principle of solidarity, and may require a rebalancing of inequalities in wealth, risk, and financial or other excessive burdens.

At the national level, in the administrative or environmental laws of many states, the principle of solidarity and the principle of distributional fairness may be recognized in what is called the *compensation principle* (egalité devant les charges publiques). If certain persons (instead of states as is the case in international law) suffer a loss that exceeds the loss that everyone else in society has to bear, then that loss must be compensated.

---

[27] See Jurrien Hamer, supra note 16.
[28] Article 3 (1) of the UNFCCC.
[29] Article 3 (2) of the UNDCCC.
[30] Article 3 (3) of the UNFCCC.
[31] Article 3 (4) of the UNFCCC.
[32] Article 3 (5) of the UNFCCC.
[33] The analysis of the principles based on the UNFCCC is based on the PhD research of Teresa Thorp at Utrecht University on principles in international climate law.

This principle arises from the principles of equity and solidarity and is further developed in the principle of protection of property, respect for basic rights, and fair treatment. For example, major infrastructural works that provide essential energy or water supply often have particular consequences for certain individuals and call for disproportionate losses to be compensated. An important element of the compensation regime is the predictability of damage. The question arises whether and when measures that will be taken to adapt to climate change will change the right to compensation only from one person to another or whether a more substantial change to compensation rights will be made as, due to the increased predictability, there will be no more right to compensation at all. Furthermore, the compensation principle may need rethinking when it comes to adaptation measures, because it is often based on the status quo and may entrench a conservative attitude, whereas adaptation policies are not primarily concerned about preserving the status quo but about adapting to new climatic circumstances. In this respect there is likely to be a major difference between rights-based legal systems (even when it comes to natural resources) and those systems that see natural resources, like water, as a common or public good.

The principles of equity and solidarity therefore require that a fair *distribution of benefits and costs* takes place in national or regional climate-adaptation policies.[34] In our opinion, the equity principle should preferably be based on the idea that a certain level of protection is provided for all (safety, availability of water, a basic quality of the living environment) because it is necessary to protect human values.[35] The main argument for this comes from the human-rights approach as laid down in, for example, human rights treaties. After protecting these basic needs of the population, there is still, in most instances, a policy discretion for the government when it comes to adaptation to climate change. This is where the solidarity principle joins in. If the choice is made to offer certain groups a higher level of protection or to protect their interests in particular, then the reasons for doing so must be accurately stated, so that in democratic decision-making it is clear why certain interests must be given more protection than others.

A well-known example is the protection of national agriculture, originally meant to ensure that there will be enough food for a state's own population—a choice that many people would agree with. But nowadays the protection of agriculture, which has severe impacts on the environment, is much more diffuse in the goals and interests that are being served. Another example is energy supply, which is crucial to a modern

[34] Dinah Shelton, *'Equity'*, in: The Oxford Handbook of International Environmental Law, 639 (Daniel Bodansky, Jutta Brunnée and Ellen Hey eds.) ; Rosalind Cook, supra note 13
[35] Rosalind Cook and Eljalill Tauschinski, supra note 13.

society. Protecting an energy supply often leaves unanswered the question about whether the vested interests of oil companies should be allowed to frustrate new, innovative, and environmentally friendly solutions.

In this sense, equity and solidarity, including substantive, procedural, and distributive fairness, do not, by definition, mean "equality", but should in our view ensure a fair distribution of wealth and risks. Francot-Timmermans and De Vries state that justice and solidarity should be the leading principles in situations when shifts of wealth or risks are at stake, and we believe that this should also be the case when it comes to adaptation to climate change. The aforementioned authors discuss the shift from the first to the second modernity, meaning a shift from a fair distribution of wealth towards a fair distribution of risks and the responsibility for risks. The distribution of wealth is mainly based on cost-benefit calculations and is the major obstacle to the constitution of (global) solidarity.[36] We see that this is also the case in the climate debate, not only when it concerns mitigation, but also in the case of adaptation. Certain circumstances may require more intense government involvement than others. This is the case, for example, when safety against flooding, food safety, and the protection of the supply of drinking water are concerned.

The following questions regarding the fair distribution of benefits and costs are always relevant and should be discussed in an open and transparent way:

- Whose interests are protected by a proposed adaptation measure?
- To what extent does a government wish to guarantee a certain level of protection for all *without* restrictions (drinking water, safety)?
- To what extent does a government wish to guarantee this *with* certain restrictions, for instance by regulating or restricting functions, curtailing use, and imposing financial restrictions? How are these restrictions shaped in terms of legislation or policy?
- To what extent do citizens and businesses have a responsibility to make adjustments to the impacts of climate change?
- Who pays for adaptation measures, and are payments to be based on solidarity or profit? May the measures be imposed on those who are not responsible for the causes of climate damage or the (over)use of natural resources?

[36] Lyana Francot-Timmermans and Ubaldus de Vries, *Normativity in the Second Modernity*, 39 Rechtstheorie 477 (2008). Their article is based on the work of, amongst others, U. Beck, *Risk Society, Towards a new Modernity* (1992). See also Lyana Francot and Ubaldus de Vries, *As good as it gets: On Risk, Legality and the Precautionary Principle*, in The eclipse of the legality principle in the European Union (Sacha Prechal (ed) (2011); Jonas Ebbesson, supra note 11. .

- Does taking a proposed adaptation measure conflict with the protection of human rights, or the protection of habitats and species, ecosystems, or river basins? Does the measure lead to unequal competitiveness?
- Does the adaptation measure lead to a conflict with general international legal or national principles, such as the principles of subsidiarity, proportionality, polluter pays, and the precautionary principle?

Many authors suggest that one of the most important principles that should be taken as the basis for a climate-adaptation policy is the *precautionary principle*.[37] The European Environment Agency defines this principle as follows: "The precautionary principle provides justification for public policy actions in situations of scientific complexity, uncertainty and ignorance, where there may be a need to act in order to avoid, or reduce, potentially serious or irreversible threats to health of the environment, using an appropriate level of scientific evidence, and taking into account the likely pros and cons of action and inaction".[38] The precautionary principle thus requires risk assessments. The UNFCCC sees mitigation and adaptation measures as elements, or more precisely as risk-regulation tools, of a precautionary approach. Contrary to the meaning of the precautionary principle in, for example, EU nature-conservation legislation, the UNFCCC explicitly and generally (without exceptions) refers to the socio-economic context and the cost effectiveness of measures to deal with climate change.[39]

In the past few years an attempt has been made to provide a more adaptive definition of the precautionary principle. In doing so, one departs from the strict approach in, for example, nature-conservation law where no activity is permitted unless there is an absolute guarantee that no damage will occur, and tends towards an approach that leaves room for new solutions and in which certain risks are still allowed. In order to achieve an adequate – but not absolute - level of protection and to place the risk of any damage with the initiator of the action, an accountability regime is used which, for

[37] See Article 3 EU Treaty; Communication from the Commission of 2 February 2000 on the precautionary principle; Nicolas Sadeleer (ed.), Implementing the precautionary principle: approaches from the Nordic countries, EU and USA (2007); Arie Trouwborst, Precautionary Rights and Duties of States (2006); Wybe Th. Douma, The Precautionary principle: Its application in International, European and Dutch Law (2004); Arie Trouwborst, Evolution and Status of the Precautionary Principle (2002).

[38] European Environmental Agency, *Late lessons from early warnings: the precautionary principle 1896-2000,* EEA 2002.

[39] Arie Trouwborst, *Conserving European Biodiversity in a Changing Climate: The Bern Convention, The European Union Birds and Habitats Directives and the Adaptation of nature to Climate Change*, 20(1) RECIEL 62 (2011); Jonathan Verschuuren, *Effectiveness of nature protection legislation in the European Union and the United States: the Habitats Directive and the Endangered Species Act,* in: Cultural Landscapes and land Use: The Nature Conservation-Society Interface (M. Dieterich e.a.) 39 (2004).

example, reverses the burden of proof.[40] Policies on substances and products, as well as liability regimes, aim to provide relevant solutions. In this way, innovative developments and activities that are essential within the framework of climate adaptation can still go ahead—and developments are not blocked because of the uncertainties that play a role in decision-making.

The next principle is that of sustainable development, or sustainability, based on Article 3(4) of the UNFCCC.[41] It expresses the *non-shift principle,* which, among other things, aims to prevent responsibility for environmental problems from being shifted from one area to another, or shifted to future generations. In case adaptation measures are necessary in the field of water management also, the river-basin approach based on the Helsinki Treaty is relevant, and this also requires the non-shift principle . Thus, for example, safety measures to adapt to climate change may not lead to a higher level of unsafe situations later or elsewhere.
The *principle of good neighbourliness* follows directly from the UNFCCC, but can be found in other environmental and water treaties. It comprises an obligation to cooperate and not to cause harm.

2. Other Relevant International Law Principles

The principles following directly from the UNFCCC are not the only principles that can be important for initiating and shaping an adaptation policy.[42] The following principles are important as well: the principle of proportionality,[43] the principle of subsidiarity,[44] and the cost-recovery principle[45] (including the polluter-pays principle[46]).

The *principle of proportionality* implies that the government must not overreact in its policy ambitions but must limit itself to measures that serve the collective interest; and

[40] Alan Randall, *Risk and Precaution* (2011); and see for the discussion in the Dutch legal literature: Ben J. Schueler, *Het vernieuwde voorzorgsbeginsel als toetsingsmaatstaf voor de bestuursrechter*, in: Bij twijfel (niet) doen? Over de invulling van het voorzorgsbeginsel en het omgaan met onzekerheden (Natasja Teesing (ed.) 15 (2009); Roel Pieterman, T. Arnoldussen and W.J. Kortleven, *'Voorzorg en Integraliteit'*, in: Bij twijfel (niet) doen? Over de invulling van het voorzorgsbeginsel en het omgaan met onzekerheden (Natasja Teesing (ed.) 31 (2009).
[41] See for the European counterpart Article 3 of the EU Treaty.
[42] See for an emergency-based approach: Robin K. Craig, *Stationary is Dead, Long Live Transformation: Five Principles for Climate Change Adaptation Law,* From the selected works of Robin K. Craig. March 2009. [online] URL: http//works.bepress.com/robin_craig/4.
[43] See for example for the European region: Art. 5 EU Treaty.
[44] See for example for the European region: Art. 5 (3) EU Treaty.
[45] See for example for the European region: Art. 9 of the Water Framework Directive (WFD).
[46] See for example for the European region: Art. 191 (2) Treaty on the Functioning of the European Union (TFEU).

it should leave sufficient latitude for the market.[47] The proportionality principle is important when an adaptation policy is based on a programmatic approach. Measures should be related to causes and should also be proportionate regarding the costs as well as the benefits. This clarifies how the several climate-adaptation principles are interwoven, since proportionality is also linked to distributive fairness as well as substantive and procedural fairness. It therefore not only requires a programme of measures that could solve the problem, but also a programme that is transparent and open to public participation and judicial review. In a legal system that aims to protect the interests of its citizens, it should be possible that the courts are able to judge the fairness and proportionality of adaptation measures.

An example from the Netherlands in this respect is the advice of the Dutch Delta Commission to improve protection against flooding. The Delta Commission was asked by the Dutch government to provide advice on the necessary water-management adaptation strategy for the coming decades. The Commission suggested that future dike improvements should not only be based on scientific research on expected sea-level rise, but that the necessary dike-reinforcement standards should be multiplied by a factor of ten so as to ensure that the country will be well protected for the coming decades. It might be said that this breaches the proportionality principle, for it inflicts enormous costs and serious impacts on the living standards of many people living near dikes and who in the Netherlands also have to pay for the dike enforcements. On the other hand, if one's main concern is preventive action, it could be seen as good advice. The *principle of subsidiarity* is allied to the concept of decentralization and means that something should only be regulated at a higher government level if it is essential to achieve the objectives of adaptation to climate change. The principle of subsidiarity advocates national and regional adaptation strategies where possible. Patrick Huntjes, based on the work of Ostrom, among others, refers to this as the need to improve adaptive governance through systems that are more polycentric.[48]

European adaptation policy is based on the subsidiarity principle, as reflected in the Water Framework Directive and the Directive on Flood Risk Management, among other policy measures and legal tools. They all leave some, or a great deal, of policy discretion to the EU's member states. In the Directive on Flood Risk Management[49] we see that there are no safety standards set at the European level, nor does the directive prescribe any specific safety measures. All that states have to do is to provide an

[47] Takis Tridimas, *The General principles of EU Law* (2006).
[48] Patrick Huntjes, *Water Management and Water Governance in a Changing Climate, Experiences and insights on climate change adaptation in Europe, Africa, Asia and Australia*, at 43-44 (2010).
[49] Directive 2006/60/EC.

overview of historical flooding and future risks and make risk-management plans. The content and the institutional organization of flood-risk management are left to the individual states. Basing adaptation strategies on the subsidiarity principle means that (major) differences in levels of protection may exist among states, regions, provinces, or municipalities. If a national government is of the view that all its citizens should be equally protected, it may be necessary to set binding and enforceable safety standards at the national level. For example, in the Netherlands flood safety is traditionally decentralized, although safety standards are set at the national level. The government deals with flood protection only in those areas that are protected by dikes. Those who choose to live on river flood plains or on the coast must take their own safety measures. In these areas citizens and the market can operate freely. However, the government must be fully transparent about where governmental responsibilities end and private responsibilities begin.

