

# Distributional Effects of EU Flood Risk Management and the Law

The Netherlands, Flanders and France as case studies

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# Distributional Effects of EU Flood Risk Management and the Law

The Netherlands, Flanders and France as case studies

De verdelende effecten van Europees overstromingsrisicobeheer en het recht

Met Nederland, Vlaanderen en Frankrijk als case studies

(met een samenvatting in het Nederlands)

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To my mother



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## LIST OF ABBREVIATIONS

AA	Acquiring authority	
ABRvS	Administrative Jurisdiction Division of the Council of State	<i>Afdeling Bestuursrechtspraak Raad van State</i>
CAA	Administrative Appeal Court	<i>Cour d'administrative d'appel</i>
Cass. Civil	Court of Cassation, Civil Chambre	<i>Cour de Cassation, Chambre Civil</i>
CAT-NAT	Natural Disaster Scheme	<i>Système Catastrophes Naturelles</i>
CC	Constitutional Court	<i>Conseil Constitutionnelle</i>
CE	Council of State	<i>Conseil d'État</i>
CFREU	Charter of Fundamental Rights of the European Union	
CIW	Coordination Committee on Integrated Water Policy	<i>Commissie voor Integraal Waterbeleid</i>
CPO	Compulsory Purchase Order	
CRC	Central reinsurance company	<i>Caisse centrale de réassurance</i>
DCLG	Department of Communities and Local Government	
DIWP	Decree on Integrated Water Policy	<i>Decreet Integraal Waterbeleid</i>
DRIEAL	Regional and interdepartmental Directorate for Environment, Land Planning and Housing	<i>Direction régionale et Interdépartementale de l'environnement, de l'aménagement et du logement</i>
EC	European Commission	
ECHR	European Convention on Human Rights	
ECtHR	European Court on Human Rights	
EPAGE	Local water management organization at the sub-basin level	<i>Établissement Public d'Aménagement et de Gestion des Eaux</i>
EPCI	Inter-municipal public corporation	<i>Établissement Public Intercommunale</i>
EPTB	River Basin Water Board	<i>Établissement Public Territorial de Bassin</i>
FCA	Flood Control Area	<i>Gecontroleerd overstromingsgebied</i>
FD	European Floods Directive	
FEA	Flemish Environmental Agency	<i>Vlaamse milieumaatschappij</i>
FFP	Flood Protection Programme	<i>Hoogwaterbeschermingsprogramma</i>
FPRNM	Fund for the Prevention of Major Natural Hazards (also referred to as Barnier Fund)	<i>Fond de Prévention des risques Naturels Majeurs</i>

FRM	Flood risk management	
FRMP	Flood risk management plan	
GALA	General Administrative Law Act	<i>Algemene wet bestuursrecht</i>
GEMAPI	Management of the aquatic environment and flood prevention	<i>Gestion des milieux aquatiques et de prévention des inondations</i>
GNP	Gross National Product	
HR	Supreme Court	<i>Hoge Raad</i>
JFC	Joint Flood Commission	<i>Commission Mixte Inondation</i>
MAPAM	Modernisation of Territorial Public Action and the Affirmation of the Metropolis	<i>Modernisation de l'action publique territoriale et d'affirmation des métropoles</i>
MEDDE	Ministry of the Environment	<i>Ministère de l'Ecologie, du Développement durable et de l'Energie</i>
OECD	Organisation for Economic Co-operation and Development	
PAPI	Action Programme for Flood Prevention	<i>Programme d'Action de Prévention des Inondations</i>
PLU	Local land use plan	<i>Plan Local d'Urbanisme</i>
PPR	Risk prevention plan	<i>Plan de Prévention des Risques</i>
PPRI	Flood risk prevention plan	<i>Plan de Prévention des Risques des Inondation</i>
PSR	Rapid Submersion Plan	<i>Plan de submersion rapide</i>
RRR	Regulation Room for the River	<i>Schaderegeling Ruimte voor de Rivier</i>
SAGE	Water development and management plan	<i>Schéma d'aménagement et de gestion des eaux</i>
SCoT	Territorial coherence scheme	<i>Schéma de Coherence Territorial</i>
SDAGE	Masterplan for water development and management	<i>Schéma directeur d'aménagement et de gestion des eaux</i>
SIP	Spatial Implementation Plan	<i>Ruimtelijk uitvoeringsplan</i>
SPC	Spatial Planning Code	<i>Codex Ruimtelijke Ordening</i>
SPKD	Spatial Planning Key Decision	<i>Planologische Kernbeslissing</i>
STAR-FLOOD	European FP 7 project: Strengthening and Redesigning European FLOOD risk governance	
UKSC	United Kingdom Supreme Court	
UPC	Urban Planning Code	<i>Code de l'urbanisme</i>
WFD	European Water Framework Directive	
ZRTECR	Temporary water storage area	<i>Zones de rétention temporaire des eaux de crues ou de ruissellement</i>

# CHAPTER 1

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## INTRODUCTION

European Member States are obliged to observe European regulations on different fields of safety: for example, to ensure the same level of product or food safety for all European inhabitants. European citizens benefit in an equal way from these obligations of the European Union. Another policy field in which safety is of crucial importance is water management, not only for water quality, but also for water safety or flood risk management (hereafter: FRM).

Due to climate change and urbanisation, floods are occurring more frequently in Europe. Socio-economic studies show a clear trend of more people being affected by river floods.<sup>1</sup> In many cases, the nature of floods is transboundary, as most of the major European rivers flow through different Member States. This emphasises the need for Member States to cooperate and coordinate measures within river basin districts. These considerations led to the establishment of the European Floods Directive in 2007.<sup>2</sup>

The Preamble to the European Floods Directive starts with the statement that “floods have the potential to cause fatalities, displacement of people and damage to the environment, to severely compromise economic development and to undermine the economic activities of the Community” (rec. 1). Among the fundamental rights the directive respects are the right to life,<sup>3</sup> and the protection of property.<sup>4</sup> These two rights can come into conflict when the protection of lives necessitates infringements of property rights: for example, when the protection against floods demands the expropriation of property in order to create an area that temporarily stores water.

The infringements of property rights in the case of flood risk management are burdens that a small group of people have to bear in order to benefit a larger group of people, or in some cases, society as a whole. This unequal distribution of burdens is a distributional effect of flood risk management. The infringement of property rights can assume different proportions. In most countries, a compensation regime exists, which creates the possibility for burdened parties to demand compensation and thus mitigates the unequal distribution of burdens. Article 1 First Protocol

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1 Rojas et al. 2013, p. 1742.

2 Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks.

3 Art. 2 Charter of Fundamental Rights of the European Union (henceforth CFREU) and art. 2 European Convention on Human Rights.

4 Art. 17 in conjunction with art. 52 (3) CFREU and art. 1 First Protocol of the ECHR.

European Convention on Human Rights forms a basic demand which must be met by the compensation regimes.<sup>5</sup> Nevertheless, Member States are free to have their own set of compensation regimes and therefore there are differences between the compensation regimes of different European Member States.

This dissertation focusses on the question of whether burdens are equally distributed in flood risk management strategies in Flanders, France and the Netherlands. And, if burdens are not equally distributed, it sets out to discover to what extent this is the result of the compensation regimes applicable.

In order to answer the question, legal comparative research on different countries is necessary. This research focusses on the Netherlands, Flanders and France, all of which face similar flood risks, share the river basin districts of the rivers Meuse and Scheldt, yet are geographically and administratively quite different.

This introduction starts by explaining the geographical context the Netherlands, Flanders and France and briefly describing the way in which they have arranged flood risk management.<sup>6</sup> After introducing the research questions, section 1.3 places these questions in the broader context of distributive justice and defines and connects the concepts used. The methodology section follows. The introduction concludes by indicating the cohesion between the four chapters that are based on peer-reviewed published journal articles.

## 1.1 DELINEATION OF THE RESEARCH

The geographical scope of the research is firstly delineated by the river basin approach of the Water Framework Directive and the Floods Directive,<sup>7</sup> which takes the river basin district as its main approach for flood risk management.<sup>8</sup> The Netherlands is part of the international river basin districts of the rivers Meuse, Scheldt, Rhine and Ems. This research focusses on the river basin district of the Meuse and Scheldt rivers. The scope of this study has been further narrowed down to France, Netherlands and the Flemish Region for the following reasons. The river basin district of the Meuse includes five countries: France, Luxembourg, Belgium (the Walloon Region and Flanders), Germany and the Netherlands. The Scheldt river basin contains France, Belgium (the Walloon Region, Brussels Capital Region and Flemish Region) and the Netherlands. Because Germany and Luxembourg are only of interest for the Meuse river basin and because the Brussels Capital Region is only part of the Scheldt river basin, they are not part of the study. Another reason for this delineation is the fact that Belgium, France and the Netherlands were partners in the European STAR-FLOOD project.<sup>9</sup> Furthermore, a

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5 Although the right to property is protected by art. 17 of the CFREU, this article has not been subject to case law. Therefore, this research uses article 1 FP ECHR as frame of reference.

6 Chapter 2 elaborates the FRM of the three countries.

7 "River basin means the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta" (art. 2(13) of the Directive 2000/60 EC).

8 Priest et al. 2016.

9 See section 1.4.3.

socio-economic study has shown that the increase in the population affected by floods by the 2080s is very similar in the Netherlands, France and Belgium.<sup>10</sup>

The choice to study only the Flemish Region instead of the country of Belgium is based on practical considerations. The highest achievable number of jurisdictions that could be included, given the scope of this PhD research, was three. In the federal state of Belgium, powers are separated between the state and the regional levels. Flood risk management is a regional task in Belgium, and therefore three distinct flood risk management governance arrangements can be defined. Compensation for planning blight and for easements is a regional task as well. For reasons of efficiency, only one Belgian region constituted the territorial unit of analysis. The choice for Flanders instead of the Walloon region can be explained by the fact that the Dutch need to cooperate with the Flemish both for issues concerning the Scheldt as well as for issues concerning the Meuse. In addition, the compensation for loss caused by proactive spatial planning is regulated by the three Regions, and Flanders is of particular interest for the Netherlands.<sup>11</sup>

This dissertation focusses on public or administrative law and leaves private law out of consideration. In many cases, the creation of burdens is related to a fault or a wrong and thus falls under tort law. The function of compensation in tort law is to restore the situation to what it was before the wrongful action. However, compensation in the case of a lawfully caused burden, also called no-fault liability, does not fall under tort law and have specific regimes in the three studied countries. In general, flood risk management measures result in lawfully caused burdens and therefore the compensation for these burdens falls under public law.

## 1.2 FLOOD RISK MANAGEMENT

Large floods are a recurring phenomenon in Europe. Due to climate change, flood risks are becoming more severe and floods will occur more frequently. To prevent and reduce them, the Floods Directive was adopted by the European Council in 2007. Obliging EU Member States to institute a system of flood risk management (FRM), the Floods Directive is a ‘framework directive’, consisting of a set of obligations ranging from policy instruments to legal instruments, which each Member State has to implement and embed into its legal system, *e.g.* by making flood risk maps, flood hazard maps and flood risk management plans and by ensuring the active involvement of interested parties by adopting the aforementioned maps and plans.

The Floods Directive classifies different flood risk management strategies:

*“Prevention:* preventing damage caused by floods by avoiding construction of houses and industries in present and future flood-prone areas; by adapting

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<sup>10</sup> With a maximum relative impact above 0.3% for Belgium, 0.31% for France and 0.33% for the Netherlands (Rojas et al. 2013, p. 1743).

<sup>11</sup> See different legal comparative studies, such as: Geest 2000; Huijts & Backes 2015.

future developments to the risk of flooding; and by promoting appropriate land-use, agricultural and forestry practices;

*Protection*: taking measures, both structural and non-structural, to reduce the likelihood of floods and/or the impact of floods in a specific location;

*Preparedness*: informing the population about flood risks and what to do in the event of a flood.”<sup>12</sup>

In the Communication of the Commission, two strategies are added:

*Emergency response*: developing emergency response plans in the case of a flood;

*Recovery and lessons learned*: returning to normal conditions as soon as possible and mitigating both the social and economic impacts on the affected population.”<sup>13</sup>

In the Communication of the Commission, the concept of mitigation is addressed too. When mitigation is defined as “reducing the likelihood and magnitude of flooding and complement flood defences. They are being put in place through the implementation of actions that accommodate (rather than resist) water, such as natural flood management or adapted housing”,<sup>14</sup> mitigation would fall within the ‘prevention’ strategy.

Flood risk management measures are classified by strategy. The dominance of a specific strategy in a country determines which measures are more common than others.<sup>15</sup>

Protective measures such as those to strengthen dikes require space. In general, dike-strengthening measures do not need much extra space that is owned by private parties. However, if this space is needed, in most cases the land will be expropriated. The creation of water storage areas is different. Such areas are sometimes needed to enlarge the storage and discharge capacity of the regional water system. They are specific designated areas that can store water temporarily. Water storage areas are mostly privately owned. If the land becomes useless to the landowner, expropriation is the obvious option, but in most cases the land can still be of use to the landowner. In that case, an obligation to consent can be imposed, which means that the landowner should tolerate the fact that his or her land will be temporarily inundated. The obligation to tolerate can be connected to restrictions of land use, such as being prohibited from growing certain crops in a certain period of the year. There are three types of losses connected to the temporary inundations: (1) devaluation of property,

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12 The definitions of these strategies are found in: COM(2004)472 final.

13 COM(2004)472 final.

14 Fournier 2016.

15 Chapter 2 deals with the dominance of strategies. Chapter 5 relates the dominance of strategies with the compensation regimes.

(2) loss of income and (3) actual damage as a result of the inundation, *e.g.* harvest loss. In all three countries, compensation for this kind of loss is regulated.<sup>16</sup>

Spatial planning measures to avoid flooding (prevention) or to reduce the adverse effects of a flood are not yet common in the Netherlands, although the focus on spatial planning measures has been increased by the so-called ‘multi-layered safety approach’ introduced in the Delta Programme.<sup>17</sup> Flanders and France have different legal instruments to create a strong prevention strategy: in Flanders, for example, the signal areas and the Water Test; in France, the obligation to include the flood risk plans in spatial zoning plans and the establishment of flood zoning in spatial plans.<sup>18</sup> Examples of the latter are the prohibition to build or develop in a specific flood-prone area or restrictions of land use. Such prohibitions and restrictions will probably only be applied to new developments. Restrictions are unlikely to be imposed on existing buildings, except when the land is needed for active flood risk management, such as the creation of a water storage area, or dike strengthening, or dike relocation.

### 1.2.1 International flood risk management plans

In order to create effective flood risk management, the Floods Directive requires coordination between Member States that share transboundary river basins. This coordination manifests in the establishment of international river basin committees and international flood risk management plans, which are mandatory under the Floods Directive in addition to the national flood risk management plans (article 8 (2) Floods Directive). As mentioned above, in the context of the delineation of the thesis research, the international river basin districts of the rivers Meuse and Scheldt are relevant.

This section describes the relevant goals and measures of the International flood risk management plans of the rivers Meuse and Scheldt.

#### 1.2.1.1 International flood risk management plan Meuse

In the International flood risk management plan of the Meuse (hereafter FRMP Meuse) three strategic goals have been set: first, an efficient allocation of responsibilities based on subsidiarity; second, solidarity of flood risks; and third, proportionality of measures. The realisation of the priorities programme must be based on cost-benefit analyses.<sup>19</sup> The plan refers to the ‘definitions’ of solidarity in the Floods Directive:

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16 Doorn-Hoekveld 2014; Doorn-Hoekveld et al. 2016; Doorn-Hoekveld 2017a; Doorn-Hoekveld & Groothuijse 2017.

17 In this national programme the strategy for flood risk management in the coming years is laid down. See: Doorn-Hoekveld 2017b.

18 See for a comprehensive description of the causes of loss: section 3.6.3; a description of the instruments section 2.4.2 (Flanders) and 2.4.3 (France) and an analysis of the dominant strategies, section 5.3.

19 FRMP Meuse, pp. 13-14.

“The solidarity principle is very important in the context of flood risk management. In the light of it Member States should be encouraged to seek a fair sharing of responsibilities, when measures are jointly decided for the common benefit, as regards flood risk management along water courses.” (rec. 15 preamble).

“[...] In particular, Member States should refrain from taking measures or engaging in actions which significantly increase the risk of flooding in other Member States, unless these measures have been coordinated and an agreed solution has been found among the Member States concerned.” (rec. 13 preamble).

“In the interests of solidarity, flood risk management plans established in one Member State shall not include measures which, by their extent and impact, significantly increase flood risks upstream or downstream of other countries in the same river basin or sub-basin, unless these measures have been coordinated and an agreed solution has been found among the Member States concerned in the framework of article 8.” (article 7 (4)).

The measures in the FRMP Meuse are formulated in an abstract manner. Measures are colour-coded: green (no international coordination is necessary), orange (information exchange is necessary) and red (multilateral coordination is necessary). Most preventive measures are coded ‘green’. In the protection strategy, most measures are coded orange and red, because of their possible transboundary effects. For physical interventions in or near a water system, at the least the river basin partners must be informed.

#### *1.2.1.2 International flood risk management plan Scheldt*

Unlike the FRMP Meuse, the flood risk management plan of the river Scheldt (hereafter FRMP Scheldt) does not refer to solidarity for transboundary flood risk management.

In addition to the goals all Member State have set for themselves, the International Scheldt Committee has set joint goals for flood risk management. These three joint goals are: transboundary coordination for the planning and realisation of measures that have a transboundary impact; better exchange of information on high tides and floods; and better knowledge exchange to create more insights into flood risks.<sup>20</sup>

The measures included in the FRMP Scheldt are formulated in an abstract manner, which therefore makes it hard to see their transboundary implications. However, the International Scheldt Committee has looked at the transboundary consequences of the measures. Preventive measures and protective measures do have transboundary consequences because they influence the time at which water crosses borders.<sup>21</sup>

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20 International FRMP Scheldt, p. 31.

21 International FRMP Scheldt, pp. 35-36.

Relevant for this research is the requirement of efficient allocation of responsibilities based on subsidiarity (goal 1 FRMP Meuse) in relation to the solidarity of Member States (goal 2 FRMP Meuse and goal 1 FRMP Scheldt).

As mentioned above, the plans contain abstract measures of the different flood risk management strategies. Measures in the prevention and protection strategies do have transboundary effects and in some cases information exchange or even coordination is mandatory in accordance with both plans. The plans do not prescribe which measures the Member States have to implement: that is for the Member States to decide.

### 1.2.2 Flood risk management in the Netherlands

Most of the Netherlands is reclaimed land, as can be seen from the large number of polders. The largest polder is Flevoland, an entire province, with a surface area of 1,419 km<sup>2</sup>. Flood disasters in the past have led to large-scale flood defence structures: a sea (the *Zuiderzee*) has been closed off, and the estuary of the Eastern Scheldt has been closed almost entirely by means of the Delta Works. Such engineering feats have made the Dutch famous throughout the world for their water management.

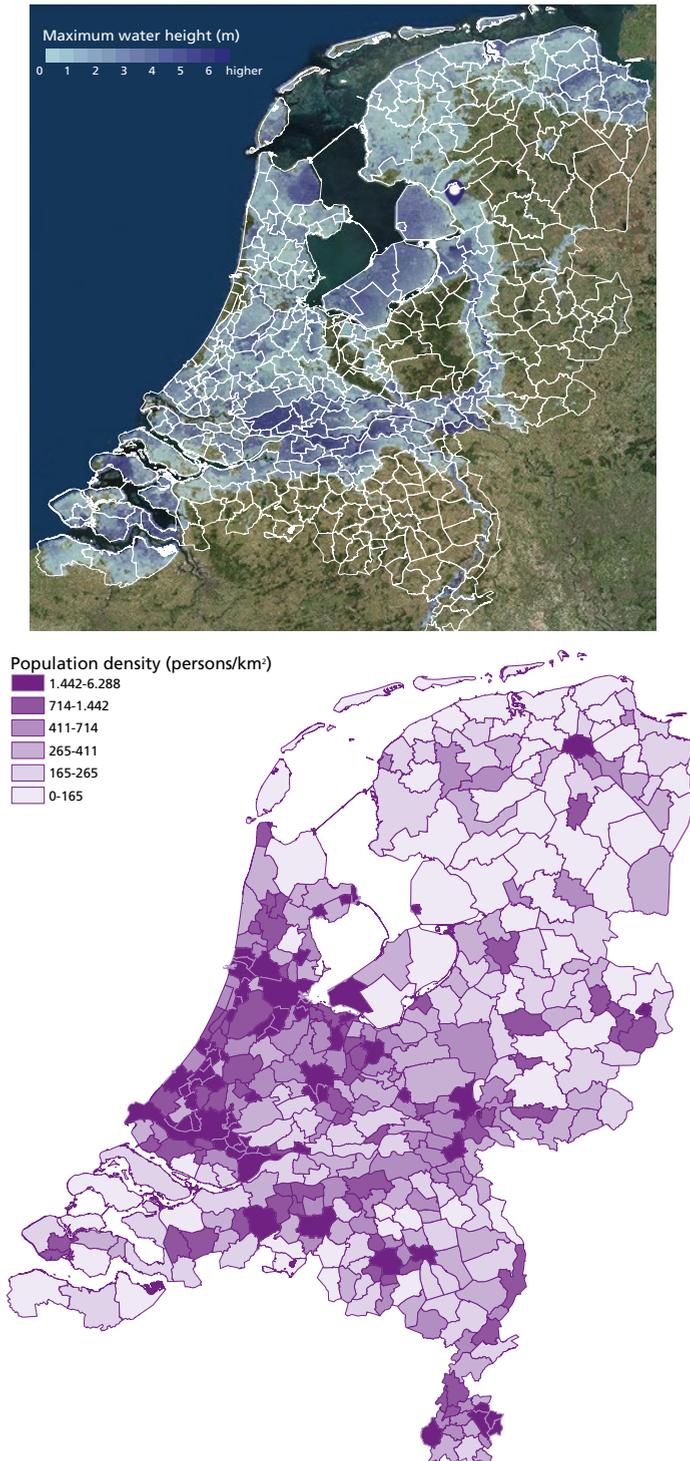
In January 2017, the Netherlands had more than 17 million inhabitants living on approximately 41,500 km<sup>2</sup>, meaning that it is a highly densely populated country with an average of nearly 504 people/km<sup>2</sup> (2016).<sup>22</sup> The Randstad region, located in the western part of the country, is the economic heart of the Netherlands. It includes the four largest cities: Amsterdam, Rotterdam, The Hague and Utrecht. Due to its location on the delta of the Rhine, the Randstad is located in a low-lying area susceptible to flooding. 26% of the country is situated below sea level. Over 60% of the country would be regularly flooded if it were not for the protection of dikes. Approximately 9 million people live in this flood-prone area in which 70% of GNP is produced.<sup>23</sup> This is illustrated in figure 1.1.<sup>24</sup>

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22 Statistics Netherlands (*Centraal Bureau voor de Statistiek*), *Population; Key figures*, 26 April 2017.

23 Letter from the State Secretary for Infrastructure and the Environment, *Kamerstukken II*, 2011/12, 31710, no. 26.

24 Doorn-Hoekveld 2014.



**Figure 1.1 The Netherlands: Maximum water depth (metres) in the case of a dike breach (above) and the population density per km<sup>2</sup> per municipality (below).**

Being on the low-lying delta of four European rivers (Rhine, Meuse, Scheldt and Ems), the country is extremely vulnerable to flooding, which is why flood risk management has been a public duty since the Middle Ages.<sup>25</sup> This public duty is codified in the Constitution. Article 21 of the Dutch Constitution obliges public authorities to keep the country habitable and to protect and improve the environment. It creates responsibility for protecting against flooding and for safeguarding water quality. These responsibilities are assigned to different public authorities.

A consequence of the scarce public space in the country, is that in order to protect the country against floods, infringements of property rights are often necessary.

### 1.2.3 Flood risk management in Flanders

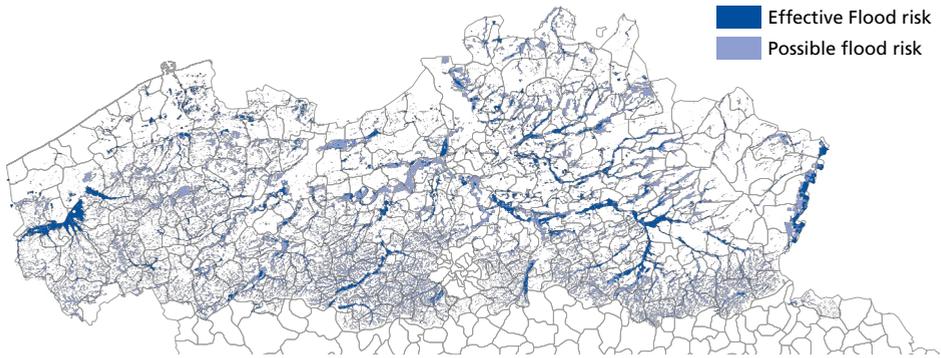
Flanders, like the Netherlands, is a low-lying area. It is also densely populated. In January 2017, Belgium had 11.3 million inhabitants, of which 6.5 million were living in the Flemish Region: here the average population density is nearly 476 people/km<sup>2</sup>.<sup>26</sup> One study has shown that if Flanders continues to develop open space at the current rate, by 2050 the built-up land will account for 41.5% of the area.<sup>27</sup> Flanders is also the economic heart of the country, because of the port of Antwerp and the dense transport facilities.

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25 Havekes 2009, p. 13.

26 Federale Overheidsdienst Binnenlandse Zaken, *Instellingen en Bevolking*, <http://www.ibz.rn.fgov.be/nl/bevolking/statistieken-van-bevolking/> (visited: 3 May 2017).

27 Poelmans 2010, p. 105.



Population density (persons/km<sup>2</sup>)

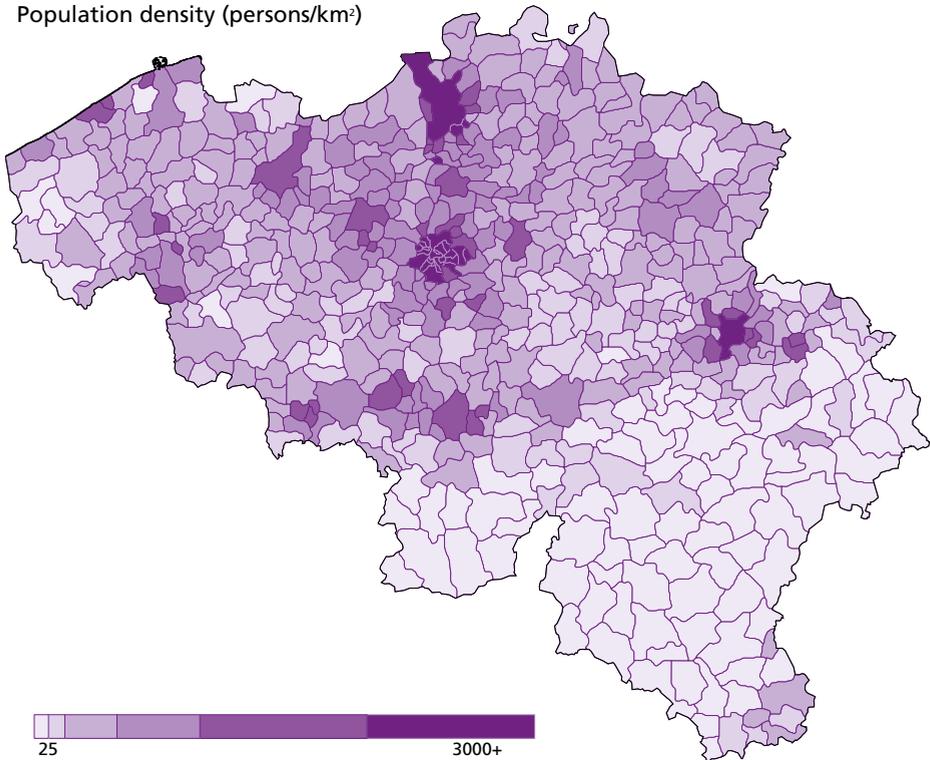
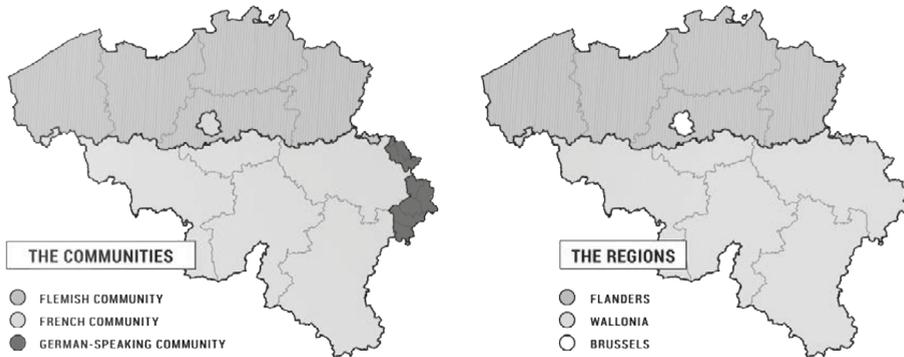


Figure 1.2: Flood risks in Flanders (above) and the population density per municipality (below)

Belgium is a federal state. It is divided into Regions and Communities which overlap geographically



**Figure 1.3: Administrative structure of Belgium.**<sup>28</sup>

Each of the three linguistic areas has its own Community (*Gemeenschap*): Dutch-speaking, French-speaking and German-speaking. Matters relating to culture, language and to the individual (health policy and assistance to individuals) constitute the competences of the Communities.<sup>29</sup> Since these competences do not relate to flood risk management, the Communities will not be discussed further.

Belgium consists of three Regions (*Gewesten*): the Flemish Region, the Walloon Region and the Brussels Capital Region. The competences of the Regions apply to matters affecting their territory in the broadest sense of the term. These concern, among other things, spatial planning, the environment, water management (including flood risk management), nature conservation, agriculture, housing and public works.<sup>30</sup>

Two international river basin districts divide the country: the Scheldt and the Meuse. The large storm surge of 1953 struck Belgium too, but the impact was considerably less than in the Netherlands. It did lead to the creation of a recovery system, though.<sup>31</sup> The flood in the Scheldt estuary in 1976 had a more profound influence on flood risk management, as it resulted in more losses in the Belgian Scheldt delta than in the Dutch part, because at that time the Dutch Delta Plan had almost been completed.<sup>32</sup> The 1976 flood resulted in the establishment of the first Sigma Plan.<sup>33</sup> Thus the Flemish developed awareness of the importance of flood protection at a later stage than the Dutch.

<sup>28</sup> Source: Brochure of the Flemish Parliament.

<sup>29</sup> Alen & Muylle 2011, p. 420.

<sup>30</sup> Art. 6 Special Act on the Reformation of the Institutions of 8 August 1980 (*Bijzondere Wet tot Hervorming der Instellingen*); Alen & Muylle 2011, p. 448-461.

<sup>31</sup> Mees et al. 2016, p. 33.

<sup>32</sup> Broekx et al. 2011, p. 246.

<sup>33</sup> A flood risk plan for the river Scheldt. Originally it entailed only FRM measures, but since 2005 it has integrated FRM with nature conservation and water quality.

### 1.2.4 Flood risk management in France

France is the largest country included in this research. In 2017, France had 64.9 million inhabitants, with an average population density of 119 people/km<sup>2</sup>. This seems much less than in the Netherlands and Flanders, but, 80% of the inhabitants live in urban areas, where the population density is obviously much higher.<sup>34</sup>

Today, France can be described as a decentralised state.<sup>36</sup> This is, however, a recent development, since for long France was a centralised state. The first decentralisation act stems from 1982. The second decentralisation act, which dates from 2003, has given full autonomy to local authorities.<sup>37</sup>

France has identified 12 river basin districts, six of which are transboundary districts bordering Belgium, Luxembourg, Germany, Switzerland, Spain and Italy.

In France, flood defence was traditionally the responsibility of private parties. Only when public safety was at stake could the state take over this responsibility. Major floods with large losses had to occur before – in the 19th century – the government decided to legislate to increase the possibility of state intervention: acts were passed after the floods of 1846 and 1856.<sup>38</sup> Another example is the disastrous floods in 1982 that led to the adoption of a public-private compensation system for *ex post* compensation (the current CAT-NAT system, *système Catastrophes Naturelles*).

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34 <http://www.worldometers.info/world-population/france-population/> (visited: 11 May 2017).

35 It might be noticed that the flood risk maps of the three countries differ in this section. The reason for not having a map showing the flood risks in France – as is the case for the Netherlands and Flanders – is that France is too large to show the flood risks. Mapping the costs instead shows that the approach is a completely different than in the Netherlands. The map is based on data collected for the CAT-NAT system, which visualises the dominant recovery strategy. It already shows a crucial difference from the Netherlands, where such a map would not be necessary because the costs of FRM are mostly in the protection strategy that prevents floods; thus a map of the costs of flooding would not be representative for the flood risks the Netherlands faces.

36 Here it is important to notice the difference between decentralisation and deconcentration, both of which are relevant notions in the French administrative structure. For deconcentration, I use the definition given by Cairns and McKeon: *'a way of relieving the central government of certain administrative functions, which are exercised at the local level by field services of the central government.'* For decentralisation I also concur with the definition given by the former two authors: *'the administrative power is exercised by local decision-making authorities which are elected by those subjects to their authority'* (Cairns & McKeon 1995, p. 123).

37 A third decentralisation act is currently being studied (Larrue et al. 2016, p. 25).

38 Larrue et al. 2016, p. 21.

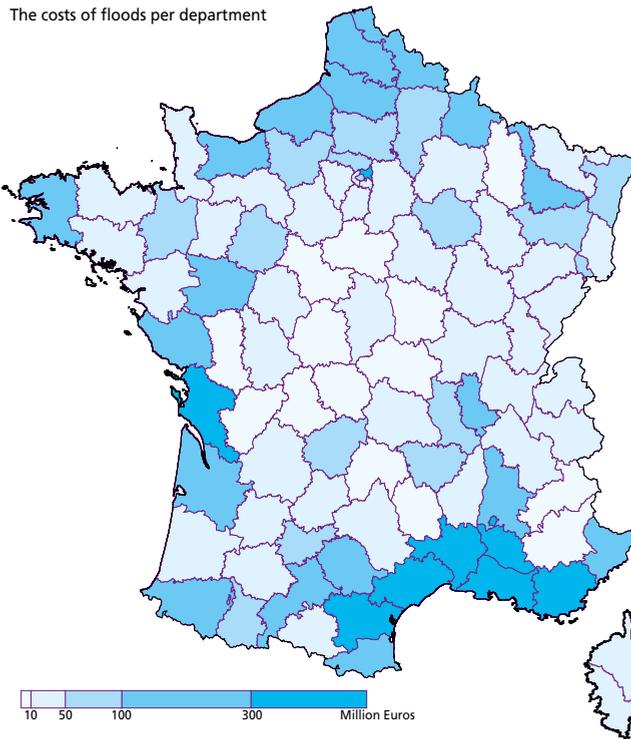
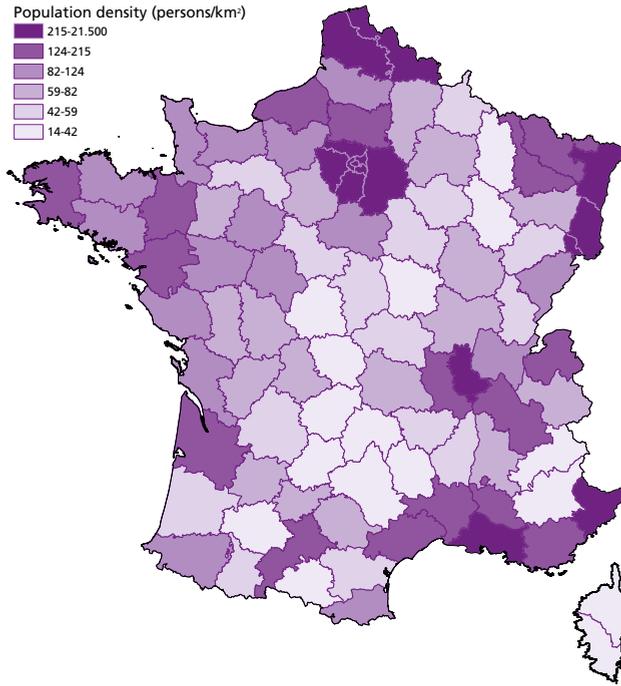
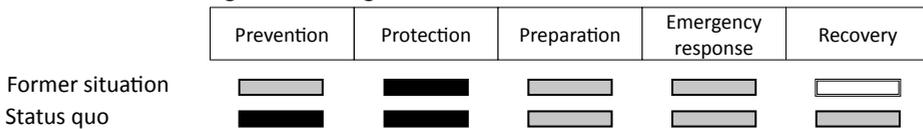


Figure 1.4: Population density (above) and the costs of floods per department (below).<sup>35</sup>

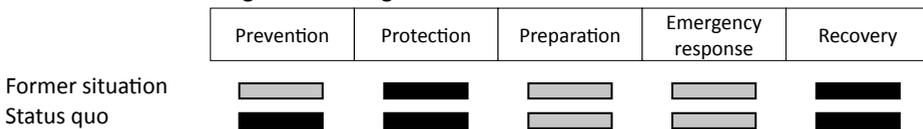
### 1.2.5 Shift of dominant strategies

In the course of time, policy makers can update, adapt or replace strategies. Studies in the Netherlands, Flanders and France show a shift from protection to prevention (figure 1.5).<sup>39</sup> The shifts visualised in figure 1.5 cannot be assigned to specific periods of time. Therefore, the former situation forms the situation of the past (approximately second half of the 20<sup>th</sup> century) and the status quo visualises the shifts that are already occurring and will develop in the coming years. A shift of strategy leads to a shift in measures, which in turn may change the distribution of burdens and benefits. There have been no studies of these shifts in strategies or their distributional effects.

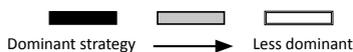
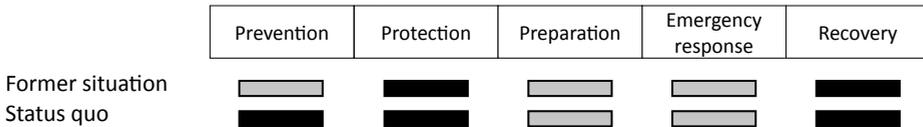
#### Dutch flood risk management strategies



#### Flemish flood risk management strategies



#### French flood risk management strategies



**Figure 1.5: Shift of dominant strategies in the Netherlands, Flanders and France.**<sup>40</sup>

As mentioned in section 1.2, every strategy is characterised by a unique set of measures. The EU STAR-FLOOD project concluded that broadening strategies leads to more resilient flood risk management, because it would lead to more redundancy, flexibility and adaptability by focusing on both reducing the probability of flooding and the reduction of consequences.<sup>41</sup>

This research identifies the relation between strategies and compensation regimes. In order to create a just distribution of burdens caused by flood risk management, it is necessary to mitigate the burdens through compensation. As a consequence, in order

<sup>39</sup> Kaufmann et al. 2016; Larrue et al. 2016; Mees et al. 2016.

<sup>40</sup> I have adapted the figure, created in the STAR-FLOOD project by Kaufmann et al. 2016; Mees et al. 2016; Larrue et al. 2016.

<sup>41</sup> Driessen et al. 2016.

to integrate flood risk management by broadening the strategies used, attention must be paid to the role of the compensation regime as well, since these regimes differ per strategy and have consequences for the just distribution of burdens.

### 1.2.6 Research question

Flood risks are spatially concentrated and unequally divided within countries. In order to reduce these flood risks, flood risk management is necessary. Flood risk management consists of different measures that can be classified by their strategies. The aim of these measures, and thus of flood risk management, is to reduce flood risks in a society.<sup>42</sup> Flood risk management measures have spatial consequences. To reduce the consequences of floods, land is needed to realise measures; alternatively, obligations or restrictions of land use are imposed on landowners. This result of flood risk management is the redistribution of the benefits (reduction of flood risk for a country in general) and burdens (infringement of property rights) of individuals. This redistribution of benefits and burdens is the distributional effect of flood risk management.

Until now, research of distributional effects of flood risk management has mainly focused on so-called *ex post* damage (*i.e.* the loss caused by a flood). However, distributional effects also play a role in other flood risk strategies: who bears the costs of preventing a flood from happening, and who benefits from the measures that increase safety? In this regard, only parties that finance preventive measures, *e.g.* the tax payer, are taken into account in socio-economic research, just as the costs saved by averting a flood. The abovementioned distributional effects in a legal sense are, however, overlooked. This dissertation aims to fill this knowledge gap and to identify the burdens caused by measures specific for three flood risk strategies and the way these burdens are compensated from a legal angle.

The two research questions this dissertation sets out to answer are the following:

- 1) Are burdens equally distributed in flood risk management strategies in Flanders, France and the Netherlands?
- 2) If that is not the case, what is the cause of the unequal distribution?

In order to answer the research questions, the following questions are addressed as well:

- a) How is flood risk management arranged in the Netherlands, Flanders and France?
- b) Which flood risk management strategies are dominant in these countries?

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<sup>42</sup> Flood risks are probability x consequence. Therefore, FRM can reduce both the probability and the consequences.

- c) What are the compensation regimes for loss caused by flood risk management or floods?
- d) How are these compensation regimes applied in the three countries for three specific measures?
- e) What are the principles on which distribution of burdens in these countries is based?

### 1.3 CONCEPTS USED

This section discusses the concepts that are used in the thesis. It starts with a description of the concept 'distributional effect', redefined and applied to legal effects of flood risk management instead of the often discussed economic or social effects. Next, the field of distributional effects of flood risk management is approached from a philosophical angle. The section concludes with a diagram linking the concepts and theories mentioned.

Burdens, harm, and loss or damage are notions that play a role in different branches of law. Criminal, private and public or administrative lawyers define and assess these notions differently. This dissertation focusses on public or administrative law, and therefore, burdens, harm, and loss or damage are considered to be caused by *lawful actions or decisions of public authorities*, which are subject to no-fault liability. Roughly classified, the private law perspective of compensation of burdens, harm, or loss or damage falls under the scope of corrective justice (section 1.3.1.4), but from a public or administrative law perspective, distributive justice is the regime that is applied to the compensation for burdens, harm, loss or damage (sections 1.3.1.4 and 1.3.1.5).

It is of crucial importance for the understanding of the concepts to know the *level of analysis* of this research.<sup>43</sup> Research on compensation can be divided into a macro level and a micro level. This research limits itself to the macro level of the compensation *regime*, *i.e.* the general regime of compensation laid down in legislation, policy, jurisprudence or sometimes in unwritten law. It does not scrutinise the material aspects of the compensation in a case-to- case basis, as that is the micro level of compensation. Chapter 3 forms an exception, because it does show the material aspects of the Dutch compensation regimes as an example of the importance of the role of a compensation regime for flood risk management strategies.

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43 See *e.g.* Lazarsfeld & Menzel 1961.

### 1.3.1 Distributional effects within the legal framework

#### 1.3.1.1 *Distributional effects*<sup>44</sup>

Definitions of a ‘distributional effect’ or a ‘distributional consequence’ are scarce in the literature. ‘Distribution’ is the way in which an available supply of a good is shared among people or spread over an area. The subject of the distribution varies in each discipline and in each study. Tax law studies the distribution of income in order to see if this distribution can create a level of (social) welfare; climate change studies assess, for example, the adverse effects of climate change on developing countries; ecological studies investigate the distribution of certain species.<sup>45</sup> In this research, the concept ‘distributional effects’ of flood risk management is defined as “the positive and negative consequences of governmental actions in the field of flood risk management for individuals and firms.” Economic studies have shown that legal rules can affect the distribution of income.<sup>46</sup> Translated to a more legal formulation, legal rules, or governmental action in general can affect the distribution of rights, obligations and risks.<sup>47</sup> An action that benefits society as a whole – positive consequences – can also adversely affect a small group of citizens or firms – negative consequences; *i.e.* legal rules – legislation, governmental decisions and actual action by public authorities – can affect rights of individual citizens.

The distributional effects of flood risk management have been assessed in a number of studies, most often in economic studies with a focus on cost-benefit analysis. In such studies, the concepts and definitions differ from those used in legal studies. In order to assess whether flood risk reduction is efficient, economics takes into account not only the damage resulting from flooding, but also the financial burdens imposed on people (usually the tax payers) to finance flood risk management measures. The gains, or benefits, such as the employment created by the need for repair, are also taken into account.<sup>48</sup> In some studies, it is not the gains, but the damage avoided that is considered to be the benefits.<sup>49</sup> Not only is there no consensus regarding the definitions of the concepts of costs, benefits, gains and burdens within the economic field: there are also differences between the definitions used in economic and legal studies. Because of this lack of a clear set of concepts and definitions, it is important to define the concepts used in this study.

The legal approach of distributional effects of flood risk management is a different one than the economic approach with its focus on ‘efficiency’.<sup>50</sup> The research described in this thesis includes the legal assessment of distributional effects of flood risk management. Preventive flood risk management can cause disproportionately large

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44 The following paragraphs are adapted from the paper published as: Doorn-Hoekveld 2017a.

45 See *e.g.* Shavell 2004; Posner 2007; Few 2003; Paavola & Adger 2006; Soberón & Nakamura 2009.

46 Shavell 2004.

47 Vries 2014; Francot-Timmermans & Vries 2013; Driessen & Rijswick 2011.

48 Penning-Rowsell & Pardoe 2012.

49 Rojas et al. 2013.

50 Kaplow & Shavell 1994; Sanchirico 2000; Cooter & Ulen 2012.

burdens to a small group of citizens or firms. In order to prevent floods, measures that touch upon property rights are sometimes necessary. To give an example: water storage areas can impose restrictions on the land use of privately owned land.<sup>51</sup> This can lead to devaluation or deprivation of property, or loss of income. These burdens are considered to be the adverse effects of preventive flood risk management. The scope of the distributional effects assessed in this research is further limited to ‘the negative consequences of *lawful* flood risk management that infringe possessions or property rights.’<sup>52</sup>

In order to create legitimate flood risk management, the burdens should be spread over the community as fairly as possible. Each citizen of a state benefits from actions for the common good and therefore also bears some burdens connected to the benefits mentioned. In cases in which these burdens are not proportional, compensation is necessary to divide the benefits and burdens equally among the members of society.

### *1.3.1.2 Distributional effects of flood risk management*

Flood risk management is an outstanding example of a policy field in which the distribution of burdens and benefits takes place. As flood risks are distributed unequally among the members of society, people in risk areas benefit more from flood risk management than people living in a relatively ‘risk-free’ area.<sup>53</sup> Although not every individual may face the same flood risks, society as a whole benefits to some extent from the protection against flooding, as floods may lead to casualties, economic loss and societal disruption.<sup>54</sup> For example, the economic heart of the Netherlands is the most low-lying part, and if it floods, it would have major economic and societal consequences for other parts of the country as well. Therefore, people in other parts of the country also benefit to some extent from protecting that part of the country.

The burdens considered in this research are limited to specific personal losses or adverse consequences of preventive flood risk management: to the adverse effects affecting citizens or firms resulting from lawful actions of the government.<sup>55</sup> These consequences can be a loss of income, a devaluation of property, or in the most serious case, deprivation of property or expropriation (see chapters 3 and 4).

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51 Doorn-Hoekveld 2014; Doorn-Hoekveld & Groothuijse 2017.

52 This delineation thus excludes tort law and criminal law.

53 Johnson et al. 2007; M. Petterson et al., How legitimate is flood risk governance in Europe? Insights from intra-country assessments [under review].

54 An increase of employment and similar gains are not addressed in this approach, because they do not influence the legal distribution of consequences.

55 Distributional effects of FRM cannot be limited only to the personal losses or consequences, as the measures are often paid for by tax money, which has distributional consequences as well.

### 1.3.1.3 Mitigation of distributional effects<sup>56</sup>

In order to reduce the adverse effects of flood risk management, compensation regimes are applied. Compensation can take three forms (1) taking measures that limit or reduce the harm, (2) compensation *in natura*, or (3) giving the harmed party financial compensation for its suffered loss.

In general, compensation is paid by the competent actor, mostly an authority, that has caused the damage.<sup>57</sup> Taxes generally provide the resources of these authorities and therefore the compensation is borne by society. Conditions for the infringement of property rights must be laid down in law (art. 17 CFREU and 1 FP ECHR) and in the case of deprivation, compensation must be granted.

The domestic compensation regimes of Member States provide compensation in specific cases, with criteria laid down in law. By providing compensation to disproportionately damaged individuals or firms, the adverse effects are redistributed from the burdened party to society. Two relevant compensation regimes are of supranational relevance. The French principle *égalité devant les charges publiques* (hereafter *égalité* principle) is present in the three countries that are studied and compared in this research, although in different manifestations. Additionally, the second regime is article 1 First Protocol of the ECHR, which forms a safety net for all countries party to the ECHR.

### 1.3.1.4 Aristotelian justice: the relation between distributive justice and corrective justice

The distributional effects of flood risk management should not be discussed without placing this concept in a broader context of justice. As the next sections will prove, many different ideas of justice exist. Because the topic is often placed in the theory of distributive justice and equity, it is necessary to go back to the origin of this theory of justice: to the founding father, Aristotle. The following sections will therefore briefly describe the theories of justice, the place of distributional effects and compensation within these theories and the reason why this dissertation's focus is the equal distribution of effects instead of the equitable distribution of effects.

Aristotle is one of the first philosophers who discussed the concept 'justice', defined as 'manifestation of complete virtue in relation to others'.<sup>58</sup> Even now, the definition of Aristotle forms a good starting point for discussing the concept. In his *Nicomachean Ethics* he distinguishes distributive justice (book 5, chapter 3) from corrective justice (book 5, chapter 4) and exchange justice (book 5, chapter 5).<sup>59</sup>

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56 I use the formulation mitigation instead of correction, although compensation is often described as a correction mechanism. The choice for this specific formulation derives from the concern that 'corrective mechanism' can be confusing because of the distinction between distributive and corrective justice, which is described in section 1.3.1.4.

57 Doorn-Hoekveld et al. 2016.

58 Aristotle, *Politics*, cited in: Wright 1992, p. 685.

59 Rapp 2006, p. 75, exchange justice should be seen as the voluntary exchange of goods of equal value, based on reciprocity. I leave this type of justice aside in this research.

Benson distinguishes between distributive justice and corrective justice as follows: “Entitlements are established in accordance with distributive justice; corrective justice serves to ensure that these entitlements are respected by persons in their voluntary and involuntary interactions with others.”<sup>60</sup> This definition makes clear that distributive and corrective justice are both one side of the same coin.

Aristotle defines distributive justice as “the distribution of honour, money or any of the other things divisible among those who share a regime (for in these things it is possible for one person to have a share that is either equal or unequal to another’s).”<sup>61</sup> This type of justice distributes common possessions. The other type of justice, corrective justice or rectificatory justice, addresses the interaction between individuals, which Aristotle explains as “involved transactions that are voluntary or involuntary. The voluntary ones are of the following kinds: selling, buying, money lending [...]. Of the involuntary transactions, some are covert such as theft, adultery [...]; others are violent, such as assault, imprisonment, death [...]”.<sup>62</sup> If the interaction leads to unjust losses or gains, corrective justice demands the pre-existing equality between individuals is reaffirmed and restored by imposing a duty on the wrongdoer to relinquish his unjust gains and to compensate the victim for the unjust loss.<sup>63</sup> Aristotle defines ‘gains’ not only as a benefit or an advantage, but also, for example, for inflicting a wound. Rectification is necessary when the injurer has done wrong as well as harm and the victim is wronged as well as harmed. Corrective justice must be seen as a procedural principle. It does not define what is wrongful, but states that when wrongful conduct leads to harm, there must be redress.<sup>64</sup> Distributive justice, on the other hand, concerns the fairness of the *outcomes* rather than the fairness of the *process* for arriving at these outcomes.<sup>65</sup> Another difference between the two is that corrective justice usually refers to a bilateral arrangement, whereas distributive justice refers to a multilateral arrangement, or, rather, to a central organising principle that sees to the distribution of divisible things in a given society or group.

In both forms of justice, equality plays a crucial role. Equality in the sense of distributive justice is called geometrical equality. It is a criterion of proportionality or balance. It depends on the contribution of an individual to the political community. Wright explains it as follows: “All individuals in the political community are measured against some distributive standard (*e.g.* merit or need), and goods and advantages are allocated to different individuals in the same proportion as their respective measurements.”<sup>66</sup> For Aristotle, the purpose (*telos*) of the good that is distributed is the decisive factor.<sup>67</sup> This means that the distributive standard differs, depending on the good that is distributed.

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60 Benson 1992, p. 530.

61 Aristotle n.d., p. 94.

62 Aristotle n.d., p. 95.

63 Wright 1992.

64 Posner 1981, p. 190.

65 Kuehn 2000, p. 10684 See also International Court of Justice, *Continental Shelf (Tunisia/Libya)* [1982] Rep 18, [70].

66 Wright 1992.

67 Sandel 2010, p. 192.

For corrective justice, another type of equality is relevant. Equality is also called arithmetical or absolute equality, because it does not take into account the merit or need of the individuals concerned. All parties involved are absolutely equal in terms of corrective justice. When a conduct is judged, the judge is only interested in the character of the deed and may not take into account the moral superiority of the injurer or the victim.<sup>68</sup> This presumes an equal entitlement in the relationship between the individuals before the interaction.

### *1.3.1.5 Justice and the compensation of burdens caused by flood risk management*

Both types of Aristotle's justice attract different scholars. Legal scholars have mostly studied corrective justice, while political philosophers and social scientists tend to focus on distributive justice. This demarcation of areas of focus is unfortunate, as the philosophical and sociological insights provide some interesting leads for the legal discipline and vice versa. The different political philosophical schools (section 1.3.1.6) that study distributive justice each have some aspects that can be useful for a legal study of distributive justice. For legal scholars, the law can be seen as a point of departure, whereas the political philosophers tend to start with a utopia and see the law as an instrument to achieve it. For the latter, only the societal choices that are made in the democratic process, which lead to legislation, are relevant. The legal research described in this thesis does not discuss these choices, but does discuss whether the result of these choices – the law – ensures fair distribution of flood risk management burdens.

Although the distinction between distributive and corrective justice is not crucial for the topic of this dissertation, it is relevant to map out the context and embed this research in the broader scientific theory of justice. The question arises whether the burdens of flood risk management, which are infringements of rights of individuals, fall under distributive or corrective justice. Authors agree on the fact that tort law falls under the scope of corrective justice.<sup>69</sup> Property rights seem to fall within the range of interests that distributive justice aims to protect.<sup>70</sup> It is not easy to classify *lawful* infringements of property rights by the state for the public interest or public good by one of the two types of justice. On the one hand, the rights – including the benefits and burdens that are connected to these rights and the associated flood protection – are allocated among the members of society (distributive justice), on the other hand, at the time of the infringement, the property rights are a status quo and the interaction between the state and the individual leads to harm or loss that should be restored (corrective justice). Distributive justice is mostly related to the distribution of benefits (rights, goods or, in this case, flood protection) or welfare. The established just distribution of rights may be harmed too. That means that the distribution of rights

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68 Posner 1981, p. 193.

69 Posner 1981; Coleman 1982; Weinrib 1994; Benson 1992; Loth 2016; Wright 1992. Weinrib makes a very strict distinction between private and public law (Weinrib 1989). Other authors restrict themselves to tort law (Posner 1981, Coleman 1982).

70 Hoffman & Spitzer 1985; Wright 1992.

is unjust according to geometrical equality and needs restoration by compensating all or part of the damage, in accordance with the given balance (geometrical equality).

From the starting point of corrective justice, the infringement of rights needs to be corrected by applying the principle of arithmetical equality. The situation before the interaction must be fully restored by taking away the gain, irrespective of the circumstances of the specific case.

The latter makes it apparent that the compensation of lawfully caused burdens fits more in the concept of distributive justice, since the intention of compensating loss lawfully caused by flood risk management measures is not to restore the situation to what it was before the interaction and to take away the gain of the wrongdoer, but to distribute the harmful effects of the measures by redistributing benefits (protection against flooding)<sup>71</sup> and burdens (infringement of rights) in accordance with a given standard, thus creating a new distributive status quo.<sup>72</sup> In general, the lawfully caused burdens of flood risk management are part of distributive justice, and the compensation (the mitigation mechanism of these burdens) is part of the restoration of an unjust distribution. This can be explained as follows. One can assume that goods (*i.c.* property rights) are distributed among the members of society according to distributively just standards, based on democratic decisions made in the past.<sup>73</sup> If these rights are infringed (*e.g.* by a preventive measure), the harmed party does not have the amount of goods (*e.g.* the enjoyment of his property) that he may claim, based on the original distribution. Therefore, the burden must be compensated in order to prevent obvious infringements of distributive justice.

However, compensation also has a corrective justice element. It does protect the established rights in the sense that infringements of these rights are penalised. The goal of the compensation regimes addressed in this thesis is to compensate for the disproportionately large burdens on individuals. The focus on this research is on *compensation regimes*, *i.e.* the way the compensation of lawfully caused loss is arranged in society by, *e.g.* legislation, policy, unwritten law or jurisprudence. In theory, the compensation regimes have a distributive justice character, in contrast to the material execution of a compensation regime in specific cases. The way the compensation is realised in specific cases is more corrective in character, but that is not examined in this study.

Another possible reason why compensation for lawfully caused harm in flood risk management is part of distributive justice is the fact that the compensation does not regard all parties involved as absolutely equal. The first difference is that one of the parties is the state and the second is that the specific circumstances of each party must be assessed when assessing the claim for compensation.

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71 Which is, of course, not redistributed by compensation, but by the FRM measure.

72 See section 1.3.2 for an explanation of compensation of burdens.

73 The standard that is perceived to be just depends on different aspects. Section 1.3.1.6 elaborates on three different approaches of distributive justice. For my hypothesis of justice, I assume that the standard that is set based on democratic choices, is a just standard for the specific society in a specific context and a specific period of time.

Applying the theory of distributive justice to flood risk management, flood risks are unequally distributed within a society. People who live near a river face more flood risks than people living on higher ground. For the benefit of a large area, the land belonging to one specific landowner may be used to temporarily store water in order to prevent a flood elsewhere. The landowner concerned is often a farmer and sometimes a nature conservation organisation. This person or organisation faces a larger risk of – deliberate – flooding than others and cannot enjoy the entitlement to freely use his or its property in accordance with the just distribution established before the designation of the water storage area. Here, distributive justice demands a correction of this wrong in order to restore the just or fair situation. Compensation may be the means to achieve this situation, even though the compensation may not lead to restoring the situation to exactly as it was before the water storage. An explanation for this partial compensation is the fact that the risks were already not equally divided among society, as the landowner had to bear more risks than others because of his specific situation (near a river).

A consequence of the classification of the compensation for distributional effects as part of distributive justice is that a just distribution differs per society and per country, or even per region within a country. One can create a distributive standard to which the goods (or burdens) are allocated in a just manner, taking into account the specific context of the region. Absolute equal distribution is probably not perceived as being just (which is the basis of corrective justice). The following section discusses different interpretations of distributive justice. This shows that it is time- and place-dependent, and can differ per society and per period. For this reason, this research does not address the question of whether the distribution of burdens is just, but instead examines whether the distribution is equal.

#### *1.3.1.6 Interpretations of justice and the concept of equity*

This section addresses the concept of equity, as this is inextricably connected to the theory of distributive justice and the terms are even often used interchangeably. Therefore, it is important to clarify the way this concept is used.

Whereas the above section discussed the definitions of Aristotelian concepts of justice in general, this section discusses three other interpretations of the concept of distributive justice. These interpretations provide understanding of different perceptions of distributive justice in different societies in different periods of time.

The concept 'equity' is relevant for different disciplines. Common law uses equity as a correction mechanism when the rigid common law may lead to an unfair outcome. Equity in this common law sense has been important for common law countries, as well as for international law. However, in this section, I will limit myself to equity in a legal philosophical sense, because that concept of equity is related to distributive justice and is therefore relevant to the topic of the thesis.

Although the common law concept of equity has been developed over the years, it does entail a crucial element of the Aristotelian equity theory: “correction of law in the respect in which it is deficient because of its being general. For this is the cause also of the fact that all things are not in accord with law: it is impossible to set down a law in some matters, so that one must have recourse to a specific decree instead.”<sup>74</sup> This correction of law must be seen in relation to distributive justice. Both play a part in determining the distribution of rights and obligations and responsibilities in conditions of scarcity and inequality.<sup>75</sup> Equity is then connected to responsibility; the allocation finds place in strict proportion to each claimant’s contribution to the good.<sup>76</sup> As a correction of the legally just, equity can mean that one person takes less than he is legally entitled to.

Political philosophers adopt different theories of distributive justice and equity. What is perceived as fair or equitable depends on the school of philosophy. Important theories are utilitarian justice, libertarian justice and Rawls’s procedural justice.

Utilitarianism judges action – of individuals as well as the state – according to the extent it affects others besides the perpetrator of the action. Utilitarians base ‘justice’ on the principle of maximising utility, which means that the moral judgement of an action should be based exclusively on its consequences, which must lead to maximising social benefits for the greatest number of people.<sup>77</sup> The downside of this theory is that it assumes that “it is perfectly acceptable to override individual rights of minorities if this promotes a greater good for a greater number of people.”<sup>78</sup>

The libertarian approach is quite different in that respect. All individuals equally share some fundamental rights, *e.g.* property rights, and the freedom to use their rights. Libertarianism has as an axiom nonaggression against anyone’s person and property, whether by another person nor the state.<sup>79</sup> John Locke put it as follows: “For nobody can transfer to another more power than he has in himself; and nobody has an absolute arbitrary power ... to take away the life or property of another ... and having in the state of nature no arbitrary power over the life, liberty, or possession of another, but only so much as the law of nature gave him for the preservation of himself, and the rest of mankind; this is all he doth, or can give up to the commonwealth, and by it to the legislative power.”<sup>80</sup> Interventions by the State, such as taxes, regulation and subsidies must be avoided as much as possible, because they endanger maximum liberty.<sup>81</sup>

The Rawlsian perception of justice combines two principles. The first and most important principle holds that the rules defining individuals’ basic rights and liberties,

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74 Aristotle, p. 112.

75 Shelton 2010, p. 128.

76 Young 1994; Linnerooth-Bayer & Amendola 2000.

77 Goodin 1996; Sandel 2010, chap. 2.

78 Sandel 2010, p. 37; Pereira et al. 2017.

79 Rothbard 2006, p. 30.

80 Locke 1960, sec. 135.

81 Sandel 2010, p. 60.

such as the principle of property rights, ought to apply equally to everyone. Individuals should have as much freedom as possible as long as this does not infringe on the freedom of others.<sup>82</sup> The second principle touches upon the egalitarian principle of equality of opportunity, which refers to a fair and equal *process*. Rawls adds to this principle the clause that inequalities exist, but can only be considered to be fair if they work also to the benefit of the least advantaged members of society (the difference principle), which refers to a fair *outcome*.<sup>83</sup>

### 1.3.1.7 Justice and equality

This section discusses the concept of equality in relation to the theories of justice. The concept of equality is important for distinguishing between distributive and corrective justice and is also a relevant notion in the egalitarian view of justice. It is important to clarify this concept because equality has many different meanings in law, philosophy and social science.

Equality should not be confused with equity. From a social science point of view, one can argue that the difference between equity and equality as a part of distributive justice is the difference between allocation based on past contributions and achievements (equity),<sup>84</sup> and allocation regardless of past contributions and achievements (equality).<sup>85</sup>

Miller argues that there are two kinds of equality. The first type of equality is distributive in nature and specifies that benefits should be distributed equally. The second kind is a social ideal in which people regard and treat each other as equals: the social equality.<sup>86</sup>

Legal equality resembles Millers' social equality, which is not a distributive kind of equality, but "it identifies a form a life in which people in very important sense treat one another as equals."<sup>87</sup> Citizens must have equal basic rights, to paraphrase Rawls. However, an important aspect of the legal equality principle includes the notion that only equal situations must be treated equally; unequal situations must be treated unequally. In the discipline of law, too, equality differs from equity, as from a legal point of view, equity can be seen as a correction mechanism in order to (re)create a fair situation, which does not necessarily imply equal treatment.

Rawls's difference principle nuances the role of compensation in flood risk management. The Rawlsian theory of justice does not oppose inequalities as such, as long as they can be justified. The difference principle can be such a justification. As mentioned above, the risks are unequally divided. Flood risk management may impose

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82 Rawls 1973, p. 61.

83 Rawls 1973, pp. 75-80.

84 Adams 1965; Cook & Hegtvedt 1983; Bonache 2004.

85 Mannix et al. 1995; Adams 1965.

86 Miller 1997, p. 224.

87 Miller 1997.

restrictions or infringements on some individuals in order to benefit a larger group. In general, this is seen as a good thing, because it improves the average standard of living. However, these restrictions or infringements may at the same time enlarge the inequalities, because the small group of individuals faces more burdens than others who benefit from lower flood risks. The individuals harmed are then the ‘worst off’, to whom the difference principle applies. The difference principle would allocate the resources, so it too improves the circumstances of this least favoured group.<sup>88</sup>

### 1.3.1.8 Solidarity

The concept of solidarity is neither a philosophical principle nor a theory, it too is relevant in this research, because it is considered to underpin flood risk management and compensation regimes in different countries.<sup>89</sup>

De Beer and Koster have introduced the distinction between one-sided and two-sided solidarity. They define one-sided solidarity as “assisting someone else without expecting anything in return” and two-sided as “[when someone] expects, on balance, to benefit just as much from others as they themselves are contributing.”<sup>90</sup> They also differentiate between voluntary and compulsory solidarity. Voluntary solidarity is the case when people help others on their own initiative. Compulsory solidarity is organised through the state.<sup>91</sup> In flood risk management, one can find a mix of the different types of solidarity.<sup>92</sup>

Section 1.2.1 shows that as a result of the Floods Directive mentioning solidarity, the concept is also included in the international flood risk management plans. In particular, rec. 15 of the preamble mentions solidarity: “The solidarity principle is very important in the context of flood risk management. In the light of it Member States should be encouraged to seek a fair sharing of responsibilities, when measures are jointly decided for the common benefit, as regards flood risk management along water courses.” This can be classified as compulsory two-sided solidarity, because it demands a joint goal (common benefit).

Rec 13 provides a more negative solidarity formulation: “[...] Member States should refrain from taking measures or engaging in actions which significantly increase the risk of flooding in other Member States [...].” This relates more to compulsory one-sided solidarity, since the action of a Member State – do not do harm to another Member State – will not lead to a response.

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88 Rawls 1973, p. 101.

89 It is, however, often related to *communitarianism*, which is “understood as an approach that propagates the need of societies to take the collective as a primary point of reference” (Prainsack and Buyx 2011, p. 12), instead of the individuals that form the starting point for the other philosophical approaches mentioned.

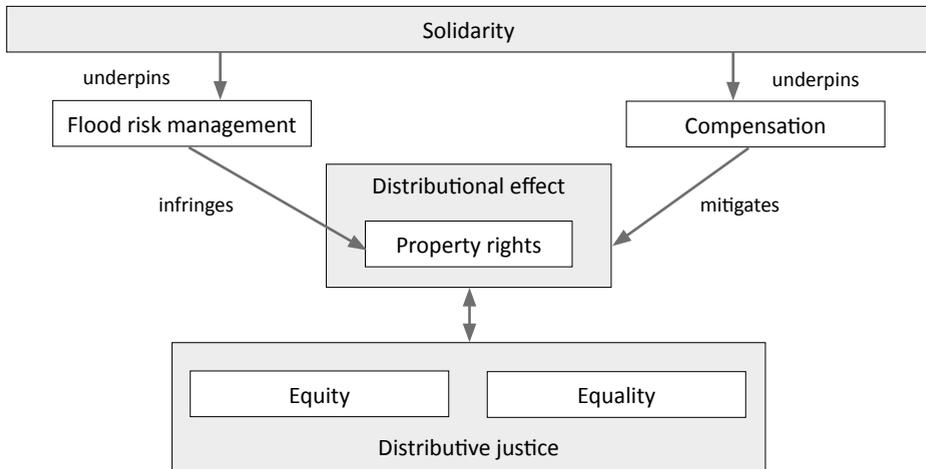
90 De Beer & Koster 2009; Steinvorth 1999.

91 De Beer & Koster 2009, p. 12.

92 Keessen et al. 2016.

Compensation as a mechanism that enhances the feeling of assisting those who are worse off because of a greater good – protection against floods – can be considered to be a form of solidarity. Solidarity can be a guiding principle of distributive justice. It is a type of compulsory two-sided solidarity, because the state only compensates people who have contributed to flood risk management. Most often, this is an involuntary – or negative<sup>93</sup> – contribution, *e.g.* restrictions of land use. Solidarity is also relevant for *ex post* damage. Flood insurance can have a more or less solidary approach. Compulsory flood insurances with no differentiation of flood risks, can be seen as very solidary: all insured parties contribute to compensate the parties who endure losses caused by floods (*e.g.* the French public-private CAT-NAT system). Compulsory flood insurances with premiums differentiated according to flood risks are considered to be less solidary, because insured parties in high-risk zones contribute more than parties in low-risk zones.<sup>94</sup>

### 1.3.2 Relationship between the concepts used



**Figure 1.6: Relationship between the concepts used**

There are multiple ways of looking at the Aristotelian scheme of justice: the most relevant for this research are the tort law and public law perspectives, which are related to the concepts of distributive and corrective justice. Tort law considers compensation to be a mechanism to redress a wrongful infringement and thus restore the situation that was present before the wrongful action (corrective justice). Public law considers compensation as a mechanism to mitigate inequalities in accordance with a distributive standard (distributive justice). For this research, the distinction between private, in particular tort law, and public is relevant for many aspects. The scale or level of abstraction, however, is decisive for the classification of distributive

<sup>93</sup> An example of a negative contribution is to refrain from using land for reasons of FRM.

<sup>94</sup> Suykens et al. 2016.

or corrective justice. The compensation regimes are studied in an abstract manner, *i.e.* the regimes that form the basis of compensating specific burdens caused by flood risk management. This is a macro-perspective on the compensation regime. Another research approach is concerned with the micro-comparison of compensation regimes. In this type of research, the material aspects of specific regimes are scrutinised and the compensation in actual cases is studied. A compensation regime in theory, thus at macro level, distributes burdens in a specific way. It prescribes which burdens individuals should bear themselves and which will be compensated, using specific criteria and thus creating a specific distributive standard. The micro level of compensation, on the other hand, is corrective in character. It safeguards the just distributive standard – set by the *in abstracto* compensation regime – by the *de facto* compensation.

Figure 1.6 shows the connection between the concepts described above. The core of this research is the concept of distributional effect. Flood risk management distributes benefits (flood protection) and burdens (infringements of rights) within society. According to the theory of distributive justice, this distribution can be just or unjust. One way to mitigate the adverse effects of flood risk management is to compensate part of the damage, which reinstates the just distributive standard. Although not a legal principle, it is assumed that solidarity forms the basis of flood risk management together with the compensation of loss resulting from lawful actions by public authorities.

Legal systems strive to administer distributive justice, which can be achieved in different manners through different legal constructions. This research focusses on one construction that can be used to achieve a just distribution of burdens caused by flood risk management: compensation regimes.

From an administrative law perspective, the question of whether the burdens are equitably distributed is less relevant, because the compensation regimes studied are not a correction mechanism of the law (equity), but a correction mechanism by the law. Instead, the relevant legal question is whether the burdens are spread equally within and between these three jurisdictions and by means of what kind of compensation mechanisms for different flood risk management strategies. ‘Equally’ refers not to Aristotle’s geometrical or arithmetical equality, but rather to Miller’s social equality. This definition of equality harmonises the equality that is relevant for the compensation regimes of the *égalité* principle and article 1 First Protocol ECHR, which will be discussed in section 1.3.3. Equality of individuals lies in the fact that an individual should not bear disproportionately large burdens by comparison to the burdens borne by similar individuals. What is disproportional depends on the case in question and is in essence a question of how the distributional standard is set, thus a question of distributive justice.

The next section explains how compensation regimes can form a mitigation mechanism to reinstate the distributive standard.<sup>95</sup>

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95 The term ‘mitigation’ is used instead of ‘correction’, to prevent confusion about the different concepts of distributive and corrective justice.

### 1.3.3 Compensation regimes as mitigation mechanism

#### 1.3.3.1 Mitigation through the *égalité* principle

In the discipline of law, distributional effects are mostly discussed in the field of *no-fault liability*. Regimes for liability for lawfully caused harm are established in most Member States, and article 1 First Protocol ECHR also provides a safety net for infringements of property rights justified by the public interest. An important principle of no-fault liability is the French *égalité* principle. The principle came into existence in the wake of the French Revolution.<sup>96</sup> In the first Constitution (1789) after the Revolution, the *Déclaration des Droits de l'Homme et du Citoyen*, the fundamental rights declared included the right to property. Another crucial aspect of the *Déclaration* was the equality of all French citizens.<sup>97</sup> It is considered that the provision of equality of taxes (*égalité devant l'impôt*), had a broader scope, namely that all members of society need to share all burdens imposed for the public interest.<sup>98</sup> Although it is widely acknowledged that the abovementioned *Déclaration* formed the basis of the *égalité* principle, the French Council of State has introduced the principle in its case law as one of the *principes généraux du droit*.<sup>99</sup> A decision of the Constitutional Council gave the *égalité* principle constitutional value too.<sup>100</sup> Belgium and the Netherlands have adopted a derivative of this principle.<sup>101</sup>

The main question regarding the application of the *égalité* principle is whether “the harm or disruption has gone beyond that which an ordinary citizen must accept in the ordinary course of events.”<sup>102</sup> This brings us to the essence of the principle that all citizens benefit from actions in the public interest to some degree (e.g. society as a whole benefits from effective flood risk management) and also have to bear some adverse effects resulting from these actions. No one, however, has to bear disproportionately large burdens that result from actions for the common good, so the disproportionately large burdens have to be compensated for on the basis of the *égalité* principle. How the proportionality of burdens is assessed depends on the case in question.

96 Tjepkema 2010, p. 62.

97 As a reaction to the *Ancien Régime*, which can be characterised by inequality.

98 Tjepkema 2010, p. 37.

99 Which are hierarchically placed under the Constitution, international and European law, and formal legislation, but above other governmental acts ((Auby & Cluzel-Métayer 2012, p. 19). The first decision in which the principle is explicitly mentioned is CE 2 June 1944, rec. 159 (*Sieur Fays*).

100 CC 4 July 1989, No. 89-254. See also CC 11 February 2011, No. 2010-99; CC 19 September 2014, No. 2014-417.

101 Tjepkema 2010; Doorn-Hoekveld 2014, p. 228.

102 Fairgrieve 2003 p. 148; Cour Administrative d'Appel Paris 25 May 1999, *Felmy*, CAA Nantes 22 July 1999, *Hébert*.

### 1.3.3.2 Mitigation through article 1 First Protocol European Convention on Human Rights

The requirements of the *égalité* principle are also found in article 1 First Protocol European Convention on Human Rights. In 1949, while drafting the European Convention on Human Rights, the United Kingdom and Sweden were strongly opposed to including the right to the protection of property. The fear of these countries mainly concerned the possibility that post-war reconstruction could be hampered by property rights. As a consequence, the article states that property rights may be infringed in matters of public interest.

The text of the article 1 is as follows:

“Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law.

The preceding provisions shall not, however, in any way impair the right of a state to enforce such laws as it deems necessary to control the use of property in accordance with the public interest or to secure the payment of taxes or other contributions or penalties.”

The scope of ‘possessions’ is very broad. Among other things, it includes movable or immovable property, tangible or intangible interests, such as shares, patents, an arbitration award, a landlord’s entitlement to rent, the economic interests connected with the management of a business, the right to exercise a profession, and a legitimate expectation that a certain state of affairs will apply.<sup>103</sup> A restriction is the fact that only existing property is protected, not future property, *e.g.* property subsequently inherited.

Three rules can be inferred from the text of article 1.

1. The principle of peaceful enjoyment of possessions (1<sup>st</sup> paragraph)
2. Deprivation of possession is possible under specific circumstances (1<sup>st</sup> paragraph)
3. Control of use of possession is possible under specific circumstances (2<sup>nd</sup> paragraph)

There is deprivation of possession when there is a formal expropriation or a transfer of ownership. When an interference with property is determined, the next question is whether or not the interference is justified by the State. A justification is that the interference must serve a legitimate objective in the public interest or public good<sup>104</sup> and the interference is proportionate. There must be a fair balance between the demands arising from the public interests of the community and the requirements for

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103 Carss-Frisk 2001.

104 *James v. the United Kingdom*, no. 8793/79, § 46, ECHR 1986.

the protection of the individual's fundamental rights.<sup>105</sup> This balance does not exist when the duped party bears an individual and excessive burden.

Another important aspect of article 1 of the First Protocol of the European Convention on Human Rights is the requirement of legal certainty or legality: deprivation of possession must be "subject to the conditions provided for by law". This sentence "[...] essentially refers back to domestic law. However, the domestic law must itself be in conformity with the Convention, including the general principles expressed or implied therein." Relevant is the presence of a fair and proper procedure and an appropriate authority that carries out the measures.<sup>106</sup> This is the procedural part of article 1. The essence of the article is similar to that of the *égalité* principle that the burden may not be excessive.

## 1.4 METHODOLOGY

### 1.4.1 Methodology of the legal comparison

This research contains a legal comparison. If law is seen as a regulator of social conditions, the legal problems that countries encounter are similar.<sup>107</sup> The universal legal science should identify these problems and questions and see how they are approached in different legal systems. After this international comparative stage (the comparison of the different countries), a national comparative stage can be reached, which entails an evaluation of the findings, resulting in conclusions being drawn that may lead to proposals for the domestic legislator, such as a new interpretation of the problem or the solution.

As a method, the legal comparison can be conducted on different levels. As Ancel has stated, a legal comparison can be conducted on three levels: (1) a legal rule, (2) a legal institution, or (3) a legal regime.<sup>108</sup> In this study the second and third level is relevant; the compensation of loss caused by no-fault activities of the administration regarding flood risk management.

In this research, the comparison is a combination of the dogmatic and functional approaches.<sup>109</sup> The dogmatic aspects relate to legal documents (legislation, case law and legal literature). I conducted an in-depth analysis of primary and secondary legal sources. It comprised a study of the legislation of the national governments, decentralised legislation, guidance and policy documents, case law and a comprehensive overview of the legal system of the three countries. The data was collected from expert meetings and interviews conducted for the European research project STAR-FLOOD. The results of the study were submitted to experts in Flanders

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105 *Sporrong and Lönnroth v. Sweden*, no. 7151/75; 7152/75, § 73, ECHR 1982.

106 *Winterwerp v. the Netherlands*, no. 6301/73, § 45, ECHR 1979.

107 Zweigert & Kötz 1998, p. 46.

108 Ancel 1971, pp. 99-101.

109 Gorlé, Bourgeois & Bocken 1991, p. 28.

and France for a thorough check. The four papers that are presented in chapters 3 to 6 have been published in academic journals and have all undergone blind peer review.<sup>110</sup>

The functional aspect comprises the research on the function of the legal institution.<sup>111</sup> The functionalism approach has various aspects that are relevant for this research. Within this approach, the concepts of instrumentalism, epistemological functionalism and equivalence functionalism are used. Instrumentalism focusses on how law functions to fulfil societal needs. Legal research can help clarify whether different solutions solve similar problems and stimulate progress.<sup>112</sup> The concept of epistemological functionalism focusses on the functional relation between legal institutions and specific problems. It therefore does not look at the institution per se, but at the institution's relationship to the entire legal system. This concept focusses not only on similarities between institutions but also on the differences, and it allows the researcher to explain the differences between institutions and legal systems.<sup>113</sup> Equivalence functionalism encompasses the notion that similar problems may lead to different solutions. Michaels formulates this as follows: "This concept requires an understanding of society (and its subsystems, including law) as a system constituted by the relation of its elements, rather than set up by elements that are independent of each other."<sup>114</sup>

The three concepts have in common that a legal institution should not be considered on its own, but only in relation to its function, more specifically in relation to society. Zweigert and Kötz add to these concepts that every comparative study should focus on a concrete problem.<sup>115</sup> The concrete problem for this study was the distribution of burdens in flood risk management. As already mentioned in section 1.3, the level of analysis of this research is the macro level of compensation, *i.e.* the general regime of compensation which is laid down in legislation, policy, jurisprudence or sometimes in unwritten law. The analysis did not scrutinise the material aspects of the compensation on a case-to-case basis, as that is the micro level of compensation. This macro level comparison fits into the functional approach of comparative law described above.

When comparing two or more legal systems or institutions, the first step was to provide separate, objective reports for each legal system that is part of the comparison. These reports must include the different solutions to the problem that the comparison addresses.<sup>116</sup> In this research, these objective descriptions of the legal systems of the

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110 The expert meetings were held in the Netherlands, as were the interviews: Kaufmann et al. 2016, Annex I and Annex II. Interview with Koen Maeghe (NV De Scheepvaart), Peter De Smedt (LDR Advocaten) and Wouter Vanneuville (Departement Mobiliteit en Openbare Werken). Experts that were consulted: Bernard Barraqué and Thomas Schellenberger (France) and Peter De Smedt and Cathy Suykens (Belgium).

111 Gorlé, Bourgeois & Bocken 1991, p. 28.

112 Michaels 2006, p. 351.

113 Michaels 2006, p. 356.

114 Michaels 2006, p. 359.

115 See also: Zweigert & Kötz 1998, p. 34.

116 Zweigert & Kötz 1998, p. 43.

Netherlands, Flanders and France are not discussed together in a dedicated chapter, but are incorporated in chapters 2 to 5.

The second step in the comparison was to construct a system that identifies a higher concept related to the problem in the selected countries. This ‘system’ connects the functions of the law to the solutions found in the selected countries.<sup>117</sup> In other words, it embeds the specific problem in a context that surpasses the problem in the countries studied. This system was discussed in section 1.3 ‘Concepts used’. In that section, the interlinked concepts that form the functional context of the research underpinning chapters 2 to 5 were presented.

The last step of a legal comparison is to evaluate the findings of the comparative research. This evaluation reveals the solutions of the different legal systems. These solutions may be equally valid, but in some cases one solution can be regarded to be superior to others. An evaluation can be shaped in various ways. It always entails a judgement about the value, importance or quality of the subject of the evaluation. In most cases, the evaluation will entail parameters that test the selected data, which will lead to a qualitative outcome. Even though the research focused on public law, the evaluation of findings can be of interest for matters of private law too, for solutions can be extricated more easily from the preconditions of the native legal system and thus form the starting point for the evaluation.<sup>118</sup> Most studies in the literature that include the methodology of comparative law are interested in these issues of private law. No basic methodology for public comparative law exists,<sup>119</sup> which makes it more difficult to find an evaluation framework for matters of public law. The evaluation of this research is limited to the function of the compensation regime as an instrument to redistribute burdens in the field of flood risk management. This instrument was used differently in the selected countries and thus formed a different solution to the problem of the unequal distribution of burdens. This study does not judge which system should be classified as the ‘best’ or the ‘fairest’ or ‘most equitable’ system, because for many non-legal reasons the systems fit within the general legal systems and values of the countries concerned. However, in chapter 5, the study does provide proposals for reform in the three countries, since the compensation regimes could develop concomitantly with the flood risk management strategies. This fits into the utilitarian approach of comparative law, which encompasses the notion that by learning from others, one can improve the quality of one’s own legal system.<sup>120</sup>

## 1.4.2 Societal relevance

Most comparative studies are motivated by a specific problem in the comparative lawyer’s domestic legal regime. There is a danger that comparative lawyers will look at foreign systems through the eyes of their own legal systems.<sup>121</sup> But, when conducted

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117 Zweigert & Kötz 1998, p. 45.

118 Zweigert & Kötz 1998, p. 35.

119 Koopmans 2003, p. 7.

120 Koopmans 2003, p. 4.

121 Zweigert & Kötz 1998, p. 35.

properly, comparative legal research may generate constructive criticism of one's own domestic legal system and result in proposals for reform.<sup>122</sup>

As mentioned above, a legal comparison can be broken down into an international stage and a national stage. The national comparative stage has practical benefits; it can be seen as an aid to the national – in my case, the Dutch – legislator. Not only do States that need to reconstruct their legal systems (e.g. the countries after the fall of the Soviet Union) benefit from knowledge of different legal regimes; countries with a balanced legal regime (such as the Netherlands) also need to reconsider their regimes and develop their legal regimes in order to keep up with the changing world. Currently, the Netherlands is facing one of the most extensive legal projects for environmental law in history, as almost all its environmental legislation is currently being combined into one law. In this process, it is relevant to know the regimes of other states and learn of different solutions to similar problems. My study shows that the compensation regimes, as an instrument for redistributing burdens of flood risk management, can be pursued in different ways. The Dutch look at other countries to see whether the Dutch compensation regime can become more restricted, but tend to forget to ask *why* other regimes are less generous. This research provides possible explanations for these international differences and thus shows that one cannot adopt the regime of another country without adjusting it in line with the characteristics of one's own legal system.

The comparison may also function as a tool for construction in courts. This will probably not be very relevant for the Netherlands at this moment, since the compensation regime has been elaborated and case law has been developed, but in Flanders the *égalité* principle is not codified and is only applied in courts. Thus my analysis may assist judges in Flanders to interpret the application of this principle. After the general environmental compensation regime in the Netherlands has been changed by the Environment and Planning Act in 2021, courts must apply the *égalité* principle in accordance with the new standards, and this comparison may therefore be useful for this too in the near future.

Another function of a legal comparison is the contribution to the systematic unification of law: a *ius commune*. As already mentioned in section 3.1 'Concepts used' the Floods Directive need to be transposed to domestic law. This constrains unification of legislation, all the more since unlike Water Framework Directive, the Floods Directive does not contain hard standards (for flood safety). However, the Flood Directive does require some generally formulated policy instruments, such as flood hazard and flood risk maps and a flood risk management plan, and the Directive promotes cooperation between Member States. Understanding each other's legal regimes and best practices can form the first step in the development of *ius commune* in the countries studied and even in other countries that face similar problems.

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122 Kamba 1974, p. 487.

The other European basis of this research laid down in article 17 Charter of Fundamental Rights of the European Union and 1 First Protocol European Convention on Human Rights is the conditions for the infringement of property rights. The French *égalité* principle is clearly the basis of article 1 First Protocol of the European Convention on Human Rights. Even though Member States are free to have their own compensation regime in place for the compensation of infringements of property rights, this article stipulates the minimum requirement that these compensation regimes must satisfy.

### 1.4.3 European FP7 project STAR-FLOOD

This research was supported by the European Union's Seventh Framework Programme through the grant to the budget of the Integrated Project STAR-FLOOD, Contract 308364 (2012-2016). This had some consequences on choices made within the research. STAR-FLOOD stands for *STrengthening and Redesigning European FLOOD risk practices. Towards appropriate and resilient flood risk governance arrangements*. The project focused on analysing, explaining, evaluating and designing policies to deal with fluvial flood risks in urban agglomerations in Europe. The countries included in the project were Belgium, France, the Netherlands, Poland, Sweden and the United Kingdom (England). The project had a multidisciplinary approach, in which legal scholars and social scientists collaborated. The empirical data was collected through many interviews with stakeholders, both at national level and at the level of three urban case studies. This provided insights not only into the facts, but also into the way legislation has been interpreted and applied in practice, which was of benefit to this PhD research.



**Figure 1.7: Countries included in the STAR-FLOOD project and the three case studies per country (source: STAR-FLOOD Consortium).<sup>123</sup>**

<sup>123</sup> BE: Antwerp, Geraardsbergen, Lessines; ENG: River Thames London, Hull, Leeds; FR: Nice, Nevers, Le Havre; NL: Dordrecht, Nijmegen, Zuidplaspolder; PO: Slubice, Poznan, Wroclaw; SV: Gotheburg, Kristianstad; Karlstad.

The STAR-FLOOD project influenced the geographical scope of this research. Germany would also have been a very interesting country to study, particularly because in Germany the *égalité* principle is not part of the no-fault liability compensation regime. Unfortunately, Germany was not part of the STAR-FLOOD project, so was excluded from this research. Another consequence of the STAR-FLOOD project is the inclusion of England, Poland and Sweden in the paper on which chapter 4 is based. These countries do not play any part in the rest of this dissertation, but do give some insights into the compensation regimes of countries which have not adopted the *égalité* principle, and this somewhat offsets the absence of Germany.

## 1.5 COHESION OF CHAPTERS

Chapters 2 to 5 answer the research questions introduced in section 1.2.5. Some of the research questions are addressed in several chapters. Therefore, this section starts with the research questions and a table which shows the relationship between the questions and the chapters. After the table of correlation, the cohesion of chapters is discussed in more detail.

Five subordinate questions are addressed in the different chapters:

- a) How is flood risk management arranged in the Netherlands, Flanders and France?
- b) Which flood risk management strategies are dominant in these countries?
- c) What are the compensation regimes for loss caused by flood risk management or floods?
- d) How are these compensation regimes applied in the three countries for three specific measures?
- e) What are the principles on which distribution of burdens in these countries is based?

Subordinate question	Chapter 2 Transboundary FRM	Chapter 3 Compensation of Dutch FRM	Chapter 4 Distributional effects	Chapter 5 Equal distribution
a	x			
b	x	x		x
c		x	x	x
d		x	x	
e		x	x	x

**Table 1.1: Correlation between research questions and chapters**

In order to answer the main research question, it is important to map the context of flood risk management in the three countries studied. Chapter 2 describes Dutch, Flemish and French flood risk management, identifies the main actors and their instruments and seeks to explain their differences. Chapter 3 zooms in on the Dutch case. The starting point for this dissertation is the Dutch intertwining between no-fault liability, or the compensation for lawfully caused loss, and flood risk management. Chapter 3 shows the historical development of both regimes and how the development of each led to adaptation of the other. For that reason, most of the subordinate questions are addressed in this non-comparative chapter. Chapter 4, by contrast, contains a legal comparison of six European countries. It addresses not only three concrete measures that relate to the prevention and protection strategy, but also compares the way the connected compensation regimes are framed and who is responsible for what and who benefits from the measures, *i.e.* it includes the distributional effects of flood risk management: the benefits as well as the burdens. The paper that is part of that chapter is a result of the STAR-FLOOD project, which is why not only the Netherlands, Flanders and France, but also England, Sweden and Poland are part of the comparison. Chapter 5 answers the main research question: *Are burdens equally distributed in flood risk management strategies in Flanders, France and the Netherlands? If that is not the case, what is the cause of the unequal distribution?* As section 1.3 already explains, this dissertation does not focus on the question of whether the distribution is just, because opinion of what is just differs per philosophical approach and per country and is therefore less suitable to compare. Instead, the focus is on whether the effects are distributed equally and on what are the rationales behind the compensation regimes in the different countries, which is a more appropriate question for a lawyer. Chapter 5 starts with a description of the dominance of the flood risk management strategies, relates this finding to the available compensation regimes, compares the similarities and differences and offers a legal explanation for these differences. As section 1.3 elaborates on the theories of justice, this subject is of interest for many disciplines and thus forms a perfect starting point for multidisciplinary research. The Conclusions (Chapter 6) not only provide a short summary of the results of the research, provide lessons learned and recommendations but also look ahead and identify possible leads for further multidisciplinary research.

I have taken the liberty of modifying text in the four published articles that constitute chapters 2-5. Most of the alterations are very minor, *e.g.* changing 'in this article' to 'in this chapter', but some are larger, *e.g.* the alteration of the categorisation of strategies in chapter 3 to make them consistent with the categorisation of the strategies in the rest of the research. These major alterations have been marked with the symbol: \*.

The research for this PhD thesis was concluded on 1 July 2017. Any case law, literature and legal documents published after this date have not been taken into account.



# CHAPTER 2

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## TRANSBOUNDARY FLOOD RISK MANAGEMENT

### Compatibilities of the legal systems of flood risk management in the Netherlands, Flanders and France. A comparison

Published as: Doorn-Hoekveld, W.J., van, 2017. Transboundary Flood Risk Management. Compatibilities of the legal systems of flood risk management in the Netherlands, Flanders and France. A comparison. *European Energy and Environmental Law Review*, 26(3):81-96.

*The EU Floods Directive is part of the European legislation implemented in the domestic legal regimes of the Member States. The legal systems in which flood risks are managed are part of the domestic legal regimes. Floods in the river basins of the Scheldt and the Meuse are a special case, for they have transboundary consequences. Therefore, the flood risk management of the countries in which these river basins lie needs to be compatible in order to prevent or mitigate transboundary flood risk. However, little is known about the powers of relevant administrative authorities and the legal instruments for preventive flood risk. Without this knowledge it is impossible for the Member States to establish a balanced system in which transboundary flood risks are well managed. This chapter is the first step towards providing a basis for cooperation by reducing this knowledge gap for the three jurisdictions through which the rivers Meuse and Scheldt flow: the Netherlands, Flanders and France. It offers a comparison of the consequences of policy-making and implementation of specific measures by describing the actors and their legal instruments. These two specific aspects of flood risk management are selected because they form the core of the system in which flood risk management is implemented and are necessary for the realization of measures to prevent or reduce flood risks.*

#### 2.1 INTRODUCTION

European law imposes environmental obligations on the Member States, but does not touch on the autonomy of their administrative organization. Cooperation between Member States is crucial in order to satisfy the European standards laid down in directives, especially in relation to the environment – and, more specifically, in relation to water management. Water does not follow boundaries and is a pre-eminent example of a policy domain where transboundary cooperation is necessary due to the existence of many transboundary river basins. This chapter focuses on a specific aspect of water management: flood risk management (hereafter FRM). Large-scale floods are a recurring phenomenon in Europe. To prevent and reduce them, the Floods

Directive (hereafter FD)<sup>1</sup> was adopted in 2007. Obliging EU Member States to establish a system of FRM, the FD is a ‘framework directive’, consisting of a set of obligations ranging from policy instruments to legal instruments which each Member State has to implement and embed into its legal system. As laid down in the EU Treaty, powers must be exercised as close to the citizen as possible. Only when the objectives of the FD cannot be sufficiently achieved can the Community take measures, in accordance with the subsidiarity principle (rec 23 preamble FD). Rec. 13 makes clear that the way FRM is shaped very much depends on an area’s physical characteristics. FRM can therefore be seen as a task which should be dealt with at the level of individual Member States instead of at the EU level. Nevertheless, cooperation between Member States is crucial for FRM, because all measures can influence the water system downstream and in some cases upstream as well.

As FRM strategies are defined in various ways in the literature, it is important to start with definitions. This chapter uses the following three definitions of FRM strategies of the FD:\*

“Prevention: preventing damage caused by floods by avoiding construction of houses and industries in present and future flood-prone areas; by adapting future developments to the risk of flooding; and by promoting appropriate land-use, agricultural and forestry practices;

Protection: taking measures, both structural and non-structural, to reduce the likelihood of floods and/or the impact of floods in a specific location.

Recovery and lessons learned: returning to normal conditions as soon as possible and mitigating both the social and economic impacts on the affected population.”<sup>2</sup>

In the Communication of the Commission, the concept of mitigation is also addressed. Looking at the above strategies, mitigation would fall within the ‘prevention’ strategy.

Considering the above, the way Member States design their FRM can influence the flood risks of riparian states, especially in the case of transboundary rivers such as the Meuse and the Scheldt. Three countries share both river basins: the Netherlands, Belgium and France. In Belgium, the three federal entities (Flanders, Wallonia and the Brussels Capital Region) have each developed their own FRM system with their own set of powers and instruments. For the sake of comparison, Flanders is the territorial unit of analysis, mostly because reasons of efficiency, but also because Flanders has a very interesting set of instruments, which enhances the integration of FRM strategies.