Another relevant principle is the *cost-recovery principle*: the costs incurred must be able to be recovered from those that benefit. This principle is a combination of the *polluter-pays* and the *user-pays* principles. A heavily debated adaptation measure in the Netherlands is the planned increase in the water level of Lake IJssel to ensure a fresh water supply for farmers in the South West Delta region. Flood-protection measures would have to be taken to guarantee the safety of those living near the lake. The impact on the landscape, living conditions, recreation, and other economic activities will be huge. Under the current system the measures have to be paid for by those living near the lake and not by the farmers who will benefit from the measures to be taken.

The cost recovery principle bears the risk that a dilemma can come into play between the direct benefit principle and the principle of solidarity. The principle of solidarity is, as stated above, of essential importance in climate policy, yet it is often understood as referring to solidarity with countries experiencing the impacts of climate change though they have contributed little to the causes of the problem. The solidarity principle should also play a role in decision-making at the regional and national levels, for example when the subject is the protection of human rights, such as the right to sufficient drinking water.

IV. WHICH INTERESTS MUST BE PROTECTED BY MEANS OF ADAPTATION TO CLIMATE CHANGE AND IN WHICH ORDER?

Adaptation policy will generally focus on reducing the vulnerability of countries and regions to flooding, heat stress, aridity, etc., and increasing the level of resilience. In this respect many interests are at stake, such as the interests of economic sectors, the

interests of the proper functioning of elementary networks and facilities, and those of public health. When formulating adaptation options there is often a tendency not to depart too noticeably from the prevailing views on the degree to which those interests must be protected. *Path dependency* plays an important role in this respect. Path dependency means that (normative) choices made in the past also determine the choices to be made now.[50] In other words, path dependency means that choices made in the past tend to rule out other options now. Two examples taken from experiences with Dutch adaptation policy illustrate this.

The Netherlands is faced with an increasing level of salinity in the western part of the country caused by a rising sea level and subsidence. The question is how to deal with the phenomenon in order to ensure that existing agricultural activities are not endangered. After all, those agricultural activities date from many years ago, during which time they have flourished economically. The question could also be asked whether there are any opportunities for so-called "saline agriculture" and the degree to which the agricultural sector is capable of making a radical change in that direction.

The groundwater level in the western part of the Netherlands must be drastically and continuously artificially lowered to make conventional agricultural activities possible. Adaptation in this respect could also focus on increasing pumping capacity to ensure that surplus water can be pumped away in the future. This solution is in line with the methods that have been used for centuries. An alternative would be to stop, or to drastically limit, the lowering of the groundwater level and to shift highly productive agriculture away from the area. In this scenario, the area would have a different function; small-scale and marginal agricultural activities would exist alongside nature and landscape development, extensive development of recreational activities, and water storage to avoid flooding and to conserve water for times of drought. The key question here is the degree to which we wish to protect or maintain the existing order at any cost, or are prepared to bring it up for debate and put forward proposals for a new order in which any opportunities that arise are made full use of.

We believe that the following questions should be taken into consideration in a political and governance assessment:

- What are the costs of the various adaptation options and what benefits (not only economic) do they offer?

[50] Paul Pierson, *Increasing returns, path dependence, and the study of politics*, 94(2) American Political Science Review 251 (2000).

- What are the national, regional, societal, and economic effects of the different adaptation options for the various economic functions?
- What are the consequences of various adaptation options for the functioning of different networks and infrastructure?
- What is the effect on the quality of the living environment (water quality, historical and cultural values, nature and landscape values, land use, multi-functionality, sustainability, etc.)?
- What are the consequences of adaptation options for the international reputation of different economic sectors?
- To what extent do adaptation options create new opportunities for different economic functions and what benefits can be expected thereof?

Priorities must be established when determining the content of an adaptation policy: which adaptation measures have priority over other measures? Considering that climate adaptation will go hand in hand with substantial investments, not all measures will be able to be implemented simultaneously. For instance, consideration must be given to whether the drinking-water supply, as an acknowledged human right, should be given priority, or whether priority should be given to protection against high water levels, or the concern for a safe infrastructure, reducing public-health risks, ensuring the food supply, etc. The following considerations can play a role when setting priorities:

- Which measures are urgent from the perspective of gravity and necessity (prioritizing according to urgency)?
- What is the most logical temporal order for the adaptation measures, from a technical, ecological, and rational point of view (prioritizing according to timing)?
- When is it economically most profitable to make investments in long-range adaptation measures (prioritizing according to cost-effectiveness)?
- Which measures must be taken on which scale—international, national, regional, local (prioritizing according to scale)?
- Which measures could draw major societal and political support (prioritizing according to support)?
- Which measures could be supported with sufficient financial means (prioritizing according to the available budget)?

V. WHO IS RESPONSIBLE FOR CLIMATE ADAPTATION?

The question as to the extent to which the government is responsible for adaptation to climate change, and the responsibilities that should be borne by private parties and citizens, is a difficult one to answer. There is a choice here between two partly overlapping but analytically distinguishable lines of approach: a legal approach, on the one hand, and an administrative/economic one, on the other. Unambiguous answers can be given for the legal approach, at least where international and national obligations are concerned. For the second approach the answers are more ambiguous.

1. Legal Approach

Law's place in climate adaptation is characterized by the legal method and by a number of "firm" boundaries, that is: human rights; international law (especially in the field of environmental and nature-conservation law); national constitutions; and legal principles such as the principle of legal certainty, the principle of equality, the protection of property, and the accompanying no fault liability or compensation, including judicial review. Both European law and national legislation indicate (not always directly) the fields in which the government has a duty of care for adaptation to climate change,[51] such as care for human habitation and the protection of the living environment. In many countries the government also has a duty to provide for education, health, and employment. These duties are frequently laid down in the wording of treaties, constitutions, and ordinary legislation. The development of duties of care is usually carried out in ordinary legislation, and can be assessed by the courts in terms of the legitimacy of the decision-making process.[52] When the courts assess whether there is a fair distribution of benefits and costs, the principle of equality will play an important role.[53] Everyone is responsible for his or her own loss, but in special cases, such as when an individual is affected more than others by a governmental action, he or she may be entitled to compensation. To be eligible for compensation, the loss must generally relate to circumstances that go beyond the scope of normal societal risk. Over the coming years, the question about the extent to which losses arising from government measures taken within the framework of climate adaptation are eligible

[51] See for example for the European region: Art. 3 (3) Treaty on European Union; Art. 191 the Treaty on the Functioning of the European Union; Art. 37 Charter of Fundamental Rights of the European Union. In the Netherlands, for example, this follows from social human rights as laid down in the Dutch Constitution.
[52] Helena van Rijswick, *The Status of Consumers in European Water Regulation*, 1 European Journal of Consumer Law / Revue Européenne de droit de la consummation, 115 (2011) and Herman Havekes and Helena van Rijswick, *Waterrecht in Nederland* (Water law in the Netherlands) at 15-16 and 285-296 (2010).
[53] It must be pointed out that this principle can be implemented in very different ways in different countries.

for compensation will need to be reconsidered. Furthermore, distributive fairness also requires transparency in the choices that have been made.

A. Functions of the law in climate policy

Law has both a safeguarding function, a function within the framework of dispute resolution, and a function as a policy instrument.

The *safeguarding function* guarantees that citizens are able to feel secure in a state; that they have a trustworthy government. For instance, the protection of property should ensure that the government is unable to use the land owned by private individuals for the purpose of building dykes or water storage areas without expropriation or compensation. The interests which the government pledges to protect also fall within the scope of the safeguarding function, for example by regulating that the provision of drinking water is guaranteed. Abusing vested competences or intervening in the lives of citizens without authorisation is prevented by means of the safeguarding function of the law.

Dispute resolution provides for the opportunity to bring any disputes before an independent court or tribunal. Certainly if the matter concerns an infringement of proprietary rights, involving the element of confiscation as the curtailment and regulation of property, this is an acknowledged requirement. This does not, however, eliminate the fact that many disputes can be resolved in an alternative manner and further research is required in order to improve the possibilities of alternative dispute settlement, not only for disputes between public and private parties but also between private parties and between several public parties. Adaptation to climate change will require challenging arrangements and sometimes painful measures. This will need adequate ways of solving disputes, which should be accessible for all whose interests are at stake.[54]

An increasingly popular function of the law is that it acts as an instrumental policy tool, which becomes stronger the more the government becomes involved with all kinds of policies. Law is then used as a *policy instrument* which, in turn, can lead to an excess of detailed regulations, and may consequently lead to an inability to respond adequately to changes and innovative solutions. Two sides of the law, the safeguarding function and the instrumental function, are elaborated in more detail below.

---

[54] See Farhana Sultana and Alex Loftus (eds.), *The Right to Water: Politics, Governance and Social Struggles* (2011) (forthcoming).

B. Safeguarding function of the law

The safeguarding function of the law plays an important role within most States. Safeguarding elements are not only the rule of law and legal certainty but also binding environmental safety and quality standards that aim to protect and guarantee a certain protection level for citizens.[55] This safeguarding function is progressively being seen as obstructive and counterproductive for economic development and in solving societal problems which has led to it, sometimes being characterised as juridification that has gone too far. Certain scholars argue that parts of the law could be replaced by less stringent forms of top-down regulation and control.[56] Some scholars are warning for a diminishing level of protection due to the development from government to governance.[57] For example, in the Netherlands it is fervently advocated – also followed by new legislation - that legal protection should be preferably replaced by consultation and public participation. Nevertheless, significant risks and disadvantages are attached to such a choice. Before the safeguarding function of the law is put to one side it should not be forgotten what the value of the safeguarding function of the law in a society actually is. The rule of law, which plays a significant role in many states,[58] should remain as the backbone and fundamental value of modern society, also when we have to cope with challenges such as economic crises and climate change. Especially in times of transition the government should be a trustful partner and should be transparent and reliable when it comes to the protection level that is offered, and therefore should also be subject to the rule of law. Today, not instead of, but in addition to the aspects of the legal certainty and legitimacy of norms, more value is being attached to procedural guarantees such as transparency, equal access to information and public participation.[59]

---

[55] Van Rijswick, supra note 11.

[56] Charles Sabel and Jonathan Zeitlin, *Experimentalist Governance in the European Union: Towards a New Architecture* (2010); Maria Lee, *EU Environmental Law, Challenges, Change and Decision-making* (2005); Anne M. Kjaer, *Governance* (2004).

[57] Ludwig Krämer, *Thirty years of EC Environmental Law: Perspectives and Prospectives*, 2 Yearbook of European Environmental Law 155 (2002).

[58] See for instance Art. 15 of the Treaty on the Functioning of the European Union. A classic definition of a state subject to the rule of law is that there is a constitution that contains binding regulations on the relationship between the government and citizens, and in which a separation of powers is assured, particularly legislation in unison with parliament, an independent judiciary that not only rules on disputes between citizens themselves but also on disputes between citizens and the government, and governmental action which is based on the law, and by which fundamental rights or the citizens' rights of freedom are defined and guaranteed.

[59] Maria Lee supra note 47 and A.M. Kjaer supra note 47.

The concept of a state which is subject to the rule of law also has its disadvantages. It strongly focuses on institutional and juridical aspects; how a state should be structured and which regulatory norms should be in effect, but gives no or no adequate indication as to what a government ought to do. The state which is subject to the rule of law concept is based on the idea that citizens are free, self-aware enterprising individuals who want to see the least possible state intervention in their actions, and maximum protection for their freedoms.[60] Climate change will mean that more is needed than protection against unlawful government actions to protect citizens and their legitimate interests within society. It has been suggested that protection against the effects of climate change could best be provided by private parties.[61] Another possibility enlarges democratic decision-making in which 'the people' can effectuate that the government takes responsibility for certain tasks such as adaptation to climate change.[62] The right to equality, guaranteeing that all citizens are treated equally, and the right to the protection of one's health, environment and property ensue from a state being subject to the rule of law concept. These rights have significant consequences for potential expropriation and compensation when the government takes climate-adaptation measures.

A fundamental social right that compels the government to ensure a country's habitability and to protect and improve the living environment is essential within the framework of a climate-adaptation policy. In other words, social rights do exist, for instance concerning economic development, protection against flooding, a certain amount of freshwater, the protection of the countryside and the protection of the quality of the living environment, which includes for example measures against heat stress in urban areas. It is much better to speak of a duty of care of the governmental for the *protection of certain interests*, given that these rights generally cannot be directly enforced by a court of law.[63] In addition to the assigned duties of care, the (legal) *nature* of the interests that must be protected is also relevant, such as the question whether it concerns the protection of public goods (the atmosphere, water, the countryside),[64] the

[60] Robert Nozick, *Anarchy, State, Utopia, Basic Books*, New York (1974) 29-34. See also Will Kymlicka, *Contemporary Political Philosophy: an introduction,* Oxford University Press, New York 2002, 106 and Jurrien Hamer, supra note 16.
[61] Jonathan H .Adler, *Taking Property Rights Seriously: The Case of Climate Change*, Social Philosophy and Policy Foundation, (2009) 296.
[62] E. R. Alexander, *The public interest in planning: From legitimation to substantive plan evaluation*, 1(3) Planning Theory 226 (2002*)*; Jutta Brunnée, and Stephen T. Toope, supra note 11.
[63] Van Rijswick, supra note 11.
[64] It makes a huge difference when dealing with drought, whether a state has a legal system in which for example water is regarded a common or public good or whether the legal system is based on property rights. See among others Ingrid Kissling-Näf and Stefan Kuks (eds.), *The evolution of National Water Regimes in Europe, Transitions in Water Rights and Water Policies towards Sustainability* (2004) and for a more

accessibility and availability of public works (e.g. the infrastructure) and the order or priority of the interests to be protected (such as the drinking-water supply, electricity, infrastructure, nature and safety in the event of flooding, the protection of public health).

However, two important comments should be made here. In the first place, that the government takes responsibility for certain tasks does not exactly clarify what that duty of care entails. This gives rise to at least five questions:

- Does the duty of care imply that the government protects certain interests by drawing up regulations, or should the government take and finance the measures itself?
- What level of protection must be guiding in government actions? For instance, is everyone entitled to the same level of safety, freshwater and land use in the vicinity at all times?
- What kind of regulations does the government want to implement? Classic command and control instruments (by means of legislation and regulation), market-based instruments, or communicative instruments?
- Should all the measures be taken by the government, be it the central or a regional government? Will those measures be at the expense of the state budget fed by general taxes, or regional budgets, or should the cost be redeemed from those who benefit from them?
- Which measures must actually be taken, and by whom and how must they be attuned to measures taken in other areas of policy that touch upon the climate issue?

Secondly, the fact that the government takes responsibility for a certain task does not mean that all interests must be fully protected by the government in all circumstances. This point also gives rise to several fundamental questions:

- Should safety be totally guaranteed by the government and unconditionally in all regions and for all functions?
- Should the government ensure that everyone has access to a free and unlimited supply of freshwater at all times and for all users or functions?
- Are nature conservation and nature development interests always protected or only insofar as they arise by virtue of international obligations, or does the national government still have an additional role to play in this respect?

---

international overview Joseph W. Dellapenna and Joyeeta Gupta (eds.), *The Evolution of the Law and Politics of Water* (2009).

> Regarding the question as to where and when nature conservation and nature development takes place, must the possibility or the desirability of locating this in specific regions be the guiding principle?

The aforementioned rights play a significant role in adaptation to climate change and more specifically with regard to distributive fairness of the risks against flooding, the scarcity of water and protection against pollution and the distribution of space (both physical and pollution limits), not only in national law, but also in international law.

An important precondition for climate adaptation policy is that adequate attention is devoted to democratic decision-making, the separation of powers and a system of checks and balances, the legality of government action, and also the existence of fundamental rights, legal and policy principles of good governance, adaptation management and an adequate system of legal protection.

Despite the fact that the guarantee element of the law is 'classic', based on virtually uniform values, it does not mean that no alterations can be made thereto. Without doubt, it is also a matter of dynamics and whether the resilience of the legal system can be improved without losing its classical benefits is worthy of further research. For instance, setting standards today more often takes place at different government levels (international, supranational, national, regional) and by both private and public parties. The same applies with regards to enforcement. Arbitration and alternative mechanisms for dispute resolution could be an alternative to lengthy judicial procedures, while the effectiveness of judicial dispute resolution itself can also be improved.

C. Law as a policy instrument

The second important role of the law is that of a policy instrument. This is the role that is usually given the most attention because many statutory regulations are realised within this framework on the international, supranational, national and regional level. One important research theme relates to the effectiveness of the system of regulations and norms which should preferably be studied from the social-scientific perspective. The effectiveness of the various judicial control instruments can vary to a large extent and the correct choice depends on the problem that needs to be resolved. Whether the current trend to replace classic control instruments with softer, informal or economic control instruments will really lead to faster and better results in the field op adaptation has not been empirically studied as yet. This is also why the guarantee function described above should be regarded as preconditional, so that a fair

distribution of wealth and risks is guaranteed and sufficient protection against government action is assured. When making a choice for the appropriate policy instruments sufficient attention must be given to the following aspects:[65]

- changes in the physical system that call for flexible standards, for instance;
- the urgency of the problem, which can call for speedy decision-making procedures;[66]
- dealing with uncertainties, which calls for a fair distribution of risk,[67] e.g. by means of liability regimes that are in line with the precautionary principle;[68] and monitoring obligations combined with flexible standards to ensure that regulations and standards can be adjusted to changed climatic circumstances;
- a just distribution of benefits and costs among various groups of stakeholders, in which it must be clearly set out which citizens' interests at the least the government must guarantee to protect. This may well be done through a transparent and enforceable programmatic approach;
- the inclusion of the possibilities to use innovative solutions in the existing legal system;
- the significance of alternative policy instruments in which classic *command and control* instruments are replaced by more market-oriented instruments such as tradable rights and the pollution trading scheme, and equalisation mechanisms;
- the introduction of forms of discussion and collaboration within networks. This in addition to assigning care and management tasks and the associated competences to a specific government body or within a certain area of policy.[69] When implementing forms of discussion and collaboration within networks it is precarious to use them in place of the care and management tasks of specific government bodies because it can diminish the responsibility and legitimacy of government action. It must be made clear exactly which government should protect which interests, and it is essential that citizens can also rely on the courts in this respect;

---

[65] Most of these subjects are elaborated and accompanied by further literature in Catrien Termeer et al, supra note 4.

[66] An example can be found in the Dutch "Deltawet Grote rivieren' (Delta (Major Rivers) Act), an emergency Act which provided for an expeditious procedure to improve and restore dikes after the severe flood risks in 1993 and 1995. The procedural system used in this Act was subsequently integrated into the regular Water Act of 2009.

[67] Alan Randall supra note 31; Lyana Francot-Timmermans and Ubaldus de Vries supra note 27.

[68] Ben J. Schueler, *Governmental liability: an incentive for appropriate adaptation?* in:, Climate Change Liability (Michael Faure and Marjan Peeters, eds.) (2010).

[69] Marco A. Janssen, *An update on the scholarly networks on resilience, vulnerability, and adaptation within the human dimensions of global environmental change*. 12(2) Ecology and Society 9 (2007); Marco A. Janssen et al, *Towards a network perspective on the resilience of social-ecological systems*. 11 Ecology and Society 1 (2006).

- the distribution of responsibilities between the state and the citizens and the associated demand for more or less generally formulated or detailed regulations. Also in this sense the aforementioned differentiation between the nature of the interests to be protected, such as whether they concern protecting public goods (the atmosphere, water, nature), the accessibility and availability of public works (the infrastructure for instance) and the order of priority given to the various interests to be protected (e.g. the supply of drinking water, electricity, the infrastructure, nature and protection from flooding, the protection of public health) remains important.

2. The administrative, economic approach

The law provides a number of pointers as to which responsibilities should in any case be borne by the government if the matter of concern is climate adaptation. The safeguarding function of the law leads to the conclusion that in a climate-adaptation policy the government must in any case ensure a fair distribution of benefits, costs and risks and that citizens are protected against government action. The control function implies that the government may intentionally and specifically intervene in societal processes with a view to the habitability of a country – in the broadest sense of the word – including adaptation to climate change. And yet this still does not answer the question of where and when the government must and must not act, and where responsibilities can be shifted elsewhere. What insights do the policy sciences have to offer us in this respect?

That the government takes the lead in all areas of social concern is not a matter of course. History shows that certain tasks shuttle back and forth between the government and the market. For decades in the Netherlands the government was the decisive player in some policy areas, for example, in the fields of supplying energy, waste removal, public transport and the distribution of mail, but these tasks have been easily handed over to the market over the past few years not only in the Netherlands, but also in a large number of other countries. The opposite is also sometimes the case; tasks which had previously been in the hands of the private sector have been taken over by the government. For example, nature conservation in the Netherlands during the first half of the twentieth century was mainly in the hands of NGOs. Only in the second half of that century did this become a prominent area of government care. Social problem solving or the provision of social services is therefore not a government prerogative. Other parties can also play a role in this respect.

Three alternatives to governmental management are distinguished in policy sciences: self-regulation, management through the market mechanism and interaction between the government and private parties.[70] Self-regulation implies that citizens and NGOs themselves disseminate social values and solve social problems. This is the case, for instance, when private organisations take it upon themselves to see that existing housing and existing residential areas are made climate-proof, e.g. via the laying of green roofs, open-space planning, the temporary storage of rain water, etc. This is also the case when NGOs undertake communication activities that contribute to a greater awareness of the consequences of climate change and businesses and citizens are urged to take adaptation measures themselves. Management via the market mechanism can be effective if there is an adequate number of suppliers of goods and services. The consumer or user can then make his or her choice on the basis of cost and quality levels. As far as climate adaptation is concerned, consideration could be given to a market for flood insurance, a market for heat-resistant dwellings or a market for laying green roofs (as a remedy for heat stress and urban flooding). Interaction between the government and private parties can also be a good alternative to governmental care. For instance, the government can facilitate initiatives taken by private parties to take action in terms of climate adaptation. The government can also commission studies on the feasibility of specific adaptation options which can subsequently be implemented by private parties. The government can also either stimulate or curb specific behaviour through subsidies and levies. The laying of green roofs could be stimulated by means of subsidies, or surface paving or asphalting in urban areas (possibly resulting in the quicker drainage of rain water) could be discouraged by means of levies.

It goes without saying that reasons can always be put forward to have the government take the lead in adapting to climate change.[71]

The first reason could be that citizens, NGOs and private companies are unable to take care of the production of collective goods. Safety against flooding (and the associated infrastructural facilities in the form of dykes and other constructions) can, for instance, be seen as a collective good. All citizens benefit from them but no one will be inclined to invest in them. However, if an individual *does* make such an investment then other people will display free rider behaviour because no one can be excluded from safety measures (e.g. dykes). It is obvious that in such a case the government takes responsibility for that care. New health threats that can arise from climate change can

[70] Peter P.J. Driessen and Pieter Glasbergen , *Greening society; the paradigm shift in Dutch environmental politics* (2002).
[71] Mark A.P. Bovens, P. 't Hart and M.J.W. van Twist, *Openbaar bestuur; beleid, organisatie en politiek* at 88-97 (2007).

also be a reason for the government to take action, in such cases public health is regarded as a collective good.

The second reason for governmental management has to do with regulating external effects. These are the effects of our economic and social activities that cannot be discounted in the price of goods and services. Building in areas that are vulnerable to flash flooding – for instance in the vicinity of rivers – can involve extra risks and therefore extra costs, and for this reason can or should be regulated by the government. The extraction of groundwater by the agricultural sector can – especially during dry periods, which will increase due to climate change – damage nearby nature conservation areas and thus can be regulated by the government. Another example is that measures focusing on the faster draining and lowering of high water levels in the major rivers in one region can lead to a higher risk of flooding in another region downstream. In section III this was referred to as the *non-shift principle*. This calls for government regulation, at least in the form of coordinated action.