Although others have investigated whether the FRM systems of France, Flanders and the Netherlands include the statutory obligations required by the FD,<sup>3</sup> prior to the study reported here there had been no in-depth research identifying and comparing

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1 2007/60/EC.

2 The strategies are defined in a Communication of the European Commission: COM(2004) 472 final.

3 Priest et al. 2016.

the main powers and legal instruments of FRM in these countries,<sup>4</sup> although, for successful cooperation, knowledge of the national administrative and legal context is just as important as knowledge of the national physical and geographical context.

This chapter aims to address the powers and the legal instruments of FRM within the context of Dutch, Flemish and French administrative law by describing and comparing the three systems. The main research question is the following:

*What are the main powers, responsibilities and legal instruments of authorities regarding preventive and protective FRM measures in the Netherlands, Flanders and France?*

The comparison focuses on three general themes that can be distinguished in all three countries. The first theme concerns *the centralised versus decentralised divide* in the countries. Water management is a policy domain that impinges on other environmental policy fields. Especially relevant for flood prevention is the connection between *water management policy and spatial planning*. Therefore, the relation between FRM and spatial planning is the second theme. The third theme focuses on the *public–private divide*. This theme consists of different aspects, such as who bears responsibility for flood protection and its funding.

The analysis of the three general themes in FRM (section 2.6) is based on a comparison of these themes (section 2.5). This requires a description of the powers (section 2.3) and legal instruments (section 2.4) concerning the various levels of water law in the three countries concerned, because FRM is embedded in the administrative structure of powers and the legal instruments of competent authorities.

The main aims and requirements of the FD envision a more integrated approach of FRM, which includes not only flood protection, flood prevention and preparation for flooding, but also close cooperation between Member States in order to be solidary by not shifting the problem of flood risks from one area to another. To achieve these aims and requirements, compatible FRM regimes are necessary. This chapter shows that despite the large differences between the three regimes, they can co-exist and learn from each other (section 2.7).

## 2.2 METHODS

This chapter is a legal comparison of FRM in the Netherlands, Flanders and France. As Ancel has stated, a legal comparison can be conducted on three levels: (1) a legal rule, (2) a legal institution, or (3) a legal regime.<sup>5</sup> This study combines the second and third levels. It examines the legal regime of FRM by scrutinizing the different legal institutions that are relevant in the FRM regimes.

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<sup>4</sup> For convenience' sake, in this chapter I will henceforth refer to Flanders as a country.

<sup>5</sup> Ancel 1971, pp. 99-101.

The comparison combines the dogmatic and functional approaches.<sup>6</sup> The dogmatic aspects relate to legal documents (legislation, case law and legal literature). In this chapter an in-depth analysis of primary and secondary legal sources is presented. To gain a comprehensive overview of the legal system of the three countries, it comprises a study of their national legislation, decentralised legislation, guidance and policy documents, and case law. The functional approach is partly based on the proposition that all legal systems essentially face the same problems and solve them differently, although in most cases with the same results.<sup>7</sup> In all three countries, FRM has been developed and powers and legal instruments for implementing and realizing measures are in place. Therefore, the 'problem' defined in this chapter is the legal design of Dutch, Flemish and French FRM.

Part of a legal comparison is the requirement to establish a non-judgmental report on each legal system, which is free from any critical evaluation. This forms the basic material necessary for the comparison that follows the description.<sup>8</sup> Sections 2.3 and 2.4 of this chapter can be considered to be such a country report on FRM. These two extensive sections are necessary to understand the subsequent comparison and analysis.

### 2.2.1 Selection of regimes

The scope of the research is firstly delimited by the river basin approach of the FD. The geographical scope is formed by the river basins of the Meuse and Scheldt. The Meuse river basin includes five countries: France, Luxembourg, Belgium (the Walloon Region, Brussels Capital Region and Flanders), Germany and the Netherlands. The Scheldt river basin contains France, Belgium (the Walloon Region and Flanders) and the Netherlands. Because Germany, Luxembourg and the Brussels Capital Region are only of interest for the Meuse river basin, they were excluded from the study.

The second delimitation of the scope is the principle of equality before the public burdens (*égalité devant les charges publiques*), because this chapter is part of a larger study on the relevance of this principle in pre-flood compensation regimes.<sup>9</sup> The principle is present in the Netherlands and France. In Belgium, FRM is a regional task. Therefore, three distinct FRM governance arrangements can be defined.

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6 Gorlé, Bourgeois & Bocken 1991, p. 28.

7 Zweigert & Kötz 1998, p. 34.

8 Zweigert & Kötz 1998, p. 43.

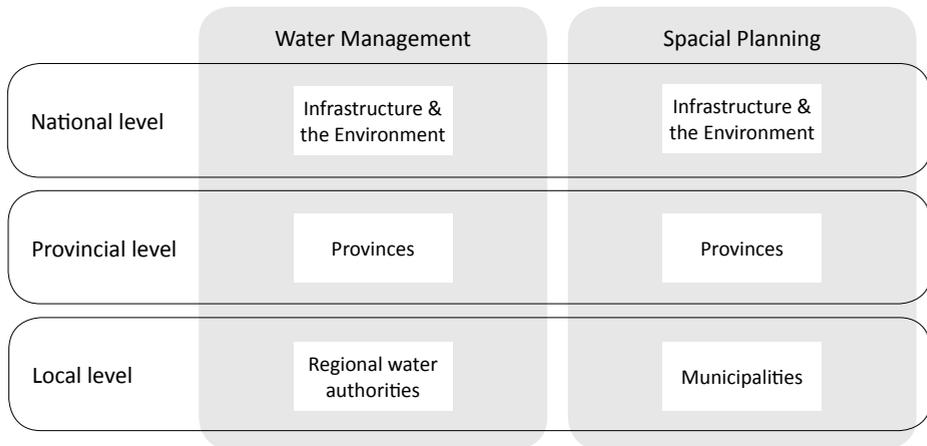
9 Doorn-Hoekveld 2014; Doorn-Hoekveld et al. 2016.

## 2.3 POWERS

### 2.3.1 The Netherlands

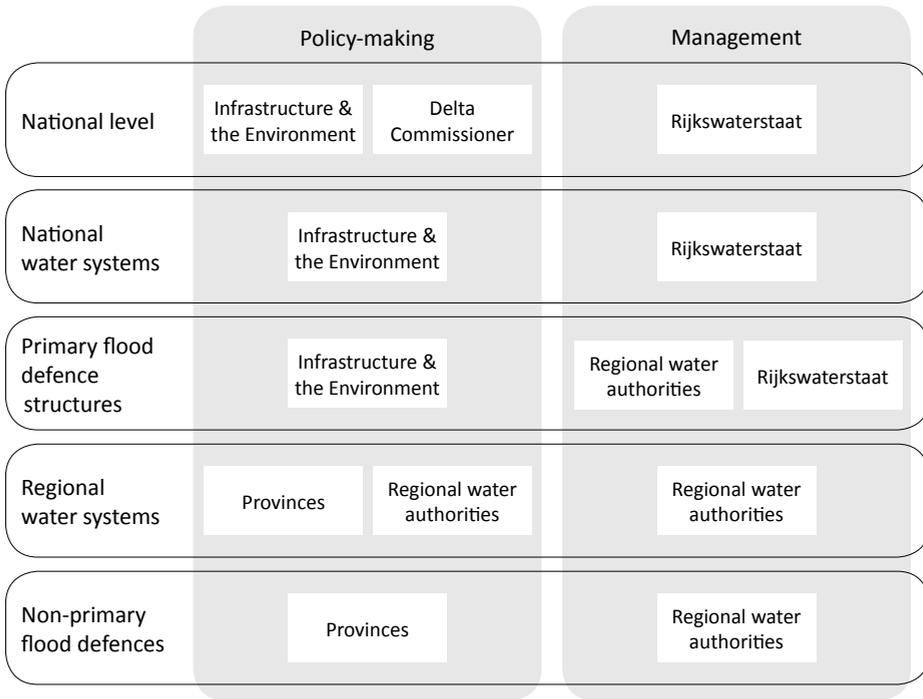
Article 21 of the Dutch Constitution obliges public authorities to keep the country habitable and to protect and improve the environment. Responsibility for protection against flooding as well as the safeguarding of water quality is thereby provided. These responsibilities are assigned to different public authorities.

The Dutch governmental system is divided into three levels: national, regional and local. Figure 2.1 shows the main authorities per level. An important notion is the fact that municipalities and regional authorities fall under the provinces and are of equal decentral level. At local level, the strict division between water management and spatial planning is visible.



**Figure 2.1: General division of governmental levels between water management and spatial planning in the Netherlands.**

In the field of water management various actors are relevant (figure 2.2).



**Figure 2.2: Division of powers for policy-making and the management of flood risks in the Netherlands.**

The Ministry of Infrastructure and the Environment is, among other things, responsible for policy regarding all facets of water management and spatial planning. The minister is responsible for the supervision of all primary flood defence structures. The Delta Commissioner falls under the Ministry of Infrastructure and the Environment, but has been assigned specific tasks in the Water Act.<sup>10</sup> Rijkswaterstaat is the national executive body for public works and water management and is responsible for the management of tasks assigned to the Minister of Infrastructure and the Environment, including infrastructure, the construction, management and maintenance of water management structures, the granting of water permits and the enforcing of statutory and other rules regarding the main water system.<sup>11</sup>

The regional water authorities are primarily responsible for the management of primary flood defence structures, with the exception of the *Afsluitdijk* (the IJsselmeer dam), the *Oosterscheldekering* (the Oosterscheldt storm surge barrier) and the *Maeslantkering* (the Maeslant storm surge barrier), which are the responsibility of

<sup>10</sup> Chapters 3.1a, 4a and 7.4a, together they are called the Delta Act (Bulletin of Acts, Orders and Decrees 2011, 604).

<sup>11</sup> The powers are laid down in the Water Act (Bulletin of Acts, Orders and Decrees 2009, 489).

Rijkswaterstaat. Even though they have not been designated as water managers under the Water Act, the provinces and municipalities also have tasks concerning water management. Provinces are charged with supervising the regional water authorities and the municipalities. Supervision makes it possible for a higher administrative authority to exercise mandatory influence on a lower administrative authority.<sup>12</sup> Municipalities are responsible for the efficient collection of rainwater run-off. As stated above, the allocation of FRM tasks and spatial planning tasks is strict. Both the provinces and municipalities are relevant actors in the field of spatial planning.

The ownership of waters and the riparian zones is another aspect. Under article 5:27 Civil Code, the ground below public water bodies is, more likely than not, owned by the state. The ground below non-public waters (ditches or small non-navigable watercourses) may be owned by private parties. However, the surface water itself is not owned by any legal subject.<sup>13</sup> Although a riparian zone can be owned or possessed by private parties,<sup>14</sup> one of the water managers is responsible for the maintenance of the flood defence structure and the protection zone. So, the owner does not have any responsibility regarding FRM.

### *Concluding remarks*

The main FRM strategies are created at central level. The Dutch even have a Delta Commissioner to assure FRM. A strict distinction is made between the authorities responsible for policy-making and the water managers responsible for management, even though the latter are informally involved in policy-making as well. All authorities involved in water management at regional level are democratically elected bodies which do have a clear remit. The policy domains of spatial planning and water management are in the hands of different authorities, and only the central government and the provinces have powers in both. Citizens do not have their own responsibility concerning the prevention or mitigation of flood risks. This can be problematic when land that is needed for FRM purposes happens to be owned by private parties.

### **2.3.2 Flanders**

The division of powers with regard to FRM in Flanders is approached differently than in the Netherlands. Indeed, this division depends on the function of the watercourse, which may be navigable or non-navigable.

In general, specific departments concerned with FRM are the policy-making divisions of the administration and the agencies are responsible for the realization of policy and

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12 Rijswick & Havekes 2012; Keessen et al. 2013; Kaufmann et al. 2016.

13 Mijnsen et al. 2008.

14 In Dutch private law, it is important to distinguish 'ownership' ('*eigendom*') from 'possession' ('*bezit*'). Legal ownership is the most comprehensive entitlement one could have with regard to an object (Article 5:1(1) Civil Code). Possession means that someone retains an object for his or her own benefit (article 3:107(1) Civil Code). Possession and ownership of an object do not necessarily have to be vested in one (legal or physical) person; one person may own an object while another possesses it.

(water) management. However, there is close cooperation between the departments and the agencies in FRM, since agencies give their opinion on future policy and evaluate current policies in their field of expertise.<sup>15</sup>

Policy domain	Mobility and Public Works	Spatial Planning, Housing Policy and Immovable Heritage	Environmental, Nature and Energy
Department	Department of Mobility and Public Works	Department on Spatial Planning Flanders	Department Environment, Nature and Energy
Agency	<i>Nv De Scheepvaart</i> * Waterways and Sea Canal* Maritime Services and Coast* Maritime Access*		Flemish Environment Agency** Agency for Nature and Forests

\* Competent for navigable watercourses  
 \*\* Competent for 1<sup>st</sup> non-navigable watercourses

**Figure 2.3: Competent authorities in Flanders**

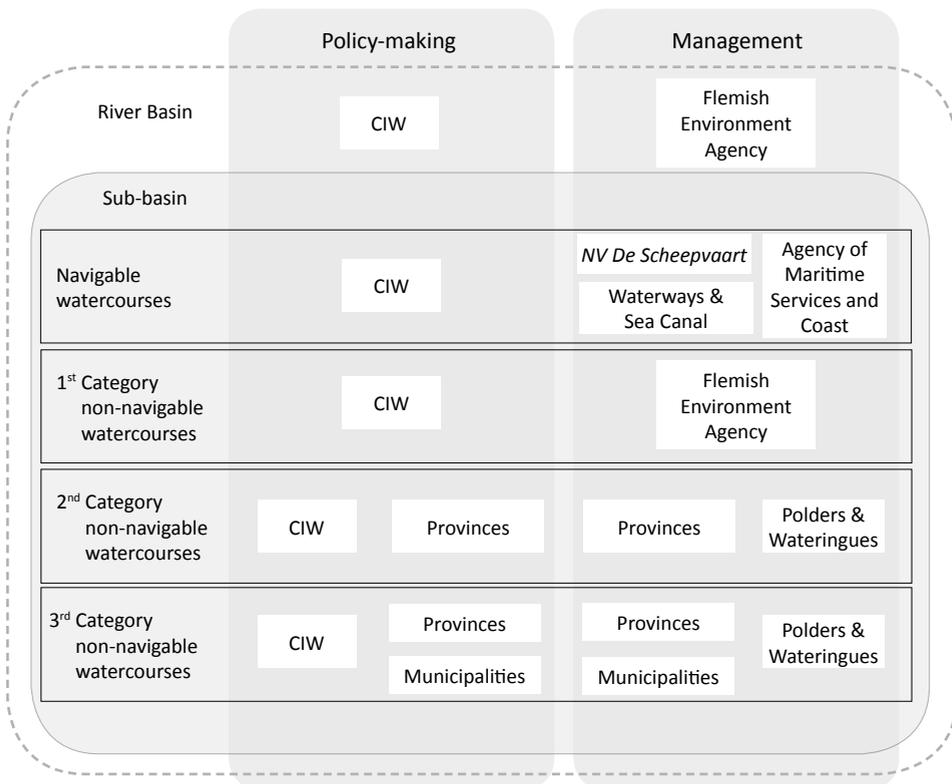
The Department of Mobility and Public Works is responsible for navigable watercourses.<sup>16</sup> The *de facto* management of watercourses lies in the hands of four agencies.<sup>17</sup> Another water manager is the Flemish Environmental Agency (FEA, *Vlaamse Milieumaatschappij*), which is responsible for the first category of non-navigable watercourses.<sup>18</sup> The second category of non-navigable watercourses is managed by the provinces<sup>19</sup> and the third category is managed by the municipalities.<sup>20</sup>

15 [www.vmm.be](http://www.vmm.be), accessed 16 November 2016.  
 16 According to the Court of Cassation, navigable watercourses can support ships or fleets (19 December 1955, Pas. 1956, 382).  
 17 Waterways and Sea Canal (*Waterwegen en Zeekanaal*), *De Scheepvaart*, the Agency for Maritime Services and the Coast (*Agentschap Maritieme Dienstverlening en Kust*), and Maritime Access (*Afdeling Maritieme Toegang*). There are plans to merge *De Scheepvaart* and Waterways and Sea Canal into *De Vlaamse Waterweg NV*.  
 18 The first category of non-navigable watercourses is downstream from the point where their basin is at least 5,000 hectares (article 2, subsection 1 and 7§1 Non-navigable watercourses Act of 28 December 1967).  
 19 Watercourses which are neither of the first or third category (article 2, subsection 2 and 7§2 Non-navigable watercourses Act).  
 20 Small watercourses with a basin less than 100 hectares (article 2 subsection 3 and 7§3 Non-navigable watercourses Act). In 2014, most of these watercourses were transferred to the sphere of power of the provinces.

In the Decree on Integrated Water Policy (DIWP) a new authority has been introduced: the Coordination Committee on Integrated Water Policy (CIW).<sup>21</sup> This authority is responsible for the preparation, planning, supervision and following up of integrated water policy; it oversees the uniform approach of the sub-river basins (*bekkenwerking*) and is responsible for the implementation of decisions by the Flemish government regarding integrated water policy.

The FEA is responsible for the secretariat and administrative support for the planning department of the committee. Because the CIW is responsible for the policy-making concerning all integrated water management issues, its influence also extends to navigable and non-navigable watercourses. However, the CIW is not involved in concrete measures or projects at the aforementioned levels. Representatives of the provinces, municipalities and the polders and *wateringues* are members of the CIW.

Besides the managers of the watercourses, another entity is relevant in the Flemish water scene: the sub-basin boards (*bekkenbesturen*), which have been installed to advise and coordinate from the sub-basin perspective and from an integrated water management perspective.<sup>22</sup>



**Figure 2.4: Division of powers for policy-making and the management of flood risks in Flanders**

21 Art. 25 DIWP, *Belgian Official Journal* 14 November 2003, p. 55038.

22 Mees et al. 2017.

Even though it does not have formal powers regarding FRM, the Department of Spatial Planning is also consulted during the process of policy-making concerning FRM. Although it is not a water manager, the Flemish Land Agency (*Vlaamse Landmaatschappij*) is an important actor as well. It is responsible, among other things, for the expropriation of necessary land for the realization of the Sigma Plan (see section 2.4.2). The Flemish Land Agency is part of the policy domain of Environment, Nature and Energy.

In Flanders, the ground below navigable watercourses is considered to belong to the water manager. The navigable watercourses belong to the public domain.<sup>23</sup> For non-navigable watercourses, the riparian zone can be privately owned.<sup>24</sup> The management of these areas is the responsibility of the water manager, even when an area is privately owned.

### *Concluding remarks*

Many policy domains are involved in Flemish FRM. This leads to a fragmentation of competent authorities. There is no strict separation between the policy-making and management tasks, one of the reasons being that the CIW is closely connected to the FEA. The central body, the CIW, is responsible for the governance of all water systems; however, stakeholders from different levels of government are part of the CIW, so one cannot speak of a very strict division between central and decentralised authorities.

### **2.3.3 France**

In France, there is a strict division of levels of government. The central level is the most important, albeit that many FRM duties are laid down at the local level. The Ministry of Environment is the most important central ministry regarding FRM. It is the most important actor in implementing the FD and has the most important powers regarding crisis management. The Ministry of Economy and Finance is responsible for regulating the public private insurance scheme CAT-NAT (*Catastrophes Naturelles*) and the Barnier Fund.<sup>25</sup> The Ministry of Housing and Planning is responsible for regional development and planning.

The Joint Flood Commission (*Commission Mixte Inondation*) is not a governmental body but a consultative body consisting of all stakeholders (the government, elected authorities, River Basin Water Boards (*Établissements Publics Territorial de Bassin*: EPTBs), insurers, and civil society). The Commission has cooperated in the creation of the national FRM strategy. It also examines the proposals submitted for Action Programmes for Flood Prevention (*Programmes d'action de prévention des inondations*: PAPIs) and Rapid Submersion Plans (*Plans de Submersions Rapides*: PSRs).<sup>26</sup>

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23 Art. 538 (book II) Civil Code.

24 Art. 644 (book II) Civil Code.

25 See section 4.3 (Instruments).

26 See section 4.3 (Instruments).

In France, there are three levels of government below the central government: regions (*régions*), departments (*départements*) and municipalities (*communes*). In each region the prefect (*préfet*) is the state representative, and should ensure that all national legislation is applied in the region. The region is responsible for transport and infrastructure. It therefore provides funding for infrastructural works for flood protection.<sup>27</sup> The departments are also one of the three sub-central levels of government. The prefect is the state representative at the local level. Departments are contracting authorities for flood defence structures such as dikes.

Municipalities are the lowest level of government. Every municipality has a mayor (*maire*), who acts as the municipal executive, is the state representative and exercises specific powers.<sup>28</sup> Municipalities have a general responsibility for protecting their citizens, including against flooding. Urban development falls under the power of the municipalities. They are therefore very important when it comes to reducing the risk of flooding in urban areas. The mayor and the prefect of the department are solely responsible for managing risks in terms of prevention and crisis management.<sup>29</sup>

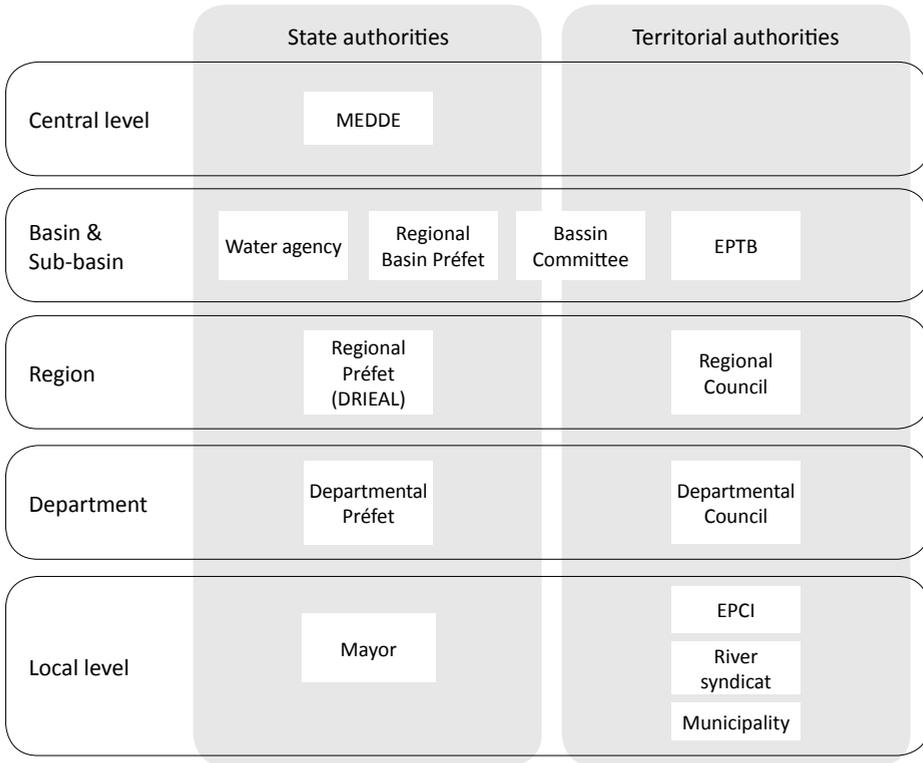
Another important authority is the *Direction régionale et Interdépartementale de l'environnement, de l'aménagement et du logement* (DRIEAL), a decentralised department of the Ministry of Environment. The prefect of the region coordinates flood risk prevention policies. DRIEAL is therefore a key player in implementing the FD.

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27 OECD 2014a p. 84.

28 Cairns & McKeon 1995, pp. 127-128.

29 Cairns & McKeon 1995, p. 79.



**Figure 2.5: The administrative levels in France at which the competent authorities operate.<sup>30</sup>**

The above figure shows how the central government is involved at every decentralised administrative level. Therefore, the central state can influence decision-making at lower levels and also make sure that its policy is implemented correctly.

Figure 2.6 shows the division between powers. It makes clear that policy-making is a task of central government; at lower administrative levels, the authorities are responsible for implementing the policy made at the central level.

The enactment of the so-called MAPAM law<sup>31</sup> in 2014 resulted in a wave of decentralised water management in France. This act devolved water management powers to the municipalities, which can delegate them to an Inter-Municipal Cooperation Body (*établissement public de coopération intercommunale* (EPCI)) or other public corporations, e.g. a EPTB or a local water management organization at the sub-basin level (EPAGE).<sup>32</sup> The MAPAM law provides the municipalities and the EPCIs with their

30 Source: C. Larrue et al. 2016; MEDDE is the Ministry of Environment; EPCI is an municipal corporation (*établissement public de coopération intercommunale*).

31 Modernization of public action and for the affirmation of metropolitan areas (27-01-2014).

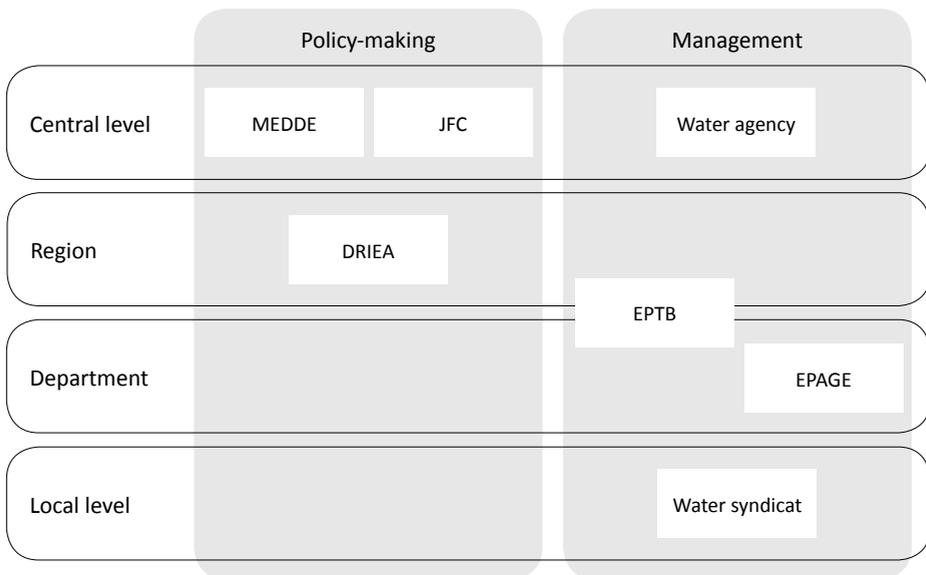
32 Art. L.211-7 (1,2, 5 and 8) Environmental Code. The established responsibility for water management is called "GEMAPI" (*gestion des milieux aquatiques et de prévention des inondations*).

own tax jurisdiction so that they now have the ability to impose a tax to finance any works necessary to reduce flood risks and to compensate losses caused by floods.

Administrative public corporations (*établissements publiques*) are established by Parliament, based on article 34 of the Constitution. The main aim of such public corporations is to fulfil a specific public task. They therefore have autonomy: they have financial resources, and rights and obligations. For instance, they may expropriate and impose levies.

Water agencies (*agences de l'eau*) are public cooperation bodies at the level of river basins. The six water agencies in France are accountable to the Minister of Environment and are responsible for implementing the EU Water Framework Directive but not for FRM. They can be considered to be funding agencies. The flood assessment and the preparation of management plans are the responsibility of the six Regional Basin Prefects.<sup>33</sup>

Other public corporation bodies are the already mentioned EPTB, an FRM institution which is a local sub-river basin authority,<sup>34</sup> and EPAGE, which is the direct contracting authority for studies and the realization of water management and FRM. Yet another water institution is the water syndicate (*syndicat des eaux*). The establishment of a syndicate is more or less voluntary and consists of a grouping of territorial communities. They are mostly established to address a specific aspect of water management (*e.g.* wastewater, flood prevention).



**Figure 2.6: The division between policy-making powers and the management of FRM.**

<sup>33</sup> Barraqué 2014.

<sup>34</sup> However, it can also be river-based, *e.g.* for the River Loire, see OECD 2014a.

The actual ownership of water and land are subject to different legal regimes. Water is a public good (*res communis*) and belongs to nobody, but land can be private property. Major rivers are classified as being in the public domain and consequently their beds are state-owned. For other watercourses, the owners of the banks are the owners of the river beds as well.<sup>35</sup> Landowners have the right to protect their land, but the state too may build flood defences on the beds of the main rivers for the public good.<sup>36</sup> Flood defences may be owned privately or by the state. The owner of a flood defence system is responsible for maintaining it, but private owners may contractually transfer the maintenance obligation to a manager.<sup>37</sup> A difficulty is the fact that approximately 33% of flood defences do not have a known owner (orphan dikes).<sup>38</sup> There is currently a shift towards more public responsibility for flood protection. Every ten years a risk assessment must be carried out for existing flood defences as well as for areas in which flood defences might be built. However, the responsibilities for flood protection are currently laid down at the lowest level (municipalities, public corporations, and even citizens), albeit that the central state still wishes to have much influence in FRM by means of the prefects that are present at every decentral level.

### *Concluding remarks*

Even though a decentralization trend is in progress, the central state has much influence at the local level, by having a central state organ at each local level: the prefect is responsible for approving measures. It is rather confusing that water management tasks at the local level can be delegated to different kinds of public corporations (EPCI or EPTB). Also at the local level is the water syndicate: a form of voluntary cooperation. The connection between spatial planning and FRM is guaranteed, in the sense that both tasks lie with the same authority: the municipality. Citizens do have their own responsibility, *e.g.* they have the right but not the obligation to protect themselves from flooding. Because flood defences can be privately owned, problems arise because it is not always clear who is responsible for maintenance.

### **2.3.4 A preliminary comparison of the powers**

In France, we find that the central state has a strong influence that penetrates the decentralized authorities by having a state representative in all local entities (the prefect). Even though this is not the case in the Netherlands and, in all three countries, general flood risk policy is developed at the level of the state and supervisory powers exist. All countries have a specific authority at the central level (the Dutch Delta Commissioner, the Flemish Commission for Integrated Water Management and the

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35 Larrue et al. 2016, p. 18; Foulquier 2013.

36 Goytia et al. 2016.

37 Goytia et al. 2016.

38 Cans et al. 2014; Deliancourt 2013.

French Joint Flood Commission) that is responsible for implementing a general FRM strategy.<sup>39</sup>

All studied countries have specific public authorities that serve water interests: regional water authorities in the Netherlands; the FEA, polders and *wateringues* in Flanders; and the EPTBs, EPAGEs and water syndicates in France. The statutory tasks of these bodies differ greatly. In the Netherlands, the regional water authorities have their own statutory tasks and responsibilities, just as the FEA in Flanders. The EPTBs, EPAGES and water syndicates are more voluntary cooperation organizations, whose existence depends on the tasks delegated to them by the municipalities. All the water management bodies mentioned above are separate from spatial planning authorities. The latter are all at a decentralised level (provinces and municipalities in the Netherlands and Flanders, and municipalities in France). However, in Flanders and France, the provinces (Flanders) and municipalities (Flanders and France) do have tasks relating to FRM.

In the Netherlands, citizens do not have responsibility for flood protection; indeed, the duty of the state to keep the country habitable is constitutionally enshrined. By contrast, in France citizens have a right, but not an obligation to protect themselves. Flood defences may be privately owned and the owner must even ensure flood defences are maintained.

## 2.4 INSTRUMENTS

In this section the most important legal instruments for preventing or reducing flood risks are discussed per country. Because some instruments overlap different themes and some cannot be classified under one of the themes, the order in which I have discussed them is: safety standards, funding, requirements of the FD, plans, other instruments and codified responsibilities of private parties.

### 2.4.1 The Netherlands

The Netherlands is the only one of the three countries studied to have codified standards for all flood defence structures protecting the whole country (art. 2.2 and Annex II Water Act). The regional water authorities can levy taxes (title IV of the Water Authorities Act) which can amount to approximately 95% of their expenditure.<sup>40</sup> For the strengthening of primary flood defences which do not meet the safety standards, the Flood Protection Programme (FPP, *Hoogwaterbeschermingsprogramma*) is relevant; this programme is a fund. In the FPP, water managers work together. It is stated that this is an alliance. The Delta Commissioner has the Delta Fund at his disposal. The fund is financed by the contributions made by the regional water authorities to the FPP and

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39 These actors participate actively in the policy-making of central FRM, but the Minister is responsible (in the Netherlands: the Minister of Infrastructure and the Environment; in Flanders, the Minister of Mobility and Public Works; in France, the Minister of the Environment).

40 Rijswick & Havekes 2012, p. 189.

by an allocation from the state. The projects of the FPP are financed by the Delta Fund. The fund also finances other FRM projects.

The FD was implemented in the Water Act and the Water Decree. No preliminary flood risk assessment has been conducted. Instead flood risk maps, flood hazard maps and FRM plans have been drawn up for the entire country. These FRM plans for the Meuse, Rhine, Scheldt and Ems river basins are a new addition to the existing plans. Regional water authorities as well as the central government are required to establish water management plans which, among other things, contain the measures necessary for fulfilling the obligations of the Water Framework Directive (WFD) and the FD. The plans describe how the water authorities intend to carry out their responsibilities.<sup>41</sup>

A spatial zoning plan (*bestemmingsplan*) is a legally binding instrument included in the Spatial Planning Act (Chapter 3). A spatial zoning plan contains the goals and aims of the municipality, maps, and a description of the permitted use of buildings and constructions.

In order to enlarge the storage capacity of a regional water system, the water authority can designate areas for temporary water storage.<sup>42</sup> Once such an area has been designated by law, the competent authority can impose an obligation to tolerate water nuisance and flooding of the premises.<sup>43</sup> The law provides for the possibility to be awarded compensation for any loss caused by such an obligation to consent. The Water Assessment is only compulsory in relation to zoning plans (*bestemmingsplannen*) and project decisions (*projectbesluiten*).<sup>44</sup> A Water Assessment could, however, also be carried out in relation to other spatial plans and decisions, but this is optional.<sup>45</sup>

Dutch FRM is highly institutionalised and most tasks are laid down by state organs. The only tasks that formally belong to citizens are flood management in unembanked areas and urban flooding resulting from excessive rainfall.<sup>46</sup>

### *Concluding remarks*

The division between central and decentralised tasks is also apparent in the legal instruments. At the central level, general FRM strategies are established and laid down, but a concrete elaboration of the strategies takes place at decentralised levels. The strict distinction between spatial planning and water management is also visible in the instruments, by having different competent authorities with their own plans. The

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41 Rijswick & Havekes 2012, p. 219.

42 Doorn-Hoekveld & Groothuijse 2015.

43 Doorn-Hoekveld et al. 2016.

44 Articles 3.1.1 (1) and 3.1.6(1b) Spatial Planning Decree 2008 (Bulletin of Acts, Orders and Decrees 2008, 145).

45 In article 5.22 Decree on the Quality of the living environment (draft) (a decree which falls under the Environmental Planning Act) the water assessment has been given a more concrete formal status, in accordance with the Explanatory Memorandum, p. 122.

46 Wiering et al. 2015, p. 42.

Water Assessment is therefore necessary as a bridging mechanism.<sup>47</sup> The relatively new ‘multi-layered safety approach’ introduced in the Delta Programme is an attempt to connect proactive spatial planning with FRM in order to prevent and reduce floods and their consequences. The lack of responsibilities for private parties is apparent in the fact that there are no instruments that address such responsibilities. Moreover, by having a codified safety standard for the whole country and every inhabitant, the government assumes responsibility for the safety of private parties in accordance with normal safety norms. Beyond these standards, private parties have their own responsibility.

## 2.4.2 Flanders

In contrast to the Netherlands, Flanders has no safety standards codified by law. However, the Sigma Plan (see below) did introduce safety standards that should be met when Sigma Plan projects are implemented.

In 2003 the so-called Rubicon Fund was established to cover the recovery costs and to fund flood defence works<sup>48</sup> and make it possible for municipalities to receive financial resources for the compensation of planning blight caused by the designation of ‘signal areas’ (see below).<sup>49</sup> The fund itself is financed from different sources. The fund itself is financed from different sources, among them the *planbaten* (urban development levies), income from activities that are part of the Rubicon Fund, and the allocation of state budget.

The whole FD is implemented through the DIWP.<sup>50</sup> No preliminary flood risk assessment has been conducted. Instead, FRM plans which are part of the river basin management plans for the Scheldt and Meuse have been drawn up for the whole of Flanders.<sup>51</sup> These plans include different preventive measures which are part of spatial planning. They focus on the prevention of building in flood-prone areas and the removal of obstructions in those areas by compulsory purchase or expropriation.<sup>52</sup>

After a severe flood in 1976 the government decided to implement the Sigma Plan. In the plan, so-called flood control areas (FCA) were introduced. These are low-lying polders next to estuaries, which are surrounded by dikes. The dikes were lowered to allow water to overflow them during a storm tide.<sup>53</sup>

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47 Bridging mechanisms are defined as “Instruments that remedy fragmentation by enhancing interconnectedness between relevant actors through information transfer, coordination and cooperation.” Gilissen et al. 2016.

48 *Belgian Official Journal* 12 September 2003, p. 45704 and Flemish Parliament 2002-2003, 1670, Explanatory Memorandum, p. 20.

49 Order of the Flemish Government of 20 June 2014 specifying the rules related to the allocation of subsidies in the context of the Rubicon fund, *Belgian Official Journal* 25 September 2014, p. 76846.

50 Of 18 July 2003, which was substantially amended in July 2013.

51 Art. 34 DIWP.

52 Meuse FRMP, 2016, 225, Scheldt FRMP 2016, 272.

53 Meire et al. 2014, p. 20.

A fairly new instrument in the Flemish FRM are signal areas (*signaalgebieden*), which are undeveloped areas with a 'hard' residential or industrial designation in flood-prone areas. They are described as areas which are important to the water system and which are at odds with the hard spatial designation of the area.<sup>54</sup>

The original aim of the Flemish Water Test (*watertoets*)<sup>55</sup> was to enhance coordination between water management and spatial planning.<sup>56</sup> The Water Test assesses the impact of a plan or a project on the water system. An important notion is that the Water Test can only be used to prevent new harmful effects, not to remedy existing ones.<sup>57</sup> The Water Test will lead to a 'water paragraph' in all spatial plans. When the Water Test indicates that a negative impact on the water system is possible, the paragraph describes the measures that need to be taken to prevent or limit them or the ways in which the harmful effects can be reversed or compensated.

The reform of the DIWP introduced another new instrument, the so-called 'duty to inform'.<sup>58</sup> It prescribes that persons who sell immovable property or rent it out for a period exceeding nine years, or who bring immovable property into a company or transfer usufructs, leasehold or superficies, have to provide information if the immovable property is located in a flood-prone area. This information must be included in all publicity relating to the immovable property and also in all necessary authentic and private contracts.<sup>59</sup>

### *Concluding remarks*

The instruments display the influence of central government with the designation of signal areas and the requirement for projects of the Sigma Plan to be approved by the central government. However, most of these instruments are at the local level. Signal areas are an instrument that connects the domains of spatial planning and FRM. In these areas, flood risks form the basis for spatial strategies. Another important instrument in this regard is the Water Test, which has a very broad scope. It is interesting that the authority competent to issue a permit or to draft a plan should carry out the Water Test even though it does not have any expertise in water management. The water manager may give advice, but has to be requested to do so. Private parties are more involved in the instruments, although they may not be aware of that fact. Firstly, by paying the plan profit levy, they feed the Rubicon Fund and therefore pay for specific FRM measures. Secondly, the duty to inform does not involve public authorities, but private parties.

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54 De Smedt 2014, p. 108; Mees et al. 2016, p. 41.

55 The term 'Water Test' is used in order to make a clear distinction between the Dutch instrument (Water Assessment) and the Flemish instrument (Water Test).

56 Explanatory Memorandum of the Decree on Integrated Water Policy, *Parl. St.* VI. Parl. 2002-2003 no. 1730/4, p. 5.

57 Council of State 12 July 2007, no. 173.482; 9 January 2007, no. 166.439; 29 October 2009 no. 197.469; 1 October 2010, no. 207.830; 22 June 2011, no. 214.033; 24 October 2011, no. 215.969.

58 Art. 17bis DIWP.

59 Mees et al. 2016, p. 75.

### 2.4.3 France

French law does not set safety standards for the whole country, but the Environmental Code does include a kind of standard. For the creation of flood defences a permit is necessary. In order to receive the permit, a risk assessment has to be carried out (Arts. L211-3 and R214-116 Environmental Code). If a request for an authorization to construct dikes in a specific area is filed after 1 January 2020 and that area has not previously been protected against flooding, then a safety level ranging from 1/200 for class A, 1/100 for class B, or 1/50 for class C is mandatory (article R214-119-3 Environmental Code).<sup>60</sup>

In 1982 the CAT-NAT regime, a public-private partnership between insurers and the state, was created. The regime is based on the preamble of the Constitution of 27 October 1946: “The Nation declares all French citizens to be equal and united in solidarity when faced with loss resulting from natural disasters” (section 16). Buildings and movable property are covered by insurance against flood risks. Some 12% of the insurance premiums for damage or loss of property are redistributed between insurers and the Central Reinsurance Company (CRC), which is state-owned.<sup>61</sup> The CRC has unlimited coverage, because of the guarantee by the state.<sup>62</sup> The Fund for the Prevention of Major Natural Hazards (*Fonds de Prévention des Risques Naturels Majeurs*, FPRNM, also referred to as the Barnier Fund) is financed by a levy on the CAT-NAT insurance premium to finance asset-acquisition measures, the costs of drawing up Plans for the prevention of foreseeable natural risks (PPRs), the expenditure on information on prevention and measures to reduce risk of vulnerability.<sup>63</sup> Some of the measures financed by this fund are the expropriation or amicable acquisition of property located in areas with a high natural or anthropogenic risk. Currently also the costs for establishing PPRs are included, as well as the funding of Action Programmes for Flood Prevention (PAPs, see below).<sup>64</sup>

The National Fund for the management of agricultural risks (*Fonds National de Gestion des Risques Agriculture*) is a so-called ‘multi-risk climate insurance’ scheme, which is also financed by a public-private fund by private insurance companies and the state. This insurance is only applicable to agricultural losses resulting from a natural disaster.<sup>65</sup>

In France, the FD has been transposed into domestic law in the Grenelle II Law.<sup>66</sup> France has decided to draft a National Flood Risk Management Strategy. This strategy has been made by the Ministry of Environment with the active participation of the Joint Flood Commission, so the interests of stakeholders have been considered. The

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60 Goytia et al. 2016.

61 Art.A125-2 Insurance Code; OECD 2014a, p. 143.

62 Suykens et al. 2016; Nussbaum 2015, p. 87; Barraqué 2014, p. 7.

63 OECD 2014a, p. 71.

64 Barraqué 2014, p. 10; Nussbaum 2015.

65 Erdlenbruch et al. 2009, p. 365.

66 Law n°2010-788 du 12 juillet 2010. This law modifies the Environmental Code (chapter III, section 4 and chapter VI). The obligations are specified in Décret no. 2011-227 of March 2011.

strategy is a framework for the FRM plans; it identifies national objectives and sets priorities in FRM.<sup>67</sup>

France has established 13 FRM plans.<sup>68</sup> Other plans, e.g. territorial coherence schemes (*Schéma de Coherence Territoriale*, SCoT), local land use plans (*Plan Local d'Urbanisme*, PLU) and flood risk prevention plans (*Plan de Prévention des Risques des Inondation*, PPRI), have to be compatible with FRM plans.

Flood prevention action programmes (*programmes d'action et de prévention des inondations*, PAPIs) were introduced in 2002. A project labelled 'PAPI' will receive funding from the National Fund for Major Natural Risk Prevention. Apart from that, the Ministry of the Environment can provide additional funding to projects. PAPIs are considered to be a partnership between the state and local authorities. Local authorities are the initiators of the projects, which are implemented by a range of public and private parties.<sup>69</sup>

The PSR is a contractual plan with a focus on flash floods resulting from dike failure (since 2011). It is a national plan whose relevance is mainly the funding mechanism which it includes. The Joint Flooding Committee accredits all project proposals based on a PSR.

The legally binding Water Development and Management Master Plan (*Schéma Directeur d'Aménagement et de Gestion des Eaux*, SDAGE) developed and adopted by the basin committee and approved by the Basin Coordinator Prefect expresses and describes the fundamental guidelines encouraging a balanced and efficient management of water resources, drinking water supplies, flood control and the sustainable development of economic activities. Decisions regarding water management and the urban planning decisions of territorial authorities must be compatible with the SDAGE<sup>70</sup> and the SAGE (local water management plan)<sup>71</sup> that includes the same guidelines but at the level of a watershed).

Plans for the prevention of foreseeable natural risks (*Plan de prévention des risques naturels prévisibles*, PPR) are developed by the state after a decision by a prefect. A PPR contains graphic documents establishing zoning in which different degrees of flood risk are defined.

The municipality is the most important authority for urban development. PLUs are the local urban plans. They outline urban development and planning and lay down land-use rules. The PLU must include flood prevention.<sup>72</sup>

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67 France has decided to draft this strategy in the process of the implementation of the FD, although it is not an obligation under the FD.

68 Official Gazette 22 December 2015, No. 0296.

69 Raadgever et al. 2016, p. 41.

70 Conseil d'État 2010, p. 86.

71 Water Management Plan (*Schéma d'Aménagement de Gestion des eaux*, SAGE).

72 *Préfet des Alpes-Maritimes* [28 September 1992] Tribunal Administratif Nice, req. No. 93-1986 ; *Sté Valente et la Selva* [5 May 1994] Tribunal Administratif Nice, req. No. 90-85 and 90-772.

SCoTs entail a strategic planning tool for medium- and long-term planning, including territorial projects for municipalities (individually or in groups) in order to create consistency in different policy fields (urban development, housing, travel and commercial facilities). The integration of flood prevention in the SCoT is mandatory.

Buyers and tenants must beware of the existence of natural risks if the property is located in a zone within the major natural risk prevention plan.<sup>73</sup> The seller or lessor should also inform the buyer or tenant of any former officially declared natural disasters that have occurred 'on' the property.

### *Concluding remarks*

The influence of the central state is visible in the National Flood Risk Management Strategy that should give decentralised authorities guidance for establishing their plans. The prefect should ensure that the decentralised authorities do take this central strategy into account in their policy-making. In France there is a strong connection between spatial planning and FRM, not only because issues addressed in the SDAGE and SAGE water plans must be taken into account in the spatial plans PLU and SCoT, but because in order to prevent discrepancy they are annexed to these plans. Citizens pay for preventive measures, because part of the insurance premiums of CAT-NAT is used for the Fund for the Prevention of Major Natural Hazards. There is also a duty to inform. Safety standards have been introduced for new projects but are not applied. It is interesting to see that even though there are no formal obligations to prevent flooding (e.g. by codifying safety standards for the whole country or flood-prone areas), the mayor and prefect can nevertheless be held liable for losses resulting from flooding. This might be explained by the fact that the *ex post* system in France is much more elaborate than the prevention of floods.<sup>74</sup>

## **2.4.4 Preliminary comparison of the instruments**

The countries have in common that general FRM strategies have been established at national level but must be elaborated at local level. These local plans contain binding elements. In the case of the projects of the Flemish Sigma Plan and the French water management plans, the central state does have an influence because before they can come into effect, approval must be forthcoming (from the Flemish government and the prefect, respectively).

In all three countries, preventive FRM has a place in general spatial planning documents. There is tension between the interests of FRM and all the other aspects that are weighed up in the planning process and end up in the spatial plans. The Dutch and the Flemish have a specific instrument which should secure water interests (the Water Assessment in the Netherlands and the Water Test in Flanders), while the

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<sup>73</sup> Larrue et al. 2016, p. 97.

<sup>74</sup> Suykens et al. 2016; Larrue et al. 2016.

French have the statutory obligation to include flood prevention in their spatial plans (SCoTs and PLUs) or to annex relevant parts of the flood risk plans.

The Dutch Water Assessment and Flemish Water Test differ in some important aspects: the Dutch Assessment is carried out by way of an advisory report by the water manager who has expertise in relevant water issues; in Flanders, the competent authority – in most cases a municipality – has to carry out the study. However, the competent authority is required to ask the water manager for advice. The scope of the Flemish Water Test is much broader than the Water Assessment in the Netherlands. The latter is only applicable to plans; in Flanders, different permits also fall under the scope of the Water Test.

The instruments show that Dutch private parties have no responsibilities with respect to FRM, which is a significant difference with Flanders and France. In France, citizens have the right to protect themselves and pay – partly – for preventive FRM by means of their insurance premiums, and in Flanders citizens also pay for flood risk prevention through the plan profit levy. In both France and Flanders there is a duty to inform future tenants or buyers about flood risks to the premises in which they are interested.

## 2.5 GENERAL COMPARISON

A comparison needs to be prefaced with a reminder that the geographical scale of the countries studied differ greatly in size.<sup>75</sup> This has an influence on the differences between the various powers and instruments. However, a geographical explanation does not form part of the research.

The mandatory instruments of the FD (FRM plans and the flood risk and hazard maps) have been implemented in all three countries and do not greatly differ.

Another similarity between the countries is the fact that – at least in theory – FRM takes place at a decentralised level. At the central level, the general policy is set by the competent ministry and is supported by a specialised committee (the Dutch Delta Commissioner, the Flemish Committee for Integrated Water Management and the French Joint Flooding Committee). The Dutch Delta Commissioner has a special role, because he has the so-called Delta Fund (Section 7.4a Water Act) at his disposal in order to take measures to prevent flooding. The Joint Flooding Committee also plays a role in funding, but it differs from the Dutch situation because that Committee only approves project proposals submitted as PAPIs or as PSR. The French situation is also notable because the central state is present in all decentralised layers, in the person of the prefect. The prefect must ensure that central policy is implemented correctly in all the decentralised layers.

Umbrella plans or programmes are present in all three countries (the Dutch Delta Programme, the Flemish Sigma Plan and the French National Flood Risk Management

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75 Kaufmann et al. 2016; Mees et al. 2016; Larrue et al. 2016.

Strategy). The Dutch Delta Programme is the most concrete of the three. Although the Sigma Plan also consists of different projects, the plan itself lacks an overarching document in which the projects are connected. The French Strategy forms the input for the FRMPs, but does not include concrete measures that need to be implemented.

The Dutch Flood Protection Programme can be compared to the system of the French PAPIs. In both cases, regional or local authorities may ask for funding for a specific project for flood protection. The difference lies in the fact that in the Netherlands the projects are necessary because specific flood defences do not meet the standards set by the Water Act. In France, it is up to the local authority to assess whether or not a project is necessary. Both instruments can be considered as a form of cooperation between different administrative levels.

Given the current national strategy, the legal instruments and the MAPAM law, one could conclude that – at least in theory – the focus in French FRM has shifted from protection towards prevention. Synergy between different policies is very important and the decision to assign FRM tasks to municipalities and EPCIs will (hopefully) create a link between spatial development and FRM. In France, FRM laid down in a water management plan (SDAGE, or SAGE) or flood risk prevention plan (PPRI) must be included in spatial plans (SCoT and PLU).<sup>76</sup> The Netherlands and Flanders need a specific bridging mechanism (the Water Assessment and Water Test, respectively) in order to connect FRM to spatial planning.

The Water Assessment and the Water Test also differ slightly. One difference is that in Flanders, the initiator of the spatial development – the authority which issues the permit or decides on the plan or programme – conducts the Water Test. It can ask the water manager for advice, but only when the development is located in a flood-prone area it is mandatory to request this advice.<sup>77</sup> In the Netherlands, the water manager carries out the research and is seen as an ‘interested party’ and as having the rights of any normal interested party. The other difference with the Netherlands is that the Flemish test is not restricted to plans, but also extends to permits in other policy fields.

The responsibility of citizens and the ownership of flood defence structures also differs in the three countries in question. In the Netherlands, a dike can be privately owned, but the water manager is always responsible for its maintenance. In France, the dike can also be privately owned, but there is a major difference: it is the owner (regardless of whether a private party or the state) who must maintain the dike.<sup>78</sup> This can be explained by the fact that in France in the past, citizens were seen as being responsible for their own safety. Conversely, in the Netherlands, FRM has been a task for water authorities since the Middle Ages. However, in France, during recent decades flood protection has increasingly become a governmental task, even though with the PSR and PAPIs, protection projects are often public-private partnerships.

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<sup>76</sup> *E.g.* this is stressed in the NSFRM, p. 9 and LOI n° 2014-58 (27 January 2014).

<sup>77</sup> Article 3§2 Order of the Flemish Government of 22 January 2015 specifying the rules related to the Water Test (*Official Gazette* 12 January 2015, p. 1042).

<sup>78</sup> Larrue et al. 2016, p. 130.

All three countries have a fund which specifically addresses FRM (the Dutch Delta Fund, the Flemish Rubicon Fund and the French Fund for the Prevention of Major Natural Hazards). A significant difference is the way in which these funds are financed. In Flanders and France, revenue from private parties plays a part. Flemish initiators which have requested a change to the spatial plans and, as a consequence, have to pay a 'urban development levy' (*planbatenheffing*) and French insurance premiums are partly used for this purpose. By contrast, in the Netherlands the Delta Fund is financed entirely by governmental contributions from the state as well as the regional water authorities, although both are based on taxes.<sup>79</sup>

The duty to inform exists in France as well as in Flanders. In Flanders, this duty is the most active: the seller or lessor is required to actively inform potential buyers or tenants about flood risks. In France, there is an active duty to provide information on past – officially declared – natural disasters, so it is broader than flood risks. France is also somewhat similar to the Netherlands in the sense that buyers or tenants should be aware of any natural disasters, but it is not stipulated *how* they should be informed. One could assume that, as is the case in the Netherlands, people themselves have a responsibility to ensure they are informed about any risks concerning their potential property.

## 2.6 ANALYSIS

The title of this chapter implies that the regimes are compatible. The term 'compatible' needs to be defined. One definition is that "ideas or systems that are compatible can exist together", another is "likely to have a good relationship because of being similar".<sup>80</sup> The first definition has my preference, because very different systems can co-exist perfectly well. However, the differences may not be too large and the relevant actors must bear them in mind in order to prevent them from hampering cooperation.

The fact that the FD has to be implemented in the domestic administrative structure of these countries leads to many different competent authorities and instruments being used to create FRM. Not only do the physical circumstances differ greatly: here we are concerned with a small country and region, both of which are densely populated and have high flood risks (the Netherlands and Flanders), and a large country in which flood risk varies (France). Moreover, the administrative and legal contexts differ significantly. The Netherlands and Flanders are very decentralised, while in France, the central government still has a great deal of influence.

Some generalities can be identified, arranged by the three themes posed in the introduction.

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79 The latter may raise taxes and therefore private parties do contribute indirectly.

80 McMillan Dictionary.

### 2.6.1 The central–decentral divide

Regarding the first theme, in all three countries the central state has created a body that should integrate FRM (or water management in general in Flanders): the Delta Commissioner in the Netherlands, the CIW in Flanders and the Joint Flood Commission in France. The policy-making power of these organs ranges from major (the Netherlands) to minor (France).

Looking at the competent authorities, the Netherlands stands out by having a conveniently arranged functionally decentralised structure of one national water authority and geographically divided regional water authorities. The transparency of the Dutch system and the corresponding legal certainty that accompanies clear codified powers and responsibilities can be considered a best practice. In Flanders, more authorities have tasks concerning water management. Hence, the possibility of delegating tasks to other organs makes the organization less transparent. In France, however, the structure is the most complex because water issues can be dealt with at different administrative levels and the municipalities can delegate powers to different cooperation bodies, such as an EPCI or an EPTB. In addition, the water syndicates are more or less voluntary cooperation organizations. These differences must be borne in mind when different states wish to cooperate.

### 2.6.2 Water management policy and spatial planning divide

This theme is relevant for the implementation of the FD, as the FD obliges Member States to include flood prevention through spatial planning in their FRM plans.<sup>81</sup> The division between spatial planning and FRM prevails in all three countries. The solutions used to connect these two policy fields are diverse. In the Netherlands and Flanders, the bridging instruments used to secure water interests are the Water Assessment and Water Test, respectively. Among the best practices in Flanders are the signal areas in which water management and spatial planning come together.

In France there is a legal obligation for the SCoT and PLU spatial planning documents to be compatible with the SDAGE and SAGE water plans. One could argue that in theory, France has the best instruments to create flood prevention through proactive spatial planning because a) the both the tasks of FRM and those of spatial planning are in the hands of the municipality, and b) there is a legal obligation to incorporate the water plans in spatial plans. However, in practice, this aspect could be more effective.<sup>82</sup> The best practice of the first theme – transparency of the system – also has a drawback. In the Netherlands, one of the reasons that the prevention strategy is not developing quickly is that the division between water management and spatial planning is large. Different authorities have their own statutory tasks and responsibilities. They are afraid of facing liability claims if they fulfil the task that is statutorily within the remit of another authority.<sup>83</sup> They therefore prefer to wait for the legislator to come up with a

81 Rec 14 Preamble FD, art. 7 (3) FD, principle 1 (d) Annex of COM(2004)472.

82 Larrue et al. 2016.

83 Doorn-Hoekveld 2014; Gilissen 2013.

solution and re-assign the tasks. In Flanders and France, best practices are found. The Flemish signal area is a classic example of the connection between water management and spatial planning. The French obligation to include flood risk plans in spatial plans also enhances the integration of both policy fields.

### 2.6.3 The public–private divide

The third theme regarding the responsibility of private parties concerns different aspects. A clue to whether responsibilities are delegated to private parties is the presence of codified safety standards. The Netherlands is the only country with safety standards covering the whole country that are codified by law. In Flanders, the existing standards are on an ad hoc basis as part of the Sigma Plan; in France, these standards are only applicable to new projects and do not cover a specific area. One could argue that by having codified safety standards, with public authorities being legally accountable for meeting them, in combination with a constitutional duty to keep the country habitable, the Dutch state is sending out a message that it will ensure the safety of its citizens. It is debatable whether this is a best practice. The balance of the public–private divide is in disequilibrium. However, the division is transparent and clear. One could also argue that the importance of good and secure FRM is so great that no other balance is possible. This contrasts with France, which gives its citizens a codified right to protect themselves against flooding. The difference arises because Dutch FRM has rested with public authorities since the Middle Ages, whereas in France it has only recently been considered to be a public duty.<sup>84</sup>

Best practices can be found in the Flemish and French duty to inform. Giving citizens the information necessary for them to make a deliberated decision allows them to be held responsible for the consequences of their decision.

Funding also touches upon this theme. The countries have in common that they have funds for financing FRM measures: the Dutch Delta Fund, the Flemish Rubicon Fund and the French Fund for the Prevention of Major Natural Hazards. The origin of the finances differs, however. In the Netherlands, the finance comes from public authorities, in Flanders the financing is partly by private parties through the urban development levy, whereas in France, part of the insurance premiums is diverted to the fund.

This theme shows the importance of how FRM is shaped. In the Netherlands, the responsibility of citizens has been taken over by the state. In Flanders, but even more so in France, I found that private parties have major responsibilities. In the latter, FRM has only recently been seen as a public duty: this contrasts with the very old system in the Netherlands. Stipulating the responsibility of public authorities seems to make it more logical that flood protection is better developed, because it is easier for water authorities to manage flood defence structures and water storage areas than to try to develop spatial planning measures. In France one can again find more responsibility

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84 Larrue et al. 2016.

being delegated to private parties, firstly because the owner of a flood defence is responsible for maintaining it and secondly, because risk areas are highlighted in different plans and private parties must ensure that they are informed about these risks.

The differences can also be attributed to different views about public and private responsibilities regarding FRM, which can be explained by the geographical differences and flood risks, and the historical development of FRM.

## 2.7 CONCLUSION

In order to address transboundary issues concerning FRM, it is important that transboundary cooperation is furthered. This chapter shows that differences at the administrative and legal levels make it difficult for countries to know which authority is competent for a specific aspect of FRM. The themes used in the analysis – *central–decentral divide*, *friction between different water management policy and spatial planning* and *the public–private divide* – can also be used in other legal comparisons of environmental law, because they are a recurring phenomenon.

This chapter started by describing the powers and instruments of the Netherlands, Flanders and France and found similarities and differences between them. It has shown that large differences exist between the three countries that must be borne in mind when a country wishes to cooperate with other countries. It also shows that implementing the FD in the national legal order is necessary, because of these aforementioned differences in powers and the legal instruments available. A ‘one solution fits all’ approach is not possible in this regard. However, the differences do not hinder the compatibility of the studied regimes. The three can co-exist and the differences found do not necessarily form an obstruction to cooperation, as long as these are borne in mind. Indeed, the legal regimes admit there is a possibility of implementing best practices from the other regimes and thus of developing a regime that fulfils the requirements and aims of the FD even better.

## ACKNOWLEDGMENTS

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# CHAPTER 3

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## COMPENSATION IN FLOOD RISK MANAGEMENT WITH A FOCUS ON SHIFTS IN COMPENSATION REGIMES REGARDING PREVENTION, MITIGATION AND DISASTER MANAGEMENT

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*In the Netherlands, the history of water management and flood risk management especially, goes back centuries. Compensation of damage caused by lawful acts of an administrative body (no-fault liability) is developed mostly in the field of water management and has quite a long history as well. The compensation of no-fault liability in the Netherlands since its introduction has been part of public law and not of civil law. This does not mean that the administration cannot be held liable for wrongful actions, in which case private law is applied. There is a strict distinction between wrongful and lawful acts of the administration: both can cause damage, but the way they are compensated differs: for lawful acts, public law is applied and for wrongful acts civil law (tort law) is applied. This chapter only considers public law, because it is the most important branch of law for the compensation of damage caused in the field of flood risk management. The field of flood risk management and flood risk management has seen many new developments, of which integration is the latest one. However, the course of flood risk management tends towards more segmentation of responsibilities. No-fault liability and other questions of compensation are also areas that are developing towards more integration. Assessment of no-fault liability in the field of flood risk management cannot be made without taking into consideration the historical development of the responsibility of the state for water management tasks in general. In this contribution, the author addresses the historical development of responsibilities of the state for water management tasks, recent developments in this area and the system of no-fault liability regarding measures to prevent flooding.*

### 3.1 THE DUTCH CONTEXT

“God created the world, and the Dutch created the Netherlands.” This Dutch saying illustrates how the Dutch think about their country. Most of the Netherlands is reclaimed land. This is discernible in the large number of polders the Netherlands has. The largest one is Flevoland, an entire province. Flood disasters in the past led to great flood defence structures. Not only has one sea (the *Zuiderzee*) been closed off, but also the estuary of the Easter Scheldt, which made the Dutch famous for their water management all over the world. Apart from experiencing water as a threat, the Dutch economy benefits from water. Until a couple of years ago, the Harbour of Rotterdam was the world’s largest harbour and it still is Europe’s most important

harbour network. In this section I will give an overview of the related physical context and pose the question that I will address in this chapter.

### 3.1.1 Physical circumstances of the Netherlands

In order to understand the Dutch case, it is necessary to know the physical context. In October 2013 the Netherlands had 16.8 million inhabitants living on approximately 41,500 km<sup>2</sup>, meaning that it is a highly densely populated country with an average of nearly 500 people/km<sup>2</sup> (2009).<sup>1</sup> The Randstad region, located in the western part of the country, is the economic heart of the Netherlands. It includes the four largest cities: Amsterdam, Rotterdam, The Hague and Utrecht. Due to its location in the delta of the Rhine the Randstad is located in an low-lying area susceptible to flooding. 26% of the country is situated below sea level. Over 60% of the country would be regularly flooded if it were not be for the protection of dikes. Approximately 9 million people live in this flood-prone area in which 70% of GNP is produced.<sup>2</sup> This is illustrated in figure 3.1. Being a low-lying delta of four European rivers (Rhine, Meuse, Scheldt and Ems) flood protection has been a way of life since the early Middle Ages.

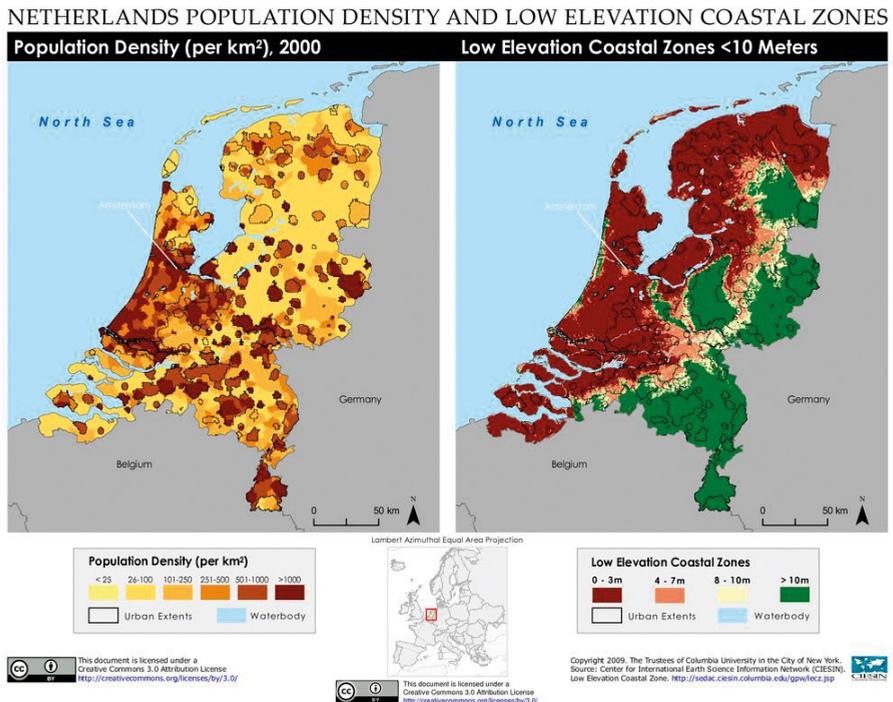


Figure 3.1: The population density of the Netherlands and the elevation of coastal zones<sup>3</sup>

- 1 Centraal Bureau voor de Statistiek (English: Statistics Netherlands), *Population; Key figures*, 5 April 2013.
- 2 Letter from the State Secretary for Infrastructure and the Environment, *Kamerstukken II*, 2011/12, 31710, no. 26.
- 3 Source: <http://sedac.ciesin.columbia.edu/data/set/lec2-low-elevation-coastal-zone/maps>.

### 3.1.2 Research question

As mentioned above, the Dutch have a special relationship with the waters surrounding them. The topographical and demographical circumstances of the Netherlands were leading in measures that were taken in the past. Being highly densely populated, keeping people away from the water was no option. For this reason flood protection consisted of measures to keep the water away from the people through flood defence measures. Another aspect of being highly densely populated is that most of the property of the Netherlands is owned by private parties. Hence, defensive measures influence private property to a large extent. This in turn led to the development of compensation regimes. Therefore, compensation and flood risk management in the Netherlands are closely connected and developed. The existence of compensation regimes led to the legitimacy of measures taken to protect the country against flooding with the result that these measures could be carried out easily. However, adaptations to one may lead to necessary adaptations in the other, thus slowing down the decision-making process. At the moment, various developments in both flood risk management and compensation regimes are taking place.

In the Netherlands the general trend is to integrate and merge legal provisions and legislation.<sup>4</sup> This affects flood risk management legislation and compensation regimes as well. However, the current trend in flood risk management is towards a focus on the segmentation of responsibilities among different public and private actors. In view of these incompatible trends the question is: *Do the current developments in flood risk management – shifting from protection towards prevention and recovery, therefore from integration to segmentation – suit the harmonised compensation regimes?\** In order to answer this question I will describe the developments of both flood risk management and compensation regimes regarding no-fault liability with a focus on responsibilities and connections between these two areas.

## 3.2 WATER SAFETY AS A PUBLIC TASK

### 3.2.1 Concise history of water management from a legal point of view

The Netherlands has a rich history with regard to the fight against water. In the 11<sup>th</sup> century land was reclaimed and inhabitants started to build dikes to protect themselves and their new land against flooding. Landowners who had an interest in the protection of their property started co-operations to secure their water management interests, the so-called regional water authorities. With the increasing number of dikes, dike breaches also became more frequent.<sup>5</sup> Because of the size and lack of integration of the regional water authorities, no co-operation was established between them.

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4 In the Netherlands, an Act is the highest form of regulation by the administration. Parliament (consisting of the Lower and Upper Chamber) needs to approve an Act. A Decree is a decision of the Government (King and Ministers), without the cooperation of Parliament. A Decree is the elaboration of an Act. A regulation is the elaboration of a Decree and the procedure is very short. Decentralised by-laws are produced by decentralised authorities.

5 Praamsma 1988.

In the 15<sup>th</sup> century great floods occasionally forced the central Government to intervene in order to coordinate some kind of water management.

In the 17<sup>th</sup> and 18<sup>th</sup> centuries not only dikes protected the land but also the so-called overflows or outlets. These are intentionally low dikes to divert water downstream. It was prohibited to build obstructions or buildings in the diversion channels. However, these overflows were considered a waste of useful (agricultural) land. Hence, most of them have been removed in the course of time.

In 1798 a national water management agency (*Rijkswaterstaat*) was founded. The new agency was described as having three main tasks: river management, coastal defence management and interior water management. The Constitution of 1798 proclaimed water management to be one of the responsibilities of the central Government.

In 1806 a River Act came into force. This Act gave the national water management agency the final responsibility regarding the status of rivers and enabled the agency to enforce all necessary measures to guarantee the drainage of water. With this Act the legal rights of regional water authorities were diminished by the new competences of the national water management agency.<sup>6</sup>

In 1813, the regional water authorities revived their old power and jurisdiction, but according to the Constitution of 1814 they were supervised by the provinces and the state. In the Constitution of 1848 the term 'regional water authorities' (*waterschappen*) was first mentioned. This Constitution was the starting point of the Municipalities Act in 1851 and led to a definitive division of general administration (task of the municipalities) and the water management agency.<sup>7</sup>

In 1851 the Netherlands concluded a Treaty with Germany to start river improvements. In 1868 free Rhine shipping for the German fleet was concluded in the Mannheim Treaty.<sup>8</sup> These treaties led to the stimulation and regularization of river improvements and water management. Starting in 1850 a number of projects were carried out to expand and improve waterways. In the same period the provinces started to reorganise and harmonise the regional water authorities in their regions.

In the Water Management and Public Works Act 1900 the formal division of tasks of the national water management agency and the provinces was laid down. Developments in the late 19<sup>th</sup> century restricted the official tasks of regional water authorities, but they still had an important role in regional water management in the Netherlands. In 1992 the Water Authorities Act started the process of merging water management on the regional level, but this is still on-going, not because of more efficiency, but because of retrenchment.

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6 Van Heezik 2006.

7 Rijswick & Havekes 2012, p. 140 .

8 Huisman 2001.

The Land Reclamation and Tidal Flats Act of 1904 is an important Act regarding water management in the beginning of 20<sup>th</sup> century. Another Act that underlies one of the most relevant water projects of the Netherlands is the Zuiderzee Act of 1918 which was adopted after a flood in 1918. This Act enabled the state to dam up the *Zuiderzee* by the IJsselmeer Enclosure Dam (*Afsluitdijk*). The *Zuiderzee* (sea) became the *IJsselmeer* (lake).

One of the most commonly known and horrifying events in recent Dutch history is the flood disaster in 1953, also known as the North Sea Storm, which struck not only the coast of the Netherlands, but also Belgium, England and Scotland. This storm occurred in the night of Saturday 31 January 1953 and morning of 1 February 1953. It caused a flood that took the life of 1836 people in the Netherlands. 100.000 people lost all of their property. After this tragedy the Delta Committee was assigned to make a plan to protect the low-lying areas from flooding, the Delta Plan, followed by the Delta Act (*Deltawet*) in 1957. The so-called Delta Works (including the Easter Scheldt storm surge barrier and the Maeslant Barrier) were part of the Delta Plan. The Delta Act provided the necessary legal basis to execute the works that were mentioned in the Delta Plan.

The revision of the Dutch Constitution in 1983 proved to be a constitutional change of great importance for water management and public works. This revision included Article 133, fully devoted to regional water authorities. This article implied a restriction on the powers of the provinces. The Water Authorities Act (*Waterschapswet*), which came into effect in 1992, has harmonised the legislation regarding the regional water authorities. Although differentiation was possible, the provincial by-laws almost vanished as a result of Article 133 of the Constitution and the Water Authorities Act.<sup>9</sup> Still, the provinces remained in charge of the supervision of the regional water authorities. But, even more importantly, article 133 of the Constitution and article 2 of the Water Authorities Act together give the provinces the authority to establish, dissolve and regulate the duties and organization of regional water authorities in by-laws.<sup>10</sup> Two other floods in 1993 and 1995 in the Meuse delta were crucial for the flood risk management in the Netherlands.

### 3.2.2 Recent view of the responsibility of water management

Article 21 of the Dutch Constitution states: “It shall be the concern of the authorities to keep the country habitable and to protect and improve the environment.”

Regarding water management this section contains the responsibility of public authorities for keeping the country protected against flooding, supplying enough fresh water for different functions, and protecting nature and landscape against drought and decrease of biodiversity.<sup>11</sup>

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<sup>9</sup> Rijswick & Havekes 2012, p. 143.

<sup>10</sup> Nehmelman et al. 2011, p. 13.

<sup>11</sup> Driessen et al. 2011, p. 32.

The responsibility of public authorities for water management is firmly enshrined in the Constitution.

The Water Act (*Waterwet*) defines its aim in article 2.1 as follows:

“Prevent and, where necessary, limit flooding, swamping and water shortage while simultaneously protecting and improving the chemical and ecological status of water systems and allowing water systems to fulfil societal functions.”

The object of the Act is a combination of ecological, economic and general public interests. Protecting the population from flooding and ensuring a sufficient supply of fresh water are generally regarded as governmental responsibilities, which are divided between the central Government and regional authorities. Individuals however, also have responsibilities. The responsibilities of public authorities (central and regional) do not ensure complete safety or sufficient supply of fresh water at all times for every need, because this is impossible. The Water Act provides for standards and obligations for public authorities. On account of the provisions in the Water Act, individuals<sup>12</sup> should know what the responsibilities and duties of the public authorities are and when they are responsible for taking measures themselves.<sup>13</sup>

### 3.2.2.1 *Recent development of responsibilities for water quality*

In Dutch water management, it was commonly accepted that protection and improvement of water quality is the responsibility of the state (*Rijkswaterstaat*) and the regional water authorities.<sup>14</sup> The most important Act addressing water quality is the Pollution of Surface Waters Act (*Wet verontreiniging oppervlaktewateren*) which came into force in 1970. This Act obliges the water authorities to manage water quality in their territory. Another relevant factor that changed the view of water quality management in the Netherlands is the European Water Framework Directive.

Drinking water is a separate subject in the world of water management in the Netherlands. The Drinking Water Act (*Drinkwaterwet*) came into being in 2011.<sup>15</sup> This Act obliges central governmental bodies to ensure the sustainable security of the public drinking water supply. The responsibility for the supply to households and firms is entrusted to the private drinking water companies. These companies are semi-public bodies, controlled by public bodies. In practice, the great majority of the shares of the drinking water companies are owned by provinces and municipalities.<sup>16</sup>

The Pollution of Surface Waters Act is one of the eight statutes that were integrated in the Water Act in 2009 together with the obligations stipulated in the Pollution of Surface Waters Act.

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12 Private individuals and companies.

13 Rijswick & Havekes 2012, p. 6.

14 Rijswick & Havekes 2012, p. 155.

15 *Bulletin of Acts, Orders and Decrees (Staatsblad)* 2009, 307.

16 Rijswick & Havekes 2012, p. 157.

### 3.2.2.2 Recent development of responsibilities for flood risk management

The historical overview shows that flood risk management (FRM) originally was pre-eminently the main task of water authorities in the Netherlands.

The state is responsible for the coastal defence and management of the dikes and sea walls closing off the main marine inlets (*Afsluitdijk, Oosterscheldekering, Maeslantkering* etc.). The regional water authorities are responsible for the primary flood defence structures (dikes and dunes).<sup>17</sup> Until 2013 the costs of large investments made by the regional water authorities were 100% covered by state budget, due to the fact that the primary flood defence structures did not live up to the standards and the coastal defence.<sup>18</sup> In July 2013, the Water Act was changed. A new financial policy came into force in order to divide the costs more equally among the different regional water authorities and therefore among the flood-prone areas.<sup>19</sup> Currently regional water authorities have to contribute part of the costs of the necessary measures to maintain the primary flood defence structures. This is part of a national programme to reinforce primary flood defence structures that do not live up to the norms of the Water Act: the new Flood Protection Programme 2014-2019 (*nieuwe Hoogwaterbeschermingsprogramma 2014-2019*). This programme is a cooperation between different water managers. The financial provisions are part of the Water Act, but the concrete budget must be approved by the Lower Chamber. Within this programme different reinforcement projects are carried out. The programme itself is not part of the formal decision-making process. All decisions necessary for the projects in the programme to be carried out must pass the normal decision-making procedures of the Water Act.<sup>20</sup>

Recently, a discussion was started about multi-layered safety within the framework of the Delta Programme. In the municipality of Dordrecht, for example, a strategy was introduced called 'the self-reliant island' (*zelfredzaam eiland*), which should be implemented in the Delta Programme 2014.<sup>21</sup> However, stimulating people's self-reliance does not diminish the responsibility of the state and regional authorities with regard to the prevention and limitation of flooding.

## 3.3 ORGANIZATION OF WATER MANAGEMENT IN THE NETHERLANDS

The Netherlands has a territorial as well as a functional decentralization. Territorial decentralization refers to the transfer of public functions from the central Government to a decentralised (regional or even local) authority. Functional decentralization refers to the shift of public functions from the central Government to authorities which are

17 Rijswick & Havekes 2012, p. 154.

18 This was regulated in the Flood Protection Programme.

19 *Bulletin of Acts, Orders and Decrees (Staatsblad)* 2013, 280.

20 Figure 3.2 (Section 3.4.1) shows the relationship between different flood risk plans and programmes.

21 See section 3.4.3.2.

completely organised to fulfil these specific tasks.<sup>22</sup> Regional water authorities are a mixture of both functional and territorial decentralised authorities.

### 3.3.1 Regional Water Authorities

Regional water authorities are decentralised public bodies, which are codified in Chapter 7 of the Constitution. This means that these bodies are similar to the provinces and municipalities, according to the Constitution.<sup>23</sup> Pursuant to article 133 of the Constitution and article 2(1) of the Water Authorities Act (*Waterschapswet*), provinces may establish, dissolve and regulate the duties and organization of regional water authorities in their by-laws. The decentralization principle is implicit in these two articles, just as it is in article 3.2 of the Water Act. The Water Authorities Act includes the procedure to dissolve regional water authorities. Regional water authorities are identified as decentralised public bodies, as are provinces and municipalities in spite of the fact that they are not bodies of general administration, but of functional administration.<sup>24</sup> Regional water authorities have a democratically elected general administration.

### 3.3.2 National Water Authority

Another important water manager, is the National Water Authority: Directorate-General for Public Works and Water Management (*Rijkswaterstaat*). Rijkswaterstaat is constituted by the Decree Establishing the Directorate General for Public Works and Water Management 2013 (*Instellingsbesluit directoraat-generaal Rijkswaterstaat 2013*) and can be defined as an Agency.<sup>25</sup>

### 3.3.3 Provinces

In the Water Act, provinces also have tasks regarding water management despite the fact that they are no water authorities according to the Water Act. Provinces are decentralised public bodies, codified in the Provinces Act (*Provinciewet*). They have a democratically elected Provincial Council (*Provinciale Staten*) and an indirectly elected Provincial Executive (*Gedeputeerde Staten*). The provinces have seven main tasks, including spatial planning, water management, environmental and climate issues and regional infrastructure. They supervise municipalities and regional water authorities regarding some issues. One important duty of the provinces is the supervision of primary flood defences and regional water authorities, the drawing up of regional water plans and granting permits for 'larger scale' groundwater abstractions.<sup>26</sup>

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22 Burkens et al. 2012, p. 268.

23 Nehmelman et al. 2011, p. 15.

24 Nehmelman et al. 2011, p. 35.

25 Decision of the Minister of Infrastructure and the Environment of 11 March 2013, RWS/SDG-2013/12897, *Government Gazette (Staatscourant)* 2013, 7827.

26 Rijswick & Havekes 2012, p. 201.

### 3.3.4 Municipalities

According to the Water Act, municipalities are not water authorities, but they are responsible for the collection and transport of urban waste water (Paragraph 4.8 and 10.5 Environmental Management Act – *Wet milieubeheer*) and rainwater and groundwater in urban areas (Paragraph 3.1 Water Act). In their spatial zoning plans,<sup>27</sup> they have to include a section on water, which explains what the impact will be of the provided development on the water system. Municipalities have other specific water management duties, especially relevant to flood risk management, *i.e.* crisis management.

### 3.3.5 Security regions

The organization of the water management is regulated in Chapter 3 of the Water Act. The main responsibilities for water management are given to the national authority, Rijkswaterstaat, and the regional water authorities.<sup>28</sup> In case of flooding also regional security regions are important, when it comes to evacuations.

The 25 security regions are responsible for regional emergency and crisis management. Together with the affected regional water authorities and the districts of Rijkswaterstaat they have to set up regional risk profiles of flood risk. They also have to make policy plans including the description of the intended operational performance of the services and organizations of the security region, the regional police and the municipalities regarding disaster and crisis management, and crisis plans, which contain the description of the organization, tasks, powers and authorities and responsibilities relating to disaster and crisis management. The mayor of the largest city is the chair of the security region.

## 3.4 FLOOD RISK MANAGEMENT IN THE NETHERLANDS

### 3.4.1 Traditional protection measures<sup>\*29</sup>

In the Netherlands, a defensive strategy against flooding is still leading. This is expressed in the strengthening of dikes as the main approach in flood risk management. The Water Act defines ‘primary flood defences’ as: “flood defence structure that offers protection against flooding.” (article 1.1).

Paragraph 2.2 of the Water Act includes the standards for FRM for each individual flood defence structure section – which are laid down in three Annexes of the Water Act.

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<sup>27</sup> A spatial zoning plan is a legal instrument that includes building and use possibilities and restrictions in a certain geographical area.

<sup>28</sup> Art. 8 Security Regions Act.

<sup>29</sup> The first two paragraphs have been revised, because in 2017 the new safety standards have come into force and therefore, the text written in 2014 was outmoded.

These new standards have implemented the risk approach of the Floods Directive in the Dutch FRM.<sup>30</sup> In the Water Act standards are based on the average probability of exceeding a certain water level. In the flood risk approach standards, the aim is to supplement this probability with the probability of flooding in a dike-protected area (probability x consequence = flood risk).<sup>31</sup> The goal of FRM was set out in the so-called 'April-letter' of the Minister of Infrastructure and the Environment. This aim is threefold:

- *A basic safety level will be guaranteed for every inhabitant who lives behind a dike.* Tolerable individual risk ('the individual loss of life due to flooding') will apply throughout the Netherlands, except for the areas outside the dikes. No-one will be worse off in terms of safety or flood risk management. The tolerable individual risk may not be higher than 1 to 100.000 per year ( $10^{-5}$ ). Emergency management is of vital importance to obtain this objective.
- *The prevention of social irretrievable breakdown because of large groups of casualties and/or extensive economic damage.* Areas with a high risk of large groups of casualties and/or extensive economic damage require investments beyond the standard investments made to guarantee the basic safety level.
- *Special attention must be paid to the consequences of flooding to vital infrastructure.*

All primary flood defences have to be assessed every twelve years (article 2.12 Water Act). The competent water authority has to report the state of the flood defence structures in its competent area to the Provincial Executive, which in turn reports to the Minister of Infrastructure and the Environment, who will report to Parliament. If the flood defence structures do not meet the standards, the competent authority has to take the necessary measures to fulfil its obligations.<sup>32</sup>

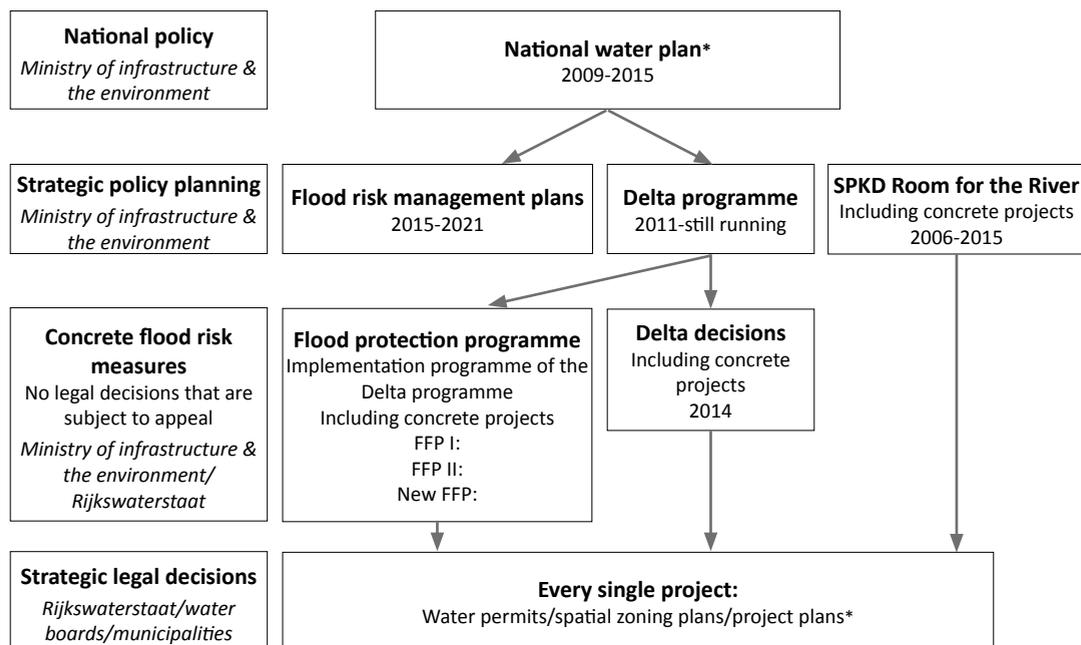
Regional flood defence structures have their own standards, laid down in provincial by-laws. The Association of Provincial Authorities (*InterProvinciaal Overleg*) and the Association of Regional water authorities (*Unie van Waterschappen*) are trying to make the standards and the assessment as uniform as possible, but there can be differences per province, because the standards are not laid down in a general law.

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30 Letter from the State Secretary for Infrastructure and the Environment, *Kamerstukken II 2011/12*, 31710, no. 26. This development is part of the Delta Programme 2013.

31 Rijswick & Havekes 2012, p. 268.

32 Rijswick & Havekes 2012, p. 266.



\* subject to appeal

**Figure 3.2: Relationship between different flood risk management plans and programmes**

The periodic assessments of flood defence structures always reveal primary flood defences that do not live up to the standards. The most recent assessment took place in 2011. The most crucial flood defence structures that do not meet the standards must be reinforced. For this reason the Flood Protection Programme (*Hoogwaterbeschermingsprogramma*) has been developed. This programme grants subsidies to the water authorities in whose area dike reinforcements have to take place. In the period 2014-2019 the New Flood Protection Programme (*nieuwe Hoogwaterbeschermingsprogramma*, nFPP), has the assignment to reinforce 731 kilometres of dikes and 238 flood defence structures, such as dams and sluices. This can be seen as an adaptive approach which provides for continuous monitoring followed up by reinforcements of weak links in the flood safety system.

### 3.4.2 New protection measures\*

After two severe floods in 1993 and 1995 the awareness grew that only investing in dikes was no longer sufficient. Extremely high river discharges will occur more frequently in the future. Hence, it is necessary that the rivers can discharge the predicted greater volumes of water without flooding. Since the Spatial Planning Key Act Room for the River (*Planologische Kernbeslissing Ruimte voor de Rivier*), new projects were taken into consideration, such as the relocation of dikes, the permanent inundation of polders or depolderising, increasing the depth of flood channels, the

removal of obstacles and the construction of flood bypasses. These measures were combined with traditional flood risk management. The Room for the River project targets the areas around the Rhine branches running from Lobith to the Ketelmeer and to the sea at the Maeslant storm surge barrier and the Haringvliet sluices (Upper Rhine, Pannerdensch Canal, IJssel, Lower Rhine/Lek, Waal, Merwede, Nieuwe Maas, Oude Maas, Hollandsch Diep and Haringvliet) and the diked section of the Maas downstream from Hedikhuizen (Bergsche Maas, Amer), as well as the Volkerak, the Zoommeer and the surrounding area.<sup>33</sup> A Spatial Planning Key Decision (SPKD) is an instrument concerning large projects. This Decision is not legally binding, but describes the broad outline of the project. Spatial plans of decentralised authorities should be in accordance with the broad outline of this decision. In case of the SPKD Room for the River, for each project, spatial zoning plans, water permits and project plans are necessary for the projects to be carried out.

Another important Act in the shifting policy of flood risk management in the Netherlands is the new Delta Act (*Deltawet*, which is part of the Water Act) which came into force on 1 January 2012. This new Delta Act allows the Delta Plan to be carried out.

The Delta Act makes it obligatory to produce a new Delta Programme every year. It also provides for a Delta Fund, which provides the necessary funds to carry out the Delta Programme and describes the role of the Delta Commissioner (see section 3.4.3.2).

### 3.4.3 Recent developments

#### 3.4.3.1 Floods Directive

An important European Directive regarding flood risk management, is the Floods Directive (FD).<sup>34</sup> This Directive was initiated following more than 100 severe floods in Europe between 1998 and 2002, including the catastrophic floods along the Danube and Elbe rivers in 2002. Between 1998 and 2004, floods caused some 700 fatalities, the displacement of about half a million people and at least EUR 25 billion in insured economic losses.<sup>35</sup> The Netherlands and France initiated the drafting of this Directive, which came into force in 2007. The objective of the Floods Directive is to establish a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community (article 1) and is based on the river basin approach of the Water Framework Directive (WFD).<sup>36</sup>

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33 *Planologische Kernbeslissing Ruimte voor de Rivier, vastgesteld besluit 19 december 2006*, p. 8.

34 Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks, OJ L 288, 6.11.2007, p. 27.

35 COM(2004) 0472 final.

36 Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, OJ L 327, 22.12.2000, p. 27.

Two important definitions are supplied in article 2:

- *Flood*: the temporary covering by water of land not normally covered by water. This shall include floods from rivers, mountain torrents, Mediterranean ephemeral water courses, and floods from the sea in coastal areas, and may exclude floods from sewerage systems;
- *Flood risk*: the combination of the probability of a flood event and of the potential adverse consequences for human health, the environment, cultural heritage and economic activity associated with a flood event.

The main instruments the FD provides for are the preliminary risk assessment, the flood risk maps and flood hazard maps, and the flood risk management plans. The preliminary risk assessment should be based on available or readily derivable information, such as records and studies on long-term developments, in particular impacts of climate change on the occurrence of floods, to provide an assessment of potential risks (article 4(2) FD). The flood hazard maps are to cover the geographical areas which could be flooded according to the scenarios of a flooding with a low, medium and high probability (article 6(3) FD). The flood risk maps are to show the potential adverse consequences associated with flood scenarios (article 6(5) FD). The flood risk management plans address all aspects of flood risk management focusing on prevention, protection, preparedness, including flood forecasts and early warning systems, and taking into account the characteristics of the particular river basin or sub-basin (article 7(3) FD).

In the Netherlands, the FD has been implemented very soberly and expediently, because FRM in the Netherlands is firmly institutionalised in law, policies and policy programmes.<sup>37</sup> All obligatory instruments mentioned in the FD are ranged by the competent authority that already had responsibilities in the relevant field. The Netherlands decided not to carry out the preliminary risk assessment, because the relevant information was already available to determine the areas in which a significant flood risk existed, based in part on the former Flood Defence Structures Act. Because of this decision maps and plans cover the whole country.

#### Flood risk maps and flood hazard maps

Article 4.9 of the Water Decree (*Waterbesluit*) regulates the responsibility of the production, the actualization and the electronic publication of the flood risk maps and flood hazard maps. Every six years (starting from 2013) the provinces have to revise the maps. The provinces, which were already responsible for general risk maps, are also responsible for the administration of the flood risk maps and flood hazard maps. The initial flood risk maps and flood hazard maps were made by the national authority, based on information supplied by the competent water authorities and the provinces.

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<sup>37</sup> Hegger et al. 2013, p. 76.

### Flood risk management plans

The flood risk management plans are a new addition to the existing plans. Here the national authority also draws up the initial plans. The information is supplied by the regional water authorities and provinces. The Netherlands has to produce flood risk management plans for the river basins Meuse, Rhine, Ems and Scheldt. These four flood risk management plans are – together with the river basin management plans, based on the European Water Framework Directive – part of the National Water Plan. Regional issues of flood risk management are part of the regional water plans.<sup>38</sup> The responsibilities for managing these plans are part of the existing responsibilities of the water managers. Their plans have to be revised every six years starting in 2015.

The explanatory memorandum of the Water Decree states that the role of market parties in flood risk management has to be included into the flood risk management plans.<sup>39</sup>

The FD does not influence the existing responsibilities of public authorities in the field of flood risk management. Existing tasks are extended.

#### *3.4.3.2 Delta Programme and multi-layered safety*

In 2007, the Dutch Cabinet set up a committee chaired by former Minister Cees Veerman to advise the Government about the way in which the Netherlands needed to improve its FRM and keep the freshwater supply in good order, taking into account climate change and social developments. In 2008 the committee made some recommendations. The major recommendation was the need for a Delta Act. This Delta Act provides for a Delta Programme that is necessary to guarantee the safety of the Netherlands against high water and ensure a good freshwater supply. It also constitutes the legal basis for the Delta Fund, which is used to finance the Delta Programme. The Act provides for the appointment of a Delta Commissioner. His task is to ensure that a Delta Programme is drawn up and implemented every year and that progress reports are submitted. So, the objective of the Delta Programme is to protect the Netherlands against flooding and to ensure an adequate freshwater supply in the future. The Delta Act is incorporated in Chapter 4a and Paragraph 7.4a of the Water Act. Since the Delta Act came into effect, the function of the Delta Commissioner has been called into being. The Delta Commissioner is a government commissioner who acts under the direct responsibility of the Minister of Infrastructure and the Environment. The Delta Commissioner guides the process of the Delta Programme, for which he annually submits a proposal. He is responsible for the content of the Programme, which contains the measures to be taken in order to guarantee the safety of the country against high water and ensure a good freshwater supply. The Delta Programme is divided into nine sub-programmes, three national programmes (Safety, Fresh Water, and New Construction and Restructuring) and six regional programmes

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38 Articles 4.5 and 4.11 Water Decree.

39 *Bulletin of Acts, Orders and Decrees (Staatsblad)* 2009 548, p. 46.

(Rhine Estuary-Drechtsteden, South-Western Delta, IJsselmeer Region, Rivers, Coast, Wadden Region). The content of these programmes is a broad outline which is not legally binding. The so-called Delta Decisions, which will arise from the Delta Programme, will be more concrete and form the basis of concrete measures and projects which have legal protection. The Delta Programme 2013 pays attention to multi-layered safety. Prevention (through defence) is the first and most important layer. The second layer is limitation of the effects of flooding by means of spatial planning of the area behind the dikes. The third layer is emergency management. These Delta Decisions, which are policy decisions concerning the main policy directions, are currently in preparation and will be presented to Parliament in 2014.\*<sup>40</sup>

### 3.4.3.3 Concluding remarks

In this section it has become clear that flood risk management has been developing for the past decades. Since the establishment of the first regional water authorities onwards, integration has been taking place and the merger of regional water authorities is still on-going. The Water Act is the main Act that provides for duties and tasks concerning water and flood risk management. Even the recent Delta Act has been integrated into the Water Act. Another aspect that should be noted is that recently new trends have been set and new instruments have been introduced. The implementation of the Floods Directive has resulted in the production of flood hazard and risk maps and flood risk management plans. Other recent developments are the introduction of new safety standards as well as a mitigated and a multi-layered safety approach. These developments can be described as a disintegration of responsibilities regarding flood risk management. These recent developments will have major impact on the Dutch compensation regime for two reasons: a) the regime is closely linked to water and flood risk management and b) most measures taken to diminish flood risk influence private property. In the following sections, the developments are described concerning different compensation regimes in the Netherlands and the connection between the developments in both fields and their mutual influence.