The third reason for government action in connection with climate adaptation can be in the field of controlling merit goods. The market can offer products that are unwelcome within the framework of curbing the climate issue. As a result of climate change cities can become hotter during the summer months (partly as a result of the *urban island effect*). There is a greatly increased possibility that citizens will then purchase air conditioners on a large scale, leading to the higher consumption of electricity and most probably to higher CO_2 emissions. The government could intervene and impose a levy on (or even prohibit) the purchase of such equipment.

The fourth reason for government action in the field of climate adaptation has to do with compensating the distributional effects.[72] Social inequality can arise – often unintentionally – because of government policy *and* the market mechanism. In this connection the instrument of *compensation* is frequently used. Compensation is basically a financial instrument which intends to resolve imbalances between the revenues and charges of a project felt by different stakeholders. It is based on the starting point that the person suffering damage or loss from a certain collective amenity is awarded financial compensation. Allocating an area for the temporary storage of water – from which many can benefit – can have consequences for the nature and intensity of the usage of that area and can therefore be detrimental to the owner/user. Government action must therefore be geared towards restoring the

[72] Peter P. J. Driessen and Tejo Spit, *De bekostiging van klimaatadaptatie: arrangementen voor een legitieme balans van baten en lasten*, 37(1) Beleid and Maatschappij 73 (2010).

balance between collective benefits and individual costs, for example, by paying damages.

Although legitimate reasons can be given for government control in the area of climate adaptation, that control is not always executed without problems. The government can also fail, as can the market. Known issues connected with government control are a delay in responding to problems, the inadequate implementation of the government's own policies and the poor coordination of policy among the administrative layers.

If the government takes the initiative on implementing adaptation measures it need not necessarily be the case that the central government is the leading actor. The central government can also leave the initiative up to regional and local authorities, or rather establish conditions under which regional and local authorities are able to execute this task properly, for instance by setting up specific funds that can be used to take adaptation measures. Over the past few years, the interaction between governments in many Western countries has increasingly been structured by virtue of agreements and contracts. This trend is sometimes referred to as *new public management*.[73] The guiding principles in this respect are results orientation, businesslike management, competition in public administration and benchmarking. Especially the granting of funds by central government to local authorities can be directly coupled to performance; the budgetary amount is then dependent on the amount of success achieved. Local authorities then compete against each other for funding. In the case of climate adaptation, the central government could provide regional governments with funding on the basis of agreements regarding performance. For that matter, the spatial scale on which adaptation measures are taken is determined not only according to considerations of suitability but also according to considerations of effectiveness. It is evident that in the Netherlands measures taken against flooding should not be left to local authorities, but that may be different in other countries. The same applies with regard to the supply of freshwater and safeguarding national energy or the transport infrastructure. But limiting urban flooding, combating heat stress and fighting drought can easily be left to regional governments and local authorities.

Furthermore, it must be pointed out that the above discussion relates mainly to the question of who has the prime responsibility for adaptation to climate change, or at least who should take the initiative in this respect. The question of who should pay for this or who should take the necessary measures can be of an entirely different order. The central government can take the initiative for taking far-reaching safety measures

[73] David Osborne and Ted Gabler, *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector* (1992).

but recoup the cost thereof from those who benefit most (by way of a levy or a special tax). The central government could assign the execution of those measures to regional authorities that also have statutory powers in this respect.

VI. CONCLUDING REMARKS

In the above, an analysis is given of the normative side of climate-adaptation policy from different angles of approach. It is essential to devote attention to the normative aspects because they – as well as the physical characteristics of the phenomenon of climate change and the impacts thereof – help to determine the choice between the various policy instruments to be deployed and the measures that need to be taken. We argue that the aforementioned normative aspects need to be explicitly discussed in climate-adaptation policy processes: the questions have to be raised in every debate about climate adaptation and the related aspects have to be considered. Legal and policy principles can be used in motivating societal interventions aimed at the adaptation to climate change. Moreover, based on these principles a choice can be made on the societal changes that are necessary, possible, feasible and acceptable. Finally, responsibilities for public and/or private interventions have to be determined.

The choice for public and/or private management depends primarily on the demands set by international and national law. Additionally, it is a choice that is mainly determined by the current 'taste': decentralisation, deregulation, decreasing government involvement anyway, the demand for strict management, more value attached to generating consensus and economic instruments, etc. Various considerations were discussed in the foregoing that can play a role in the choice between public and/or private management, as well as the points of departure and the shaping of an adaptation policy. The global character of the phenomenon, the immense repercussions that climate change can have on the actual functioning of our society, and also the new opportunities that arise for social and economic development, are reason enough not to place responsibility for this issue with societal actors alone. In any case, the issue calls for collective action. At the same time the issue is too complex, too controversial and too value-laden to switch to a centralist management dominated by the government or to resolute government action just like that, without paying attention to the normative points of departure that we discussed in the foregoing. Tackling such an issue necessitates the participation of and discussion with societal actors in an open and transparent way. Discussions must also include the normative choices that will be made, for example whether adaptation will mean that existing situations should be maintained, or rather major reforms will be taken to create new opportunities. Not only should there be room for scientific insights in that discussion

but also, and especially, for societal and legal principles, values and interests. Only by means of this discussion is it possible to derive a legitimate role for the government and simultaneously a clearer role for other parties in society.

Part III:
Ways towards resilience: shifts in defining the public interest with regard to adaptation to climate change

J. Hamer, H.F.M.W. van Rijswick and M. Wiering

1. INTRODUCTION

Climate change is generally expected to enforce adaptations of social-ecological systems worldwide. Whether we welcome them or not, these changes will take place in the long run. In many countries, though, plans and programmes are being prepared to guide such adaptations, so as to make purposeful changes to governance arrangements in order to make them better equipped to respond to climate changes. In the Netherlands, for example, there is more emphasis on climate adaptation than on provisions for climate mitigation – and expected climate-related perturbations are mainly framed in terms of adaptive water management: to tackle floods, drought, increasing river water temperatures, problems with coastal zone protection or fresh water supply.

These foreseen or already applied new governance arrangements contain many experiments and innovations that are usually legitimated against the backdrop of older, 'insufficient' existing water management practices. In most of these arrangements there is preferably a different mix of public and private parties, leading to formerly public tasks now being shared by public and private actors, and increased responsibilities for private actors. The literature on adaptive and adaptational management suggests the crucial importance of the involvement of public and private actors in polycentric systems.[74] Also, these new management

[74] P. Huntjes, Water Management and Water Governance in a Changing Climate, Experiences and insights on climate change adaptation in Europe, Africa, Asia and Australia, Eburon, 2011,E. Ostrom, Governing the commons, the evolution of institutions for collective action, Cambridge 2009; T. Dietz, E. Ostrom and P.C. Stern, The struggle to govern the commons, Science 302 (5652) 1907-1912; D. Armitage, Governance and the commons in a multi-level world, International Journal of the Commons, Vol. 2, no 1, January 2008, pp 7-32; C. Pahl-Wostl, Requirements for adaptive water management. IN: Pahl-Wost, C., Kabat, P., Moltgen, J. (eds.), Adaptive and Integrated Water Management – Coping with Complexity and Uncertainty, Springer-Verlag Berlin Heidelberg, 2008;

practices of adaptation sometimes tend to introduce market-based regulatory mechanisms in former public goods-oriented management traditions, to respond to this dominant call to increase the weight of private responsibilities for the sake of resilient strategies.
We deem it important to dwell upon the suggested logic of these generally embraced proposals for a new direction in governance systems, while (heuristically) trying to shed some light on the implications for the general conceptions of public goods, the public interest, and related public responsibilities; hence, the role of the state, the market and civil society as core institutions in societies (in the governance of the public domain).[75] There are essentially two sets of questions in the search for an answer, one empirical and the other of a more normative nature. From an empirical perspective we might ask how the plans and programmes designed to prepare and adapt societies and their physical environments to climate change are *themselves*, implicitly or explicitly, introducing new conceptions of the public interest and redefining and transforming the idea of common/public goods in order to bring in new divisions of public and private responsibilities. From a normative perspective we might question whether we always welcome these changes, in which direction this will lead us in terms of governance arrangements, and how both the role of the state and the rule of law fit in.

The underlying research programme is part of the Dutch national Knowledge for Climate Change programme, in particular the thematic group on governance issues.[76] One of the work packages of this group deals with the normative principles of the governance of adaptation to climate change in domestic, transnational or cross-border settings. Climate adaptation calls into question traditional and accepted normative principles that underlie contemporary governance and management practices,[77] but in many of these discussions shifts in these principles - and related shifts in conceptions of 'the public interest' - are hardly made explicit. The thematic group on the governance of adaptation to climate change wants to make these governance shifts as explicit as possible and wants to open up the discussion on the desirability of new views on the public interest related to these shifts. Furthermore, in many of the policy fields with which we normally deal with regard to climate adaptation (e.g. water

---

C. Folke, 'Resilience: The emergence of a perspective for social-ecological systems analyses', 16 Global Environmental Change 253 (2006).

[75]Dubbink, W. 2003 Assisting the invisible hand: contested relations between market, state and civil society, Dordrecht: Kluwer Academic Publishers; Cohen, J. L. and A. Arato 1994. Civil society and political theory, Massachusetts: Institute of Technology (MIT) Press, paperback edition (first edition 1992) .

[76]CatrienTermeer, Art Dewulf, Helena van Rijswick, Arwin van Buuren, Dave Huitema, Sander Meijerink, Tim Rayner and Mark Wiering, The Regional Governance of Climate Adaptation: A Framework for Developing Legitimate, Effective and Resilient Governance Arrangements, Climate Law 1 (2011) 1-21 .

[77]P. Driessen and H. van Rijswick, Normative Aspects of Climate Adaptation Policies, Climate Law, 2011/4, p.1-23.

management, nature conservation, agriculture or urban environments) decisions are increasingly structured and regulated by international or supranational governance, the last especially at the European level. Many EU Directives contain normative, regulatory principles, e.g. the polluter pays, non-shift, precautionary or proportionality principles and some contain general governance principles such as subsidiarity - or more substantial or topical principles, for example the idea of (transboundary) river basin management within the Water Framework Directive and the Directive on flood risk management. It is necessary, at the very least, that Member States' domestic adaptation to climate change must somehow be connected to both more general and specific guiding principles at the European level.

In the following sections we will first specify the theoretical concepts that inspired us to discuss the idea of 'the public interest' and related responsibilities in the public domain. Next to this, we put forward three meta-criteria whereby the governance of adaptation can normatively be assessed: is the governance practice legitimate, effective and resilient? These concepts and criteria are elaborated upon in sections 2 and 3. Thereafter, we will discuss the 'locus' of this research, the empirical domains that climate change is affecting, mainly focusing on water issues. In section 4 we give empirical examples of shifts in conceptions of the public domain and related shifts in governance. Finally, in section 5, we reflect on the normative choices that accompany shifts in the public interest, normative principles and modes of governance.

2. Climate Adaptation and Governance: the Analytical Framework

2.1 The problem

Climate change has been called the 'wicked problem par excellence',[78] with a set of characteristics that makes it different from any other policy challenge. Climate change requires planning in both the shorter and longer term, it affects several policy fields and administrations, its governance should be multileveled and there are many societal groups and stakeholders involved, while the political basis for climate adaptation or mitigation measures is mostly weak and scientific evidence is controversial or is even denied in political and societal debates. Because of scientific and political uncertainty it is the "hot potato" of global environmental governance. At the same time legitimate action to adapt to climate change needs strong societal support and a shared sense of urgency so as to be successful.

[78]Davoudi, S., Crawford, J., and Mehmood, A. (2009). Planning for Climate Change: Strategies for Mitigation and Adaptation for Spatial Planners. London: Earthscan/James and James; Jordan, A., Huitema, D., Asselt, H. v., Rayner, T., and Berkhout, F. (Eds.). (2010). Climate change policy in the European Union: confronting the dilemmas of mitigation and adaptation. Cambridge: University Press.

The way states deal with climate change may differ significantly, not only when it comes to choices to focus on mitigation or adaptation, but also within climate adaptation policies[79]. In the UK a more economic rationale was put forward by the Stern Report, which predominantly focused on short-term costs and long-term benefits. In the Netherlands the focus lies on climate adaptation especially in the field of water management, which can be explained by the fact that the Netherlands is a low-lying, densely populated delta at the end of four transboundary river basins. Most of the country has to deal with severe threats of flooding, leading to conflicting interests between safety and land use and room for economic activities; at the same time there is a new challenge in dealing with fresh water supply and water scarcity. In this paper we focus on three of these adaptation tasks: flood risk management, fresh water supply and water ecology-related matters.