## 3.5 NO-FAULT LIABILITY IN THE NETHERLANDS

### 3.5.1 Concise historical development of no-fault liability<sup>41</sup>

The National Act for the Batavian People by Napoleon of 1798 (*Staatsregeling voor het Bataafse Volk*)<sup>42</sup> included a provision that obliged the state to compensate those who would be expropriated. In 1810 the first Expropriation Act (*Onteiningswet*) came into force. The Zuiderzee Support Act 1925 (*Zuiderzeesteunwet*) included a compensation provision. The largest development in no-fault liability happened in the 20<sup>th</sup> century. In the 1920s a discussion was started about no-fault liability. Instigator of this discussion

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<sup>40</sup> Two paragraphs were replaced to section 3.4.1, because they introduced the new safety standards, that have come into force in 2017.

<sup>41</sup> This section only describes some large developments. If interested, I suggest you read: Tjepkema 2010

<sup>42</sup> The Netherlands was called the Batavian Republic.

was Prof. J.H.P.M. van der Grinten. Compensation of damage was in most cases related to property rights. Some Acts included a regulation, but until the 1950s this was highly fragmented.<sup>43</sup> After the North Sea Storm in 1953 the Disaster Relief Fund (*Rampenfonds*) compensated the damaged parties, providing them with funds to restore their properties to pre-storm conditions. Other Acts dating from that period are the Forest Act of 1961 (*Boswet*), the Spatial Planning Act of 1965 (*Wet Ruimtelijke Ordening*) and the Monuments Act of 1961 (*Monumentenwet*). They included a compensation regulation as well. Only decisions based on one of these Acts opened the way for compensation. However, not every damage-causing decision was based on an Act that included a compensation regime. For damage caused by such a decision, the damaged party had to resort to a civil procedure in order to be compensated. This was considered to be undesirable, because the lawfulness of the decision was not at stake, only the question of compensation was challenged. Van der Gouwe, at the time working at Rijkswaterstaat, developed a regime called ‘compensation by the administration’ (*bestuurscompensatie*). He filled the gap between damage caused by a decision based on an Act that provided for compensation and damage caused by other lawful decisions or lawful acts. The regime of compensation by the administration has been developed further in case law by the Council of State and the Supreme Court.<sup>44</sup> Because of the case law, it was generally accepted that a damaged party can ask for compensation, whether a regulation existed or not. This extralegal compensation is based on the French principle of equality before public burdens (*égalité devant les charges publiques*). In 1990 Van der Gouwe codified this compensation by the administration in the ‘no fault-liability regulation’ by Rijkswaterstaat (*Regeling nadeelcompensatie Rijkswaterstaat*).<sup>45</sup>

### 3.5.2 Recent no-fault liability regimes in the Netherlands

The Rijkswaterstaat regulation was renewed in 1999, entitled: Regulation of No-Fault Liability of the Ministry of Transport, Public Works and Water Management 1999 (*Regeling Nadeelcompensatie Verkeer en Waterstaat 1999*, Regulation of V&W’99). This regulation is the basis of a number of compensation of damage decisions if the damage is caused by measures to prevent flooding. Before being merged into the Water Act, different Acts regarding water management included compensation provisions based on the *égalité* principle. An exception is the Groundwater Act (*Grondwaterwet*), which provided for full compensation instead of partial compensation, as the other Acts (and the Regulation of Rijkswaterstaat). By implementing the Groundwater Act as part of the Water Act, the leading principle is still full compensation for damage caused by groundwater management. The starting point of this compensation regulation is different from that of the other ones. Here the license holder should compensate the damage caused by them, which most of the time is not a public authority. The

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43 For more elaboration on the general discussion: Tjepkema 2010, sec.2.6.

44 For example: ARRvS 12 January 1982, AB 1982/299 (*Paul Krugerburg I*), HR 19 January 1991, NJ 1992, 638 (*Leffers*).

45 *Government Gazette (Staatscourant)* 1990, 251.

public interest is not always at stake in case of groundwater extractions. Therefore this divergent regime still exists.

Since the Water Act came into force, paragraph 7.3 provides the substantive framework for the compensation of damage as a result of a lawful exercise of a power or responsibility exercised in water management. This means that this regime applies not only to the central Government (Rijkswaterstaat), but also to the regional water authorities and even to the provinces and municipalities if they are conducting activities in the field of water management – although municipalities do not belong to the category of water managers. The Water Act has no procedural provisions, which means that every regional water authority and every municipality has to formulate its own regulation concerning this procedure.

In addition to the Water Act and the different regulations in the field of water management, the Spatial Planning Act is relevant, because it has its own regime in the compensation of damage caused by planning decisions, such as a spatial zoning plan, so-called ‘planning blight’ (*planschade*). The compensation regime – renewed in 2008 in the Spatial Planning Act – has partially been brought into line with other no-fault liability regulations. Before 2008 the Spatial Planning Act had no link with the *égalité* principle, but in 2008 this principle was incorporated into the new compensation regime regarding damage caused by planning decisions. At this moment there is a uniform no-fault liability regulation in the General Administrative Law Act (*Algemene wet bestuursrecht*, GALA). Despite the fact that the Lower and Upper Chambers of Parliament have approved this regulation, it has not come into force yet.<sup>46</sup>

In the Dutch system of no-fault liability, the document in which a decision that will cause damage is formulated is seen as the cause of the damage, and not the actual damage occurring as a result of the effectuation of the decision. In most cases only theoretical damage is the subject of compensation.

### 3.5.3 Principle of *égalité devant les charges publiques*

The *égalité* principle – or a derivative of it – is acknowledged in several countries, for example in France, Belgium and Luxemburg.<sup>47</sup> The basic assumption of this principle is that compensation is granted to those who have endured a disproportionately large burden or loss caused by activities pursued by the administration for the common good.<sup>48</sup> It is relevant that the damage must be caused by a conscious act. The principle can be applied only if there is a balance of interests.<sup>49</sup> A burden caused by lawful activities should not be borne by a relatively small group, but should be divided fairly over the society that will benefit from the actions, because the damage-causing activities are pursued in the public interest. However, this does not mean that all damage will be compensated on the basis of the *égalité* principle. Only damage that

46 *Bulletin of Acts, Orders and Decrees (Staatsblad)* 2013, 50.

47 Tjepkema 2010, sec.13.3.2.

48 Fairgrieve 2003, p. 144.

49 Tjepkema 2010, p. 968.

is disproportionately great in comparison to others that are in a similar situation will be compensated. In a society every inhabitant benefits from actions taken by the administration in the public interest. So it is reasonable that every inhabitant should bear an equal part of the burden. This part of the burden is called the *normal social risk*. In order to find out whether a burden is disproportionately large and is not covered by the normal social risk, two criteria have to be fulfilled: the loss must be *abnormal* and it must be *special*.

### 3.5.3.1 *Abnormal burden*

As stated above, compensation is only granted to those who have endured a disproportionately large burden or loss. In other words, the burden must be abnormal. To assess whether the burden is abnormal, one must know what kind of burden is normal. In literature and case law it is accepted that every private party and company in a country should accept a certain amount of discomfort of the normal and correct behaviour of the state, because they are part of the society and benefit from the actions of the state.

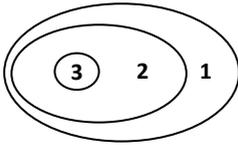
When assessing the abnormal burden, one should take into account different relevant aspects: the nature of the damaging event, the gravity and extent of the damage, the nature of the interest that is at stake (of citizens or companies), and the foreseeability of the measure. The abnormal burden can contain a threshold (a percentage of the value of property or the average yearly income that will remain for the damaged party) or a deduction (a percentage that ought to be deducted from the established damage). When using a threshold or deduction the competent authorities distinguish between citizens and companies. The distinction is expressed in the formulation of the abnormal burden: it is called 'normal social risk' for private parties and 'normal business risk' for companies. Until 2012 the Minister of Infrastructure and the Environment used thresholds from 2% (for private parties) to 15% (companies) without proper motivation. In a judgment, the Council of State ruled that the competent authority must not use a threshold without any good motivation, so the normal social and business risks that are used are now more differentiated than before.<sup>50</sup>

### 3.5.3.2 *Special burden*

If the damage-causing decisions affect a small group, they are considered to have a special burden. In order to assess whether a small group is affected, a reference group must be distinguished. The reference group consists of people who have been affected by the damage-causing decision, but in a less dramatic way. If the claimant has suffered a burden that is disproportionately heavy in comparison with the reference group, he and his claim are considered to be special.

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50 Council of State 5 December 2012, *JB* 2013, *Gst.* 2013, 12, *BR* 2013, 46.



1. All pig farmers in the Netherlands
2. Pig farmers in the Netherlands who use swill
3. Leffers

**Figure 3.3: Special burden**

A judgment of the Dutch Supreme Court, *Leffers*,<sup>51</sup> may illustrate the criterion of the special burden. In this case the Dutch Government forbade the feeding of pigs with swill, because feeding with swill might increase the risk of hog cholera. In theory, this action affected all pig farmers in the Netherlands, because none of them could use swill any longer (Group 1 in figure 3.3). Some pig farmers of this first group, who had never used any swill, were not affected by the decision. However, pig farmers who did use swill were more strongly affected by the decision of the Government than the former group. So the decision affected Group 2 much more strongly than Group 1, because these farmers experienced damage. That is why they could serve as a reference group (Group 2). One pig farmer (Leffers) had focused his operational management on feeding with swill only. The prohibition obliged him to reorganise his whole business, causing him to suffer great damage. The Supreme Court ruled that in this case, Leffers' burden because of the new prohibition was disproportionately large in comparison to others who were in a similar situation (the reference group).

### 3.5.3.3 Foreseeability or risk acceptance

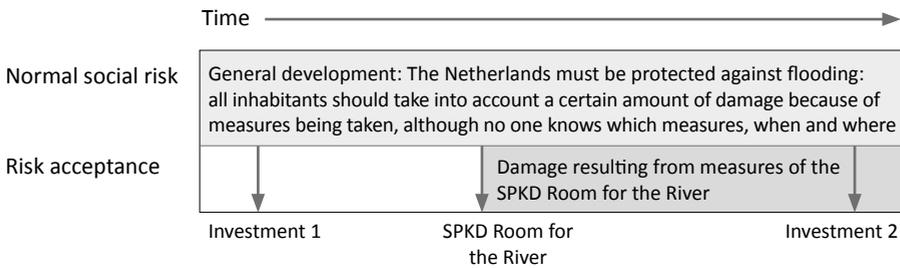
Another very important criterion is foreseeability (*in concreto*) or risk acceptance. Both formulations are common in literature. In this article 'risk acceptance' will be used, because it prevents confusion, in contrast to foreseeability, as foreseeability *in abstracto* plays a role in assessing the normal social risk.

The crucial moment for assessing risk acceptance is the time of investment. In order to assess risk acceptance, the question must be answered whether the damage-causing decision could have been foreseen by the damaged party at the time of the investment (the moment that one decides to buy property, to enlarge a company or not to use certain possibilities (*e.g.* when a spatial zoning plan allows certain developments and the owner does not use these possibilities)).

Figure 3.4 shows the difference between the normal social risk and risk acceptance on a timeline. Everyone in society should be aware that measures will be taken in order to protect them against flooding, although no one knows what form these measures will take, and when and how they will be executed. In the course of time, all inhabitants might encounter some disadvantage because of these general developments. These general developments will be assessed within the normal social risk. However, when measures take the form of concrete plans it is important to know when the decision to invest was made in order to assess whether damage falls under risk acceptance or not.

<sup>51</sup> HR 19 January 1991, NJ 1992, 638 (*Leffers*).

In figure 3.4, Investor 1 will be compensated for part of the damage caused by concrete measures to mitigate flood risks under the SPKD Room for the River, because the damage that will be caused by the planned concrete measures was not foreseeable (no risk acceptance). But the damage will not be fully compensated, because part of it falls within the scope of the normal social risk. Investor 2, however, will receive no compensation whatsoever, because he could have foreseen the concrete damage (and he is considered to have accepted the risk of the damage).



**Figure 3.4: Distinction between normal social risk and risk acceptance**

### 3.5.3.4 Not otherwise guaranteed

Another aspect is the question whether compensation of damage is otherwise guaranteed. If for example someone is insured for certain damage and the insurance company will compensate, the administration will not compensate the same damage as well. In some cases (a part of) the property that has been damaged will be expropriated. Damage to property that has been expropriated will not be compensated either.

## 3.6 SUBSTANTIVE NO-FAULT LIABILITY IN FLOOD RISK MANAGEMENT

### 3.6.1 Water Act

As mentioned above, the Water Act plays a large role when it comes to no-fault liability in water management in general. The same applies to flood risk management.

The Water Act elaborates on the no-fault liability system as developed by the practice of Rijkswaterstaat and case law over the years.

The *égalité* principle forms the basis of this regime and is expressed in, for example, the text of article 7.14 Water Act: "any person who suffers or will suffer damage as a consequence of the lawful exercise of a water management duty or competence shall, at his request, be awarded compensation by the administrative authority concerned where such damage should not within all fairness remain for his account and where compensation is not or not sufficiently otherwise guaranteed."

Similar provisions are found in Regulation V&W'99, the GALA and various regulations of regional water authorities. As long as article 4:126 et seq. GALA has not come into force, article 7.14 of the Water Act is the legal framework for compensation of damage caused by measures to prevent flooding. A special position is given to the Room for the River Regulation (hereafter: RRR). The Room for the River project consists of different measures to give water more space in order to bring the protection of the riverine area to the required level. Although it is not common, this project has its own compensation regulation, the Room for the River Regulation.<sup>52</sup>

### 3.6.2 Room for the River Regulation

This Regulation differs from the general regulation of the Water Act, but is of great importance with respect to compensation measures regarding the Room for the River project. It is good to note that the RRR was formulated before the Water Act came into force. At the time, there was no general regulation and the regulation of the Ministry of Infrastructure and the Environment did not fulfil the needs of the project. One of the characteristics of the project was that the measures were carried out by different competent authorities, meaning that the competent regional water authority carried out the necessary project plans and permits, the municipality provided for the spatial permission in a spatial zoning plan and the provinces were responsible for the regional spatial coordination. Consequence of this method of collaboration was that damage was caused by different decisions and that different authorities were competent to decide on compensation claims. This was, of course, undesirable, so the RRR has as its main objective the harmonization of the different compensation *procedures*. It does not contain any substantive provisions (as the Water Act and the Spatial Planning Act do). The RRR stated that the compensation procedures are carried out by the Minister of Infrastructure and the Environment but the substantive provisions of the different regulations (Regulation of V&W'99, Spatial Planning Act, regulations of municipalities) must be applied, so the RRR only created a so-called 'single office': damaged parties can submit damage claims with the Minister, who will take care of the correct procedure and substantive norms, even if these substantive norms differ per measure.

It is important to know that because of the RRR different substantive compensation regimes exist at this moment: if a measure is carried out as part of the Room for the River project, the provisions of the Spatial Planning Act are possibly applied, while for a similar measure outside the scope of the project the material provisions of the Water Act are applicable (see section 3.6.3).

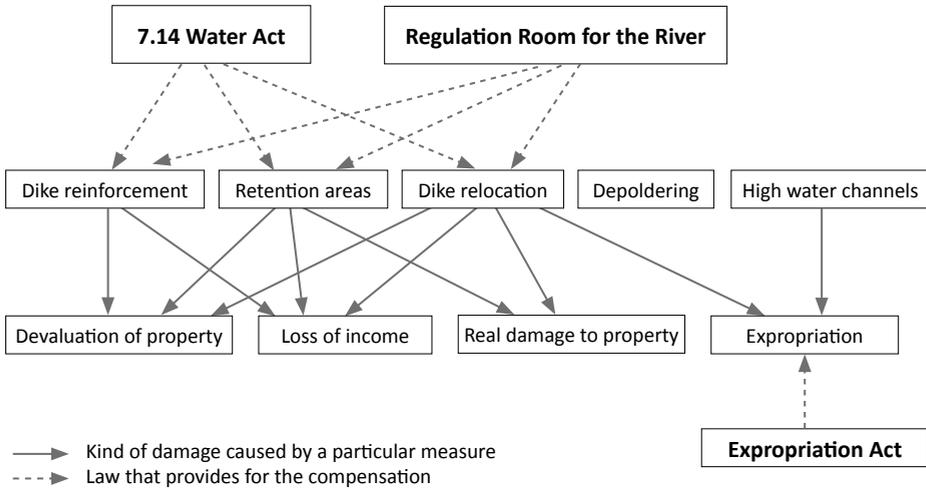
### 3.6.3 Cause and damage

It is important to know what kind of damage can occur because of flood risk protection measures. The text of article 7.14 Water Act is very broad. All damage – if resulting from a water management duty or competence – can be brought under this article. As stated in section 3.5.2, in the Netherlands it is accepted that not the actual damage,

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<sup>52</sup> *Government Gazette (Staatscourant)* 2009, 82.

but the administrative decision that is necessary to carry out the damage-causing action, is the cause of the damage. Figure 3.5 illustrates what kind of damage mostly results from what kind of measures under three different laws.



**Figure 3.5: Legal framework to compensate damage caused by flood protection measures**

Figure 3.5 shows three laws that can provide for *compensation* regarding damage caused by measures to prevent flooding. The striped lines only refer to the legal basis for compensation of damage caused by these measures. They do not refer to the legal basis of the competence to carry out the measures, which is regulated in the Water Act.

The Expropriation Act (*Ontheigeningswet*) is located separately in the figure, because this Act is not part of the regular compensation regimes. Only when a measure causes so much damage that the property becomes useless to its owner will the property be expropriated. Expropriation falls outside the scope of this article, but for comprehensiveness it must be mentioned in the figure.

### 3.6.3.1 Devaluation of property

Three kinds of measures can cause this type of damage: reinforcement of dikes, designation of water storage areas and dike relocation. Devaluation occurs when property – a house, agricultural land, or company premises – loses (part of) its value because of a certain measure. This happens when existing dikes are heightened in order to reinforce them. This can lead to a loss of free view from a private property, or loss of visibility of company premises. When a dike is reinforced, this may have consequences for agricultural land. If, for instance, the protection zone of the dike is broadened the water manager can impose restrictions of use. The designation of water storage areas can also cause devaluation of property – especially agricultural land and in some cases campsites. When a water storage area is designated, this must

be indicated in a spatial zoning plan. Dike relocation may cause devaluation when a property that was located inside the dike, becomes located outside the dike. Even if the level of safety does not change, this measure will lead to devaluation. If the property becomes useless because of the relocation it will be expropriated.

#### Based on the Regulation of Room for the River & Spatial Planning Act

The distinction of legal basis (between Water Act and RRR) is relevant, because the measures of the Room for the River project are still carried out. Most of the measures causing devaluation of property must be part of a spatial plan. Because the RRR does not change the material legal framework for compensation, the measures being part of a spatial plan must be considered as the cause of damage and therefore the damage is considered to be planning blight. Hence, the material provisions of the Spatial Planning Act must be applied. This can lead to the outcome of the decision-making process being different from that for similar measures that are carried out outside the scope of the project, because the normal social risk in the two regimes is different.

#### Based on the Water Act

As stated above, most measures that cause devaluation must be part not only of an instrument of the Water Act (permit, project plan), but also in a spatial plan (spatial zoning plan). Because this can lead to difficult situations in which the competence of the compensating authority may be debated, article 7.16 of the Water Act states that the Spatial Planning Act is not applicable if a damage-causing decision is taken in the field of water management and damage can be compensated based on article 7.14 of the Water Act. Such a situation may arise when a water storage area is designated. So the damage will be assessed with due regard to the provisions of the Water Act. This is a more desirable situation than what the RRR provides for, because it is clear how damage caused by a measure taken within the framework of water management is dealt with.

#### *3.6.3.2 Loss of income*

The second type of damage is a loss of income. If – in most cases – a company temporarily has decreased sales or no sales at all, this is called a loss of income. Increase of transport costs can lead to a loss of income as well. This can be the case when a road is closed because of reinforcement works and the company is not accessible. The designation as well as the operationalization of a water storage area can cause a loss of income. The designation can lead to restrictions of use, which can also lead to a loss of income. Loss of income caused by the operationalization of a water storage area (when it is flooded or swamped deliberately in the event of high water), is called ‘real damage to property’. Dike relocation can lead to a loss of income as well. If roads are relocated, some restaurants or other companies, like ferryboats, may have fewer customers and therefore suffer a loss of income.

### Based on the Regulation of Room for the River & Spatial Planning Act

For loss of income, as for devaluation of property, a distinction must be made to determine whether the measure causing the loss is carried out within the scope of Room for the River or not. If so, the measure must be part of a spatial plan, the damage is considered to be planning blight and the substantive provisions of the Spatial Planning Act must be applied.

### Based on the Water Act

If the measure is carried out outside the scope of Room for the River, the applicable instrument of the Water Act (permit, project plan) is considered to be the cause of damage. Therefore the damage will be assessed with due regard to the provisions of the Water Act.

#### 3.6.3.3 *Real damage to property*

Article 7.15 of the Water Act states: “[...] damage shall also be defined as damage in connection with swamping and flooding where these are the consequence of the relocation of a flood defence structure or of other measures intended to increase the conveyance or storage capacity of water systems.” As a flood protection measure, dikes can be relocated and water storage areas can be designated. In most cases, grounds which are designated as a water storage area are owned by farmers. When designated as water storage area grounds can be flooded or swamped deliberately in the event of high water. This is called the operationalization of water storage areas. As a consequence, (mostly) agricultural ground can be damaged, in the sense that harvest is lost or soil texture is damaged. This type of damage differs from the two mentioned above, because it is not ‘theoretical’ damage: the property is actually damaged. In view of this, some regional water authorities have formulated specific regulations, which only focus on real damage by flooding and swamping.<sup>53</sup> The basic principle of these regulations is full compensation of damage to property. For agricultural damage, norms have been included in most regulations. So these regulations differ from the general regulations based on the *égalité* principle, in which disproportionally damage is compensated. For this type of damage, only the Water Act and the regulations of regional water authorities are applicable.<sup>54</sup>

#### 3.6.3.4 *Expropriation*

Expropriation takes place when a property is required to become part of a body of water, whether through depolderising or for the digging of high water channels.

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53 Regulation inundation of water storage compensation De Dommel, 28 March 2012 (*Uitvoeringsregeling vergoeding inundatie bij waterberging*), Compensation of damage caused by water storage Aa and Maas, 14 February 2012 (*Vergoeding schade bij waterberging*), Policy Document Water storage and damage Brabantse Delta, 7 February 2012 (*Beleidsnota Waterberging en schade*).

54 Doorn-Hoekveld 2013.

However, expropriation falls outside the scope of this article because expropriation is not a matter of damage but of removing the legal ownership of property.

### 3.6.4 Substantive provisions

#### 3.6.4.1 Water Act

Considering the fact that article 7.14 of the Water Act is based on the *égalité* principle, the normal social risk plays a large role in the decision about compensation claims. This means that the abnormal and special burden must be assessed.<sup>55</sup> Risk acceptance and the possibility that the damage is otherwise guaranteed must be assessed as well.

Looking at case law, the Council of State ruled that measures taken to prevent flooding must be seen as a normal development that every inhabitant should take into account. A good example is the judgment of 22 May 2013.<sup>56</sup> In this judgment a private limited company claimed to have a loss of income regarding two hotels because of coastal reinforcement works and asked the competent regional water authority to compensate the loss. The Council of State ruled that coastal reinforcement works should be seen as a normal social development in the public interest, even though the interested parties could not have foreseen the extent and the exact place of measure, and when precisely it would be carried out. Relevant factors in this case were the fact that (a) the regional water authority had announced the works in good time before actual operationalization, (b) the works were carried in the low season, and (c) the hotels were accessible during the works. Of equal importance was the fact that the damage of the private limited company was relatively small in comparison with its annual turnover (less than 1%). The most important statement regarding flood protection, however, is that *in general* one can state that flood protection measures fall within the normal social risk, which every inhabitant should take into account. The special burden was not assessed separately in this case, which is a general trend.

Two more remarks have to be made regarding the compensation regulation of the Water Act. Water storage areas must be designated in the ledger<sup>57</sup> (Water Act) and also in a spatial zoning plan (Spatial Planning Act). This can lead to confusion about which document is the cause of the damage. Article 7.16 of the Water Act states that if a damaged party can claim his damage in accordance with article 7.14 of the Water Act, the Spatial Planning Act is not applicable. Regarding a water storage area, the designation in the ledger can be seen as the cause of damage and therefore article 7.14 has to be applied rather than article 6.2 of the Spatial Planning Act.<sup>58</sup>

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55 *Kamerstukken II*, 2006-200730838, No. 3, p. 133.

56 Council of State 22 May 2013, *AB* 2013, 249.

57 A ledger is a legal instrument that lists the conditions to which water management structures are subject. It includes a map showing the position of water management structures and adjoining protection zones (Art. 5.1 Water Act).

58 Council of State 25 April 2012, *AB* 2012, 178.

The second remark pertains to article 7.15, which states that damage caused by flooding and swamping (the actual damage as referred to in section 3.5.2.3) will be compensated under the Water Act.

#### 3.6.4.2 *Spatial Planning Act*

As stated several times in this section, the RRR does not provide for any substantive norms for compensation but only for procedural provisions. It uses the substantive norms of the applicable regulations. One of these is the Spatial Planning Act. If a spatial instrument, like a spatial zoning plan, causes the damage, this damage is seen as planning blight. In 2008 the Spatial Planning Act was amended and in the compensation regulation, the 'normal social risk' was introduced. Although the regulation is not based entirely on the *égalité* principle, it is slowly developing towards a more similar regulation. However, the difference between the *égalité* principle as codified in the Water Act and the Spatial Planning Act is the absence of the special burden in the latter. The most remarkable difference is that the normal social risk has been objectified in two percentages: a threshold of at least 2% of the value of the property and 2% of the average annual income (article 6.2) for so-called 'indirect planning blight'. In the Water Act, the normal social risk is not objectified at all. The percentage that is agreed on depends on all circumstances of the relevant case and on the water authority, because it has a large discretionary power to determine the normal social risk.

### 3.7 RECENT FLOOD RISK MANAGEMENT DEVELOPMENTS AND COMPENSATION

After describing the main regulations of relevant compensation regimes and the main developments in flood risk management, it is now time to link the new developments to the compensation regimes. The most important shift that has occurred in recent years, is the shift from the more traditional protection measures\* (strengthening and reinforcing dikes) to new protection measures\* (Room for the River, water storage areas), protection thus remaining the most important layer of the multi-layered safety approach.

#### 3.7.1 **Flood Protection Programme\***

As stated in section 3.4.3.2, the most important layer of the multi-layered safety approach is prevention through defence. This is manifest in the Flood Protection Programme, which plans to reinforce 731 kilometres of dikes and 238 flood defence structures, such as dams and sluices. When looking at the kind of damage, this project is likely to mostly cause loss of income and (less) devaluation of property. Considering the fact that the measures are taken in the field of water management, article 7.14 of the Water Act will be applicable. As the Council of State ruled before, it is likely that a large part of the damage will be considered as a normal social development, which every inhabitant should take into account when investing near a river or water

body. As a consequence, less compensation will be granted because of reinforcement measures.

### **3.7.2 Room for the River\***

As mentioned in section 3.6.2 the Room for the River project has its own regulation and its own well-demarcated territory. When it comes to measures taken within the territory of this project, not only the provisions of the Water Act, but also substantive provisions of the Spatial Planning Act are applied. This has consequences for the way in which normal social or business risk is assessed. The compensation is granted by the competent water authority (Minister of Infrastructure and the Environment). Especially the designation of water storage areas may lead to devaluation of (agricultural) land and a loss of income (because of restrictions of use). If the water storage area is part of the territory of the project, the Spatial Planning Act is applied. If the water storage area is not part of this territory, the Water Act is applied. This means that when it concerns a water storage area the outcome of the decision-making process of compensation claims may differ.

However, in event of the operationalization of a water storage area, the starting point is full compensation of the actual damage to the property. In terms of allowing compensation, the outcome of the operationalization within or outside the scope of Room for the River will not be different, because in this case, the regulations of the regional water authorities are relevant. The mitigation measures can have strong influence on the property of private parties and companies. Therefore it is less probable that a court will rule that this kind of damage is a normal social development. Hence, in contrast with the traditional measures, the damage that is caused by mitigation measures will be compensated to a larger extent.

### **3.7.3 Floods Directive**

The implementation of the FD does not lead to specific measures taken to prevent flooding. However, the FD has the obligation to produce flood hazard and risk maps in order to inform the population living in the areas where floods are a serious risk. Flood risk management plans contain scenarios stipulating how the water and crisis managers have to handle cases of flooding. The hazard and risk maps and accompanying plans do not diminish the existing risks, but the areas become publically known as potential risk areas. This may lead to devaluation of property in the areas indicated on the maps, because a potential buyer knows the risks of flooding. However, this probably will not lead to compensation of this devaluation, because it is a matter of awareness and not an action of the state that causes the damage.

Nevertheless these maps and plans may influence the normal social risk addressed in future compensation claims regarding damage caused by concrete measures taken in flood-prone areas. However, from the moment that the risk maps and plans are made public, owners and potential owners have the opportunity to inform themselves about the risk of the property in question. Hence, both owners and potential owners should

take into account that some necessary measures are to be expected, even though the timing and exact location of the measures are uncertain.<sup>59</sup>

### 3.7.4 The Delta Programme and multi-layered safety

At this moment it is uncertain whether the Delta Decisions of 2014<sup>60</sup> are sufficiently concrete to cause damage, as referred to in article 7.14, or whether the actual damage-causing decisions are taken at a lower (decentralised) level – which is more likely. However, it is likely that the concrete damage-causing decisions and actions derived from the Programme are foreseeable from the time that the Programme was published. Because the Delta Programme is part of water management in general, article 7.14 of the Water Act is applicable and damage will be assessed under the scope of this article. Because the Programme itself is not likely to cause any damage and the concrete measures deriving from the Programme are not known yet, it is difficult to predict the kind of damage these measures may cause. Part of the Delta Programme and the way the Minister of Infrastructure and the Environment wishes to proceed, is the strategy of multi-layered safety. The first layer, protection,\* is expressed in the (new) Flood Protection Programme. It is clear that any damage caused by measures taken as part of the first layer is (partly) compensated based on the provisions of the Water Act. The second layer, spatial planning (prevention),\* is more interesting. Any kind of spatial measures can be taken as part of this layer. Most of these measures are not water-related, in the sense that the Water Act is not applicable to these measures. One may consider prohibitions to build, building requirements, certain cadastral manuals etc. In these cases the compensation regulation of the Spatial Planning Act will most likely be applied; the competent authority will be the municipality that is responsible for spatial planning. Without a legal provision to harmonise the compensation procedure, this may lead to different outcomes of the decision-making process regarding compensation claims.

Finally the third layer, emergency management, may lead to all kinds of damage. Devaluation can occur when it is evident that property will be flooded, which may be the case when the flood risk maps and flood management plans show that the relevant areas will be flooded because they are not or less protected (see section 3.7.3), although it is doubtful whether such a claim will be successful.<sup>61</sup> Questions about the range of responsibility of the state for protecting the inhabitants are at stake in such a case. Emergency management can also cause a loss of income. During a crisis, roads can be blocked and property can be used as a ‘secure haven’. This will cause loss of income. Together with the actual damage to property (which is flooded), the damage probably will not be compensated on the basis of the Water Act. When flooding occurs, the Netherlands has one compensation Act as back-up: the Calamities and

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59 See the Explanatory Memorandum of Regulation V&W’99, Government Gazette (*Staatscourant*) 1999, 172.

60 The Delta Decisions include the main choices made in the Delta Programme and guide the measures that will be carried out in the coming years.

61 This can be considered to fall under the preparation strategy of the FD.

Compensation Act (*Wet tegemoetkoming schade bij rampen*).<sup>62</sup> This is a special Act, in the sense that in the event of a disaster it can be called into force by a Royal Decree to compensate damage caused by the disaster. article 4 of the Calamities Compensation Act stipulates the damage that can be compensated based on the Act, *e.g.* loss of income and actual damage to property. It is not the Minister of Infrastructure and the Environment, but the Minister of Internal Affairs who is competent to compensate the damage on the basis of the Calamities Compensation Act. At this moment it is unclear how the Delta Programme and multi-layered safety will be carried out in concrete situations. Hence, it is difficult to estimate the compensation regimes which will be relevant. In any event, problems will occur because of the different compensation regimes which are applicable for the different layers.

### 3.8 CONCLUDING REMARKS

Over the years flood risk management and compensation have been developed both analogously and separately in the Netherlands. Both areas reacted to natural and social events. Generally, disasters were the reason to effect changes, in both flood risk management legislation and compensation regimes. A good example is the North Sea Storm of 1953, which led to the first Delta Plan, followed by the Delta Act in 1957. As to compensation, the Disaster Relief Fund (*Rampenfondsen*) compensated the damaged parties allowing them to restore their properties to pre-storm conditions. The flooding of 1993 and 1995 led to the Delta Major Rivers Act (*Deltawet grote rivieren*) and the mitigation approach of Room for the River. Concerning compensation, these floods led to the Calamities Compensation Act for the compensation of damage caused by disasters.

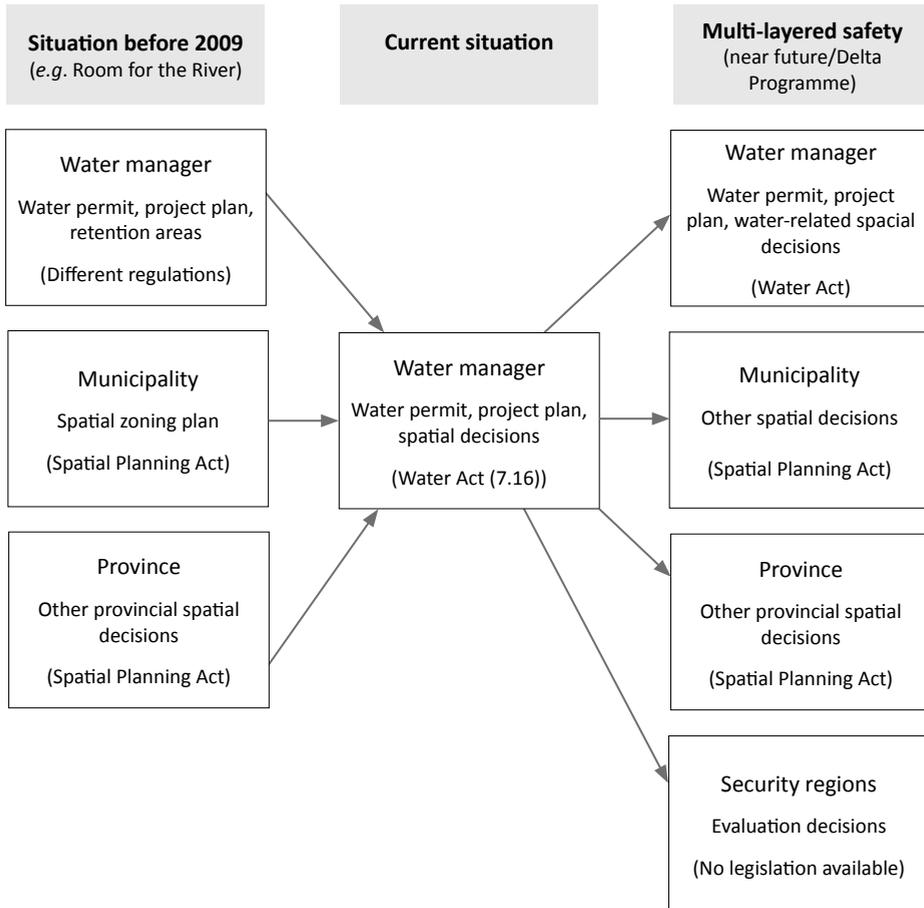
It should be noted that flood risk management is developing toward a more integrated approach, although the traditional protection measures still form the core. \* The Delta Programme and the multi-layered safety approach are carrying out a system which takes into account all effects of flooding and the prevention thereof for society, in accordance with the trend to consider the water system as an integrated system instead of different separated areas. However, at the same time the new trend leads to segmentation of legal responsibilities, because the whole society must be involved. From a water management point of view this is a form of disintegration.

In the field of compensation law for lawful administrative acts, the tendency is to harmonise. In recent years various regulations have been merged into more general regulations and the compensation chapter in the GALA will complete the harmonization procedure of compensation for lawful acts. Although harmonization is desirable, the recent developments in water management have led to different results of compensation procedures, because of the fragmentation of competences resulting from the multi-layered safety approach.

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62 Most recently amended in: Bulletin of Acts, Orders and Decrees (*Staatsblad*) 2010/252.

Figure 3.6 illustrates the development of compensation regimes from the perspective of recent developments of flood risk management. In this figure, the public authority that is responsible for the compensation of damage is placed in the first column; the cause of damage in the second column; and the legislation on which the compensation is based is placed in the third column. In the current situation all responsibility lies with the water manager (regional water authorities or Rijkswaterstaat). It is a perfect harmonization of flood risk management tasks and the compensation of damage caused by those tasks. With no special provisions, this harmonization will be undone by the multi-layered safety approach.



**Figure 3.6: Shift of compensation regimes in view of developments in flood risk management**

The Room for the River project created a solution for the problem of fragmented competences, and article 7.16 of the Water Act (which states that the Spatial Planning Act is not applicable if a spatial decision is taken in the field of water management) tries to do the same. However, spatial decisions taken in the multi-layered safety approach may not all be linked to a lawful exercise of a water management duty or competence to which article 7.14 of the Water Act applies (e.g. the decision not to

build in a certain area without any reservation for water storage): for some spatial decisions the compensation regime of the Water Act is applied, and for some the regime of the Spatial Planning Act is applied.

Another consequence of the multi-layered safety approach and the fact that flood risk and hazard maps are available to the general public might be the increase of the responsibilities of private parties. It more explicitly indicates the flood-prone areas and the consequences for private property. One might expect that this knowledge will lead to enhanced awareness regarding the consequence of certain choices in a certain area (flood-proof investments regarding a building in a flood-prone area for example). I would applaud this possible increase of responsibility and awareness of the Dutch society. Although flood protection is a public task, one could at least expect cooperation with the water managers from Dutch citizens, who have been fighting the water for centuries.

History has shown that large developments of flood risk management were reactive in nature. A disaster was necessary to change flood risk policy and legislation together with the compensation regimes. The Delta Act and the multi-layered safety approach, which is currently developing, are proactive. Because no flood-related disasters have occurred in the last few years, the general sense of urgency is not very high.

Since this lack of urgency might lead to a lack of public support for the measures involved, compensation of damage might be more important in order to create legitimacy of the measures. It is therefore important that the compensation regime is clear.

However, the aforementioned segmentation of compensation regimes caused by the disintegration of responsibilities for tasks in the multi-layered safety approach might lead to an inconveniently arranged mass of different regimes, in which damaged parties will not know what the competent authority and the applicable procedure are for compensation of their loss. This means that the possible dispersion of responsibilities in the multi-layered safety approach does not fit into the more integrated compensation regime trend. I propose to establish a provision such as article 7.16 of the Water Act to regulate the compensation of damage caused by measures taken as part of the multi-layered safety approach for flood protection, in order to make it clear for all parties involved which public authority is responsible for the compensation. This will to some extent prevent the risk that society will reject the measures that are necessary to keep the Netherlands protected against flooding, just because it lacks the necessary sense of urgency.



# CHAPTER 4

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## DISTRIBUTIONAL EFFECTS OF FLOOD RISK MANAGEMENT – A CROSS-COUNTRY COMPARISON OF PREFLOOD COMPENSATION

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*We seek to examine the manner in which either the EU member states of France, the Netherlands, Poland, and Sweden or parts of them, such as the country of England in the UK or the Flemish Region in Belgium, deal with the distributional effects of the flood risk management strategies prevention, defence, and mitigation. Measures carried out in each of these strategies can cause preflood harm, as in the devaluation of property or loss of income. However, different member states and authorities address this harm in different ways. A descriptive overview of the different compensation regimes in the field of flood risk management is followed by an analysis of these differences and an explanation of what may cause them, such as the geographical differences that lead to differences in the way that they interfere with private rights and the dominant legal principles that underlie compensation regimes. An elaborated compensation regime could lead to more equitable and legitimate flood risk management because the burdens are fairly spread and all interests – including those of injured parties – are considered in the decision-making process. Our aim is to stimulate the hardly existent discussion on the financial harm that is caused by measures to prevent floods (preflood), in addition to the already existing discussion on the ex post flood distributional effects.*

*Key words: defense; égalité devant les charges publiques; equity; flood risk management; legitimacy; loss; no-fault liability; preflood compensation; prevention; protection of property rights; solidarity; spatial planning*

### 4.1 INTRODUCTION

The distributional effects of climate change adaptation and flood risk management have been the subject of many papers. Most of these address the issue from an economic perspective<sup>1</sup> or a geographical perspective.<sup>2</sup> Social scientists have also addressed this issue.<sup>3</sup> Loss can be seen as a distributional effect.<sup>4</sup> The distributional effects of floods (*ex post*) are discussed in the literature.<sup>5</sup> Our aim is to stimulate the

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1 Flores & Thacher 2002.

2 Adger et al. 2005; Solecki et al. 2011.

3 Mazmanian et al. 2013.

4 Fullerton 2009.

5 Tapsell et al. 2002; Penning-Rowsell et al. 2005.

discussion on the financial loss caused by measures to prevent floods (preflood). This issue is of interest not only to economists and social scientists, but also to legal scholars. Flood risk management is an important agent in causing distributional effects. Most literature addresses flood risk management as an element of adaptation to climate change<sup>6</sup> or the damage resulting from floods (*ex post*), but the distributional effects of preventive flood risk management (preflood) have hardly been discussed yet.<sup>7</sup> To acquire insights into this aspect, we address the compensation mechanisms used in several EU member states for one specific distributional effect of flood risk management: the lawfully caused harm resulting from measures taken to prevent floods (preflood compensation). The compensation of lawfully caused loss is also called ‘no-fault liability’. This may be available even though in the case of wrongful conduct of a public authority it may also give rise to compensation.<sup>8</sup> This specific topic, however, is outside the scope of this research.

Adger et al. have defined criteria for successful climate change adaptation: equity and legitimacy being two of them.<sup>9</sup> Specifically relevant to the criterion of equity is a fair distribution of adverse effects. We examine the ways in which distributional effects of preventive flood risk management measures are dealt with in England, France, the Flemish Region in Belgium, the Netherlands, Poland, and Sweden. The question that needs to be answered is: *How can the legal similarities and differences of the no-fault liability compensation regimes regarding flood prevention be explained?* By prevention, we mean all measures needed to prevent a flood from occurring. It encompasses, among others, spatial measures, flood defence or flood protection measures, and mitigation measures. Understanding these differences is necessary to gain insight into best practices that might be implemented in the different countries, which are all encountering similar challenges that go with the distributional effects stemming from the prevention, defence, and mitigation strategies. It also enriches the already existing literature that addresses distributional effects of flood risk management. The results can be used as a starting point for comparative research on government liability for harm caused by preventive measures in general, such as animal diseases or climate change mitigation measures.

We first describe the underlying principles of the legal framework in the six countries regarding the relevant compensation regimes for lawfully caused harm. Then we analyse the compensation regimes themselves by elaborating on three concrete measures, namely (1) a dike strengthening, (2) the creation of a water storage or water retention area, and (3) a spatial planning measure. These three measures have a preventative character, which can cause harm to a limited group of people and simultaneously protect a large group of – sometimes different – people. The distributional effects are unequally spread. In order to achieve equity and increase the legitimacy of the measures proposed, some countries compensate the loss caused by the realization

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6 Bodansky 1999; Tol & Verheyen 2004; Mace 2006; Driessen & van Rijswijk 2011; Keessen et al. 2013; Tennekes et al. 2014.

7 Merz et al. 2010; Wilby & Keenan 2012; Doorn-Hoekveld 2014; Broek 2015.

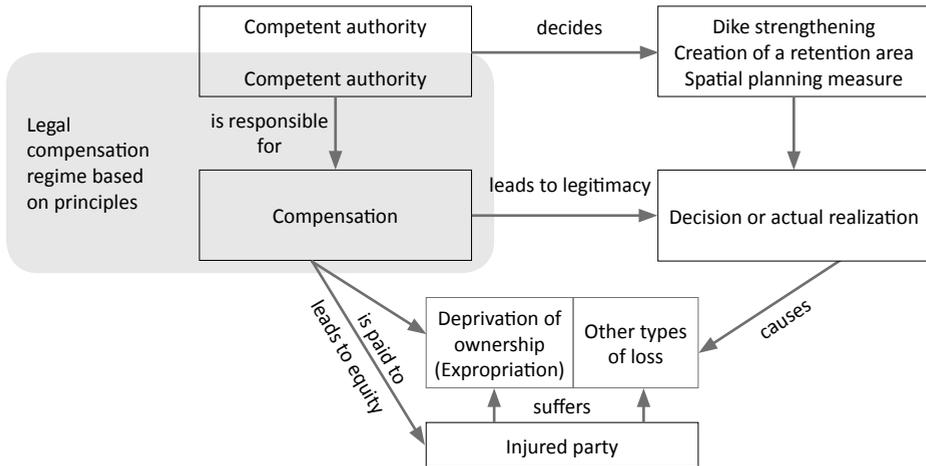
8 Engelhard et al. 2014.

9 Adger et al. 2005.

of these measures, while other countries oblige the injured parties to bear the costs themselves. In the third part of this chapter, we explain these differences between the countries.

## 4.2 CONCEPTUAL FRAMEWORK

The main concepts used are represented in figure 4.1.



**Figure 4.1: Conceptual framework**

Just as a flood can cause harm, the actions taken to prevent a flood can cause harm. In most cases, public authorities can realise measures, such as those previously mentioned, in order to protect a part of the country or a specific area – *e.g.*, a densely populated urban area – from flooding, so that a larger group of people will benefit from this action. At the same time, a limited group of people may face adverse effects from these measures, such as devaluation of property as a result of restrictions on the use of their land, the restriction of their view, a loss of income because of the restrictions on the use of land or the loss of harvest, or even the loss of property in the case of expropriation. These adverse effects constitute the ‘loss’ or ‘harm’.

Loss can be caused by a lawful action. Decisions and actions taken by the authorities for the common good, such as the designation and creation of a water storage area, can be considered to be lawfully undertaken; all substantive and procedural rules have been applied correctly, there has been a balance of interests, and the decision is properly motivated. In many cases, all interested parties consider the decision or action the right thing to do, even those who suffer the loss. Since there is no wrongful conduct, in most cases civil or criminal law does not contain compensation clauses. However, most of the studied countries do have some provisions to compensate the persons in the case of lawfully caused harm. These provisions are based on general principles of law.

A legal compensation regime is the specific regime that is used for the compensation of loss. This differs per country and depends on the underlying general legal principles. The solidarity principle, the principle of the protection of property rights, and the principle of *égalité devant les charges publiques* (equality before public burdens, *égalité* principle) are relevant in the studied cases. The legal compensation regime differs per country, such as the way the compensation is designed and which authority is competent to award damages.

A competent authority is the administrative authority at the national, regional, or local level that has the power to make decisions regarding flood risk management or to realise measures, and that is responsible for these decisions or the realization thereof. It is possible that the authority that is competent for the realization of the loss-causing measure is not the same as the authority that is responsible for paying for the compensation of loss. The competences of authorities are laid down in legislation, and the precise division of powers may differ per country.

A dike, also called an embankment, is a hard flood defence structure that offers protection to its hinterland from flooding by a river, a lake, or the sea. The structure can be strengthened through broadening and/or heightening. When a dike is relocated, it is replaced – or rebuilt – at a different location. Although realization and relocation are not the same as strengthening, it is also discussed here because the harm is similar. These measures entail the need for more space for or around the structure, which may oblige landowners and other rights holders nearby to face disturbances from the surroundings, loss of free view. This can lead to devaluation of property. In other cases, more space is needed to realise the measure, which may determine that the authority must deprive individuals of their land (expropriation). For expropriation and regulation of property, different regimes are applied.<sup>10</sup> Deprivation of possessions leads to compensation based on the market value of the property in all studied countries. The difference between expropriation and the regulation of property is that in the latter case, the ownership is not shifted.

In times of high water discharges, a water storage area – often established on private property – is used to temporarily store water to avoid flooding elsewhere. Harm that might arise consists of loss of ownership of property, devaluation of property, and loss of income because of the reduction of accessibility or possibilities to use the land for economic purposes.

We also focus on a specific spatial planning measure that can prevent flooding: the prohibition to build in, or develop, a flood-prone area. The harm may consist of a restriction on the owner's use of the land in that area; *i.e.* they may not build or develop the land as they might wish, which may lead to devaluation of the property. A prerequisite for the existence of loss is that there was no prohibition in the area concerned before its designation as a flood-prone area.

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10 Mountfield 2002.

The cause of harm is the factual deed, measure, or governmental action, or the written decision in which the action or decision is announced, depending on the legal regime in a specific country. The cause of loss is of crucial importance for compensation. It is necessary to establish the direct connection – causality – between the loss and the cause of loss (*conditio sine qua non*). If this connection cannot be established, no compensation is granted. The injured party can be an individual or a company who suffers loss as result of the measure.

The basic assumption of the *égalité* principle is that compensation is granted to those who have endured a disproportionately large burden or loss caused by activities pursued by the administration for the common good.<sup>11</sup> The *égalité* principle has some aspects in common with the jurisprudence of the European Court of Human Rights regarding, in particular, the First Protocol article 1 of the European Convention of Human Rights (ECHR), but differs on others. The *égalité* principle offers more protection of property rights than the regime of the ECHR.<sup>12</sup>

The principle of equity is important in many fields of law. “Equity is often referred to as fairness, or a fair judgment or reasonableness.”<sup>13</sup> Equity is multifaceted, one of the facets being distributive justice, which refers to the allocation of benefits and costs in a society.<sup>14</sup> This also relates to fair burden sharing, which is connected to compensation, because when the damages of injured parties are awarded, the burdens are considered to be more equally spread.<sup>15</sup> Compensation may thus lead to more equitable flood risk management.

The principle of legitimacy is another relevant legal principle. Buijze defines legitimacy as the extent to which “people have a fair chance to exert influence over decision-making, and people agree that an authority should exist because they are convinced that it brings them a net benefit.”<sup>16</sup> Van Buuren et al. put it as follows: “It is government’s duty to use powers only for the reasons for which they are granted, to avoid the abuse of power, and to create a fair, reasonable, and proportionate balance of public and private interests.”<sup>17</sup> These (participation and acceptability) are two of different facets of this principle. Also accountability, transparency, access to information, and procedural justice are part of this principle.<sup>18</sup> By taking into account the harm to some parties, not only are the first three facets of this principle addressed, but it also helps to further transparency and accountability, and thus the loss-causing decision might be considered to be more legitimate than it would be if damages are not awarded.

The principle of solidarity is also important because it underpins the compensation regimes of different countries. De Beer and Koster have introduced the so called one-

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11 Fairgrieve 2003, p. 144.

12 Barkhuysen & Tjepkema 2006; Tjepkema 2013.

13 Lindhout 2015, p. 21.

14 Fraser 2009; Gregorio et al. 2013.

15 Thomas & Twyman 2005; Driessen & van Rijswijk 2011.

16 Buijze 2013, pp. 42-43.

17 Buuren et al. 2014, p. 1023.

18 Ek et al. 2016.

sided and two-sided solidarity. They define one-sided solidarity as “assisting someone else without expecting anything in return” and two-sided as “[when someone] expects, on balance, to benefit just as much from others as they themselves are contributing”.<sup>19</sup> They also differentiate between voluntary and compulsory solidarity. Voluntary solidarity is the case when people help others on their own initiative. Compulsory solidarity is organised through the state.<sup>20</sup> In flood risk management, one can find a mix of the different types of solidarity.<sup>21</sup>

### 4.3 METHODS

We take a legal approach. In legal studies, a well-known method is legal comparison.<sup>22</sup> It is used to elaborate on the differences and similarities of legal systems in various countries. The aim of a legal comparison is not only to gain insight into different legal systems but also to understand how legal systems function. This may enable the understanding of, for example, a specific policy instrument in the legal context in which it is used. Moreover, this may help to improve or reform the legal system and to achieve an optimisation and harmonisation of law, which may facilitate the implementation of European directives, such as the Floods Directive, in a comparable way. Finally, this may also improve the implementation of flood risk management strategies in transboundary river basins. In order to get a comprehensive overview of specific legal regimes, an in-depth analysis of primary and secondary sources – domestic legislation, jurisprudence, doctrine, and policy documents – must be conducted. This method is characterised as a desk-study approach. By studying not only the legislation of the central government but also decentralised legislation, guidance documents, policy, and case law, this method gives a broad impression of a specific aspect of a country’s legal system.

The legal systems of five countries and one region within a federal country are studied. The countries Belgium, England, France, the Netherlands, Sweden, and Poland are part of the consortium of the STAR-FLOOD-project. For the purpose of this research, these areas were chosen because their pre-flood compensation regimes show interesting similarities and differences. The countries differ institutionally, from highly centralised (England) to decentralised (Sweden) to a federal state (Belgium), and differ from common law (England) to civil law (the other countries), and have some underlying principles in common. Also, the geographical aspects of the countries selected differ highly from densely populated (Flanders and the Netherlands) to sparsely populated (Sweden). Poland differs from a historical point of view, as it is the only country with a Communist background, and the current legal system is still developing. These reasons add to the representative character of the lessons learned in the broader context. The Belgian situation differs from the other countries. In Belgium, competences with regard to environmental issues, water management, and flood risk management pertain to the three regions: the Flemish Region, the Walloon Region, and the Brussels Capital

19 De Beer & Koster 2009; Steinworth 1999.

20 De Beer & Koster 2009, p. 12.

21 Keessen et al. 2016.

22 Ancel 1971; Gorlé, Bourgeois & Bocken 1991; Bussani & Mattei 2012.

Region. These three regions have thus developed their own sets of legislation and policies in this regard. For the sake of comparison, the Flemish Region will constitute the territorial unit of analysis.

In order to explain the differences and similarities, not only must the legal compensation regimes be studied but also the way in which the general regime is applied in concrete situations. We consider three typical preventive measures: a dike strengthening, a creation of a water storage area, and a spatial planning measure. These three measures have been chosen because they represent different preventive flood risk management strategies that are carried out by administrative authorities with responsibilities in the field of flood risk management. To answer the research question, it would not be logical to consider mitigation measures that have to be realised by private parties because in that case the harm would not be caused by the administration and therefore will not be compensated by them. Another reason for these three measures is that in principle they lawfully cause loss to private parties because in most cases they affect private property. The final reason is that other similar measures – *e.g.*, the construction of a dam – could be included under one of these three measures.

The scrutiny of the three measures is necessary to achieve an insight into the explanation of the general compensation regimes regarding flood risk management. Only when we know how the legal compensation regime is applied in a concrete situation can we explain properly how a system works in practice.

## 4.4 RESULTS

### 4.4.1 Principles

General legal principles underlie specific legal regimes or rules (Dainow 1966, Merryman and Pérez-Perdomo 2007). It is relevant to address the dominant principles because they can constitute the explanation of how a specific regime is established and how rules are applied. In this section, the dominant principles of compensation regimes are described.

Property rights are protected by law in all the examined countries. In Belgium, France, the Netherlands, and Poland, the protection is codified in the Constitution and in the Civil Code. In Sweden, it is codified in the Instrument of Government, one of the four constitutional instruments. In England, it is a long-standing principle of Common Law that no one should be deprived of their property by a public authority against their will unless Parliament has expressly provided for such action, which is in the public interest, and compensation should normally be available from the state.<sup>23</sup> The countries are all party to the European Convention on Human Rights, which also aims to protect property rights; the provisions of the ECHR articles 6, 8, and especially Protocol 1 article 1 are consequently applicable.

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<sup>23</sup> Blackstone Commentaries 1778, and confirmed most recently in the UK Supreme Court case of *R [Sainsburys Supermarkets] v Wolverhampton CC*, [2010] UKSC 20.

The protection of this right commonly entails that if the right is breached, proper – and in most cases, full – compensation must be granted. Where expropriation is necessary – *i.e.*, land is needed to realise a measure – all countries provide compensation. Compensation for expropriation has a reparative function: the person affected should not be left in a worse position than those who can avoid it.<sup>24</sup>

In England, the Common Law principle is that the state must be authorised by a specific piece of law, such as the water or planning legislation, which then allows the public authority, with the Minister’s approval, and in the public interest, to take control of the use of the land or property, provided it normally compensates the owner or occupiers. The Human Rights Act 1998 also makes it clear that all public authorities must respect articles of the ECHR. These are, consequently, a part of the law. The calculation of the amount of compensation is based on the equivalence principle; *i.e.*, that the person suffering damages must be no worse or better off financially than before the Authority’s action.<sup>25</sup> Generally, the amount of compensation awarded is for the loss arising from the difference between the market value before and after the work is done.<sup>26</sup>

In Flanders, there is no comprehensive no-fault liability compensation scheme with clear-cut criteria and thresholds applicable. Flanders has developed a whole array of flood risk management instruments, ensuing mainly from the 2003 Decree Integrated Water Policy – for example, the water test, signal areas, and expropriation. All of these policy instruments have, be it directly or not, an effect on how citizens enjoy their properties and how the landscape is categorised in terms of planning destinations. Most of these provide for some sort of compensation. The application of the *égalité* principle to environmental and spatial planning law and practice was not considered until recent judgments by the Court of Cassation and the Constitutional Court. In its 2010 judgment, the Court of Cassation stated that a citizen might be granted compensation for burdens that are greater than those justified by the public interest, even when there is no explicit legal basis for this compensation.<sup>27</sup> In 2012, the Constitutional Court found that the equality of burden sharing generally applies to easements of public interests.<sup>28</sup> This judgment by the Court broadened the scope of the *égalité* principle to restrictions of property in the public interest in general.<sup>29</sup> It is expected that the principle might be applied for pre-flood harm as well, but currently no cases have been brought up for court.

In France, property rights are guaranteed by the Declaration of Human and Civil Rights of 26 August 1789 (art. 17), which is part of the constitutional block. Yet, this right is directly counterbalanced by another principle: the public interest, whereby

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24 Ljungman & Stjernquist 1970; Howarth 2002; Waline 2007; Leonski 2009; Ignatowicz & Stefaniuk 2012; Pauliat 2012; Radwański & Olejniczak 2012; Hostiou 2013; Bengtsson 2015; Garlicki 2015.

25 Department of Communities and Local Government (DCLG), ‘Guidance on Compensation for Compulsory Purchase. London’ (2011).

26 Howarth 2002.

27 Court of Cassation of 24 June 2010, C.06.0415.N.

28 Constitutional Court, 19 April 2102, 55/2012.

29 Van Hoorick 2012.

the administration can infringe property rights.<sup>30</sup> This principle is defined by the administration, under the control of the administrative judge, in order to leave a margin of manoeuvre. If the infringement is excessive (*i.e.*, expropriation), a just and prior indemnity has to be paid to the landowner. Yet, in case of a low infringement, the administration does not have to compensate through an easement restraining the land use. This is a specific application of the *égalité* principle, according to which citizens have to bear all the loss caused by the administration through, for instance, a *non aedificandi* easement contained in a Flood Risk Prevention Plan (PPRI).<sup>31</sup> However, the administrative judge considers that compensation is required if the loss is abnormal and special (for public utility easements based on the Environmental Code).<sup>32</sup> The Parliament has also created a restrictive compensation regime for urban easements in planning documents.<sup>33</sup> Thus, compensation of loss caused by pre-flood measures is exceptional. Only in the case of expropriation, (full) compensation is granted.

Dutch flood risk management is characterised by the principle of solidarity.<sup>34</sup> Landholders pay for the protection of the area of land in which they live or have their property, and which is managed by a regional water authority.<sup>35</sup> The state also partly contributes financially to the construction and maintenance of primary flood defence structures.<sup>36</sup> The underlying rationale is that all Dutch citizens benefit from a safe country, so they should all contribute to keeping the Netherlands habitable. This approach can be explained by the fact that large parts of the Netherlands (about 66%) are extremely vulnerable to flooding and that a serious flood would cause harm to the society as a whole.<sup>37</sup> The thus provided solidarity regards not only financial contributions (taxes) to water management, because it ensures that all taxpayers contribute to flood risk management, but also has an equality aspect because all Dutch inhabitants are granted a certain level of safety. This can be considered a compulsory two-sided solidarity.<sup>38</sup> Closely connected to this rationale is the pre-flood compensation regime, which is developed mainly within the framework of water management. Loss resulting from measures taken in the field of flood protection is usually compensated. Mainly developed within the framework of water management, loss resulting from measures taken in the field of flood protection is usually compensated. The Dutch have adopted the *égalité* principle to create a generally quite well-balanced pre-flood compensation regime.<sup>39</sup> The core of this principle is to compensate those who have endured a disproportionately large burden or loss caused by activities pursued by the administration for the common good.<sup>40</sup> The principle is codified in legislation, such as the Water Act (paragraph 7.3), the Spatial Planning Act (paragraph 6.1), and the

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30 Truchet 1999.

31 Council of State, 29 December 2004, *Sté d'aménagement des coteaux de Saint-Blaine*, n° 257804.

32 CE, 3 July 1998, Bitouzet.

33 Art. L.105-1 Urban Code.

34 Keessen et al. 2016.

35 Rijswick & Havekes 2012; Nehmelman 2014; Wiering et al. 2015.

36 Explanatory Memorandum of the Water Act.

37 Kaufmann et al. 2016.

38 Keessen et al. 2016.

39 OECD 2014b; Wiering et al. 2015.

40 Fairgrieve 2003; Tjepkema 2010; Doorn-Hoekveld 2014.

General Administrative Law Act (title 4.5, not yet into force). Arguably, a consequence of this system is that the public–private divide is out of balance. Compensation is fully the responsibility of the government, and private parties have almost no responsibility of their own to prevent floods or to undertake recovery measures. This differs from countries with a more elaborated *ex post* compensation regime, such as Belgium, England, and France. In the case of private insurance systems, private parties are more likely to take preventive measures themselves.<sup>41</sup> This also has consequences for flood risk management in general, because at first glance, people assume that there is no need to gain awareness of flood risks in their vicinity.

Poland takes a different approach to the issue and places compensation within the proportionality principle. In Poland, the principle of subsidiarity is laid down in the Constitution, and the principle of proportionality is derived from article 31 paragraph 3 of the Constitution. Restrictions on the exercise of constitutional freedom and rights with regard to flood prevention can be established but only by a form of an Act and only if it is necessary to prevent or reverse the consequences of a flood. With regard to ownership, this principle is further strengthened by article 21 paragraph 2 of the Constitution, which states, “Expropriation may be allowed solely for public purposes and for just compensation,” and in article 64 paragraph 3, which stipulates “Property may only be limited by law and only to the extent that it does not violate the essence of property rights.”

In Sweden, compensation resulting from lawful actions is distinguished from the one resulting from unlawful actions.<sup>42</sup> The protection of property rights is of most relevance for the topic at hand. In order to satisfy the public interest, the constitutional provision on the protection of property applies in the case of both expropriation and restriction of use of land and buildings. In relation to expropriation, the provision states that the individual must be guaranteed “full compensation for his or her loss.”<sup>43</sup> Compensation in the case of restrictions to the use of land is constitutionally ensured insofar as the restrictions entail that “the ongoing land use in the area in question is substantially impaired” or result in “considerable loss in relation to the value of the area in question”; the level of compensation in these cases is determined “in accordance with principles laid down in law.”<sup>44</sup> There is, however, no constitutionally protected right to compensation in the case of restrictions that are grounded on the “protection of human health or the environment or on safety reasons.”<sup>45</sup> Here, the right to compensation is thus regulated entirely by law, and the principle is that no compensation is due.<sup>46</sup> In summary, even when the property is not transferred but the freedom to the use of property is otherwise affected by a specific measure, compensation may be due in Sweden.

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41 Suykens et al. 2016.

42 Bengtsson 1999; Hellner & Radetski 2010.

43 Ch. 2, s. 15, par. 2 Instrument of Government.

44 Ch. 2, s. 15, par. 2 Instrument of Government.

45 Ch. 2, s. 15, par. 3 Instrument of Government.

46 See: Government Bill 2009/10:80.

## 4.4.2 Compensation regimes

### 4.4.2.1 Dike strengthening

Under the so-called English Compensation Code, a large body of statutes, case law, delegated legislation, and government guidances, it is possible that the acquiring authority (AA), which includes local authorities, the Environment Agency, or, where they exist, Internal Drainage Boards, will be forced to compensate the owner or long lessee of the land (including buildings) for the compulsory purchase of the land or the loss of certain rights over the use of land, including buildings. Especially important here are the powers of the Environment Agency to organise the compulsory purchase of land or rights over the land, termed Flood Risk Management Works Orders, acquired for flood-related work (S 154 and 165 and Schedule 19 of the Water Resources Act 1991 [as amended]). Local authorities have similar powers (S266 Town and County Planning Act 1990). The Internal Drainage Boards again have powers similar to those of the local authorities in relation to flood prevention measures in non-main rivers under the Land Drainage Act 1991.

These legislative provisions provide that, subject to a Minister's approval and provided it is in the economic or environmental interest of the area, the AA has wide powers to order works or acquire land or interests over the land. The AA may also have to compensate for the loss of rights over the land rather than outright purchase under S7 and S10 of the Compulsory Purchase Act 1968, and where harm is caused by blight or disturbance, under the latter Act or S5 of the Land Compensation Act 1965. Under the Planning Act 2008, where there is a development of a Nationally Significant Infrastructure Project, such as a new airport or major road, the projects will be authorised under this Act, and so will the compensation.

France has a very complex system of ownership of dikes, as dikes may be owned by private owners, an association of private owners, a public authority (state, region, department, commune, public establishment of intercommunity cooperation), or an association of public bodies. Nowadays, for 45% of the dikes, the owner is unknown.<sup>47</sup> These are called 'orphan dikes'.<sup>48</sup> In order to strengthen a dike, expropriation or a public easement is necessary. In this case, different types of actions are possible:

1. expropriation from private landlords in order to have no constructions behind dikes and to control the land;
2. implementation of urban planning's easements (the norms contained in the urban planning documents (PLUs, local land use plan)) and public utility easements (are the norms contained in other legislation (Environmental Code)) in order to partly control the area and the dike; and

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<sup>47</sup> CEPRI 2008, p. 45.

<sup>48</sup> Larrue et al. 2016, p. 160.

3. adoption of administrative police measures in order to force the owner to do the necessary maintenance works.

In the first case, expropriated parties will be fully compensated. However, devaluation of property and a possible loss of income will not be automatically compensated. When an urban planning's easement is acquired, no compensation is provided, except if the very restrictive conditions contained in the article L. 105-1 Urban Code are met. The justification is that compensating all urban planning's easements would be an important constraint on land use planning.<sup>49</sup> In the case of a public utility easement, compensation is possible.

The Flemish and Dutch cases are quite similar. The Dutch regional water authorities and Flemish water managers are responsible for strengthening flood defence structures and are the competent authority to compensate the resulting loss. In the Netherlands, injured parties can ask for compensation based on the codified *égalité* principle (Water Act). Recent Flemish case law has applied the *égalité* principle to restriction of property rights ensuing from a lawful governmental Act, but this has not yet been consolidated in the legal regime regarding dike strengthening. The Dike Decree states that regional water managers should compensate for loss of value of the property, and can be obligated to buy or expropriate it (Dike Decree 1996). In the Flemish Region, expropriation is governed by legislation and gives right to compensation, just as in the Netherlands.

In Poland, compensation for flood protection expropriation is granted mainly by the Special Rules for the Implementation of Investments Act. It regulates acquisition of land required for flood protection constructions and it facilitates the construction process. It is a *lex specialis* to the Real Estate Management Act. Besides expropriation, authorities could also compensate loss according to the contract responsibility, although it is unlikely that authorities would sign a contract with a particular individual or company with such provisions.

In Sweden, the construction and alteration of structures in water areas, as well as measures taken to provide permanent protection against water, are considered 'water operations', and thus require a permit.<sup>50</sup> Water structures can be constructed and consequently owned by private or public persons. The structure is owned by either the owner of the land on which the structure stands or the holder of right (*e.g.*, a special right of coercion) on the basis of which the structure has been constructed on land belonging to another. Landowners can even come together in joint property associations to share the benefits and costs associated with a defensive structure. The owner is obliged to maintain the structure and is not compensated for the connected costs; if someone other than the owner of the water structure has obtained a right to use the structure, both are in principle responsible for the maintenance.<sup>51</sup>

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49 Ministerial Reply, Official Journal of the French Assemblée Nationale, 16 July 1977, p. 4741.

50 Ch. 11, s. 2, 3, and 9 Environmental Code [1998:808].

51 Ch. 11, s. 17 Environmental Code.

For example, if the owner of a structure wants to strengthen or broaden it, they will generally have to obtain a permit to do so. The supervisory authority (normally a County Administrative Board) may issue orders and prohibitions on safety-increasing measures, but only in relation to safety classified dams.<sup>52</sup> Moreover, certain public authorities have the power to seek a revision of an existing permit, with the purpose of, for example, improving the safety of the structure.<sup>53</sup> The revision of water operation permits by initiative of authorities is however rather unusual.<sup>54</sup>

If to carry out a strengthening measure, the permit holder takes possession, or otherwise damages another person's property, they will have to compensate that person.<sup>55</sup> This is also applicable in case the measure is taken on the basis of a permit revision initiated by a public authority.<sup>56</sup> The Expropriation Act (1972:791) is principally applicable in matters of compensation in connection with water operations permits and revisions.<sup>57</sup> Bengtsson et al.<sup>58</sup> explain, however, that expropriation rules are applicable in case of compulsory purchase or comparable means of taking possession over another's land; compensation in case of other damages instead follows tort law rules.<sup>59</sup> Compensation is paid only for the loss that remains after the permit holder has taken preventive or remedial measures.<sup>60</sup>

In cases where a permit revision initiated by public authorities results in, for example, a loss of water or a restriction in the permit holder's right to regulate the water flow, the authority that has sought the revision may have to compensate the permit holder; however, "no compensation is due to the extent the loss or restriction can be deemed an improvement of the safety of the water structure."<sup>61</sup> Since this would be the case when the revision seeks only a strengthening of the structure, it is likely that no damages would be awarded to the permit holder. Even when compensation is due to the permit holder, the compensation is not full.<sup>62</sup>

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52 Ch. 26, s. 9 Environmental Code.

53 Ch. 24, ss. 5 and 7 Environmental Code.

54 See *e.g.* SOU 2014, p. 35.

55 Ch. 31, ss. 16 and 17 Environmental Code.

56 Ch. 31, ss. 20 para. 2-3 and 21, para. 2 Environmental Code.

57 Ch. 31, s. 2 Environmental Code.

58 Bengtsson 2015.

59 Bengtsson 2010.

60 Ch. 31, s. 16 Environmental Code.

61 Ch. 31, ss. 20 para. 1 and 21 para. 1 Environmental Code.

62 See Ch. 31, s. 22 Environmental Code.

Distributional effects of flood risk management

	England	Flanders	France
<b>Competent authority for realisation of dike strengthening</b>	<ul style="list-style-type: none"> <li>◦ Environment Agency (EA), or Lead Local Flood Authorities (LLFA) or Inland Drainage Boards (IDB)</li> </ul>	<ul style="list-style-type: none"> <li>◦ Regional water managers</li> </ul>	<ul style="list-style-type: none"> <li>◦ Private owners, association of private owners</li> <li>◦ Public authority (State, Region, Department, commune, public establishment of intercommunity cooperation association of public bodies)</li> </ul>
<b>Competent authority for compensation</b>	<ul style="list-style-type: none"> <li>◦ The authority that is also competent for the realisation of the damage-causing decision</li> </ul>	<ul style="list-style-type: none"> <li>◦ The authority that is also competent for the realisation of the damage-causing decision</li> </ul>	<ul style="list-style-type: none"> <li>◦ The authority that is also competent for the realisation of the damage-causing decision</li> </ul>
<b>Cause of loss</b>	<ul style="list-style-type: none"> <li>◦ The actual time of notice or entry on land or vesting declaration for the CPO or General Flood Risk Management Works</li> </ul>	<ul style="list-style-type: none"> <li>◦ The project plan</li> </ul>	<ul style="list-style-type: none"> <li>◦ Administrative police decision</li> <li>◦ Public easement</li> <li>◦ Administrative decision relating to public works</li> <li>◦ Declaration of public utility</li> </ul>
<b>Loss</b>	<ul style="list-style-type: none"> <li>◦ Loss of Value of Land acquired</li> <li>◦ Loss of Interests over the land</li> <li>◦ Blight from the works</li> <li>◦ Disturbance</li> <li>◦ Costs of relocation or extinguishing</li> <li>◦ Home Loss-extra 10% of value</li> </ul>	<ul style="list-style-type: none"> <li>◦ Devaluation of property</li> <li>◦ Partial or full dispossession of ownership</li> </ul>	<ul style="list-style-type: none"> <li>◦ Dispossession of ownership</li> <li>◦ Restriction of ownership right: leads to a devaluation of property and a possible loss of income.</li> </ul>
<b>Injured party</b>	<ul style="list-style-type: none"> <li>◦ Owners, leaseholders, some tenants</li> </ul>	<ul style="list-style-type: none"> <li>◦ Property owners</li> <li>◦ Businesses</li> </ul>	<ul style="list-style-type: none"> <li>◦ Property owners, owners of real property rights and “personal” rights (e.g. tenant)</li> <li>◦ Businesses</li> </ul>
<b>Compensation regime</b>	<ul style="list-style-type: none"> <li>◦ Equivalence</li> </ul>	<ul style="list-style-type: none"> <li>◦ Expropriation</li> <li>◦ <i>Egalité</i> principle</li> </ul>	<ul style="list-style-type: none"> <li>◦ Expropriation</li> <li>◦ Compensation of public easement</li> <li>◦ Compensation in case of public works damages</li> </ul>
<b>Relevant principle</b>	<ul style="list-style-type: none"> <li>◦ Equivalence</li> <li>◦ Plus 10% for Home Loss and extra payments for businesses and agricultural owners in certain circumstances</li> </ul>	<ul style="list-style-type: none"> <li>◦ Protection of property rights: <i>Egalité</i> principle</li> </ul>	<ul style="list-style-type: none"> <li>◦ Protection of property rights</li> <li>◦ Equality vis-a-vis government encumbrances</li> </ul>
<b>Who benefits from the damaging causing measures</b>	<ul style="list-style-type: none"> <li>◦ Private parties living and working in the protected area</li> </ul>	<ul style="list-style-type: none"> <li>◦ Inhabitants of area protected by dike</li> </ul>	<ul style="list-style-type: none"> <li>◦ Private parties living and working in the protected area</li> </ul>

	The Netherlands	Poland	Sweden
<b>Competent authority for realisation of dike strengthening</b>	◦ Regional or national water manager	◦ Director of Regional Water Management Board ◦ Provincial Authority of Drainage, Irrigation and Infrastructure	◦ Revision of permit can be sought by Swedish Environmental Protection Agency, Swedish Agency for Marine and Water Management, Kammarkollegiet, Swedish Civil Contingencies Agency, County Administrative Board, municipality
<b>Competent authority for compensation</b>	◦ The authority that is also competent for the realisation of the damage-causing decision	◦ Regional Water Management Board	◦ The permit holder may have to compensate third parties ◦ Compensation is decided by the court
<b>Cause of loss</b>	◦ Project plan	◦ Project plan	◦ Revision of water operation permit
<b>Loss</b>	◦ Devaluation of property ◦ Loss of income ◦ Dispossession of ownership	◦ Devaluation of property ◦ Loss of income ◦ Dispossession of ownership	◦ Dispossession of ownership total or in part damages to another's property caused by the modification of the structure
<b>Injured party</b>	◦ Property owners ◦ Businesses	◦ Property owners ◦ Businesses	◦ Land owners ◦ Holders of special rights
<b>Compensation regime</b>	◦ <i>Égalité</i> principle ◦ Expropriation	◦ Expropriation	◦ For dispossession: Expropriation principles ◦ For damages: Tort law principles
<b>Relevant principle</b>	◦ <i>Égalité</i> principle ◦ Protection of property rights ◦ Solidarity principle	◦ Protection of property rights ◦ Proportionality principle ◦ Subsidiarity principle	◦ Protection of property rights ◦ Compensation
<b>Who benefits from the damaging causing measures</b>	◦ Private parties living and working in the protected area	◦ Private parties living and working in the protected area ◦ Municipalities in protected areas	◦ Persons in the area protected by the structure

Tabel 4.1: Dike strengthening

## 4.4.2.2 Creation of a water storage area

	England	Flanders	France
<b>Competent authority for realisation of retention area</b>	<ul style="list-style-type: none"> <li>◦ Environment Agency (EA)</li> <li>◦ Lead Local Flood Authorities (LLFA)</li> <li>◦ Inland Drainage Boards (IDB)</li> </ul>	<ul style="list-style-type: none"> <li>◦ The water managers (regional, provincial, municipal)</li> </ul>	<ul style="list-style-type: none"> <li>◦ State, local authorities and intercommunality bodies</li> </ul>
<b>Competent authority for compensation</b>	<ul style="list-style-type: none"> <li>◦ The authority that is also competent for the realisation of the damage-causing decision</li> </ul>	<ul style="list-style-type: none"> <li>◦ The initiative taker (public authority) that is mentioned in the water management plan</li> </ul>	<ul style="list-style-type: none"> <li>◦ The authority that is also competent for the realisation of the loss-causing decision</li> </ul>
<b>Cause of loss</b>	<ul style="list-style-type: none"> <li>◦ The actual time of notice or entry on land or vesting declaration for the CPO or General Flood Risk Management Works</li> </ul>	<ul style="list-style-type: none"> <li>◦ Spatial zoning plan (designating the retention area)</li> <li>◦ Project Plan (activating the floodplain)</li> <li>◦ Activation of the area (inundation)</li> </ul>	<ul style="list-style-type: none"> <li>◦ Water management plan (SDAGE, SAGE)</li> <li>◦ Administrative decision of the State (public easements, PIG, DUP, etc.)</li> </ul>
<b>Loss</b>	<ul style="list-style-type: none"> <li>◦ Loss of Value of Land acquired</li> <li>◦ Loss of Interests over the land</li> <li>◦ Blight from the works</li> <li>◦ Disturbance</li> <li>◦ Costs of relocation or extinguishing</li> <li>◦ Home Loss-extra 10% of value</li> </ul>	<ul style="list-style-type: none"> <li>◦ Dispossession of property (expropriation)</li> <li>◦ Loss of income for users of agricultural land and forest lands when floodplain is activated</li> </ul>	<ul style="list-style-type: none"> <li>◦ Devaluation of property (restrictions of use through public easements)</li> <li>◦ Dispossession of ownership</li> <li>◦ Restriction of ownership right</li> <li>◦ Real damage to property (loss of harvest)</li> </ul>
<b>Damaged party</b>	<ul style="list-style-type: none"> <li>◦ Property owners</li> <li>◦ Leaseholders</li> <li>◦ Tenants</li> </ul>	<ul style="list-style-type: none"> <li>◦ Property owners</li> <li>◦ Farmers</li> <li>◦ Users of forestry land</li> </ul>	<ul style="list-style-type: none"> <li>◦ Property owners</li> <li>◦ Farmers</li> <li>◦ Businesses</li> </ul>
<b>Relevant principle</b>	<ul style="list-style-type: none"> <li>◦ Equivalence</li> </ul>	<ul style="list-style-type: none"> <li>◦ <i>Égalité</i> principle</li> <li>◦ Protection of property rights</li> </ul>	<ul style="list-style-type: none"> <li>◦ Protection of property rights</li> <li>◦ Equality vis-a-vis government encumbrances</li> </ul>
<b>Legal compensation regime</b>	<ul style="list-style-type: none"> <li>◦ Equivalence</li> <li>◦ Plus 10% for Home Loss and extra payments for businesses and agricultural owners in certain circumstances</li> </ul>	<ul style="list-style-type: none"> <li>◦ Expropriation (for dispossession)</li> <li>◦ Compensation for easement</li> <li>◦ <i>Égalité</i> principle</li> </ul>	<ul style="list-style-type: none"> <li>◦ Expropriation (for dispossession)</li> <li>◦ Compensation of public easement (for limitation of use)</li> <li>◦ Compensation in case of public works damages</li> </ul>
<b>Who benefits from the loss-causing measures</b>	<ul style="list-style-type: none"> <li>◦ Private parties living and working in the protected area</li> </ul>	<ul style="list-style-type: none"> <li>◦ People living and working in the surroundings of the retention area</li> </ul>	<ul style="list-style-type: none"> <li>◦ Private parties living and working in the protected area. The damaged parties will probably have no direct benefits from this measure</li> </ul>

	The Netherlands	Poland	Sweden
<b>Competent authority for realisation of retention area</b>	◦ Regional water manager (national water manager)	◦ Regional Director of Water Management Board	◦ Municipality
<b>Competent authority for compensation</b>	◦ The authority that is also competent for the realisation of the loss-causing decision	◦ Provincial governor	◦ The authority that is also competent for the taking of the loss-causing decision
<b>Cause of loss</b>	◦ Ledger + spatial zoning plan (designating the retention area) ◦ Project plan (realisation of area) ◦ Duty to tolerate (inundation of area)	◦ Municipal spatial zoning plan (designating the retention area) ◦ Project plan (realisation of area) ◦ Duty to tolerate	◦ Water operation permit
<b>Loss</b>	◦ Devaluation of property (restrictions of use) ◦ Dispossession of ownership ◦ Duty to tolerate a culvert or other hydraulic works ◦ Real damage to property (loss of harvest)	◦ Devaluation of property (restrictions of use) ◦ Dispossession of ownership ◦ Duty to tolerate a culvert or other hydraulic works ◦ Real damage to property (eg. loss of harvest)	◦ Dispossession of ownership total or in part ◦ Harm to another's property
<b>Damaged party</b>	◦ Property owners ◦ Farmers ◦ Businesses	◦ Property owners ◦ Businesses	◦ Land owners ◦ Holders of special rights
<b>Relevant principle</b>	◦ <i>Égalité</i> principle ◦ Solidarity principle	◦ Protection of property rights expropriation compensation	◦ Protection of property rights ◦ Compensation
<b>Legal compensation regime</b>	◦ <i>Égalité</i> principle ◦ Expropriation (for dispossession) ◦ Full compensation for loss caused by inundation	◦ The right to property expropriation compensation ◦ Expropriation (for dispossession) ◦ Compensation for loss caused by inundation	◦ For dispossession: expropriation principles ◦ For damages: tort law principles
<b>Who benefits from the loss-causing measures</b>	◦ Private parties living and working in the protected area. The damaged parties will probably have no direct benefits from this measure	◦ Private parties living and working in the protected area	◦ Persons in the protected area. Damaged parties will probably have no direct benefits from this measure

Table 4.2: Water storage area

In England, water storage areas may be created by either the Environment Agency under water legislation or by Local Authorities under the planning regime; more usually they are created by negotiated agreements and compensation as under the legislation if a Compulsory Purchase Order (CPO) had been used. The compensation regime, which is applicable for loss as a result of a dike strengthening project, is also applied for harm caused by the creation of a water storage area. There is no compensation for the designation of such areas in the Local Plan – only if it is actually used as a water storage area and causes harm.<sup>63</sup>

In France, water storage areas can be created through a water management plan, such as the Water Management Master Plan (*schéma directeur d'aménagement et de gestion des eaux*, SDAGE) or Local Water Management Plan (*schéma d'aménagement et de gestion des eaux*, SAGE), or through other public utility easements, such as a temporary water retention zone (ZRTECR). In the last case, compensation can be obtained by a private arrangement between the public body and the private owner, or if that is not possible, it can be fixed by the expropriation judge. The Environmental Code clearly states that compensation is possible only if the public utility easement creates a material, direct, and certain injury.<sup>64</sup> Yet, if the water storage area is not created on the basis of this legal disposition, the loss is not compensated in the name of the public interest. This is why French public law is always presented as an unequal law.<sup>65</sup>

In Flanders, two causes of loss can be identified: the designation of the area in a spatial zoning plan and the activation of the water storage area by a project plan. However, devaluation because of the designation will not be compensated on the basis of the Decree Integrated Water Policy but may be compensated on the basis of the general spatial planning legislation (Flemish Spatial Planning Code) if the parcel was initially eligible for construction and this is no longer the case due to the spatial plan in question.<sup>66</sup> The explicit right of compensation ensuing from the Decree Integrated Water Policy (art. 17) applies only to farmers and users of forestry land in case of activation of the designated floodplain.

The Dutch consider not the factual deed, measure, or governmental action but the written decision in which the action or decision is announced as the cause of harm; *e.g.*, in the case where a restriction of property leads to devaluation of that property, the spatial zoning plan in which the restriction is included is considered to be the cause of loss.<sup>67</sup> The creation of the water storage area is laid down in a ledger (map) of the regional water authority and a spatial zoning plan of the municipality. For the devaluation of property, the injured party may choose which route they want to take to get compensation: by the regime of the Spatial Planning Act or by the *égalité* principle of the Water Act. The project plan based on the Water Act, which includes the

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63 R Lindley v East Riding CC [2016] UKUT 6.

64 Art. L. 211-12 Environmental Code.

65 Cans et al. 2014.

66 Art. 2.6.1 Flemish Spatial Planning Code; De Smedt 2014.

67 Doorn-Hoekveld 2014.

actual 'construction' of the area, can also cause devaluation of property, for which the regional water authority is competent to compensate. The last is the real inundation of the area. Only in the last case will full compensation be granted by the regional water authority.<sup>68</sup> In the case of water storage areas, expropriation is not common.

In Poland, the competent authority which creates the water storage area (regional director of the Water Management Board) is not the same as the authority which has to fully compensate the loss (provincial governor). However, if the property is only partially occupied, or the owner cannot use the remaining part of the property for their purposes, the owner can oblige the Public Treasury to purchase the whole property. There is a wide approach on devaluation of property. It includes not only the physical damage to property but also opportunity costs – loss of potential benefits. The loss of potential benefits may be – in certain cases and to a certain extent – taken into account by the experts pricing the value of property.

The creation of water storage areas is uncommon in Sweden. It should however be considered that most major rivers in Sweden are regulated except for the purpose of hydropower production; this reduces high flows in the spring but may also intensify risks in the summer and fall.<sup>69</sup> Johannessen has studied flood risk management practices in a highly flood vulnerable Swedish municipality, and concluded that they are focused on flood control in the urban area, and thus neglect opportunities for flood abatement in the river basin through, for example, the creation of wetlands in upstream forest and farming areas.<sup>70</sup> The author indicates that while there are compensation schemes for farmers that manage wet grasslands or create wetlands, they would not be applicable for flood buffering services. The creation of a water storage area by a public authority (most likely a municipality) would require a water operations permit. This would activate the compensation rules that have been explained in the previous section.

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68 Doorn-Hoekveld & Groothuijse 2015.

69 Thorsteinsson et al. 2007.

70 Johannessen 2015.

## 4.4.2.3 Spatial planning measures

	England	Flanders	France
<b>Competent authority for spatial planning measure</b>	<ul style="list-style-type: none"> <li>◦ LLFA Local Planning authority and EA</li> <li>◦ With minister's approval</li> </ul>	<ul style="list-style-type: none"> <li>◦ Municipality, Province, Region</li> </ul>	<ul style="list-style-type: none"> <li>◦ State</li> <li>◦ Communes or intercommunality bodies</li> </ul>
<b>Competent authority for compensation</b>	<ul style="list-style-type: none"> <li>◦ Acquiring Authority</li> </ul>	<ul style="list-style-type: none"> <li>◦ The authority that has drawn up and issued the Spatial Implementation Plans</li> </ul>	<ul style="list-style-type: none"> <li>◦ No compensation, except in case of the illegality of the spatial planning measure.</li> </ul>
<b>Cause of loss</b>	<ul style="list-style-type: none"> <li>◦ No compensation for the actual plan. Only for the flood works if relevant</li> </ul>	<ul style="list-style-type: none"> <li>◦ Spatial implementation plan</li> </ul>	<ul style="list-style-type: none"> <li>◦ Local Plan</li> <li>◦ Flood risk prevention plan (PPPRI)</li> </ul>
<b>Loss</b>	<ul style="list-style-type: none"> <li>◦ Devaluation of property</li> </ul>	<ul style="list-style-type: none"> <li>◦ Devaluation of property: planning blight is granted when, on the basis of a spatial implementation plan, a parcel is no longer eligible to be built upon whilst the day prior to the entry into force of the final SIP, the parcel was indeed eligible for building permit (however, eight exception regimes apply)</li> </ul>	<ul style="list-style-type: none"> <li>◦ Devaluation of property (loss of possibilities to develop land)</li> <li>◦ Restriction of ownership right</li> </ul>
<b>Damaged party</b>	<ul style="list-style-type: none"> <li>◦ Residential owner occupiers of private property or business premises</li> </ul>	<ul style="list-style-type: none"> <li>◦ Private owners</li> <li>◦ Businesses</li> </ul>	<ul style="list-style-type: none"> <li>◦ Property owners</li> </ul>
<b>Legal compensation regime</b>	<ul style="list-style-type: none"> <li>◦ Planning blight</li> </ul>	<ul style="list-style-type: none"> <li>◦ Compensation for less value: property law and <i>égalité</i> (has to go through judicial proceedings)</li> </ul>	<ul style="list-style-type: none"> <li>◦ No legal compensation regime because of the public interest</li> </ul>
<b>Relevant principle</b>	<ul style="list-style-type: none"> <li>◦ Equivalence</li> <li>◦ Plus 10% for Home Loss and extra payments for businesses and agricultural owners in certain circumstances</li> </ul>	<ul style="list-style-type: none"> <li>◦ Resent rise of the <i>égalité</i> principle but not absolute</li> </ul>	<ul style="list-style-type: none"> <li>◦ Public interest</li> </ul>
<b>Who benefits from the measures</b>	<ul style="list-style-type: none"> <li>◦ Those protected by the future restrictions</li> </ul>	<ul style="list-style-type: none"> <li>◦ Long term benefits for the community as a whole</li> </ul>	<ul style="list-style-type: none"> <li>◦ People are protected in the future, because they will not be flooded, but at the moment they face the restrictions, they will not have any benefits</li> </ul>

	The Netherlands	Poland	Sweden
<b>Competent authority for spatial planning measure</b>	◦ Municipality	◦ Municipality	◦ Municipal planning and building committee ◦ Municipal assemblies
<b>Competent authority for compensation</b>	◦ Municipality (probably the water manager that forced the municipality to take this measure will pay eventually)	◦ Provincial governor	◦ Municipality
<b>Cause of loss</b>	◦ Spatial zoning plan	◦ Local spatial zoning plan	◦ Change or revocation of a detail plan during its implementation period (5-15 years)
<b>Loss</b>	◦ Devaluation of property (loss of possibilities to develop land)	◦ Devaluation of property (loss of possibilities to develop land)	◦ Devaluation of property and other harm caused by the measure ◦ If the decision causes the use of the property to be significantly hindered, the municipality must redeem the land
<b>Damaged party</b>	◦ Property owners ◦ Businesses	◦ Property owners ◦ Businesses	◦ Land owners ◦ Holders of special rights
<b>Legal compensation regime</b>	◦ <i>Égalité</i> principle (based on the Spatial Planning Act)	◦ The right to property expropriation compensation	◦ Expropriation principles (exceptions applicable)
<b>Relevant principle</b>	◦ <i>Égalité</i> principle ◦ Solidarity principle	◦ The right to property expropriation compensation	◦ Protection of property rights ◦ Compensation
<b>Who benefits from the measures</b>	◦ People are protected in the future, because they will not be flooded, but at the moment they face the restrictions, they will not have any benefits	◦ People are protected in the future, because they will not be flooded, but at the moment they face the restrictions, they will not have any benefits	◦ People are protected in the future, because they will not be flooded, but at the moment they face the restrictions, they will not have any benefits

Table 4.3: Spatial planning measures

In England, under the planning legislation, there is no right to compensation in general for the granting or refusal of planning permission. Equally, no compensation is incurred by the drawing up of a local plan. There are slightly different rules in relation to claiming any compensation depending on the type of land or the rights over the land being acquired, such as residential, agricultural, or business land, or whether the claimant is an owner, leaseholder, or mere occupier. Certain categories of owners and long lessees may claim compensation, even if their actual land or rights are not being compulsorily purchased. Residential owner-occupiers of private property or business premises may claim if the value of their land is reduced because of the planning development by serving Blight Notices under Schedule 13 of the Town and Country Planning Act 1990 on the AA. This requires the AA to purchase the property at its so-called 'Untainted Value' or the previous value. Others who have their land devalued due to partial CPOs or due to the use of public works may also claim for the reduction in value of their land. If the AA decides against such compensation or the amount, or refuses to acquire the property, there are the possibilities of challenges to the Upper Tribunal, lands chamber. Compensation may include loss of profits or for goodwill of the business, but each case will depend on the claimant proving loss.<sup>71</sup>

In France, the restriction of the right to build or change a building imposed by a general planning document (*Plan Local d'urbanisme*) or a sectorial planning document (*Plan de Prévention des Risques*) is a major cause of pre-flood harm. In most cases, these restrictions can cause harm because the property right is partly limited. The French Parliament has chosen not to compensate loss caused by an urban planning's easement.<sup>72</sup> However, the administrative jurisdiction created an exception in order to allow compensation in very limited cases: when the easement violates an existing situation or acquired rights, or when it leads to disproportionate loss to the public interest justifications.<sup>73</sup> In this case, these exceptions have been translated into the Urban Code, but they are very limited, and compensation is extremely rare.

In the Flemish Spatial Implementation Plans (SIPs), the municipality, province, or region can include prohibitions to build in specific areas. To compensate this loss in value, planning blight (loss caused by the alteration of spatial plans) is awarded. Planning blight is granted when, on the basis of an operational SIP, a lot is no longer eligible for a permit to build or to parcel, whereas the day prior to the coming into force of the SIP it was eligible for a permit to build or to parcel. The plan damage compensation is due from the authority that made up the SIP that causes the plan damage. The sum amounts to 80% of the loss in value. However, this compensation is subject to strict conditions, and compensation is not always due; *e.g.*, in case of a delimitation of a riparian zone or a flood area in a SIP, the owner or user of the property must then choose between the plan loss compensation or the duty to buy/duty to compensate pursuant to article 17, Decree Integrated Water Policy. The rise of the *égalité* principle in environmental and spatial planning law might provide more traction for compensation, but currently this is not consolidated in legislation. The

71 Moore & Purdue 2015.

72 Art. L. 105-1 Planning Code.

73 CE 3 July 1998, *Bitouzet*, n°158592.

ruling of the Constitutional Court is relevant in this respect.<sup>74</sup> The Flemish government had argued that it is not obliged to compensate for restrictions to property rights, such as building prohibitions, when this is done in the public interest. However, the Court stated that a building permit constitutes a property right in the sense of the First Protocol to the ECHR. Thus, a building prohibition with respect to property in a buildable zone constitutes an interference with the right to the undisturbed enjoyment of the property. The Court deemed that a lack of compensation in this regard could not be reasonably justified and was thus in violation of articles 10 and 11 of the Constitution. Planning blight is important with respect to the instrument of signal areas (areas in which a contradiction may occur between the spatial development perspectives and the interests of the water system). These areas are not developed and may, due to their natural characteristics, be beneficial in tackling flood risks but have a 'hard destination' (e.g., building or industrial zones). The measures applicable to these areas should thus be thoroughly scrutinised and followed up. The Flemish government has recently reoriented the Rubicon Fund, which is a public fund created following the 2002 floods to fund investments in flood risk management, to partly alleviate the financial burden attached to these signal areas.<sup>75</sup> Up to 60% of the amount of compensation in the context of signal areas paid by the provinces and municipalities can be reimbursed through this fund. Yet also here, there are strict procedural requirements.<sup>76</sup>

In Dutch spatial zoning plans, zones in which it is prohibited to build can be included. In that case, owners of land that cannot be developed any more in the future can claim the compensation of planning blight by the competent municipality. This can cause tension between the municipality that is competent to make spatial zoning plans and water authorities who ask them to include these restrictions. If the restrictions were included in a water plan of the water authority, the latter would be responsible for the compensation of loss. However, the municipality could make an agreement with the water authority that requests the change in the spatial zoning plan, in which the water authority would pay the compensation of planning blight instead of the municipality.