2.2 A Solution: Adaptation

We make use of the IPCC definition of adaptation: "the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities".[80] Adaptation can be considered the "process of reducing the sensitivity of the system to climate change, including altering the exposure of the system to climate change and increasing the resilience of the system to cope with changes".[81] The resilience of social-ecological systems is then the goal of adaptational measures. Sensitivity and exposure are also often linked to "vulnerability".[82] Adaptation strategies in general are defined as '(. . .) a general plan of action for addressing the impacts of climate change, including climate variability and extremes.[83] It will include a mix of policies and measures with the overarching objective of reducing the country's vulnerability. Depending on the circumstances, the strategy can be comprehensive at a national level, addressing adaptation across sectors, regions and vulnerable populations, or it can be more limited, focusing on just one or two sectors or regions'.

2.3 Hypothesis and analytical framework

The governance of adaptation to climate change will not take place in a societal or political void, especially not with regard to the contested nature and uncertain characteristics of the 'wicked problem' as previously stated. Adaptational activities will have to deal with the conception of public interest in a specific country and regarding a specific issue. Our viewpoint is that the political-theoretical background of the idea of the public interest and the way it is defined

[79]Biesbroek, G.R., R.J. Swart, et al. "Europe adapts to climate change: comparing national adaptation strategies." Global Environmental Change **20**(3): 440-450, p. 441.
[80] IPCC, Climate Change. The Fourth Assessment Report, WMO 6 (2007).
[81] W.N. Adger, N.W. Arnell and E.L. Tompkins, 'Successful adaptation to climate change across scales', 15 Global Environmental Change 77 (2005).
[82] W.N. Adger, 'Vulnerability', 16 Global Environmental Change 268 (2006).
[83]Swart et al., Europe adapts to climate change, Global Env Change 2010, p. 441

by societies is relevant and important for the legitimacy, effectiveness and resilience of climate adaptation. Moreover, the (new) modes of governance of adaptation may affect traditional existing conceptions of public interest. For example, a shift from predominantly public government responsibilities, based upon a collective, unitary concept of the public interest, towards a mix of public and private governance or a stronger focus on a rights-based approach, based upon group interests or the utilitarian calculation of the cost/benefit of values may have serious consequences for the way the public interest is perceived and is finally served in a society. So answering questions on what the public interest is, how it is defined and what procedures or principles are used to generate it, although not unproblematic, is still necessary for a successful governance of adaptation.

Justice: Legitimacy, Effectiveness, Resilience and the Relationship between the Three

Appropriate governance of adaptation will be assessed with the help of three criteria, that we called the meta-criteria of climate governance: legitimacy, effectiveness and resilience. A legitimate adaptation policy must be able to ensure transparency, accountability, fairness and equity. Part of this can be assessed in more narrow legal terms: is the way in which climate policy is determined in accordance with the rule of law, based on legality, separation of powers and democracy? How and by whom are the public interests that are at stake defined, and are regulations, plans and decisions taken in accordance with democratic requirements and stakeholder participation? However, the legal aspects of legitimacy do not only include the question whether the government or the state has the power to regulate climate adaptation, but also the way it executes these powers. Therefore we also analyse the output legitimacy, which focuses on the effectiveness of the way policy goals are achieved and on the question whether the public are satisfied with the outcome of the climate adaptation policies. Do governance institutions offer what society expected? Output legitimacy is therefore closely interwoven with the second meta-criterion of effectiveness. An effective climate adaptation policy must be able to address the adaptation task decisively and efficiently through the right mix of project activities and policy instruments, guided by appropriate norms, competent authorities and stakeholders, strategies and processes. Of course, it is very difficult to assess this criterion because the end goal - the state of social-ecological resilience - is hard to define (and is in a state of flux), the time horizons are long and climate change is troubled by uncertainties. Still, the agencies involved have normally formed an idea of the temporary end goals to assess effective climate adaptation in their specific situations.

Finally, resilience is a concept which originates in the domain of natural science to address changes in equilibria in ecological systems, and has entered the field of

social sciences related to the study of social-ecological systems.[84] Resilience is often used to point to the amount of change or disturbance that a social-ecological system can absorb and persist with before it is passes into a new equilibrium.[85]As stated previously, a policy directed towards climate adaptation can be described as aiming to decrease the vulnerability of a system to climate change and to increase the system's resilience in coping with climate change.[86] It should therefore be capable of both enabling autonomous adaptation and building long-term capacity. In a legal context, vulnerability and resilience may have a specific meaning. Vulnerability could refer to a duty of care, for instance the protection of the living environment and public health. Resilience might relate to the strength and flexibility of a legal system to cope with problems of climate change. However, the law is also meant to offer a stable basis for organization, as well as legal certainty and protection against unlawful or arbitrary behaviour. Flexibility as part of societal resilience is therefore limited inter alia by the rule of law and the need for legal certainty.[87]

Legal certainty can be regarded as one of the three values of justice as described by Radbruch.[88] Together with fairness and effectiveness, legal certainty is a core element of justice and the three need to be in balance to achieve justice in society. These three core values have to be further elaborated in a balanced way in the form of legal principles, legal rules and final decisions.[89] However, it can be argued that one of the three may have greater weight depending on the time, the place and the problem to be solved. The element of effectiveness, for example, is closely related to the ultimate goal of a legal (or policy) rule and therefore to the public interest as based on a political theory and system. So, for a legitimate way to adapt to climate change we need a legal system that can support, at least it should not counteract adaptation policies, which is fair and can still safeguard legal certainty and the rule of law. This brings us not only to the need for clarity as to the main normative goals in society and the way in which responsibilities are shared between public and private parties, but also to the need for clarity concerning the public interest as well as with regard to the theory on which it is based, the way it is defined and how it is elaborated in practice.

---

[84] C. Folke, 'Resilience: The emergence of a perspective for social-ecological systems analyses', 16 Global Environmental Change 253 (2006).
[85] C.S. Holling, 'Resilience and stability of ecological systems', 4 Annual Review of Ecology and Systematics 1 (1973).
[86]P. Driessen and H. van Rijswick, Normative Aspects of Climate Adaptation Policies, Climate Law, 2011, p.
[87] J. Ebbesson, 'The rule of law in the governance of complex socio-ecological changes', Global Environmental Change 20 (2010); J. Brunnée, and S.T. Toope, Legitimacy and legality in international law, an interactional account (2010); H.F.M.W. van Rijswick, Moving water and the law, on the distribution of water rights and water duties within river basins in European and Dutch water law (2008)
[88]G. Radbruch, Rechtsphilisophie, Stuttgart, 1970, p. 168-173.
[89] Based on the research of T. Vroegop, Legal certainty in property law, Utrecht University, 2010.

We conclude that the three elements of legitimacy, effectiveness and resilience are closely interwoven. Using a broad concept of legitimacy, we argue that an adaptation policy that is not effective will in the end suffer from a lack of legitimacy. A policy that is not resilient and is not able to adapt to changing circumstances will also lose its legitimacy. An adaptation policy which is too resilient, however, will lack legitimacy when it is not in conformity with the rule of law and the need for legal certainty, since these two elements are basic needs for a stable society and a confidence-building government, on which people need to be able to rely upon. The same can be argued for an effective policy that is not in conformity with legitimacy requirements.

2.4 The public interest

In classical planning theory, actually in classical political theory, it is argued that governmental action has to be "in the public interest" to justify state regulation or public interventions.[90] What is "in the public interest" in different societies can generally be determined in two ways. The first is a straightforward - and pragmatic - empirical way: look at what a State or government is actually taking care of, what action a government is undertaking, what is only planned and/or regulated and what action is left to 'the market' or other private actors. Looking at conventions, treaties, EU and national legislation, a government's budget and its expenditure can provide an insight into the formal ideas on what a government sees as being in the public interest. This, however, gives no insight into *why* the government is taking a certain course of action. A second way to determine the public interest is to look at the political-theoretical underpinnings of societies' conceptions of public interest. We will come to this in a moment, in section 3.

2.5 A hierarchy of (public) interests in case of multiple or conflicting interests

In addition to the problem of defining the public interest, there is another problem for contemporary pluralist planning and policy practices: the problematic idea of a hierarchy of (public) interests. Public goods that serve anthropocentric interests (e.g. safety, 'law and order', fresh water for human use) are traditionally 'ranked higher' than ecocentric values, because they 'fit' into different conceptions of the public interest, both liberal and state-centred. But over the last few decades these traditional anthropocentric values have been increasingly competing with interests that are less straightforwardly connected to individual human 'instant' values and are, additionally or first and foremost, of interest to ecosystems (e.g. the conservation of habitats, landscapes, biodiversity), while the two categories are both central to the values and strategies of

[90]Alexander, E. R. (2002). The public interest in planning: From legitimation to substantive plan evaluation. Planning Theory, 1(3), 226-249; Bengs, 2005; CatrienTermeer, Art Dewulf, Helena van Rijswick, Arwin van Buuren, Dave Huitema, Sander Meijerink, Tim Rayner and Mark Wiering, The Regional Governance of Climate Adaptation: A Framework for Developing Legitimate, Effective and Resilient Governance Arrangements, Climate Law 1 (2011) 1-21.

adaptation to climate change; climate change in the Netherlands at the very least concerns the following aspects: safety against flooding, food supply, economic development, nature conservation and ecology, and fresh water supply including drinking water supply.

3. Political Theories of Public Interest related to Adaptation to Climate Change

When we try to describe the roots of varying conceptions of public interest in societies, with regard to both its possible substance and the procedures to define it, we cannot avoid going back to some basic ideas of political theory. We will briefly describe four traditions: the libertarians, the liberals, the communitarians and state-centred approaches.

3.1 Libertarian public interest

The fundamental value of libertarianism is 'self-ownership'.[91] It is based on respecting the spaces which people need to lead their own lives and make their own choices.[92] Self-ownership applies to everyone, and the only restriction lies in respecting other people's autonomy. Self-ownership can therefore be described as a negative freedom and does not entail a positive obligation (neither for the state nor for people to help others to be autonomous). Furthermore, libertarians believe that one has an unalienable right to the products of one's actions, which leads to the conclusion that Libertarianism is about *owning*, about property. To seek justice is to find out if people have accumulated their funds fairly.[93] If that is the case, and thus everyone's ownership has been respected, the division of wealth is just, whatever that division is exactly.

Libertarians advocate a minimal state and the public interest that a libertarian would advocate is essentially an interest in protecting the free market. Everything that is necessary to guarantee the freedom of ownership falls within the scope of the public interest, and all other plans, however morally commendable they may be, fall outside it. When faced with adaptation to climate change, a libertarian approach will have severe problems in taking possible necessary measures because all measures to adapt to climate change will have to be justified from the perspective of self-ownership, protecting property and the free market. In this vein, the Free Market Environmentalist movement has suggested privatizing natural resources.[94] In response to the famous 'tragedy of the commons',[95] in which common green pastures are disappearing because of over-competitive grazing, the Free Market Environmentalist proponents state

[91]Nozick, Robert, 'Anarchy, State, Utopia', Basic Books, New York 1974, pp-30-33.
[92]Nozick, 1974, pp. 29-34. See also Kymlicka, Will, 'Contemporary Political Philosophy: an introduction', Oxford University Press, New York 2002, pp. 106-108.
[93]Kymlicka 2002, pp. 111-115.
[94]Adler, Jonathan H., 'Taking Property Rights Seriously: The Case of Climate Change', Social Philosophy and Policy Foundation, July 2009, pp. 296-316, pp. 296-300.
[95]Hardin, Garrett, 'The Tragedy of the Commons', Science Vol. 162, No. 13, 1968.

that forceful government action is not the only solution to safeguarding the environment. Natural pastures merely have to be owned, not shared. Libertarian political theory, however, has difficulty in providing a clear scheme for dealing with climate adaptation problems, because it is completely at odds with large-scale government regulation. It can perhaps argue that solving environmental problems *is not* in the public interest, but it can never argue that *it is*.

3.2 Liberalism: Choices and Endowments

Liberalism advocates a society that is both choice-sensitive and endowment-sensitive,[96] which means that however pitiable people can be, they remain responsible for their own choices[97]. According to liberalism the successful are also entitled to their success and the loser is still not compensated for his loss. The introduction of endowment sensitivity means that everything that is simply *given*, everything that just exists, whether one wants it or not, must be taken into account while considering whether a person deserves help.[98] But the question is how to draw a line between the two.

John Rawls dealt with the question of how endowments and choices should be balanced in a conception of justice,[99] by defining a balance in terms of a contract.[100] Rawls imagined an initial situation where all citizens negotiated the terms and structure of their society. Rawls' theory on justice is of a procedural nature: a contract which is agreed upon under fair circumstances is just.[101] The principles of justices are thus formulated as principles of fairness, taking the fundamental value of equality into account.