In Poland, harm caused by restrictions based on a spatial zoning plan is compensated by an instrument provided by articles 36 and 37 of the Spatial Planning Act. According to article 36 paragraph 1 of the Spatial Zoning Plan Act, if, in connection with the adoption of the local spatial zoning plan or its modification, use of the property or part of it as usual or compatible with existing destination has become impossible or significantly limited, the owner or usufructuary of real estate may demand compensation from the municipality for actual damage or purchase of real estate or part thereof. In accordance with article 36 paragraph 2, implementation of the demand referred to in paragraph 1 may also be done by offering the municipality to the owner or usufructuary a replacement property. Article 36 paragraph 3 states that if, in connection with the adoption of the local spatial zoning plan or its modification, property value has decreased, and the owner or usufructuary disposes of the property and did not benefit from the rights referred to in paragraphs 1 and 2, they may require

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<sup>74</sup> Constitutional Court 19 April 2102, 55/2012.

<sup>75</sup> Art. 3 Subsidies Order of the Flemish Government 2014.

<sup>76</sup> Order of the Flemish Government 2014.

compensation from the municipality for the amount equal to a decrease in property values.

Swedish planning and building legislation –mainly the Planning and Building Act<sup>77</sup>– builds on the principle that landowners must be compensated only in case of restrictions to the present land use; they are normally not entitled to compensation for the loss of values based on expectations of a change in land use.<sup>78</sup> Consequently, when change in the present use of the land is not allowed, for example, when a person is not allowed to develop an area that is undeveloped, there is generally no right to compensation. Every municipality must have a comprehensive plan that establishes the overall land use for the whole municipality; this plan is not binding.<sup>79</sup> A cohesive development, for example, a new urban area, necessitates a so-called ‘detail plan’, which is the primary form of legally binding planning in Sweden. A person who wants to develop an area can initiate the process for adopting a detail plan, but the municipality ultimately decides if the plan will be adopted. A detail plan can create a right (or sometimes even an obligation) for the municipality to redeem a certain piece of land; *e.g.*, where a public area will be located, which in itself generates an obligation to compensate the landowner.<sup>80</sup> The detail plan also gives the right to develop (*i.e.*, a building right) under the plan’s implementation period. The landowner should apply for a building permit during this period. If the municipality were to change or revoke a detail plan during that time, in a way that the landowner can no longer build, the municipality will have to compensate the loss that this causes the owner.<sup>81</sup> Compensation is determined following the principles in the Expropriation Act; however, in relation to loss that consists of a reduction in the market value of the property, values based on expectations of change in the land use are not to be taken into account.<sup>82</sup> If the use of the land is substantially impaired, the landowner may even request that the land be redeemed.<sup>83</sup>

#### 4.4.3 Similarities and differences of the compensation regimes

Property rights are protected in all selected countries. However, every country also recognises that property rights may be limited. This limitation must be made by law and serve the public interest, and a proper compensation must be provided. Therefore, all countries have an elaborate regime for compensation in case of expropriation. Only Sweden has a slightly different system, with the constitutional provision even including certain protection against restrictions to the use of land and buildings. In all countries, the compensation of expropriation has a reparative function: the affected person should be left in a financially similar position to that before the expropriation. In Sweden, however, since 2010, the Expropriation Act requires that a 25% supplement

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77 2010:900.

78 Bengtsson 2015.

79 Ch. 3, ss. 1-3 Planning and Building Act.

80 Ch. 6, s. 13 and Ch. 14, s. 14 Planning and Building Act.

81 Ch. 4, s. 39 and Ch. 14, s. 9 Planning and Building Act.

82 Ch. 14, ss. 23 and 24 Planning and Building Act.

83 Ch. 14, s. 13 Planning and Building Act.

above the market value of the property (in case of total expropriation) or the reduction in the market value (in case of partial expropriation) is also granted to the owner. Householders, businesses, and agricultural owners in England can also obtain an additional premium. One can wonder whether this can still be seen as reparative.<sup>84</sup>

In France, Flanders, and the Netherlands, the *égalité* principle can be considered to be one of the principles that form the basis for compensation of lawfully caused harm. Only in the Netherlands is this principle extensively elaborated and codified in legislation. In Flanders, the principle has been applied in case law, albeit not specifically with respect to pre-flood loss, and is still developing. In France, the principle exists but is not used to compensate pre-flood damage at all. Where restriction of the use of property is imposed, the legal instrument of easement must be used in France as well as in Flanders. In that case, compensation is provided by the competent authority.

England, the Flemish region, the Netherlands, and Poland also have some other regimes in common: the compensation of planning blight. In these countries, this regime is codified in the Spatial Planning Act, and in Flanders especially, it is rather complicated to get compensation for affected parties. In the Netherlands, this regime is now based on the general *égalité* regime. In Poland, a compensation claim needs to be in accordance with the actual damage of real property.

#### 4.4.3.1 Explanation of the similarities and differences

The Dutch system of compensation of pre-flood harm is the most elaborate of the selected countries. This is likely because it has been developing over a long period, just as the prevention of flood risks. In the different regulations, criteria<sup>85</sup> that have to be met are summed up in order to provide for legal certainty and to assure a smoother implementation of flood risk measures in a densely populated country. It should be remembered that flood risk measures will seldom be possible in sparsely populated and not intensively used areas, since more than 60% of the Netherlands is flood-prone and two-thirds of the population lives in these flood-prone areas.<sup>86</sup> For flood risk management, this means that people should be aware that they live in a flood-prone country that is only habitable thanks to ongoing investments and maintenance in flood safety. Another explanation is the strong feeling of (two-sided) solidarity in the Netherlands. The state provides for safety, and every inhabitant is paying taxes that aim at keeping the whole country safe, not only the area of the inhabitant in question. This is clearly visible in the *égalité* principle as well: every inhabitant benefits from actions taken by the state, so every citizen should also bear some adverse effects of it – also called the normal social risk – but in case these effects are disproportionately large, they should be compensated by state budget. This fits in the general no-fault liability compensation regime that is quite generous and has led to a certain ‘compensation state of mind’ in the Netherlands.

<sup>84</sup> Bengtsson 2015.

<sup>85</sup> General criteria of the *égalité* principle in the Netherlands are, among others, the normal social risk, special burden, and risk acceptability (see, e.g. Tjepkema 2010).

<sup>86</sup> Kaufmann et al. 2016.

Despite the fact that Flanders neighbours the Netherlands and shares many physical similarities, the system is quite different. In comparison with the Netherlands, flood risk management in Belgium in general, and Flanders in particular, has not been such a high priority throughout the past decades. Floods have led to economic damage in the past but have resulted in a relatively low number of casualties.<sup>87</sup> Similar principles and compensation regimes exist, but in Flanders, these have been developed only for pre-flood harm in recent times, through certain high-level judgment with precedence value. This is also connected to developments in the insurance system: compensation in Belgium entails *ex post* loss – so, after a flood has occurred. For *ex post* damage, solidarity is one of the cornerstones of the compensation regime. Since the amendment to the Insurance Act through the Act of 17 September 2005,<sup>88</sup> *ex post* compensation has been transferred from the public sphere to the private insurance market.<sup>89</sup> Coverage for floods is automatically and mandatorily included in the fire insurance. Although fire insurance, as such, is not obligatory in Flanders, 90-95% of the households have taken it up. All citizens thus contribute to the flood coverage, although buildings in high-risk zones built after 23 September 2008 might not benefit from caps set on insurance premiums by the Tariff Office. The governmentally administered Disaster Fund functions as a fall-back mechanism in case, among other things, insurance thresholds have been exceeded.

The solidarity principle is also very important in France, but contrary to the Netherlands, it is connected to *ex post* compensation. This can be explained by the constitutional principle to compensate people for loss sustained by a disaster.<sup>90</sup> The following *égalité* and solidarity principle were thus connected to *ex post* loss instead of *ex ante* loss. Because the current form of flood risk management dates from the 1980s, the development of the compensation regime based on the French Constitution is disconnected from the idea of prevention but is linked to *ex post* compensation instead.<sup>91</sup> The CAT-NAT regime<sup>92</sup> is a public-private partnership, as there is a hybrid insurance system associating insurance companies, which raise the additional insurance premium dedicated to natural disasters. The state ensures the solvency of the system. Insured people have to pay an additional premium, even if they are not facing any natural risk. Just as in Belgium, where there is a private insurance scheme with a public fall-back mechanism, this public-private system is used only for *ex post* compensation. It is not connected to pre-flood compensation because obligations enforced by the French administration are traditionally considered as a public utility easement that cannot be compensated.

England is a country in which historically the responsibility of citizens for themselves, with little interference by the state, is an important notion. This is also the reason

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87 River Basin Management Plan Flemish Part of the Scheldt River 2016-2021.

88 Act of 17 September 2005 on the insurance of natural disasters modifying the Insurance Act of 25 June 1992. and the Act of 12 July 1976 on compensation of damages to goods as a result of natural disasters, *Belgian Official Journal* of 11 October 2005.

89 Suykens et al. 2016.

90 Paragraph 12 Preamble of the 1946 French Constitution.

91 Debates of the National Constituent Assembly of 1946; Pontier 1983; Borgetto 1993.

92 n°82-200, 1982.

that there is an elaborated insurance system available for flood risks. In contrast to Flanders and France, this is part of the private market.<sup>93</sup>

The physical characteristics of Sweden differ from those of the other countries. The country has been relatively spared from floods with catastrophic consequences.<sup>94</sup> Individuals are primarily responsible for the protection of their property; municipalities can take action where it is in the local public interest. It is only in recent decades that the issues of flood and flood risk management have begun moving up on the national political agenda, not in the least as a result of increasing awareness of climate change effects.<sup>95</sup> The legal framework corresponds to the historical and present flood risk situation in Sweden, but there is reason to suspect that it could be challenged by a future where increasing public action for preventive flood risk management is needed.

Poland historically differs from the other countries. This is a country in transition after being Communist for decades. One of the most crucial values of the Polish Constitution of 1997 (after four decades of unlawful expropriation without compensation during the People's Republic of Poland) is the protection of private property. Now, therefore, only drastic situations such as the State of Natural Disaster or the measures involved in protecting against such a state can justify not only compensation for unlawfully caused harm but also compensation for lawfully caused loss. The system of compensating lawfully caused loss is still developing.

#### 4.5 CONCLUSION AND DISCUSSION

The explanation of the differences and similarities of the researched compensation regimes consists of multiple aspects.

Geographical differences are of great importance. The difference between Flanders, England, and the Netherlands, on the one hand, and Sweden, on the other, is significant. In densely populated areas, flood risk management measures are more likely to interfere with rights of private parties than in vast areas with a substantial degree of open space.

However, differences also appear in geographically quite similar countries; *e.g.*, England, Flanders, and the Netherlands. These differences have a legal explanation; it can be found in the principles that underlie the whole legal system of a country, namely, (compulsory) one-sided solidarity versus private responsibility. Again, the Netherlands can be placed on one side of the spectrum, as solidarity plays a very important role in flood risk management as well as pre-flood loss. All Dutch inhabitants contribute to keeping the country habitable, and closely connected to this, to compensation for the loss of some. On the other side of the spectrum, one can find England, with a deep respect for private responsibility, and a historical and political attitude of encouragement of private responsibility and the restriction as much as

<sup>93</sup> Wiering et al. 2015.

<sup>94</sup> Myndigheten för samhällsskydd och beredskap (MSB) 2012.

<sup>95</sup> Ek et al. 2016.

possible of interference by the state. The differences between Flanders, France, and the Netherlands are of interest since these three also have the solidarity principle as well as the *égalité* principle in common, but these are applied differently. In France, solidarity is connected more to *ex post* compensation than to preflood compensation in which the protection of property rights plays a more important role because of the development of the constitutional principle of solidarity, which is connected to disasters instead of prevention. In Flanders, the general compensation regime, through recent case law, is developing toward a system that is more similar to Dutch preflood compensation, in which the *égalité* principle is leading. However, the protection of property rights still plays an important role in preflood compensation, and the solidarity principle plays an especially significant role in post-flood compensation. Flanders still has quite a long way to go before the *égalité* principle becomes a fully-fledged and across-the-board doctrine with respect to preflood compensation.

Property rights are protected in all the selected countries, but in England, Poland, and Sweden, they seem to carry comparatively more weight in preflood compensation. All countries pay full compensation in the case of a breach of property rights; *e.g.* dispossession. In England and Sweden, extra compensation can be offered in specific cases as well, which makes their 'rigid' preflood compensation regime more generous than that of the other countries, in which in more cases compensation might be awarded, even though 'overcompensation' is exceptional. Of note is that this increased protection of property rights in the case of expropriation and similar measures is a recent development in Sweden.

In conclusion, the explanation of the differences and similarities is multifaceted. Geographical aspects as highly flood vulnerable and densely populated countries and the consequent substantial interference with private rights makes compensation regimes more elaborate. The principles that underlie the compensation regimes are also an important explanatory factor. The dominance of the solidarity principle versus the protection of property rights leads to different compensation regimes. Poland is different in many ways, mainly because of its Communist history and the development of a relatively new compensation regime based on the protection of property rights.

Compensating the loss of some leads to more equity, in the sense that the burdens of preflood measures are fairly spread in society. It also leads to an increase of legitimacy. By awarding damages, authorities show that the distributional effects and therefore the interests of the injured parties are thus weighed in the decision-making process. This is especially the case when the competent authority of the loss-causing decision is the same as the one that is competent to decide over the compensation.

We have made a start at filling the knowledge gap concerning the specific distributional effect of 'harm caused by preflood risk management measures'. By looking not only at the compensation regimes in general, but also at three concrete measures, we have painted the picture of how distributional effects are dealt with in the selected countries. The legal comparison method enables us to analyse the differences and similarities between the countries, and to explain them. After identifying the

similarities and differences of these systems and their explanation, research can be further developed. An important next step in research on distributional effects can be to examine the connection between preflood and postflood compensation and the explanation as to why one system is chosen in relation to dominant national flood risk management strategies in various countries.

We suggest that distributional effects do not appear only after floods have already occurred, but also in the preventive phase of flood risk management, especially in countries with a strong focus on the prevention of floods; *e.g.*, the Netherlands, where no major flood has occurred in the last decades because of an effective preventive flood risk management system, in contrast with, for example, Poland. It can be expected that the legitimacy of preflood measures will be increased by, among other things, a well-developed compensation regime. This specific aspect of preflood compensation needs further multidisciplinary research. We also show that other disciplines – for example, economics – should take into account not only the costs of preventive measures but also the loss and the compensation thereof, in order to get a comprehensive overview of the costs and benefits of a specific flood risk management system. Because of its value to the equity, legitimacy, and effectiveness of flood risk management, the aspect of preflood compensation can be considered to be the backbone of good preventive flood risk management.

#### ACKNOWLEDGEMENTS

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# CHAPTER 5

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## EQUAL DISTRIBUTION OF BURDENS IN FLOOD RISK MANAGEMENT

### The application of the ‘*égalité* principle’ in the compensation regimes of the Netherlands, Flanders and France.

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*Flood risk management is an eminent example of a policy field in which the distribution of burdens and benefits takes place. Flood risks are distributed unequally among society and measures that reduce or prevent flood risks also distribute burdens and benefits. Flood risk management measures may infringe property rights that are protected by the Charter of Fundamental Rights of the European Union (art. 17 in conjunction with art. 52 (3) and European Convention on Human Rights (art. 1 First Protocol). The Charter and the Convention are a safety net for these infringements and form a basic demand of the domestic compensation regimes. The underlying principle of these European, but also domestic compensation regimes can be found in the French principle *égalité devant les charges publiques* [equality before public burdens]. A compensation regime can mitigate adverse effects of flood risk management. This chapter scrutinises the domestic compensation regimes of the Netherlands, Flanders and France for loss caused by flood prevention and flood protection and flood recovery measures. It shows that burdens are unequally distributed, not only between the three jurisdictions, but also within the jurisdictions. It also shows that the *égalité* principle is not applied in a consistent way.*

#### 5.1 INTRODUCTION

Due to climate change and urbanisation, floods occur more frequently in Europe than previously. Socio-economic studies show a clear trend of more people affected by river floods.<sup>1</sup> In many cases, the nature of floods is transboundary, as most major European rivers flow through multiple Member States. This stresses the need for Member States

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<sup>1</sup> Rojas et al. 2013, p. 1742.

to cooperate and coordinate measures within river basin districts. These considerations led to the establishment of the Floods Directive (FD) in 2007.<sup>2</sup>

The Preamble of the FD starts with the statement that floods not only have the potential to cause fatalities, such as displacement of people and damage to the environment, they also compromise economic development and undermine the economic activities of the Community (rec. 1). Among other things, the Directive respects the fundamental rights of; the right to life (art. 2 Charter of Fundamental Rights of the European Union (henceforth CFREU) and European Convention on Human Rights (henceforth ECHR)); the protection of property (art. 17 in conjunction with art. 52 (3) CFREU; and art. 1 First Protocol of the ECHR). These two rights can conflict when the protection of lives necessitates infringements of property rights, such as when the protection against floods demands the expropriation of privately held land in order to create an area that temporarily stores water.

The infringements of property rights in the case of flood risk management (FRM) are burdens that a small group of people must bear in order to benefit a larger group of people or, in some cases, the whole society. This unequal distribution of burdens is one of the distributional effects of FRM. The infringement of property rights can assume different proportions. In most cases, a compensation regime exists which creates the possibility for burdened parties to demand compensation. This compensation regime mitigates the unequal distribution of burdens. Article 1 First Protocol forms a basic demand that the compensation regimes should meet.<sup>3</sup> Nevertheless, Member States are free to have their own set of compensation regimes.

The compensation of burdens influences the way distributional effects are spread among society, but economic and social scientists do not assess it. They merely focus on the efficiency of a specific measure or policy.<sup>4</sup>

In addition, the question about distributional effects plays a role in FRM. Until now, this role mainly has focused on so-called ex-post damage. However, distributional effects also play a role in other flood risk strategies: who bears the costs to prevent a flood from happening, and who benefits from this safety? In this regard, only parties that finance preventive measures, *e.g.* the taxpayer, are taken into account. This socio-economic research also takes into account the saved costs by preventing a flood. The abovementioned legal distributional effects are, however, overlooked. This research aims to fill this knowledge gap and identifies the burdens caused by measures specific for three flood risk strategies and the way these burdens are compensated and by whom.

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2 Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks.

3 Although article 17 of the Charter of Fundamental Right of the European Union protects the right to property, this article has not been subject to case law. Therefore, this chapter uses article 1 FP ECHR as frame of reference.

4 Tapsell et al. 2002; Penning-Rowsell et al. 2005; Jonkman et al. 2008; Rojas et al. 2013.

The scholarly literature defines flood-risk management strategies differently. This research uses the definitions of the FD:

“Prevention: preventing damage caused by floods by avoiding construction of houses and industries in present and future flood-prone areas; by adapting future developments to the risk of flooding; and by promoting appropriate land-use, agricultural and forestry practices;

Protection: taking measures, both structural and non-structural, to reduce the likelihood of floods and/or the impact of floods in a specific location;<sup>5</sup>

Preparedness: informing the population about flood risks and what to do in the event of a flood;

Emergency response: developing emergency response plans in the case of a flood;

Recovery and lessons learned: returning to normal conditions as soon as possible and mitigating both the social and economic impacts on the affected population.”<sup>6</sup>

This research considers three jurisdictions: the Netherlands, France, and the Flemish Region in Belgium, which have specific compensation regimes that redistribute these burdens.<sup>7</sup>

In the Netherlands, Flanders and France three strategies dominate – prevention, protection and recovery. Each strategy is characterised by specific FRM measures.<sup>8</sup> These measures might cause burdens, which are likely to be mitigated by a specific compensation regime.

In the course of time, policy makers can update, adapt or replace strategies. Studies in the Netherlands, Flanders and France show a shift from protection to prevention (figure 5.1).<sup>9</sup> However, a shift of strategy implies a shift in measures to be realised, which may change the distribution of burdens and benefits. Studies of these shifts in strategies and their distributional effects do not exist.

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5 In the Communication of the Commission, the concept of mitigation is addressed as well. Looking at the strategies above, mitigation would fall within the ‘protection’ strategy. Per type of measure is indicated whether international coordination or information is necessary or not. For most of the measures in the prevention strategy, which concern land use and spatial planning measures, no international coordination or information is necessary. Only for management and maintenance programmes international coordination is necessary.

6 COM(2004)472 final.

7 For the sake of readability I will refer to these jurisdictions as ‘countries’.

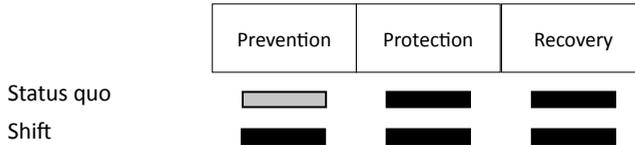
8 With one exemption: in the recovery strategy, not man-made measures form the cause of the damage, but the flood does.

9 Kaufmann et al. 2016; Larrue et al. 2016; Mees et al. 2016.

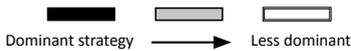
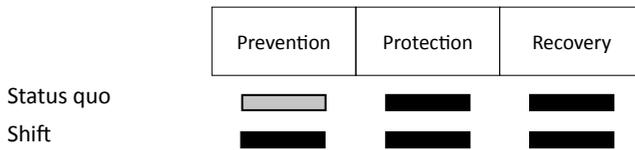
**Dutch flood risk management strategies**



**Flemish flood risk management strategies**



**French flood risk management strategies**



**Figure 5.1: shifts of dominant FRM strategies<sup>10</sup>**

Flanders, France and the Netherlands share not only a shift in strategy but also two river basins: those of the Scheldt and Meuse. They thus offer an ideal object to study the legal effects caused by these shifts in strategy, including changes in their compensation regimes.<sup>11</sup>

Therefore, section 5.4 addresses the question: *Are burdens equally distributed by compensation regimes in FRM strategies in Flanders, France and the Netherlands? If that is not the case, what is the cause of the unequal distribution?*

Section 5.2 then reviews the underlying principles for the equal distribution of burdens in these countries and section 5.3 discusses how these principles are applied in the three countries?

<sup>10</sup> The author adapted the figures, created in the STAR-FLOOD project by Kaufmann et al. 2016; Mees et al. 2016; Larrue et al. 2016.

<sup>11</sup> The choice for the Flemish region instead of Belgium can be explained by the separation of powers between the state and the regional levels. Flood risk management is a regional task in Belgium, whereas it is national task in both France and the Netherlands.

## 5.2 DISTRIBUTIONAL EFFECTS WITHIN THE LEGAL FRAMEWORK

### 5.2.1 Distributional effects

‘Distribution’ is the way in which an available supply of something is shared among people or spread over an area. The subject of the distribution varies in each discipline and in each research. Tax law scholarship investigates the distribution of effects on income; climate change scholarship assessed the distribution of effects of climate change on various countries; and ecological scholarship investigates the distribution of concrete species.<sup>12</sup> In line with the subject of this research, the concept ‘distributional effects’ is redefined as “the positive and negative consequences of governmental actions in the field of FRM for individuals and firms.” Economic studies show that legal rules can affect the income distribution.<sup>13</sup> Translated to a legal formulation, legitimate rules, or – more generally speaking – governmental action can affect the distribution of rights, obligations and risks.<sup>14</sup> An action that benefits the society as a whole – positive consequences – can also cause adverse effects to a small group of citizens or firms – negative consequences. In other words, legal rules can affect citizens’ individual rights.

Various studies have assessed distributional effects of FRM. In order to assess whether flood risk reduction is efficient, economists take into account not only the damage resulting from flooding, *e.g.* construction of commercial buildings, plumbing repair, and wholesale of furniture, but also the financial burdens of financing FRM measures, in most cases borne by the tax payer. The benefits, such as the employment the repair creates, are also taken into account.<sup>15</sup> Some studies include the avoided damages among the benefits.<sup>16</sup> Because of all these different definitions and approaches, it is important to define the concepts used.

The focus of economic studies is usually on ‘efficiency’,<sup>17</sup> which differs from this research’s approach, which is a legal assessment of the distributional effects of FRM. The burdens are therefore defined differently too. Although this legal assessment also considers loss that can be evaluated in money, the focus is on the infringements of rights. Preventive FRM can cause disproportionately large burdens to a small group of citizens or firms. In order to prevent floods, measures that touch upon property rights are necessary. To give an example: water storage areas can impose restrictions on the uses of privately owned land,<sup>18</sup> which can lead to devaluation or deprivation of property or a loss of income. These burdens are considered the adverse effects of preventive FRM. Therefore, the scope of the distributional effects assessed in this research is further limited to ‘the negative consequences of *lawful* FRM that infringe possessions or property rights.’

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12 See *e.g.* Shavell 2004; Posner 2007; Few 2003; Paavola & Adger 2006; Soberón & Nakamura 2009.

13 Shavell 2004.

14 Vries 2014; Francot-Timmermans & Vries 2013; Driessen & van Rijswijk 2011.

15 Penning-Rowsell & Pardoe 2012.

16 See Rojas et al. 2013.

17 Kaplow & Shavell 1994; Sanchirico 2000; Cooter & Ulen 2012.

18 Doorn-Hoekveld 2014; Doorn-Hoekveld & Groothuijse 2017.

In order to create equitable and legitimate FRM, the burdens should be spread over the community as fair as possible. Every citizen of a state benefits from actions for the common good and therefore also bears some burdens connected to the benefits mentioned. In the case that these burdens are not proportional, compensation is necessary to equally divide the benefits and burdens among the society. This distribution of burdens and benefits fits into the principles of equity and legitimacy.<sup>19</sup> For equity, fair burden sharing is important. Burdens are spread more equally in case when disproportional burdens are (partially) compensated.<sup>20</sup> From a social science point of view, outcome equity regarding climate change adaptation refers to 'identifying who gains and who loses from any impact or adaptation policy decision.'<sup>21</sup> Translated to FRM, we have to assess who gains and who loses from the impact of FRM measures. In order to achieve equitable FRM, the adverse effects must be mitigated to some extent. Also legitimacy plays a role. Van Buuren et al. define legitimacy as 'it is a government's duty to use powers only for the reasons for which they are granted, to avoid the abuse of power, and to create a fair, reasonable, and proportionate balance of public and private interests.'<sup>22</sup> When the gains, burdens and the possible compensation thereof are taken into account in decision-making, the decision-making is considered to be fair and proportional.<sup>23</sup>

### 5.2.2 Distributional effects of flood risk management

FRM is an eminent example of a policy-field that distributes burdens and benefits. As flood risks are distributed unequally among society, people in risk areas benefit more from FRM than people in a relatively 'risk-free' area.<sup>24</sup> These factors can also influence the burdens these individuals should bear. However, one can state that the whole society benefits to some extent from the protection against flooding. For example, the economic heart of the Netherlands is the most low-lying part and if it floods, it would have major economic consequences for other parts of the country as well. Therefore, people in other parts of the country also benefit from protecting that part of the country.<sup>25</sup>

The losses or adverse consequences of preventive FRM are limited to the adverse effects on citizens or firms resulting from the government's lawful actions. These consequences include a loss of income, a devaluation of property, or in the most serious case, deprivation of property or expropriation.

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19 Alexander et al. 2016.

20 Driessen & van Rijswijk 2011; Thomas & Twyman 2005; Doorn-Hoekveld et al. 2016.

21 Adger et al. 2005, p. 83.

22 Buuren et al. 2014, p. 1023.

23 Of course, besides other criteria for proportional decision-making.

24 Johnson et al. 2007; M. Petterson et al, How legitimate is flood risk governance in Europe? Insights from intra-country assessments [under review].

25 An increase of employment and similar gains are not addressed in this approach, because it does not influence the legal distribution of consequences.

### 5.2.3 Mitigation of distributional effects

In order to reduce the harmful distributional effects of FRM, the studied countries apply compensation regimes. Section 5.4 scrutinises the relevant compensation regimes. In general, compensation is paid by the competent actor, mostly an authority, that causes the damage.<sup>26</sup> Taxes provide the financial resources for these authorities, and these are therefore born by the society. Conditions for property rights infringement must be laid down in law (art. 17 CFREU and 1 FP ECHR) and in case of deprivation, compensation must be granted. Domestic compensation regimes of Member States provide compensation in specific cases, with criteria laid down in law. These mitigate the adverse effects. Two relevant compensation regimes are of supranational relevance. The French principle *égalité devant les charges publiques* (hereafter *égalité* principle) is present in the three countries. However, it forms a safety net for all countries party to the ECHR in different manifestations and article 1 First Protocol of the ECHR.

### 5.2.4 Mitigation through the principle ‘égalité devant les charges publiques’

Legal scholars discuss distributional effects mostly in the field of no-fault liability. Liability regimes for lawfully caused harm are established in most Member States, and article 1 First Protocol ECHR also provides a safety net for the property rights infringements, justified by the public interest. Apart from article 1 First Protocol, an important principle of no-fault liability is the French *égalité* principle). The principle came into existence in the wake of the French Revolution.<sup>27</sup> In the first Constitution (1789) after the Revolution, the *Déclaration des Droits de l’Homme et du Citoyen*, declared some fundamental rights, including the right to property. Another crucial aspect of the *Déclaration* was the equality of all French citizens.<sup>28</sup> Although it is considered that the abovementioned *Déclaration* formed the basis of the *égalité* principle, the French Council of State introduced the principle as such in its case law as one of the *principes généraux du droit*.<sup>29</sup> Since a decision of the Constitutional Council, the *égalité* principle has been given also constitutional value.<sup>30</sup> Belgium and the Netherlands have adopted a derivative form of this principle.<sup>31</sup>

The main question regarding the application of the *égalité* principle is, ‘Has the harm or disruption gone beyond that which an ordinary citizen must accept in the ordinary course of events?’<sup>32</sup> This leads us to the principle’s essence, that all citizens benefit to some extent from actions in the public interest and therefore must bear some adverse

26 Doorn-Hoekveld et al. 2016.

27 Tjepkema 2010, p. 62.

28 As a reaction on the *Ancien Régime*, which can be characterized by inequality.

29 Which are hierarchical placed under the Constitution, international and European law, and formal legislation, but above other governmental acts. (Auby & Cluzel-Métayer 2012, p.19) The first decision in which the principle is explicitly mentioned is CE 2 June 1944, rec. 159 (*Sieur Fays*).

30 CC 4 July 1989, ECLI:FR:CC:1989:89.254.DC. See also CC 11 February 2011, No. 2010-99; CC 19 September 2014, No. 2014-417.

31 See Tjepkema 2010; Doorn-Hoekveld 2014, p. 228.

32 Fairgrieve 2003, p.148; Cour Administrative d’Appel Paris 25 May 1999 *Felmy*, CAA Nantes 22 July 1999, *Hébert*.

effects of these actions as well. No one, however, must bear disproportionately large burdens caused by actions for the common good. Thus, the state must compensate for any disproportionately large burdens based on the *égalité* principle. How the proportionality of burdens is assessed depends from case to case.

### 5.2.5 Mitigation through article 1 First Protocol European Convention on Human Rights

The requirements of the *égalité* principle are also found in article 1 First Protocol European Convention on Human Rights (hereafter ECHR). In 1949, while drafting the ECHR, the United Kingdom and Sweden were large opponents of introducing a right to the protection of property in the ECHR. Their fear consisted mainly by the possible frustration of property rights during the post-war reconstruction. The text of the article addressed this fear by the inclusion of the possibility that the state may infringe on property rights for the public interest.

The text of the article 1 is as follows:

“Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law.

The preceding provisions shall not, however, in any way impair the right of a state to enforce such laws as it deems necessary to control the use of property in accordance with the public interest or to secure the payment of taxes or other contributions or penalties.”

The scope of ‘possessions’ is very broad. Among other things, it includes movable or immovable property, tangible or intangible interests, such as shares, patents, an arbitration award, a landlord’s entitlement to rent, the economic interests connected with the management of a business, the right to exercise a profession, and a legitimate expectation that a certain state of affairs will apply.<sup>33</sup> A restriction is that it protects only existing property, and not future property, *e.g.* by inheritance.

Three rules can be distinguished from the text of article 1.

- 1) The principle of peaceful enjoyment of possessions (1<sup>st</sup> paragraph)
- 2) Deprivation of possession is possible under specific circumstances (1<sup>st</sup> paragraph)
- 3) Control of use of possession is possible under specific circumstances (2<sup>nd</sup> paragraph)

There is deprivation of possession when there is a formal expropriation or a transfer of ownership.

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33 Carss-Frisk 2001.

When an interference with property is determined – both deprivation and regulation – the next question is whether the interference is justified by the state. A justification is that the interference must serve a legitimate objective in the public interest<sup>34</sup> and the interference is proportionate. There must be a fair balance between the community's public interests and the protection of the individual's fundamental rights.<sup>35</sup> This balance does not exist when the burdened party bears an individual and excessive burden.

Another important aspect of article 1 First Protocol ECHR is the requirement of legal certainty or legality. That is, deprivation of possession must be "subject to the conditions provided for by law". This sentence "essentially refers back to domestic law. However, the domestic law must itself be in conformity with the Convention, including the general principles expressed or implied therein."<sup>36</sup> The presence of a fair and proper procedure and an appropriate authority that carries out the measures are relevant.

The essence of the article is similar to that of the *égalité* principle, in that the burden may not be excessive.

### 5.3 FLOOD RELATED COMPENSATION REGIMES

There are some generalities of dominant strategies in Flanders, France and the Netherlands. In all three, the protection strategy is most dominant. However, in Flanders and France, the recovery strategy – with a focus on insurance systems – is also quite pronounced, contrary to the Netherlands, where this strategy rarely has developed. All three countries tend to shift to the prevention strategy, in accordance to the FD, which demands integrated FRM.

An example of measures within the prevention strategy are restrictions of land use or the prohibition to build in a – flood-prone – area. The protection strategy is divisible into traditional measures and new measures. Traditional protection measures are related to dikes and other 'hard' flood defence structures, whereas new protection measures include the creation of water storage areas. For this research, recovery does not include measures, but the compensation of loss caused by a flood. This regards only individuals' actual losses, and not the measures necessary to return to normal circumstances.

Figure 5.1 shows the current dominant strategies and the shift of dominance.<sup>37</sup> In all three countries, the shift towards the prevention strategy shows its importance. Policy aims at a more integrated FRM in which prevention has an eminent role. Recovery is also dominant in Flanders and France, because the insurance schemes of

34 *James v. the United Kingdom*, no. 8793/79, § 46, ECHR 1986.

35 *Sporrong and Lönnroth v. Sweden*, no. 7151/75; 7152/75, § 73, ECHR 1982.

36 *Winterwerp v. the Netherlands*, no. 6301/73, § 45, ECHR 1979.

37 The status quo is the situation in 2017. The shift has started some years, or even decades, ago, but is still in process.

those countries are very elaborate. A shift of the dominance of those schemes is not expected. Even though the Dutch are not actually preparing to develop a recovery scheme, recovery is more and more a theme of discussion in the Netherlands, and therefore in the figure it is visualised as a 'shift'.<sup>38</sup>

### 5.3.1 The Netherlands

The Netherlands is famous for its water management. Already in the Middle Ages, the necessity to protect land against water was known and led to the organisation of water management through regional water authorities, which still exists now.<sup>39</sup> The western part of the country, its economic heart, lies mostly sea level. The sea and the rivers cause the main flood risks.<sup>40</sup>

The flood protection strategy has been the dominant strategy. This is visible in the way FRM is framed and regulated. The Water Act includes safety standards and most resources are reserved for measures carried out in this strategy, *e.g.* by the Flood Protection Programme.<sup>41</sup> Measures, such as a dike relocation, strengthening, and heightening, can infringe property rights and lead to devaluation or deprivation of property. Loss of income is not found frequently in this strategy. The cause of the damage lies in the decision to strengthen the dike (project plan) or an obligation to tolerate work carried out on property of an individual.<sup>42</sup> The Water Act provides for compensation based on the *égalité* principle, which is not full compensation in most cases. In case the state needs the property for the public interest or imposes an obligation to tolerate on the landowner, and consequently the land has become useless for its owner, expropriation can be necessary. In case of expropriation, the state grants full compensation based on the Expropriation Act. A quite different type of measure is the creation of water storage areas. In the case of high water discharges of rivers, these areas, designated in a water plan (ledger) as well as in a spatial zoning plan, will temporarily store water.<sup>43</sup> Private parties may use the land designated as water storage area for economic or private activities in times it is not needed for water storage. In most cases, it is used as farmland. The use of this land, however, is not free from restrictions. Regional water authorities may impose use restrictions, which can cause devaluation of the land, as well as a loss of income.

The compensation of loss, caused by the creation of a water storage area is regulated in the Spatial Planning Act and the Water Act. Because of the different possibilities to claim compensation, it is a confusing system.<sup>44</sup> Both compensation regimes are based on the *égalité* principle but may lead to different outcomes. The prevention

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38 Gralepois et al. 2016; Kaufmann et al. 2016; Mees et al. 2016; Larrue et al. 2016; Doorn-Hoekveld 2017b.

39 Havekes 2009, p. 13.

40 Kaufmann et al. 2016; Doorn-Hoekveld 2014.

41 The Flood Protection Programme is a fund which finances protection measures: Doorn-Hoekveld 2014.

42 Article 5.4 and 5.25 Water Act.

43 See for an elaboration of the instrument water storage areas: Doorn-Hoekveld & Groothuijse 2017, p. 76.

44 Doorn-Hoekveld & Groothuijse 2017.

strategy can count on an increased interest, but is not developed much yet. Measures within this strategy are the introduction of risk zoning in spatial plans connected to restrictions of land use. The municipality or province are competent authorities for carrying out these kind of measures. In this case, the compensation regime of the Spatial Planning Act is applicable (see below).

The water manager has one instrument that can influence spatial planning: the Water Assessment. This is a piece of advice to the municipality about water related issues in spatial zoning plans and the municipality is not bound to follow this advice.<sup>45</sup>

The regulation for damage caused by lawful acts in the field of water management of the Water Act has a broad scope:

“Any person who suffers or will suffer damage as a consequence of the lawful exercise of a water management duty or competence shall, at his request, be awarded compensation by the administrative authority concerned where such damage should not within all fairness remain for his account and where compensation is not or not sufficiently otherwise guaranteed.”<sup>46</sup>

The Explanatory Memorandum and case law make clear that the main criteria of the *égalité* principle apply: the burden should be abnormal and special in order to award damages. Burdens should be spread fairly, and thus not only the burdens of governmental action but also its benefits are considered. All Dutch inhabitants benefit from protection against floods, so it is fair that all inhabitants should also bear some of the connected disadvantages. The *égalité* principle considers this as a normal social development everyone should take into account, also known as the normal social risk.<sup>47</sup> The Council of State explained this risk as: “citizens should take into account a normal social development even though there was no view of the extent to which, the place where and the time at which this development would manifest itself.”<sup>48</sup> The abnormal burden and the special burden are two distinct criteria of the *égalité* principle. In order to suffer an abnormal burden, the loss must be disproportionately large. The abnormal burden is mostly set as a threshold<sup>49</sup> that differs widely and is not always extensively motivated in case law. For coastal defence works, a threshold of 5% of the property value was considered fair.<sup>50</sup> The special burden demands that the burdened party is burdened more than others that are in a similar situation.<sup>51</sup>

45 Doorn-Hoekveld 2017b.

46 Article 7.14 Water Act.

47 Doorn-Hoekveld 2014, p. 228.

48 ABRvS 17 April 2013, ECLI:NL:RVS:2013:BZ7718, translated by Broek 2015, p. 268.

49 *E.g.* for devaluation of property caused by coastal defence works, the abnormal burden is considered to be an amount of 5% of the value of the property, see: ABRvS 9 April 2014, ECLI:NL:RVS:2014:1198.

50 ABRvS 9 April 2014, ECLI:NL:RVS:2014:1198; also loss with a value of 2,22% of the value of the property was not considered to be abnormal (ABRvS 3 July 2013, ECLI:NL:RVS:2013:164) and loss with a value of 1% of the yearly turnover was not considered to be abnormal (ABRvS 22 May 2013, ECLI:NL:RVS:2013:CA0631).

51 ABRvS 19 February 2014, ECLI:NL:RVS:2014:572.

The regime of the Spatial Planning Act is more concise. There, the abnormal burden has been specified with a threshold: at least 2% of the value of property or at least 2% of the average yearly income that will remain for the damaged party.<sup>52</sup> In case law, there is no attention for the special burden. Case law considers that in case the loss is considered abnormal, it is special as well.<sup>53</sup>

The National Water Plan of 2009 introduced, the multi-layered safety approach, whose aim is to create a more integrated approach to reduce flood risks. Three layers can be distinguished: prevention (which corresponds to protection in the FD), spatial planning (which corresponds to prevention) and evacuation (which corresponds to emergency response).<sup>54</sup>

A shift from protection towards prevention, therefore, leads to a shift of compensation regimes as well. For measures in the protection strategy, the Water Act is the applicable regime in almost all cases. For spatial planning measures, the Spatial Planning Act regime is more appropriate. This leads to a shift of also the competent authority.<sup>55</sup> Authorities can conclude agreements on the question which authority needs to pay the compensation. Nevertheless, the shift in responsibilities and fear of liability can hamper the development of the prevention strategy. Also from the perspective of the burdened party, it is confusing that the authority competent for water management is not in all cases the authority that is competent for compensating the damage. In case the Spatial Planning Act is applicable, the competent authority is the municipality, and the amount of compensation paid may differ.<sup>56</sup>

The Netherlands does not have an explicit *ex post* compensation regime. The Calamities Compensation Act is a safety net to compensate flood damage after a flood disaster. The state must formally declare a flood to be a national disaster for the act to come into action.<sup>57</sup> The activation of the Act comes by Royal Decree, which happened five times since 1998. The details of every application are laid down by Ministerial orders. The Act grants only partial compensation to burdened parties, and generally means providing the funding. Mandatory flood insurance is not available, even though one pilot is currently running.<sup>58</sup> This limited focus on *ex post* compensation can be explained by geographical characteristics of the country; if a major flood disaster

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52 The threshold is only applicable for indirect planning blight. For direct planning blight a threshold can be applied, but it is not mandatory. This threshold is a minimum. The specific circumstances of the case may demand a higher threshold. Indirect planning blight is loss caused by value-reducing developments of the surrounding of the property instead of adverse effects of spatial planning, *e.g.* restrictions of use, on the property itself (direct planning blight).

53 Ettekoven 2011, p. 17; Ettekoven et al. 2013.

54 Since this formulation can be confusing, only the formulation of the FD is used, which is between brackets.

55 See for an elaboration of the different regimes: Doorn-Hoekveld 2014; Doorn-Hoekveld et al. 2016.

56 Doorn-Hoekveld 2014; Doorn-Hoekveld & Groothuijse 2017.

57 A disaster is "a major accident or other event in which the life and health of many people, the environment, or major material interests are harmed seriously or are at risk and which require a coordinated deployment of services and organizations from different disciplines to eliminate the threat or reduce the harmful effects" according to article 1 Security Regions Act (*Governmental Gazette*, 1 April 2010, No 145).

58 Suykens et al. 2016.

occurs the consequences will be devastating and damage will be enormous. Insurance companies declared flood damages uninsurable in the past. Furthermore, as stated above, the focus lies strongly on prevention and protection.

### 5.3.2 Flanders

In Flanders, the shift from protection towards prevention has commenced with the Decree on Integrated Water Policy (henceforth DIWP) in 2003. The reform of the DIWP in 2013 strengthened the prevention strategy even more. Preventive measures are, amongst other measures, the creation of signal areas, which are undeveloped areas where the prospect of development may conflict with the interests of the water system, such as storage capacity. In signal areas, the Flemish Government can decide about the next step trajectory, which determines which actions must be taken and which instruments should be used. This depends on whether the area is compatible with the necessary water storage capacity. The state can impose restrictions of land use, or rezoning can be necessary.<sup>59</sup>

An important instrument in the next step trajectory of signal areas is the Water Test,<sup>60</sup> which is used not only in signal areas, but also for other spatial developments in order to guarantee the integration of water interest in spatial planning. Therefore, it is an important instrument in the prevention strategy.<sup>61</sup> When the Water Test indicates that the desired development would lead to harmful effects on the water system, it implies a need for alternatives to prevent or reduce the harmful effect (first stage), to repair or compensate the harmful effect (second stage) or to refuse a permit (third stage), the latter being an *ultimum remedium*.<sup>62</sup> The authority competent for assessing the Water Test has large discretionary power.<sup>63</sup>

A negative Water Test – restrictions on land use or a refusal of the permit – does not allow compensation for the owner *per se*. It is not necessary to compensate all loss resulting from actions to realise objectives for the public interest. This is in accordance with article 544 Belgian Civil Code, article 16 Belgian Constitution and 1 First Protocol ECHR.<sup>64</sup> Different authors contest this vision.<sup>65</sup> For the consequences of a negative Water Test, no compensation regulation exists.

However, in some cases, the competent authority can lay down the consequences of the negative Water Test in spatial plans, which can have negative effects on the property value or create a loss of income. For this type of loss, the Spatial Planning Code (henceforth: SPC) is applicable. The code provides a stringent compensation scheme.

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59 De Smedt 2014.

60 Art. 8 DIWP.

61 Toury & Denys 2012; De Smedt 2014.

62 De Smedt 2014, p. 114.

63 Court of Cassation 8 March 2013, No. C.12.0333.N.

64 Also the Constitutional Court (9 February 2005, judgement 32/2005), Court of Cassation (16 March 1990) and the Council of State (16 June 1981, judgement 21.269) ruled that restrictions may be imposed without compensation.

65 Toury & Denys 2012, p. 88; De Smedt 2004.

Rezoning leads, in specific cases, to compensation for the owner. Compensation is awarded only when, based on a spatial implementation plan, a plot is no longer eligible for a permit to build it or allot it when it had that possibility before the spatial implementation plan came into effect.<sup>66</sup> This means that only developments that touch the plot of an owner can establish grounds for the compensation of planning blight.<sup>67</sup> The burdened parties receive a maximum of 80% of the devaluation.<sup>68</sup>

When the Water Test does not provide the necessary water storage capacity in flood-prone areas, the competent authority can also establish easements in the public interest.<sup>69</sup> These can impose restrictions on the right of property. The compensation to the owner, usufructuary or user of the land in question of the resulting devaluation of property is arranged in article 2.1.4 of the Decree. The height of the compensation is determined based on the decrease in the market value of the property. The compensation for loss of value of land that belongs to the user is determined based on the actual reduction of the use of the property. In this case, the competent authority compensated the actual loss and no extra criteria, such as the abnormal and special burden, are applied.

Within the protection strategy, the creation or strengthening of flood defence structure and the creation of flood control areas can lead to dispossession of property and the activation of flood zones can lead to a loss of income. For measures carried out in the protection strategy, expropriation rules apply. For spatial planning measures, the rules regarding the compensation of planning blight apply. The Decree of Integrated Water Management includes different compensation instruments.