It must be added that Rawls specifically mentioned *basic* liberties,[102] not all possible liberties including social rights, which are often important in the climate debate. With basic liberties, the standard range of liberties guaranteed in a democracy which respects the rule of law is the following: political rights (the right to vote, the right to be eligible for office, etc.) and civil rights (the right to a fair trial, freedom of speech, freedom to own property).

Rawls' theory is based on the conception of a procedure between *people*¸ in which principles about how *people* should relate to each other are articulated.[103] Because of this approach, in Rawls' theory the environment has no value *of its own*, just a

---

[96]Kymlicka 2002, pp. 57-60.

[97]Kymlicka 2002, p. 57.

[98]Dworkin, Ronald, 'A Matter of Principle', Harvard University Press, London 1985, p. 207. See also Kymlicka 2002, pp. 58-60.

[99]Rawls, John, 'A theory of Justice', Harvard University Press, United States of America 1971, pp 75-90.

[100]Rawls 1971, pp. 11-16.

[101]Rawls 1971 pp. 11-16, Kymlicka 2002, pp. 60-69.

[102]Kymlicka 2002, pp. 55-57.

[103]Calder, Gideon, Mckinnon, Catriona, 'Introduction: Climate change and liberal priorities', Critical Review of International Social and Political Philosophy 2011, vol. 14, no. 2, pp. 91-97, pp. 93-95, see also Weale, Albert, 'Can we democratize decisions on risk and the environment?', Government and Opposition 2001,Vol. 36, No. 3, pp. 355–378, pp, 367-370.

derivative value.[104] This does not mean that the possible solutions to climate problems are the same as libertarian ones. If a flood occurs, it is only natural for a liberal government to support the victims until they can stand on their own two feet again - such disastrous circumstances must be compensated. Therefore extensive insurance programmes covering environmental risks are a viable possibility for the liberal, and concerning other risks liberals have already tried to establish large-scale insurance schemes.[105] Central to a liberal approach to water problems would be the 'difference principle', stating that every socio-economic inequality should benefit the least well-off in some way.

The difference principle can be illustrated by a case of drought. What should be done if the amount of water is simply limited? A division has to be made, and the criterion of such a division is the difference principle. If a choice has to made between giving water to farmers, who want to protect their crops, or to power facilities, which need the water for their cooling installations, the question is in which division would all companies be worst-off. The answer here would probably be to give the water, or most of it, to the power facilities, because the farmers (at least in the modern and developed world) would also be nowhere without electricity.

We can see that the difference principle authorizes the government to tax the more well-off heavily in order to compensate the less well-off, and also broadening the public interests which the government is supposed to serve, adding distributive justice to the list. In solving water problems, the government must thus play a much more active role, distributing the harms people suffer from water-related climate problems in a fair way. Yet, the distribution which must be continuously corrected is not necessarily related to the preservation of biodiversity and ecological systems. In Rawls' theory, persons negotiate *their* place in society, and it is difficult to see how, exactly, the environment fits in. Suggestions have been made to interpret Rawls' thought in such a way as to make it more oriented towards the importance of the environment, for instance by arguing that the just institutions Rawls promotes need certain background conditions,[106] like a certain standard of welfare, to be successful. Yet this line of argumentation still does not extend to nature its *own* value.

In conclusion, in a liberal conception of the public interest, a government is justified and urged to ensure a fair distribution of disadvantages, including possible risks as a result of climate change. Yet, nature is, as with the libertarians, not accorded a weight of its own. Therefore it is hard to imagine how a purely liberal government could successfully uphold a value like biodiversity. Although liberalism removes the 'property barrier' which libertarianism created, it cannot provide a *full* basis for climate adaptation.

---

[104]Gardiner, Stephen M., 'Rawls and climate change: does Rawlsian political philosophy pass the global test?', Critical Review of International Social and Political Philosophy 2011, vol. 14, no. 2, pp. 125-151, pp. 129-130.

[105]Dworkin, Ronald, 'What is equality? Part one: Equality of Welfare; Part 2: Equality of Resources', Philosophy and Public Affairs 1981, Vol. 10, No. 3, pp. 283-345, pp. 295-300.

[106]Gardiner 2011, pp. 141-143.

3.3 Socialism: the state is responsible

One of the most famous political schools of thought is of course socialism. However, as with other well–known ideas or ideologies, socialism is very hard to define. Many strands of socialist thought exist, ranging from the pure communism proposed by the Marx to the social democracy advocated by left-wing political parties. Therefore, I will restrict myself to discussing some general points about socialism, specifically focusing on the socialism promulgated by Western social-democrats.

The most important claim of socialists is that capitalism, when left to its own devices, will generate an unfair society. Marx himself argued that because the owners of the *means of production*, like factories or simply capital, bought the labor of the masses, while keeping for themselves the *surplus-value* of their toils, the laborers would end up in a position of servitude.[107] Nowadays, socialist parties still hold that if the government does not regulate the economic market stringently, the average person will be oppressed and exploited by the richer one. As normal interaction between private agents gives rise to exploitation, the government necessarily has to step in. The difference here with liberalism is therefore mostly practical: they distrust a society in which people interact freely, while liberalists do not, and instead emphasize freedom rights.

A second point is that the meaning of the ideal of equality, which liberalists also value highly, is interpreted differently by socialists. Although again many varieties exist,[108] socialists frequently advocate both an *outcome*, and an *opportunity* sort of equality.[109] Crudely put, when some people make all the wrong choices, a liberal would not argue that a state should provide for them. They've had their chance. Socialist solidarity however, means that a state cannot turn its back on its citizens. There is always *some* obligation to fix disastrous outcomes.

The socialist approach to how society *works*, plus their encompassing notion of equality, has led socialist politicians to advocate a welfare state. As the state was *the* institution which had both the power and the democratic legitimacy to intervene in society, it was obligated to compensate for capitalisms drawbacks. This meant setting up all kinds of schemes dealing with healthcare, care for the elderly, stringent market regulations, etc. How would a welfare state react to climate challenges?

---

[107]Wood, Allen W., 'The Marxian Critique of Justice', Philosophy of Public Affairs 1972, vol. 1, no. 3, pp. 244-282, pp. 263-265.

[108]Arneson, Richard J., 'What do Socialists Want?', Politics and Society 1994, vol. 22, no. 4, pp. 209-230, pp. 217-220. See for an illustration of the difference between Marxists, socialists and even communists also Cohen, G.A., 'Marxism after the Collapse of the Soviet Union', The Journal of Ethics 1999, vol. 3, no. 2, pp. 99-104, p. 99.

[109]See for instance the discussion on 'relational' and 'prioritarian' egalitarians in Cohen, G.A., 'If you're egalitarian, how come you're so rich?', The Journal of Ethics 2000, no.4, pp. 1-26, pp. 15-17.

In dealing with climate adaptation, socialism encounters the same problem as liberals – they have always focused on the condition of citizens, not the environment. Still, socialists have significantly less trouble with empowering the state to take action than liberals do. To ensure equitable *outcomes*, socialists already propose to limit the freedom rights of its citizens more severely. The question is then, if besides values of security, rights and welfare, biodiversity can count as an outcome socialists are able to support. If that is the case, the state would have all the justification it needs to pursue an ambitious adaptation program. It is difficult to answer this question fully. Socialism is a very pliable school of thought, and it might be that the welfare, or societal outcomes it seeks to ensure for all contain a healthy and prosperous natural environment. On the other hand, measures are still justified because *people* are equal, not *people and the environment*. This makes it hard for socialists to endorse, in our sense, complete adaptation programs.

Also, because socialists value *so much*, it is hard for them to prioritize, for instance between important human rights and standards of welfare. On the other hand, this allows socialists to be pragmatic: rights, welfare, the environment – they all matter, and therefore a reasonable balance should be sought.

3.4 Beyond rights: Communitarianism

Both the libertarian and liberal conceptions of public interest are strongly tied to the notion of *rights*, be it a right to ownership or to a fair distribution of goods, which either way leads to a very anthropocentric means of deducing the public interest. To find alternatives to this rights-based approach, we discuss communitarianism as a conception of public interest which does not emphasizes the individual, but the social, or even better, the communal environment of the individual. Self-determination, which forms the roots of human rights, means little without the social environment that gives a person the possibility to make use of his or her freedom.[110] Social structures provide someone with the values, norms and also the practical options that allow him to make choices. Identity is not something that is pre-socially given, but something that is heavily influenced, and according to some theorists even constituted,[111] by the community in which one lives.

Communitarians argue that the state should help protect those social environments that enable one to make responsible choices. Of course, the types of institutions the government must protect differ according to the kind of community one *wants* to protect. Depending on the ideals one has of society, a communitarian seeks to entrench a certain policy in political decision-making, to better guide the individual to make good use of his freedom. Although communitarianism comes in all shapes and sizes,[112] it always has a perfectionist

[110]Kymlicka 2002, pp. 211-213.
[111]Sandel, Michael, 'Liberalism and the Limits of Justice', Cambridge University Press, Cambridge 1982, pp. 94-100.
[112]Kymlicka 2002, pp. 205-206.

streak, thus limiting the freedom libertarians and liberals try to protect. This means that communitarian theory further enlarges the power of the collective, the sovereign, and state – and depending on the community one wants, an almost indefinite range of public interests can be argued for.

How would a communitarian face climate-related water problems? Because communitarians aim to secure certain societal structures which inform the identity-building process of individuals, the power of the government has no strict limits. There is no threshold, such as can be found in liberal and libertarian thought, which the state cannot cross. This means the sort of justification a communitarian can give for a policy is less strict or principled. If, for instance, a farming community, which benefits from a fresh water supply, is endangered because of plans to switch the supply to salt water,[113] a communitarian can argue for the cancellation of those plans, not on the basis of libertarian arguments about property rights, or liberal arguments about compensatory rights, but simply on the basis of the existing 'way of life' of the community that must be protected – a much more imprecise reason.
One could argue that this line of reasoning could be extended to include environmental concerns, as long as they can be connected to community values. It is imaginable that environmental protection, biodiversity or sustainability is such an important part of the core values of the community that it must be preserved for *its own sake*.
In conclusion, a communitarian approach allows the public interest to be filled in, in just about any way one wants, subject to the condition that it is connected to community values and does not start from a limited human-rights format.

3.5 And the role of the state?

When we look at contemporary societies, though, many choices are made by or with the help of state institutions. Both in the process of substantially defining the public interest and with regard to the structures and procedures of deciding upon it, state institutions play a crucial role. Libertarian, liberal or communitarian-based notions of the public interest cannot explain today's impact of governmental institutions acting on multiple levels of governance and in a variety of societal fields. Of course, this can be traced back to the conceptions of the acceptance of "the sovereign", both negatively conceived as the sceptical state in Hobbes' Leviathan[114] and more optimistically constructed as the "general will" in Jean-Jacques Rousseau's Social Contract[115]. These authors had an immense

[113]See the example on opening up the Haringvliet sluices, discussed in section 5 and, for instance, Climate Research Netherlands, 'A publication of the research programmes climate changes spatial planning and knowledge for climate, December 2009, http://www.waddenacademie.knaw.nl/fileadmin/inhoud/pdf/03-Thema_s/Klimaat/Research_highlights_dec_2009_def-1.pdf#page=46, consulted on 24-06-2011, at 13.00, pp.46-50.
[114] MacPherson, C.B. (ed.) 1968 Leviathan Penguin, 1968.
[115] Rousseau, J. J. 1947 The social contract, Wiley Online Library.

impact on 19th century Marxism, socialism and social democracy and subsequently on the 20th century expansion of welfare states. We need not dwell upon these well-known developments in political theory, with the exception of underlining once more that the state is a crucial institutional sphere, or a core institution, for public goods and collective choices – related topics as we find them in environmental policies, water management and climate change. The public interest is often defined by historically imbedded processes and societal experiences in response to reoccurring problems, such as concerning safety, energy supply, natural resources etc. that lead to the constitution of collective morals that dominate policy fields and are often laid down in principles and the nation states' rule of law.

3.6 Summarizing legal theory approaches

Four normative approaches to the conception of public interest have been distinguished. This list is far from complete, yet a few general remarks can be made on the choices one has in defining the public interest, and the consequences of these choices for thinking about solving climate adaptation problems. Rights theories, such as libertarianism and liberalism, seem to have two general features: they focus specifically on *human* interaction, and they describe ways of interacting which do not relate, in any direct way, to the environment or specific resources or environmental standards. This makes them ill-fitted to deal with ideals such as preserving ecosystems, mitigating or adapting to climate change or the loss of biodiversity, because ideals that are not obviously and straightforwardly to be derived from anthropocentric values are therefore difficult to place in a (human) rights theory. Of course this does not mean that they have no relevance at all regarding adaptation to climate problems. Libertarianism is relevant for the way it limits possible government conduct, and liberalism is relevant for the way it seeks to balance the benefits and costs of adapting to climate changes.

Socialism and Communitarianism clearly do not suffer from these problems of rights-based theories, because in principle it allows non-human goods and entities to attain their own independent value. In a socialist and communitarian vein, nature *can* be protected for its own sake, when communities deem this to be important. However, when socialism firstly strives for the welfare of man and presume that equality in the end is profitable for all people, and therefore may take adaptation measures, communitarianism is inherently diffuse: it relies on the background traditions of society, which are different per society.[116] Therefore community values connected to climate change and related solutions for climate problems could differ greatly. Finally, the sovereign state is a familiar ally to consider the necessity of collective choices over public goods and to produce prudent, long-term policies that deal with climate change. In any case, to ensure the legitimacy of adaptation policies, it is necessary to gain an insight into the ways of substantially defining public interests and the procedures needed to

[116]Kymlicka 2002, pp. 208-211.

produce notions of the public interest in the field of adaptation to climate change. To elaborate this we draw upon the theory of Alexander.

4. Concepts of the Public Interest in Planning Theory

Alexander distinguishes essentially four conceptions of the public interest:[117] unitary, utilitarian, deontic and dialogical. He explains that they reflect different classical theories that we have partly already introduced; the unitarian idea of public interest is (often, not always) related to state sovereignty or communitarian politics; the deontic, rights-based, tradition and the tradition of communicative action can best be related to liberal or libertarian notions of public interest and utilitarianism, when we take John Stuart Mill as an example, and clearly stem from liberalist notions of the common good.
The *utilitarians* state that the public interest is no more or less than an aggregation of individual interests (based on hedonic values) that are objectified[118] into an idea of the public interest. Alexander gives examples of practical uses which are still relevant today:[119]

> *"Evaluating proposals (policies, projects and plans) to decide whether they are in the public interest, in the utilitarian sense, demands identifying and aggregating individual utilities. This became the subject of formal analysis (e.g. in economics), and experts apply systematic evaluation methods to advise decision makers on preferred courses of action. Economic investment analysis methods (including BCA [cost-benefit analyses] and other utilitarian criteria of socio-economic efficiency) were (and remain) the common application in practice of the utilitarian concept of the public interest."*

Unitary concepts of the public interest are based not on the sum of individual interests, but on "some collective moral imperative that transcends particular or private interests" [120] such as societal stability and order, or social justice, both secured by a sovereign core institution, mostly the state. The public interest, in a unitary concept, may refer to a common value, a common principle or collective concern that can override private interests and individual values (and without the need or possibility to trace it back to an aggregation of individual interests). In addition, we could think of the interest of future generations, of people elsewhere on the planet or our fellow creatures, that are usually difficult to take into account in aggregate forms of calculating the public interest.

---

[117] Alexander, E.R. (2002). The public interest in planning: From legitimation to substantive plan evaluation. Planning Theory, 1(3), p. 228-234.

[118] Especially in a later modified utilitarianism.
[119] Alexander 2002, p. 230.
[120] Alexander 2002 p. 230.

Furthermore, Alexander distinguishes two concepts of public interest that are more or less mixed forms of utilitarian and unitary traditions and that focus more on the procedural aspects of defining the public interest. The *deontic* view is probably the most difficult conception of the public interest because it is based both on universal substantive norms or moral imperatives – which connects it to the unitary idea – and on individual rights – which relates more to the liberal tradition. Alexander puts it in this way:[121]

> *"Deontic means rule- or norm-based, i.e. judging actions by their ethical content – 'is this action right?' – rather than (as utilitarianism does) by their consequences: 'will it do good?'. Deontic views see the public interest in terms of upholding individuals' and affected groups' rights, based on principles ranging from liberal democracy to ultra-liberal individualism and libertarianism."*

The fourth and final form of public interest is called *dialogical*. Here, Alexander refers to two poles on a continuum: a "Madisonian" concept of public interest in which the actual result of political struggles, political conflict or bargaining leads to the substantive 'norm' or 'collective value'. As long as political institutions are legitimate, the outcome is "the common good". A second variant of the dialogical conception of public interest is based on Habermas' tradition of communicative action that we know quite well in forms of deliberative democracy especially in the contemporary academic debate on spatial planning and the environment.[122] In the perspective of Habermas' communicative action the public interest can be attained, not by political conflict or bargains, but within a free acting space of communicative rationality in which the public interest is debated and moulded. From this exposé by Alexander we can learn that there are essentially two variables underlying his characterisations:

a) the extent to which the public interest is divisible/indivisible, in other words, the extent to which it has become and is generally considered and represented as a general, uniform, undivided 'collective concern' or more as the aggregation of separately defined individual interests in specific areas, and
b) how the content of the public interest in itself is produced, constituted and institutionalised. Is the norm based upon a moral imperative, as a general constitutional norm or a, also uniform, but now individual, right (e.g. human rights) or is it based on an outcome of political struggle or an outcome of a communicative and deliberative discussion in modern planning practices? In other words, while the first variable is about the divisibility of the public interest and represents a result or end stage, the

[121] Alexander 2002 p. 232.
[122] Hajer, M.A. and H. Wagenaar 2003 Deliberative policy analysis: understanding governance in the network society. Cambridge: Cambridge University Press.

second is about the *process of defining* the public interest, with what procedures, who is involved and where it is embedded (see table 1).

	Approach	**Interest base**	**Tradition/ Theory**
Substantive	Aggregative	individual interests or (specific) groups or community - based interest	(modified) utilitarianism
	Unitary	Collective community or polity, state based	communitarianism or etatism, constitutional law
Substantive and Procedural	Deontic	individual rights	liberal individualism
Procedural	Dialogical	(inter-subjective) communicative rationality of stakeholders groups	communicative practices and deliberative discourse

Table 1. Based upon Alexander 2002, table 1(modified, some distinctions omitted)

These distinctions by Alexander point to the various meanings of public interest in different settings, (national) cultures and traditions. Embedded ideas of what is traditionally defined as the public interest (end results) and what procedures to follow to define it (processes) are of major influence on all kinds of choices in governance and policy. They are crucial for the general governance strategies chosen, the policy actors involved, the policy instruments designed and the ways of institutionalisation. Alexander's ideas on the public interest have also been criticised. Some say that the public interest does not exist (see the discussion in Bengs[123]), while others state that in modern (multicultural) societies there cannot be an idea of an interest for all, given the contemporary diversity and divergence of individual values. These attacks can be countered. Acknowledging that societies in one way or another must provide and secure values such as safety, social order, and peace is also an acceptance of the existence of collective interests.

> "*To refute the existence of public interest as a fact, or to deny it as something that can be formulated within the context of representative democracy, seems to me to represent a view of total alienation to concurrent achievements. National, regional and local planning regimes are tied up by international charters, which for instance concern environmental issues and cultural heritage.*[124]

[123]Bengs, C. (2005). "Planning Theory for the naive?" European Journal of Spatial Development-http://www. nordregio. se/EJSD/-ISSN **1650**: 9544.
[124]Bengs (2005), p. 8.

We are aware of the many moral implications of the concepts of the public interest as set out in the section on political theories and the concepts developed by Alexander, e.g. viewing interests from an individual, historically social or communicative ontology, and we predominantly want to make use of these categories to answer empirical questions: how, in different practices, is the concept of public interest implicitly or explicitly under attack or gradually shifting? To do this, we will first define how public tasks are formulated and what normative principles, e.g. the solidarity and the profit principle, seem to rule historically, which we consider to be manifestations of conceptions of public interest. Then, we will investigate the specific practices of pushing the boundaries of the public-private divide and the balancing of different competing claims of public interest. Finally, we will try to decode possible shifts into the above described categories and concepts and provide our normative reflections on the relevance for the governance of climate adaptation.

5. Climate Adaptation and Shifts in the Public Interest: Empirical Examples from the Netherlands

5.1 Why Empirical Examples from the Netherlands?

Although the scope of this paper is largely theoretical, we will have to illustrate our arguments with empirical examples, which we have chosen from recent developments in Dutch water and adaptation policies as they may clarify our theoretical reflections. The Netherlands is a democratic unitary state that combines differentiated and high-value economic activities with a high population density, while being situated in a delta largely below sea level and therefore extremely sensitive to the impacts of climate change. The Dutch climate adaptation plan for water management is called the 'Delta Programme'[125], because it discursively refers to the historical "battle against water" of former Dutch Delta plans, the coastal zone protection plan (the famous Delta Works) and the protection against flooding from the major rivers in the 1990s (the Delta Plan and the Delta (Major Rivers) Act). [126] But climate adaptation measures not only concern floods; also low water levels are part of the problem. Adaptation connected to river management is in fact about river dynamics (high *and* low water levels, flood protection *and* the ecology of flood plains). Another focal point of the Delta Commission's proposed programme is to secure a nationwide fresh water supply and, finally, the programme explicitly relates to the 'Room for the River' policy project, the latest (and still ongoing) major intervention in Dutch river management that deals with flood control, flood plain management, nature conservation and spatial planning in flood prone areas.

---

[125] Veerman, C. (2008). Working together with water [in Dutch: "Samen werken met water." Een land dat leeft, bouwt aan zijn toekomst; Biesbroek, G. R., R. J. Swart, et al. "Europe adapts to climate change: comparing national adaptation strategies." Global Environmental Change **20**(3): 440-450, p. 441.

[126] Wiering, M. A. and P. P. J. Driessen (2001). "Beyond the art of diking: interactive policy on river management in the Netherlands." Water policy **3**(4): 283-296.

5.2 Public Interest and Flood protection

Dutch flood control is first and foremost a national concern that is still solely in the hands of Dutch governmental bodies (the Dutch regional water boards together with the national agency *Rijkswaterstaat*, the Directorate General of Public Works and Water Management). It is therefore safe to state that it has become - over decades, or even centuries -a *unitary* public interest, at least since the 19th century, when the national government completely redesigned the river infrastructure while taking over from problematic and fragmented local and regional management. With these interventions in infrastructure Dutch society was set to enter the modern era[127] . In other words, flood control is now a responsibility for the core governance institution of the sovereign State, both in its regional and national representations. The market is left with little room in flood management and both Civil Society (NGOs, representative societal organisations or community-based organisations) and the general public have been kept at a distance. The State cares for Dutch citizens "by keeping their feet dry" as it has been put in the mission of *Rijkswaterstaat*.[128]

The idea of a unitary public interest is further underlined by uniform safety standards as part of the rule of law, to be more specific, as laid down in the Water Act. These standards of water safety are among the most ambitious in the world, with norms being laid down to prevent flood occurrences of once in 3000 years in the West of the country. After the near disastrous events of 1993 and 1995, when the Rhine and Meuse Rivers reached extreme and unexpected high levels of water - and the Netherlands just escaped large-scale flooding – the first reflexive response was to strengthen the dikes, but the second response was actually to reflect on the common risk strategies. This increased the discursive space for a more nature friendly and spatially relevant policy project called Room for the River that was carried out in the following years. What is important for our discussion on the public interest is that both the substantially defined safety standards for floods (historically agreed upon for the sake of the general public interest) were now out in the open and under scrutiny as were the ways of deciding on these safety standards. This meant that the risk strategies (why focus only on the prevention of floods and not on flood consequences or flood preparation or flood insurance?) were now being publicly discussed. Concerning the procedural aspect of defining the public interest it was stressed even more that the water agencies had to open up their decision-making processes and become more transparent on the rationales for flood safety strategies. This meant that the former "state within the state" – the national agency *Rijkswaterstaat* - had to start with 'stakeholder dialogues' and 'round-table decision making' on a public interest that they had hardly needed to defend in former times. Also, the

[127] Van der Woud, A. (2006). Een nieuwe wereld: Het ontstaan van het moderne Nederland, Amsterdam: Bert Bakker. [in Dutch].
[128] http://www.rijkswaterstaat.nl/en/about_us/mission/

open discussion on flood risk strategies gave way to experiments regarding market-based policy instruments in Dutch flood policy and to investigations introducing insurance mechanisms to complement governmental responsibilities. In short, the existing flood policies were now part of higher politics and vulnerable to change. In Alexander's terms, the unitary public interest, mainly defined and preserved by the sovereign state, was now being reinterpreted in more utilitarian or deontic perspectives (these general safety standards, whose interest is it anyway? Who benefits from what safety standards? Should we diversify in different regions or different stakes? Is it people's deliberate choice to live in flood-prone areas? Have they got a right to protected then? Etc.) .

5.3 Public Interest and Fresh Water Supply

When looking at an air photo of the Netherlands it will not come as a surprise that fresh water supply has seldom been a problem. The Netherlands is a delta in North-West Europe with a surface of 41,526 km2, of which 18% is surface water. The classical Dutch approach was to drain all redundant water as soon as possible towards the sea, which made it possible to live and work on the low-lying land. However, climate change forces us to consider fresh water supply as a new problem in water management. Periods of drought lead to water scarcity and intrusion from salt water threatens agriculture, especially in the Western part of the country. It should be realized that water in the Netherlands is regarded as a public or common good and tradable water rights or a market-based approach have never existed.

Traditionally, fresh water supplies have been regarded as a communitarian and unitary public interest, which was fully taken care of by the government. Depending on the kind of water, this was taken care of by national government (the greater rivers and lakes) or regional water authorities (all other waters). Historically, in the Dutch system of regional water management there is a certain relationship between the interest which one has in good water management and the possibilities for participation in elections or being elected. On the other hand, there is also a relation between one's interest in good water management and the financial contribution one has to make, based on the amount of land one owns or the value of one's real estate. It is a closed and self-supporting system: those whose interests are at stake can be elected to representative bodies and make the decisions, but they also pay for the water management measures. All revenues are used for water management in the same area.
This relationship between 'stake, say and pay' creates a shared long-term responsibility and encourages sustainable behaviour, although, of course, not in a perfect way. The financial system is based on a complex combination of profit and solidarity principles. It must be added that this closed system does not exist at the national level: investments in water management by the ministry – for example, for the fresh water supply - are paid for by general tax revenues and they are hardly directly related to those who profit from water services.Water

management for state waters is therefore completely based on the solidarity principle.

To deal with water scarcity as a new climate-related problem, several innovative initiatives have been developed and tested in pilot projects. These vary from the establishment of a local 'water market' to local water storage areas, which are also useful in times of flooding to store water for periods of drought. The experiences with the creation of a local water market were unsatisfactory, probably because of historical and cultural traditions (Huitema and Kouwenhoven, 2011). Traditionally, the construction and management of water storage areas is done by regional water authorities as decentralized governments. From a communitarian and unitary concept decision making takes place by formal representatives in regional water authorities, of course after consultation and often with the participation of the public. Nowadays, new approaches to water storage by private parties are being developed, called 'water farming'. Private land is used to store water in times of abundance and in times of drought the stored water can be sold to private or public actors or shared within a cooperative. Water authorities need water in times of drought, for example to defend peat dikes and to protect the ecological status of waters by flushing water from one area to another. Furthermore, it is the responsibility of the government to ensure sufficient water for all, including the drinking water supply.
Although water farming fits perfectly well in the developments towards a larger participation of private parties in water management and climate adaptation, it shows a serious shift in the concept of the public interest from a communitarian or unitarian approach towards a rights-based approach in which the stored water is no longer a public good but becomes a private good.

5.4 Conflicting Interests: Fresh Water Supply, Flood Protection and Ecosystem Protection

In 1953 the Dutch province of Zeeland was confronted with a major sea storm surge, with over 1,800 lives being lost. The storm surge peak coincided with the spring tide high water on the North Sea and left the Dutch with a national trauma that still determines the attitude of the people from Zeeland towards water management and flood protection. After the flooding the concern for safety led to the development of the Delta Works. The Delta Works cut the delta of Zeeland almost completely off from the sea. In 1970 the *Haringvliet* dam was completed. It offers safety to the inhabitants of the area and at the same time benefits agriculture by creating a fresh water reservoir and additional land for agricultural use. But it also meant that the special estuary of the Rhine was lost, which led to a thorough change of the river landscape and caused the decline and demise of many organisms. Moreover, the dam resulted in pollution of the riverbed and a poor chemical and ecological status of the waters.

These negative environmental consequences led the Dutch government to decide to take measures to restore the estuary, by slightly and only at high tides opening the dam again. This decision is called "the Kier [crack] decision". From the beginning, the proposal by the Ministry of Public Works and Water Management to slightly open the locks led to resistance in the region, in particular because of concerns about salination and the decreasing availability of fresh water. The regional authorities involved agree that a clean-up of the river bed is necessary, but restoring the estuary by opening the locks is still very controversial. Regional parties – in particular water boards and municipalities – are very critical and point to the enormous uncertainty in the development of the ecological values of the river and the difficulty in managing the salt intrusion. They also point to the uncertain consequences for shipping and the uncertainty as to what the consequences will be of a fluctuating water level. Private parties are also concerned, in particular farmers and drinking water companies became nervous once the environmental impact assessment was made in 1998 and the Kier decision was about to be taken.

The overwhelming number of critical sounds and the uncertainty of the consequences of slightly opening the locks led in the first instance to the decision to only slightly open the locks at high tides. This is not sufficient to meet the aim of restoring the estuary and the improvements to its ecological status. Only the desired fish migration will improve and other measures to improve the ecological status would only be taken with a careful step-by-step approach, which offers the opportunity to take better informed decisions and to deal with uncertainty and changing circumstances. Despite this careful approach, regional parties remained sceptical. They questioned the independence of the environmental impact assessment and various parties, including the drinking water companies, wanted

additional research to be carried out. Finally, the Kier decision was taken in 2000. It projected that the locks of the Haringvliet dam would slightly open at high tides in 2005. An important precondition for operationalisation is that measures have been taken to guarantee fresh water supply. In addition, a link was established with the Delta nature project. This project aims to realize 3000 ha of new wetlands in the Delta.

The compensation measures that have to be taken before the locks can be slightly opened are the subject of discussion. Their main objective is to establish alternative fresh water supply canals. Many regional parties are however against these proposals, in particular because these plans would come at the cost of agricultural land use and the conclusion must be that there is insufficient support for the Kier decision or the compensation measures in the region.
The regional resistance led to postponement until 2008 and then to a further postponement to December 2010. Moreover, the link between the Kier decision and the Delta Nature project became lost, which shows the decline in the ambition to create integrated spatial development. After the formation of the new cabinet of the Netherlands in September 2010, it seemed that the postponements would end in abandoning the whole decision. The government has opposed opening the locks of the Haringvliet dam. The abandonment of the Kier decision has met with legal objections, because the Netherlands has committed itself in its river basin management plan for the River Rhine to implement the Kier decision and its partners in the river basin are expecting the implementation of that decision to improve fish migration. After strong pressure from the European Commission and the international river basin partners and due to formal obligations following from international and European environmental law as well as a lack of proper alternatives, it seems that the locks will finally be opened.

The case of the Haringvliet locks shows that a variety of public interests are at stake here; the creation of resilient ecosystems (especially fish migration), flood protection, fresh water supply - including safeguarding the drinking water supply. Conflicting interests follow from economic, agricultural stakes and related planning tasks. It seems that the governance lacks formal legitimacy now that the abandonment of the decisions is not in compliance with international and European environmental law obligations, especially obligations following from the Rhine and Meuse Treaties, the European Water Framework Directive and the European Habitats Directive. On the other hand, there is a lack of societal support for the measure, mainly because farmers and their representatives in regional governments and interest organizations were strongly against this ecological measure. Because of this range of public interests there is also a mix of different approaches to the problems at hand: besides the “overarching” unitary interest of flood safety in the area there is the supply of fresh water which is regarded as a public good and a public task in the Netherlands. Nevertheless, it seems that farmers have the belief that they have a ‘right’ to use the available

fresh water and that the supply can only be diminished when accompanied by compensation, be it by way of certain measures or in money. Although the Netherlands recognized the right to water, the effectuation of this right takes place by (generalized) integrated water resource management, elaborated in common legislation and water policy. A rights-based approach in water management should be a new development, which does not fit well in the historical, cultural and legal tradition. The public interest underpinnings of this complex problem area (or Bermuda triangle) are varied: as indicated, there are unitary elements that are weighted against the specific rights of collective groups, which can be interpreted as communitarian, liberal and even libertarian notions of the public interest.

6. DISCUSSION

The three cases show that varying conceptions of the public interest are at stake, and different public interests sometimes reinforce each other and sometimes conflict. Flood protection has for decades been a task for the Dutch government and adaptation to climate change partly reframes and reproduces this classical concern. Furthermore, fresh water supply and improving the resilience of ecological systems are recognized as new problems and new governance tasks. To combine these tasks with traditional interests such as agriculture and economic development requires conflict resolution mechanisms or more dialogical ways to define the public interests at stake.

There also seems to be a 'ranking' or a hierarchy in public interests, which leads to other ways of defining what is in the public interest. Nobody in the Netherlands will disagree that safety against flooding is a public interest and the same can be said for the drinking water supply. This is completely different when it comes to the protection of ecological or agricultural values. Let us explain this. Because of the public goods characteristics, combined with a sense of urgency in the Dutch vulnerable context, protection against flooding required state intervention and has historically evolved into a unitary public interest. Also creating resilient ecosystems requires adoption by the state because of the "weak values" that are in need of protection, although here we hardly speak of a 'collective moral imperative' as we do with flood risks in the Netherlands. With regard to adaptation to climate change, flood protection was and still is definitely the leading public interest in the Netherlands. Nature conservation and ecology are less high-ranked as a public interest, and due to contemporary neo-liberal tendencies in Dutch government and politics we definitely witness shifts in the public interest with regard to nature conservation and ecological improvement. Originally it was left to private parties, but during the middle of the last century the government started to take care of nature conservation and ecology. Nowadays we again see a shift returning to private responsibilities. When it comes to the use of fresh water for drinking water and agriculture a more liberal and utilitarian approach is exposed. Experiments with water markets and 'water

farming' show a shift from public to private responsibilities. Although in general the current Dutch policy is to diminish the role of the government and to rely more on private involvement in the field of adaptation to climate change, this seems less explicit when it comes to water management.

In most empirical cases we see innovations and experiments challenging the traditional ideas of the content of public and collective values and the way of discussing and deciding thereon. These new challenging ideas and reinterpretations of the stakes involved rarely go together with conscious decisions and transparent visions on underlying shifting viewpoints and foundations of defining the public interest. In short, in the debate on the governance of climate adaptation utilitarian substantial arguments derived from the individual interests of people are alternated by arguments that reflect general and vague notions of "the collective moral imperatives" behind unitary conceptions of a public value. Deliberative and (evenly levelling out) dialogical 'stakeholder involvement' arguments are set alongside group rights-based notions of public interest. At this moment in time it is difficult to predict whether these emerging new ideas - that generally want to increase public responsibilities - will also lead to fundamental changes in the domains that are relevant for climate change. For example, in flood management new, more utilitarian approaches to flood-related interests do not easily occupy centre stage. Consciously or not, the existing institutional water hegemony, in the form of the governmental water agencies, are defending traditional values of generalized, unitary approaches in water safety standards, that are based at least on solidarity per region.
We will not bring this contribution to a close while hiding our own normative viewpoint on matters of the governance of climate change: Dutch flood management was traditionally based on a historically evolved moral imperative of solidarity (although with differences depending on specific regions within the country) when it comes to safety measures which led to an almost fixed unitarian approach and related governmental (state and decentralized authorities) responsibilities. This conception brought safety and welfare for all, since it was based on solidarity. We would not advocate an adaptation policy that is completely based on public responsibilities, but before over-enthusiastically embracing a shift towards more private responsibilities (which many adaptation to climate change scholars seem to do) that in the meantime go together with more "group rights-based" and utilitarian (aggregate cost-benefit) approaches to what is at stake, we fear that possibly positive elements of unitary, state-centred approaches might become lost. Our argument is that a right and fair mix between public and private responsibilities should be developed, without losing the valuable elements of classical Dutch water management, based on solidarity, prevention and a strong participation of the people involved. In any case, basing adaptation policies on an ad-hoc or 'pick and choose' concept of the public interest may in the end lead to shifts that no one really surveyed and wanted. A shift from public responsibilities towards private parties requires clarity as to the

role of the government and what public interests it will take care of. Without this, private parties which are not fully aware of this shift and which are not involved in the elaboration of this shift will be confronted with responsibilities they are not willing or even able to take care of. In the end this will lead to a lack of solidarity, legitimacy and even effectiveness. And collective solidarity may turn out to be a crucial element of the successful governance of adaptation to climate change.