For flood defence structures, the Dike Decree is relevant.<sup>70</sup> The authority can expropriate real estate that is needed to carry out flood defence works (article 7), or, when the works lead to devaluation, it can compensate the devaluation (article 8).<sup>71</sup> In addition, the burdened owner can oblige the authority to buy its property (article 9).

Water storage areas are designated in water plans as well as spatial plans. The DIWP and the UPC provide compensation regulations. The burdened party has to choose which route for the compensation to take.<sup>72</sup> Another possible cause of loss is the activation of water storage areas (article 2 (44 and 44bis) DIWP). In that case, owners of plots that are used for agricultural or forestry use and that suffer a loss of income caused by the activation can demand compensation based on article 17§2 DIWP. Compensation of

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66 Art. 2.6.1 SPC.

67 This means that the compensation is only granted in case the measure affects the property directly. The Dutch system, to the contrary, does also compensate indirect planning blight: when a development near a specific plot leads to devaluation, it can also lead to – partial – compensation of that indirect planning blight.

68 Art. 2.6.2 § 2 SPC.

69 Art. 2.1.3 Decree on Rural Land Use Planning (*Decreet betreffende de landinrichting*, Belgian Official Journal 22 August 2014, p. 63616).

70 Belgian Official Journal 1 June 1996, p. 15044.

71 An amount of 20% of the reference value of the property should be borne by the burdened party.

72 Doorn-Hoekveld et al. 2016.

the loss of income is detailed in article 23 Order on Financial Instruments of Integrated Water Policy (*Besluit Financiële Instrumenten Integraal Waterbeleid*).

In case the designation of flood zones leads to a remarkable devaluation of property or threatens the viability of the business – more than 20% of the reference value – or to remarkable loss of income – more than 2/3 of the reference income – the owner can ask the competent authority to buy the plot.<sup>73</sup>

Article 10 and 11 of the Belgian Constitution<sup>74</sup> or 16 of the Belgian Constitution<sup>75</sup> include a derivative of the *égalité* principle. In 2012, the Constitutional Court has broadened the scope of the *égalité* principle to restrictions of property rights for the public interest in general.<sup>76</sup> This was a new vision, since the Court of Cassation and the Council of State limited the scope of compensation to deprivation resulting in the restriction of property rights to not automatically lead to compensation.<sup>77</sup> The case law of the Constitutional Court has consequences for situations in which governmental action in the public interest infringes on property rights in a manner for which no compensation regulation is applicable.<sup>78</sup> Even though the Court has not applied the principle in the case of negative Water Tests, competent authorities must take into account that burdened parties can appeal to the *égalité* principle. How the principle relates to adverse effects that do not touch the property itself, but are in the near surroundings and lead to devaluation is not clear yet.<sup>79</sup>

Nuisance (*burenhinder*) is another Belgian compensation regime, which is codified in article 544 of the Civil Code. The regime of nuisance can be applied between citizens together or between a citizen and a public authority – neighbours.<sup>80</sup> This regime institutes a no-fault liability regime that can disrupt the equilibrium between one estate and other estates.<sup>81</sup> It is necessary that the burdened party proves that its neighbour has exceeded the acceptable degree of interference due to a well-defined act of the neighbour; which can be attributed to the neighbour and, which is only at stake when the defendant is a public authority, the loss is more than the charges one has to bear in the collective interest. The latter is interesting, since the formulation is quite similar to other no-fault liability formulations.

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73 Article 17§1 DIWP and article 10 Order on Financial Instruments of Integrated Water Policy.

74 The Court of Cassation holds these articles as the basis of the *égalité* principle: Article 10: “No class distinction exist in the State. Belgians are equal before the law [...]. (equality principle) Article 11: Enjoyment of the rights and freedoms recognised for Belgians must be provided without discrimination [...]” (non-discrimination principle).

75 The Constitutional Court holds article 16 as the basis for the *égalité* principle: “No one can be deprived of his property, except in the case of expropriation for a public purpose, in the cases and manner established by the law and in return for fair compensation paid beforehand.”

76 Constitutional Court 19 April 2012, No 55/2012, rec. B3.1-B3.3.

77 Court of Arbitration 27 March 1996, No 24/96; 12 July 2001, No 97/2001; Council of State 25 October 2001, No 100.286; Van Hoorick 2013.

78 Doorn-Hoekveld 2014, p. 26.

79 Van Hoorick 2013.

80 This section deals only with the nuisance between a citizen and a public authority.

81 Vuye 2005; Durant 2016.

Importantly, for the recovery strategy, an act or decision of an authority is not the cause of loss, but the actual flood is instead. This leads to damage of property. An insurance system, which is governed at federal level, covers compensation of this damage. Until 2007, public funding fully covered *ex post* compensation, but since then fire insurance has automatically included flood coverage.<sup>82</sup> Fire insurance policies are not mandatory, but 90-95% of the population does have fire insurance,<sup>83</sup> which can be explained by the fact that a fire insurance is a condition for obtaining a mortgage.<sup>84</sup> In 2014, the Regions received the powers of the federal Disaster Fund (*Compensatiekas Natuurrampen*). For Flanders, the Flemish Disaster Fund (*Vlaams Rampenfonds*) is the fall-back mechanism for coverage when damage has exceeded the insurers' limits have been exceeded or for compensation of goods that do not fall under the coverage of the insurance.<sup>85</sup> The insurance premiums differ between flood-prone and risk-free areas, which discourage buying and building in flood-prone areas. Insurers are not obliged to provide coverage in flood-prone areas, and the Disaster Fund will not compensate in these areas.<sup>86</sup> This is a strong bridging mechanism between the prevention strategy and the recovery strategy.<sup>87</sup>

### 5.3.3 France

France designates areas that can potentially flood, in the natural state of a watercourse as flood areas. According to article L 125-2 of the Environmental Code, "citizens have a right to information on the major risks to which they are subject, which applies to technological risks and to foreseeable natural risks."

Therefore, the flood zones are included in atlases that are publicly available in town halls. The local risk prevention plan (PPR) inform citizens of the flood risks (maximum height, frequency and duration of the floods).<sup>88</sup>

Apart from the flood zone atlas, the flood risk prevention plans (PPRIs) identify zones. In 'danger' zones where the risk is high, no building permits for new constructions can be issued. In medium-risk 'precaution' zones, the building permit is subject to

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82 Article 123 Insurance Act of 4 April 2014, *Belgian Official Journal* 30 April 2014, p. 35487; Suykens et al. 2016.

83 Colle 2006.

84 Suykens et al. 2016.

85 Suykens et al. 2016.

86 Suykens et al. 2016.

87 Gilissen et al. 2016.

88 Apart from the responsibility of the authority to establish such plans including these zones, burdened parties do have their own responsibility. In a case burdened parties have bought a parcel to build two houses. After a storm in 1999 the prefect had published different maps which showed the maximum water levels. The community did not, even though it should have, included a unbuildable zone in its land use plan. The parties who claimed to be burdened because the community did not have acted according to its responsibility was remonstrated that "by neglecting to ensure for themselves the safety of the parcels located at the edge of the beach, which they proposed to acquire for the purpose of constructing two houses there, only a few years after the occurrence of this storm, the effects of which had been widely covered by the media, the burdened parties have committed an imprudence which justifies leaving them to bear a share of responsibility." (CAA Bordeaux, 14 June 2016, N° 14BX02616, rec. 12).

conditions, and otherwise the building permit is subject to the local zoning plans (PLU) rules.

An approved PPRI is, with all its indications and regulations, a public utility easement (*servitude d'utilité publique*).

Administrative easements encumber a property and are established for a public interest purpose.

A burdened party cannot claim compensation caused by public utility easements, unless the applicable legislation provides for it.<sup>89</sup> In most cases, it grants no compensation to properties impaired by a land use plan, because, vice versa, the government does not recover part of the private benefit generated by public works. However, the courts have made an exemption for power poles. In the case that poles are built at the property, compensation is granted.<sup>90</sup> This may directly infringe on property rights, just as the erection of a dike.

Public utility easements may lead to certain prohibitions or limitations on owners' exercise of their right to construct, and more generally to occupy or use the soil, or to support the execution of works or the installation of certain works. More rarely, they can impose certain obligations to be borne by the owners (maintenance or repair work). For temporary water storage areas, based on article L211-12 Environmental Code, the authority will compensate the direct, material and certain loss (art. L211-12 VIII), when an amicable agreement is not possible. Furthermore, the real damage to crops, livestock, motorised land vehicles and buildings caused by over-flooding due to temporary retention will be compensated (art. L211-12 IX). The institution which has requested the temporary water storage in the specific area must bear the compensation.

Another easement is the urban planning easement (*servitude d'urbanisme*), which is subject to the *principle of non-compensation* provided for in article L.105-1 of the Urban Planning Code. The article provides for some exemptions as well, such as when the easement leads to an infringement of acquired rights or a modification to the previous state of the premises determining direct, material and certain damage. These strict requirements have much in common with the *égalité* principle, in that the burden must also be special and abnormal, although one may argue that article L105-1 UPC provides a restriction of the *égalité* principle, since the criteria of the *égalité* principle are easier to fulfil in other policy fields than the criteria of L105-1 UPC.<sup>91</sup>

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89 Gordley 2006, p. 96.

90 Cass. Civ. 6 January 1930, S1930.1.337 and Cass. Req. 3 June 1935, S1935.1.246.

91 CE 6 June 2012, ECLI:FR:CESSR:2012:329123.20120606. In this decision, the *Conseil d'État* assessed the requirements of article L 160-5 Urban Planning Code (currently renumbered: L 105-1) together with the requirements of the *égalité* principle with regard to the rejection of a building permit in a unbuildable zone. The *Conseil d'État* stated that if the loss results exclusively from the classification of the land use plan, the burdened parties are not entitled to seek for compensation. Before article L 105-1 Urban Planning Code, the *Conseil d'État* used the *égalité* principle for compensation requests based on the classification of planning zones (e.g. CE 11 April 2011, ECLI:FR:CESSR:2011:322956.20110415).

Preventive measures such as the inclusion of building prohibitions or restrictions of land use in spatial plans are public easements. Only in cases where the easement leads to material, direct and certain prejudice, compensation is granted.

In 2016, the Council of State provided the first positive application of the principle, introduced in the *Bitouzet* case.<sup>92</sup> The *Bitouzet* ruling adapted the principle of *non-compensation* of article L105-1 UPC in the sense that the exemptions fulfil the ‘test’ of article 1 First Protocol ECHR. Compensation only is in place for a special and exorbitant charge, which is disproportionate to the public interest objective.<sup>93</sup> In the 2016 case, the Council of State stated that “these provisions [*of the Urban Planning Code, author*] establish a special regime of exclusive compensation, which is not an application of the ordinary law of the no-fault liability of the administration for breach of the *égalité* principle.” Nevertheless, these provisions do not prevent the owner whose property is subject to an easement from claiming compensation in the case that the burden is special and abnormal and not in proportion to the public interest that imposed the easement.<sup>94</sup> These criteria, although explicitly disconnected from the *égalité* principle, resemble the *égalité* criteria.

Property may be expropriated in case of a foreseeable risk of, among other things, fast-rising floods or marine submersion seriously threatening human life. The state may declare the expropriation when the means of safeguarding and protecting the population prove to be more costly than expropriation (article L 561-1 Environmental Code). The normal rules of the Expropriation Act are applicable for the expropriation,<sup>95</sup> which must be proportionate. It is obligatory to consider first whether other measures to safeguard the population are possible. Thus, in the case of a temporary risk of flooding, *e.g.* at certain times of the year, the prohibition of camping, caravanning or the establishment of mobile homes on bare land may be sufficient to avoid the exposure to this risk. In addition, requirements may be adopted for agricultural land during such periods. Given its low cost, it must then be preferred to expropriation. If a party acquires property after the publication of a PPR with a zone where it is prohibited to construct, the purchaser has no right to compensation or reduced compensation (art. L 561-2 Environmental Code).

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92 CE 29 June 2016, N° 375020, ECLI:FR:CECHR:2016:375020.20160629. In this case the compensation regime of Article L.105-1 (former Article L.160-5) Urban Planning Code was contested.

93 CE 3 July 1998, rec. P. 288 (*Bitouzet*).

94 CE 29 June 2016, N° 375020, ECLI:FR:CECHR:2016:375020.20160629, rec. 20: « *que ces dispositions instituent un régime spécial d’indemnisation exclusif de l’application du régime de droit commun de la responsabilité sans faute de l’administration pour rupture de l’égalité devant les charges publiques.* »

95 Preventive measures, such as the abovementioned expropriation, the amicable purchase of land and the amicable purchase of property, used for professional purposes employing fewer than twenty employees, in particular individual, commercial, farming or artisanal enterprises and their taxable land, as well as the measures required to limit access and to prevent any occupation, providing that the land purchased is made unsuitable for building within three years, when these properties have been damaged to the extent of more than half their value and indemnified in application of Article L. 125-2 of the Insurances Code (art. 561-3 Environmental Code), are financed by the major natural disaster prevention fund.

For the strengthening of flood defence structures and the creation of water storage areas, the instrument of public easements is used. In case of an excessive infringement, expropriation is possible.

In the past, the principle was applied in relation to infrastructural measures, such as the lawful decision to construct a dam.<sup>96</sup> The *égalité* principle could have a very broad application in these contexts. The courts, however, have limited the scope by introducing control mechanisms, specifically to restrict the impact of the principle.<sup>97</sup> The courts have been successful, given the many rejections of compensation claims.

Although not based on the *égalité* principle, the oldest branch of no-fault liability is loss arising from public works (*travail or ouvrage public*), such as dams.<sup>98</sup> In the *Entreprise Bec Frères* case,<sup>99</sup> a dam breached following heavy rainfall. Subsequent flooding caused damage to property of the Bec brothers. The Council of State denied that the cause of the breach was a *force majeure*,<sup>100</sup> but also that it was an internal defect. Instead, heavy rains had weakened rocks below the dam, which slipped due to an unsuspected crack. Therefore, the *Var Département* had to compensate the damage. This means that in case of a *force majeure*, e.g. floods, lightning or wars, no liability is accepted. Besides this requirement, the burden must also be abnormal and special, as is the case of the *égalité* principle.

The concept of the public interest is very important in French law, because this justifies many infringements, even without compensation in some cases.<sup>101</sup>

Expropriation for reasons of public utility is an administrative operation by which the state imposes the transfer of the ownership of private immovable property for a purpose of public utility and by means of a just and prior indemnity.<sup>102</sup> Even though the instrument expropriation has evolved, the principles of a just and prior indemnification are still important.<sup>103</sup>

Amongst other things, France is famous for its *ex post* compensation scheme, called the *Catastrophes Naturelles* (CAT-NAT) regime, a public-private partnership that the French Parliament adopted in 1982. Within this regime, in insurance policies for property and theft and fire cover flood risks.<sup>104</sup> Additional premiums are transferred to the Central Reinsurance Company (CRC), owned by the state. Insurers can purchase reinsurance by the CRC or a private insurer to guarantee their ability to compensate their insured parties in case of a disaster.<sup>105</sup> The premiums are independent of the

96 Conseil d'État 24 March 1978, *Advenier*.

97 Fairgrieve 2003, p. 149.

98 Fairgrieve 2003, p. 150.

99 Conseil d'État 28 May 1971, *Entreprise Bec Frères*.

100 Which is together with the fault of the victim an exemption from liability.

101 Henriot 1969, p. 352.

102 Translation by the author: Gaudemet 2012, p. 561.

103 Gaudemet 2012, p. 562.

104 Art. A125-2 Insurance Act ; Bruggeman 2010.

105 Suykens et al. 2016.

flood risks of citizens, but are a fixed rate.<sup>106</sup> Twelve percent of the premiums are redistributed to the Fund for the Prevention of Major Natural Hazards (also called: *Barriér Fund*), which finances a large part of projects in the prevention strategy.<sup>107</sup> The insurance company may amend a reduction of the insured capital if the property lies within an area in which no flood risk prevention plan (PPRI) has been established.<sup>108</sup> Furthermore, insurance companies may refuse to cover buildings that are built in an unbuildable zone of a PPRI after the plan was published.<sup>109</sup> When the property was built before the PPRI came into effect, the insurance company may not refuse to insure the property. The reduction of compensation for areas with no PPRI and the refusal of insurance for building in unbuildable zones should make up the lack of incentives to connect recovery to prevention by the fixed insurance premium. Some authors argue, however, that the latter does not encourage prevention.<sup>110</sup> In case someone did not comply with the restrictions belonging to the zones imposed by the mayor, the insurance would not compensate loss (art. L125-6 Insurance Code).

#### 5.4 COMPARISON AND INTERPRETATION OF THE COMPENSATION REGIMES

The research question consists of two parts: section 5.4.1 addresses the first part: *'are burdens equally distributed in flood risk management strategies by compensation regimes in Flanders, France and the Netherlands?*, which compares the different compensation regimes of the relevant FRM strategies in the studied countries, arranged per FRM strategy. Section 5.4.2 addresses the second research question: *What is the cause of the unequal distribution?* This section identifies two causes which lead to an unequal distribution of burdens.

##### 5.4.1 Comparison of distribution of burdens

The FD strives to integrate FRM so that prevention, protection and preparedness play important roles.<sup>111</sup> Especially prevention and protection can lead to lawfully caused loss and are therefore relevant in this context. The three studied countries have strong foci on protection, but also have developed or are presently developing prevention.<sup>112</sup> The type of loss caused by these two strategies differs. Specifically, the prevention strategy potentially leads to more damage, since spatial planning measures need more space than traditional flood protection measures. Within the protection strategy, however, an important shift has occurred as well: in all three countries the instrument of water storage areas has been created in the last decades, complementing the traditional dike-related measures. This instrument has more spatial implications than the traditional measures.

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106 Art. L125-2 Insurance Code and Article 1 Decree of 9 March 2009.

107 Article L125-2 Insurance Code and Article 1 Decree of 9 March 2009.

108 Article L125-6 Insurance Code; Suykens et al. 2016; Doorn-Hoekveld 2017b.

109 Doorn-Hoekveld 2017b.

110 Larrue et al. 2016, p. 137; Yoshida & Banba 2017, p. 442.

111 Art. 7(3) Floods Directive.

112 Doorn-Hoekveld 2017b.

#### 5.4.1.1 Protection strategy

Looking at the traditional dike-related measures, at present the countries have similar compensation regimes. For deprivation, which is in most cases a result of traditional dike-related measures, the compensation regime that fits are the general rules of expropriation, which constitutes full compensation of the loss suffered. For Flanders and France, the compensation does not reach any further. The Netherlands, however, has an additional compensation regime for traditional measures. Furthermore, indirect damage on property, *i.e.* devaluation of property caused by negative developments in the near surroundings of the affected property, is eligible for compensation based on the *égalité* principle in the Water Act.

Water storage areas are another kind of protection measure for which different compensation regimes exist. In all three countries, the law distinguishes the situation of the designation or creation of the water storage area and the activation or inundation of the area. In France, a storage area can be created through two water plans, the Water Management Plan (SAGE) and the Local Water Management Plan (SDAGE) or through a public easement. For the easements, the Urban Planning Code and Environmental Code provides a stringent compensation regime, which compensates only the direct, material and certain loss. In Flanders and the Netherlands, the situation is quite similar. The designation of Flemish water storage areas takes place in water plans (art. 2 (44 and 44bis) DIWP) as well as in spatial plans (article 1.1.2(10) UPC). Likewise, in the Netherlands, the water storage area needs to be designated in the ledger and the spatial zoning plan (article 1.1(1) Water Act). Both countries deal with the same problem. The compensation regime of the water law as well as the spatial planning law are applicable and burdened parties may choose which route they will take to receive compensation. The Dutch Water Act provides a theoretical solution, namely a priority rule in which the Spatial Planning Act is overruled. Case law, however, does not follow this priority rule, which leads to the same unclear situation as in Flanders.<sup>113</sup>

For the inundation of water storage areas, all countries have a specific compensation scheme, which seems to lead to full compensation of the loss of income caused by the inundation.

#### 5.4.1.2 Prevention strategy

Prevention measures are incorporated into spatial plans – all countries – and spatial public easements – Flanders and France – and lead to similar causes of loss: restrictions of land use or even prohibitions to build in specific zones. France has the most strict compensation regime for such measures: public easements do not normally lead to compensation when they are undertaken in the public interest. The French Council of State has awarded compensation for urban planning easements in very limited cases. Even though the Council of State made explicitly clear that the compensation regime of

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<sup>113</sup> See ABRvS 25 February 2015, ECLI:NL:RVS:2015:530, rec. 7.3; ABRvS 2 April 2014, ECLI:NL:RVS:2014:1177 rec. 9.9; Doorn-Hoekveld & Groothuijse 2017.

article L105-1 UPC is not the same as the general no-fault liability regime of the *égalité* principle, the criterion of disproportionately large burden was of decisive importance in assessing the compensation demand. The Flemish Spatial Planning Code provides a very detailed compensation regime for spatial planning measures, such as zoning in spatial plans and the designation of signal areas. Even though it is not easy to receive compensation, the code clarifies under which circumstances one can expect to get a certain amount of compensation. The Netherlands seems to have the most generous regime for preventive measures. The Spatial Planning Code is the applicable regime that codifies the *égalité* principle. However, contrary to Flanders, it is not clear for burdened parties in which case they can expect compensation and in which case they cannot. This is because the normal social risk is incorporated in a minimum threshold of at least 2% of the value of the property, which can vary from case to case.

#### 5.4.1.3 Recovery strategy

The recovery strategy has not developed in the Netherlands, as is the case for Flanders<sup>114</sup> and France. France has theoretically the most elaborated public-private regime, CAT-NAT. The insurance against floods is mandatory, which is possible because the state provides a fall back mechanism through the Central Reinsurance Company. One of the aspects that makes this system remarkable is the fact that it is interwoven with the prevention strategy. Not only does a part of the insurance premiums go into preventive measures, but also there is a connection between the insurance and the PPRI obligation of municipalities. Insurance companies can demand a reduction of the insured capital when the community has not established a PPRI. Companies may also refuse to insure property that was illegally built in unbuildable zones. However, some authors criticise the system, because in practice insurance companies do not always use the abovementioned possibilities.<sup>115</sup> Also in Flanders there is a fall-back mechanism by the state – the Flemish Disaster Fund. Almost all citizens are insured against floods, because it is part of the fire insurance. Premiums can be differentiated by the flood risks of a specific area, through which also a strong connection is made with the prevention strategy. However, a real test of this system has not occurred yet. The Dutch system is completely state-oriented. The government can apply a specific Act, the Calamities Compensation Act, in case a flood is declared a disaster. In that case, the state compensates part of the loss. Currently only one pilot of a flood insurance exists. This is a private initiative, which will not be copied by other insurers without a fall-back mechanism from the state, even though in literature an increasing interest for flood insurance can be identified.<sup>116</sup>

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114 The insurance scheme is established on the federal level, but for the readability, I refer to Flanders instead of Belgium.

115 Larrue et al. 2016.

116 Botzen & van den Bergh 2008; Seifert et al. 2013; Bruggeman et al. 2011; Faure 2016.

## 5.4.2 Causes of unequal distribution

The differences in the elaboration of specific compensation regimes and the will to compensate are connected to the elaboration of specific FRM strategies. Van Doorn-Hoekveld explained differences between these three countries through, among others, non-legal reasons, such as the water policy and spatial planning policy divide and the public–private divide.<sup>117</sup>

Although the countries differ greatly, they have one important thing in common: the core of the *égalité* principle is visible in most of their legal regimes, even though in some cases case law explicitly opposes it.<sup>118</sup> This is not surprising, because the core of the principle – people may not bear an individual and excessive burden caused by an interference with property rights for the public interest is also visible in the criteria of article 1 First Protocol ECHR.<sup>119</sup> However, the interpretation of these criteria of the *égalité* principle differ substantially in the studied countries. The Netherlands has created the broadest scope: it applies the *égalité* principle for indirect damage as well. France has a very narrow scope, under which the burden must be extraordinary large to be eligible for compensation when it is caused through a public interest objective. In Flanders, it is still uncertain how the application of the *égalité* principle will develop for preventive FRM measures.

Following the description and the comparison, two legal causes of these differences can be distinguished. The causes are connected to the fragmentation of FRM governance – the water policy and spatial planning divide – and the division of responsibilities – the public–private divide. These two causes lead to an internal inconsistency of compensation in the three countries, which leads to unequal distribution of burdens.

### 5.4.2.1 Cause: Water policy and spatial planning policy divide

A compensation regime is tied to the authority that is competent to act in the field of FRM. Therefore, the authority competent to compensate damage differs per strategy. This chapter shows that the compensation regimes between the prevention, protection and recovery strategy vary and may lead to different outcome, which threatens the equal distribution of burdens. Although the material criteria of the *égalité* principle are visible in the most of the compensation regimes, the countries do not apply it in a consistent way in the protection and prevention strategy. The Dutch Water Act and Spatial Planning Act codified the *égalité* principle. In France, the criteria of the *égalité* principle are also visible in the regime for compensation loss caused by public easements and in the Decree on Integrated Water Policy and in Flanders the core of the principle is visible as well. Especially Flanders and France, do not automatically compensate loss caused by preventive measures and, for indirect damage, no compensation is possible at all. This leads to the conclusion that adverse effects are not equally distributed in the relevant FRM strategies. Another important

<sup>117</sup> Doorn-Hoekveld 2017b.

<sup>118</sup> CE 29 June 2016, N° 375020, ECLI:FR:CECHR:2016:375020.20160629.

<sup>119</sup> The criteria are similar to article 1 First Protocol ECHR.

notion in this respect is that this can potentially hamper the equal distribution of adverse effects when shifting from one strategy to another. In the Netherlands, the fear of no-fault liability claims – the compensation of preventive FRM loss – forms a serious threat from changing from protection towards prevention.<sup>120</sup>

#### 5.4.2.2 Cause: *The public–private divide*

The Dutch State is responsible for water management and private parties still have limited responsibilities. However, for the compensation of loss, people tend to look at the State to provide a solution. The fact that the state limits its responsibility for FRM and compensation explains why a private system of insurances does not develop in the Netherlands in the recovery strategy. Nevertheless, the state provides the compensation in case it is necessary.<sup>121</sup>

In contrary to Dutch citizens, Flemish private parties have more responsibilities in the field of FRM. This is evident in the facts that they need to insure themselves against flooding, that there is a duty to inform potential buyers of flood risks of property, and that compensation of indirect damage is not common. Furthermore, the *égalité* principle is not as visible and applied as in the Netherlands. A less elaborated compensation regime, with less obligations to compensate lawfully caused loss, could lead to an easier shift between protection and prevention.

France is the opposite of the Netherlands, France is characterised by very strict compensation regimes for loss caused in the public interest in the field of FRM and urban planning. The public–private divide is a leading explanation of this difference. In France, FRM was traditionally the responsibility of the individual. Indeed, only recently has the state taken the responsibility for FRM. At that stage, no-fault liability regimes were already developed for other fields of governmental action. Another important concept in France is that, when the State acts in the public interest in the field of FRM and urban planning, it is very unusual to compensate the resulting loss. For urban planning easements, the law codified the non-compensation principle, although exceptions are also included in the law. Thus, the law does not infringe article 1 First Protocol ECHR. Even the existence of the *égalité* principle does not lead to much compensation in the field of FRM. Instead, that principle is seen as a last resort in case no codified compensation regime is present. Compensation regimes, although very strict, are present for preventive and protective FRM measures. The private responsibility is also present in the recovery strategy. Even though the CAT-NAT regime cannot exist without a strong state influence, all citizens pay for the extra insurance and some can be punished for living or building in ‘danger’ zones.

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120 This is visible in interviews with stakeholders and expert meetings the author conducted for the STAR-FLOOD project.

121 A nuance should be made, that in the Netherlands, thresholds to ‘fill in’ the abnormal burden are extensively used to limit the amount of compensation.

### 5.4.2.3 Consequence: Internal inconsistency of distribution of burdens in flood risk management strategies

The way adverse effects are distributed among society differs per strategy in the studied countries. The Netherlands is the most consistent. For each strategy, the state budget is used to compensate disproportional adverse effects of measures, which is fully in line with the *égalité* principle. When the Flemish Decree on Integrated Water Management is applicable, a greater number of adverse effects are compensated, than when the Spatial Planning Act is applicable. For the instrument Water Test, no compensation is provided, just as is the case for indirect damage. However, since the Constitutional Court broadens the scope of the *égalité* principle, this could lead to a more generous regime in the future. In France, solidarity characterises the recovery strategy: loss caused by floods is compensated by the fund filled by insurance premiums of approximately 95-98% of French citizens.<sup>122</sup> This differs largely from burdens that a small group bears from measures that are needed to prevent a disaster from happening, just as is the case in Belgium. It depends on the adverse effect whether a burdened party get compensation or not. *Ex post* compensation is better arranged and more generous in both countries than *ex ante* or preventive compensation. This leads to the conclusion that distributional effects are not spread fairly among society in both countries. Of course, this contrast can be explained by the fact that the public interest causes preventive adverse effects, and natural incidents causes *ex post* damage. Thus, actions for the public interest do not automatically lead to compensation in both countries. However, since the tendency to move from reactive FRM towards preventive FRM also leads to different distributional – adverse – effects, it would suit both countries to scrutinise the existing compensation regimes for the preventive strategies and see whether they are as solidary as their *ex post* regimes. Moreover, because a small group bears the burdens that benefits the society as whole, not only because the measures that causes their burdens prevent floods, but also prevent the insurance funds to compensate loss caused by floods, which may lead to lower insurance premiums. This does not mean that the Netherlands cannot learn from Flanders and France as well. By providing the possibility to claim compensation in almost all cases – preventive phase as well as recovery phase – there is rarely an incentive to move away from areas with a high flood risk. The Netherlands should deal with this problem in the future, just as the rather low flood risk awareness, because the state cannot guarantee 100% safety. Especially new developments in flood-prone or potentially flood-prone areas should be scrutinised. Although these kind of developments will probably not lead to excessive burdens that must be compensated, because citizens should be aware of the risks they are facing in such areas.

## 5.5 CONCLUSION

The research shows that differences exists between the compensation regimes of the strategies and countries. Every strategy is characterised by its own compensation regimes. Not one compensation regime is equipped to deal with a shift of strategies

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<sup>122</sup> Yoshida & Banba 2017, p. 436.

in the sense that one compensation regime could compensate adverse effects in all strategies. For a fair distribution of burdens, the *égalité* principle can be used in the prevention strategy, as well as the protection strategy. The conditions of this principle are in line with art. 1 First Protocol ECHR and present in the studied compensation regimes of all countries. The implementation of the principle, however, leads to completely different outcome in the prevention strategy.

The research concludes that distributional effects of FRM are spread in the most consistent and equal way in the Netherlands. Although the compensation of distributional effects in Flanders and France is not consistent in the strategies, they do not seem to infringe article 1 First Protocol ECHR, and therefore, revisions of the systems are not necessary. The Belgian and French recovery strategy are indeed based on solidarity and yet, solidarity seems to lack in the compensation regimes for especially the prevention strategy. Especially since the focus of FRM has shifted from recovery or *ex post* to prevention, both countries should review how the distributional effects of FRM can be spread more fairly among society. In the Netherlands, a different tendency is visible. The state cannot guarantee 100% safety from flooding, and thus should reconsider also other strategies, not only prevention and protection. The Netherlands should find ways to create more awareness of flood risks and to reduce the dependence of citizens of the state for compensating adverse effects.

The fact that a very elaborated compensation regime might hamper a shift from one strategy to another, as is the case in the Netherlands, is another interesting conclusion, that demands multidisciplinary research. How the role of the compensation regime influences FRM strategies does not only have legal implications, but political and social implication as well. This research fills the knowledge gap with regard to the legal distributional effects of FRM, but must be seen as a starting point for joint cooperation with other disciplines to look deeper into the last aspect raised.

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# CHAPTER 6

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## CONCLUSION

### 6.1 CONTEXT OF THE RESEARCH TOPIC

Flood risks are increasingly affecting more people in Europe, making urgent the need for measures to manage and reduce the risks that floods pose to human health, the environment, cultural heritage and economic activities. This led to the establishment of the EU Floods Directive in 2007.<sup>1</sup> The Preamble to the EU Floods Directive starts with the statement that floods not only have the potential to cause fatalities, such as the displacement of people and damage to the environment, but also compromise economic development and undermine the economic activities of the Community (rec. 1). The directive respects fundamental rights: among others, the right to life,<sup>2</sup> and the protection of property.<sup>3</sup> These two rights can come into conflict when the protection of lives necessitates infringements of property rights: for example, when the protection against floods demands the expropriation of property in order to create an area that temporarily stores water. The directive obliges EU Member States to establish a system of flood risk management consisting of a set of obligations ranging from policy instruments to legal instruments which each Member State has to implement and embed into its legal system.

Water does not follow boundaries and is a pre-eminent example of a policy domain where transboundary cooperation is necessary due to the existence of many transboundary river basins. Therefore, Member States cannot carry out flood risk management without cooperating with, or at least taking into account, neighbouring Member States.

The EU Floods Directive classifies different flood risk management strategies: prevention, protection, preparedness, emergency response, and recovery and lessons learned. Flood risk management measures are classified by strategy. The dominance of a specific strategy in a country determines which measures are more common than others.<sup>4</sup>

Measures of the prevention and protection strategies are particularly likely to necessitate infringements of property rights: for example, when protection against

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1 2007/60/EC.

2 Art. 2 Charter of Fundamental Rights of the European Union (henceforth CFREU) and the European Convention on Human Rights (henceforth ECHR).

3 Art. 17 in conjunction with Art. 52 (3) CFREU and Art. 1 First Protocol of the ECHR.

4 See section 1.2, chapter 2 and chapter 5.

floods demands the restriction of property rights or the expropriation of property in order to create an area that temporarily stores water.

This research involved the legal assessment of the distributional effects of flood risk management. Preventive flood risk management can cause disproportionately large burdens to a small group of citizens or firms in order to benefit a larger group of people or, in some cases, society as a whole. In order to prevent floods, measures that touch upon property rights are sometimes necessary. To give an example: water storage areas can impose restrictions on the use of privately owned land.<sup>5</sup> This can lead to the devaluation or deprivation of property or a loss of income. These burdens are considered to be the adverse effects of preventive flood risk management. This research addressed the negative consequences for possessions or property rights. Therefore, the legal distributional effects of flood risk management in this research were defined as ‘the negative consequences of *lawful* flood risk management that infringe possessions or property rights.’<sup>6</sup>

The infringement of property rights can have different proportions. This unequal distribution of burdens is a distributional effect of flood risk management. Most countries have a compensation regime in place which creates the possibility for burdened parties to ask for compensation of damage. This compensation regime mitigates the unequal distribution of burdens. Article 1 First Protocol ECHR forms a basic demand which the compensation regimes should meet.<sup>7</sup> Nevertheless, Member States are free to have their own set of compensation regimes and therefore differences exist in the compensation regimes of different European Member States and of Member States sharing one river basin district.

The compensation *regimes* formed the focus of this research, *i.e.* the level of analysis can be considered to be a macro level, in contrast with a micro level, *i.e.* the level of compensation on a case to case basis. Research at the micro level would scrutinise the material aspects of the compensation and the way the criteria are elaborated in different countries. The choice for a specific compensation *regime* at the macro level provides information on what is perceived to be a distributively just standard in a society.<sup>8</sup> A compensation regime does indeed redistribute burdens in a certain manner among society.

This dissertation is a legal comparison of the compensation regimes of the Netherlands, Flanders and France: three countries that face similar flood risks and share the river basin districts of the Meuse and Scheldt Rivers. It focusses on the way in which in these countries the compensation regimes, which are based on specific principles and rationales, distribute the burdens among society. The subsequent question is whether

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5 Doorn-Hoekveld 2014; Doorn-Hoekveld & Groothuijse 2017.

6 This definition thus excludes tort law and criminal law.

7 Although the right to property is protected by Art. 17 of the Charter of Fundamental Rights of the European Union, this article has not been subjected to case law. Therefore, this research uses Article 1 FP ECHR as a frame of reference.

8 See sections 1.3.1.5 and 1.3.1.9.

this leads to an equal way of burden-sharing internally in each of the countries studied, as well as externally between the studied countries.

In order to create a just distribution of burdens caused by flood risk management, mitigation of the burdens through compensation is necessary.

## 6.2 RESEARCH QUESTIONS

The context described above led to the following research questions.

The main research questions are:

- 1) Are burdens equally distributed in FRM strategies in the Netherlands, Flanders and France?
- 2) If that is not the case, what is the cause of the unequal distribution?

Sub-questions of the research:

- a) How is flood risk management arranged in the Netherlands, Flanders and France?
- b) Which flood risk management strategies are dominant in these countries?
- c) What are the compensation regimes for loss caused by flood risk management or floods?
- d) How are these compensation regimes applied in the three countries for three specific measures?
- e) What are the principles on which the distribution of burdens in these countries is based?

These questions were addressed in the four papers that constitute chapters 2 to 5. These papers:

- identify the relation between strategies formulated in the FRM and compensation regimes in the three countries, and
- study the role of the compensation regimes, since these regimes differ per strategy, resulting in consequences for the just distribution of burdens, and
- study the effects of a shift in strategy on the compensation regimes and the distribution of burdens.

## 6.3 CONCLUSIONS

The three main conclusions of this research are:

- The compensation regimes based on different rationales and principles aim to mitigate a specific type of loss that is characteristic of a specific flood risk management strategy, and thus are connected to a specific strategy.
- A shift in flood risk management strategy cannot be successfully achieved without taking into account the role and rationale of the compensation regime in the strategies concerned, in order to avoid unforeseen consequences.
- In order to avoid unforeseen consequences, a compensation regime that is designed for a specific flood risk management strategy cannot be transferred to another strategy without taking into account the aim and rationale for which the compensation regime has been designed.

## 6.4 AMPLIFICATION OF THE CONCLUSIONS

### 6.4.1 Flood risk management burdens are related to specific flood risk management strategies and are unequally divided

Answer to sub-questions a and b that are addressed in chapters 2, 3 and 4.

#### *Flood risk management in the Netherlands, Flanders and France*

The geographical circumstances of the countries studied differ greatly, from two small and highly densely populated areas (the Netherlands and Flanders) to a large, less densely populated country (France). However, in all three countries, flood risks are connected to densely populated areas.

Chapter 2 identifies three generalities that influence flood risk management in the three countries: the central–decentral divide, the water policy–spatial planning divide and the public–private divide.<sup>9</sup>

The central–decentral divide is related to the administrative structure of the countries. The Netherlands has very decentralised flood risk management, with most flood risk management competences laid down at the decentral level of the regional water authorities. Flanders is a region of a federal state, although for flood risk management the regional level has all the competences. In France, the role of the central state is very visible in flood risk management, by having prefects and mayors (as central state organs) in the decentralised organs that are competent for flood risk management. The fact that the implementation of flood risk management policy lies at the decentral level in all three countries does not alter the fact that national policy is made at the

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9 Section 2.6.

central level and that all three have a specific flood risk management organ: the Dutch Delta Commissioner, the Flemish Commission on Integrated Water Management and the French Joint Flood Commission. The policy-making power of these organs ranges from major (the Netherlands) to minor (France).

The division between spatial planning and flood risk management prevails in all three countries. The solutions used to connect these two policy fields are diverse. The bridging instruments primarily used to secure water interests are the Water Assessment in the Netherlands and the Water Test in Flanders. Both are instruments that assess the impact of a plan or a project on the water system. Additionally, the signal areas in Flanders – undeveloped areas where the prospect of development may conflict with the interests of the water system – are considered to be best practice.<sup>10</sup> France has, at least in theory, the best system for enhancing the integration between FRM and spatial planning, because of the obligation for the spatial planning documents to be compatible with the water plans.

The public–private divide differs greatly in the three countries. The Netherlands has the longest tradition of public water management. This is visible, among other things, by having legal safety standards combined with a duty of care for the government to comply with these standards. The standards cover the whole country. In Flanders, ad hoc standards exist, whereas in France standards are codified for specific new projects. The Dutch State sends out the message that it will take care of flood risk management. This leads to citizens adopting an attitude of taking little responsibility for their own safety, in contrast to France. In France, the state has only very recently taken over the responsibility of citizens to protect themselves. Related to this divide is the funding of flood risk management in the three countries. They all have specific funds for flood risk management, but the financing has different origins. In the Netherlands, the Delta Fund is financed from the state budget, and additional funding is provided by taxes collected by the regional water authorities and municipalities. In Flanders, part of the financing stems from private parties through the urban development levy, whereas in France, part of the insurance premiums is diverted to the fund.<sup>11</sup>

If the three countries are placed on a spectrum, the Netherlands and France are at the ends and Flanders is in the middle: it has some aspects in common with the Netherlands, especially concerning the central–decentral divide and water–spatial planning friction, and others in common with France, namely concerning the public–private divide, with much more responsibility for individuals.

#### *Flood risk management burdens connected to three specific strategies*

As already mentioned above, three of the strategies identified by the EU Floods Directive were of great interest for this research: flood protection, flood prevention, and recovery and lessons learned.

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<sup>10</sup> See sections 2.4.2, 4.4.2 and 5.3.2.

<sup>11</sup> These funds do not exclusively finance preventive and protective FRM. In all three countries, part of the FRM finances stems from the state budget.

Protective measures such as dike strengthening measures can be more or less space-consuming. In general, dike strengthening measures do not need much extra space that is owned by private parties. However, if this space is needed, the land will mostly be expropriated. The creation of a water storage area is different. It is a specifically designated area that can temporarily store water. The water storage areas are mostly privately owned. When the land becomes useless to the landowner, expropriation is the obvious means, but in most cases the land can still also be of use to the landowner. In that case, the landowner should tolerate the fact that his or her land will be temporarily inundated.<sup>12</sup> The obligation to tolerate can be connected to restrictions of land use, such as the prohibition on growing specific types of crops in a certain period of the year. There are three types of losses connected to temporary inundations: (1) the devaluation of property, (2) a loss of income and (3) the actual damage as a result of the inundation, *e.g.* harvest loss. In all three countries, compensation for this kind of loss is regulated.<sup>13</sup>

Preventive measures are spatial planning measures to avoid flooding or to reduce the adverse effects of a flood. Examples include the prohibition on building or developing in a specific flood-prone area, or restrictions on land use. These kinds of measures will probably be only applied for new developments. For existing buildings, the restrictions are unlikely to be imposed – only in cases where the land is needed for active flood risk management, such as the creation of a water storage area, or dike strengthening, or dike relocation.

Recovery is quite different. The cause of loss is not a lawful action or a decision by a public authority – as is the case for the prevention and protection strategy – but a natural disaster – a flood. The burdens consist of the individuals' actual losses.<sup>14</sup>

#### **6.4.2 Compensation regimes are connected to specific strategies and mitigate the burdens that are related to the specific strategy they are connected to**

Answer to sub-questions c, d and e addressed in chapters 3 and 4.

This research shows that for the strategies prevention and protection, including measures that infringe, and do not deprive property rights, a compensation regime based on the *égalité* principle distributes the adverse effects in the most equal manner. The *égalité* principle, or a derivative thereof, mitigates adverse effects by restoring inequalities between individuals. When an individual faces negative consequences of preventive flood risk management, *e.g.* restrictions on land use that lead to a devaluation of property, the application of the *égalité* principle leads

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12 In the Netherlands, it is necessary to impose an obligation to tolerate, in Flanders the toleration of inundation follows from the activation of the water storage area and in France, it is connected to the public easement.

13 See sections 3.6, 4.4.2, 5.3.1, 5.3.2. and 5.3.3 and Doorn-Hoekveld 2014; Doorn-Hoekveld et al. 2016; Doorn-Hoekveld 2017a; Doorn-Hoekveld & Groothuijse 2017.

14 Within the recovery strategy, measures can be taken in order to return to normal circumstances, but this research does not address these kinds of measures.

to compensation for the disproportionately large burden. This means that the three countries acknowledge the main aim of the *égalité* principle, which is that no one has to bear disproportionately large burdens caused by actions for the common good, although part of the burden should be borne because of the benefits of the common good for all members of a society.<sup>15</sup>

For the recovery strategy, insurances are more often applied.<sup>16</sup> Public–private insurance systems are based on solidarity rather than on a belief in distributional justice. In France, property owners contribute to the compensation of the flood loss of others, regardless of the flood risk they themselves face. In Flanders, the premiums may be differentiated. The Netherlands has a purely public recovery compensation system financed by general means and thus does not differentiate between citizens who face greater or lesser flood risks. However, the Dutch system does not provide full compensation and excludes damage in unembanked areas.

The compensation regimes in all three countries related to one or more flood risk management strategies mitigate adverse effects caused by the specific strategies. The degree to which the adverse effects are mitigated through the compensation regime differs per country.

A crucial difference between the first (prevention and protection) and second (recovery) types of compensation regimes is the cause of the loss. In the first category, the action or decision of a public authority causes the loss; in the second, the loss is caused by a natural disaster.

The three countries have one important thing in common: the *égalité* principle is visible at the core of most of their legal compensation regimes for flood prevention and protection. This is not surprising, because the basis of the principle – people may not bear an individual and excessive burden caused by an interference with property rights for the public interest – is also visible in the criteria of Article 1 First Protocol ECHR.<sup>17</sup> However, the interpretation of these criteria of the *égalité* principle differs substantially in the countries studied. The Netherlands has created the broadest scope: it applies the *égalité* principle for indirect damage as well. France has a very narrow scope, under which the burden must be extraordinarily large to be eligible for compensation if it has been caused by a public interest objective.<sup>18</sup> In Flanders, it is still uncertain how the application of the *égalité* principle will develop for preventive flood risk management measures.

It is notable that in France, all French citizens have solidarity with victims of natural disasters, such as floods, but the individuals who face the adverse effects of policy to prevent these disasters from happening can expect little or no compensation.

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15 See sections 3.5, 4.4.1, 5.2.4 and 5.3.

16 See sections 4.4.1, 4.4.3 and 5.4.1.

17 Although Art. 1 First Protocol cannot be considered to be a codification of the *égalité* principle, the criteria of both are similar.

18 Although this criterion is similar in the Netherlands, the French interpretation is narrower.

In the French case, the burdens are spread unequally among society regarding the different strategies, whereas the Netherlands spreads the burdens in a more equal way, because the compensation regimes in all three strategies resemble the criteria of the *égalité* principle. Due to the differences in compensation regimes in the three strategies, similar burdens are spread differently between the Netherlands, Flanders and France. For prevention, the Netherlands theoretically seems to have the most generous regime, including the compensation of indirect damage, whereas France has the most parsimonious regime.<sup>19</sup> For recovery it is the other way around: France has a generous regime which does not differentiate according to the flood risks that harmed parties may have accepted; this is in contrast with Flanders, which, despite having a similar system, includes differentiating according to flood risks, and with the Netherlands, which has an ad hoc system that can be applied differently each time it is called into force and excludes unembanked areas from compensation.

### 6.4.3 Causes of the unequal distribution of burdens

Answer to the second main research question and sub-questions d and e, addressed in chapters 3, 4 and 5.

Two legal causes of these differences can be distinguished that were already relevant to explain the differences in flood risk management between the three countries in chapter 2: on the one hand, the water policy and spatial planning divide, and on the other, the public–private divide. These two causes lead to an internal inconsistency in compensation regimes in the three countries, which subsequently leads to an unequal distribution of burdens.<sup>20</sup> Apart from these two, the main conclusion also derives from the answer to the second research question: the compensation regime is inextricably connected to a specific flood risk management strategy, which is also a cause of the inequality. The last identified cause relates to the concept of distributive justice introduced in chapter 1.

#### *Water policy and the spatial planning divide*

The compensation regimes between the prevention, protection and recovery strategies vary and may lead to different outcomes, which threatens the equal distribution of burdens. Although the material criteria of the *égalité* principle are visible in most of the applicable compensation regimes, the countries do not apply the principle in a consistent way in the protection and prevention strategies. The Dutch Water Act and Spatial Planning Act have codified the *égalité* principle. In France, the criteria of the *égalité* principle are also visible in the regime for compensating loss caused by public easements mentioned in the Environmental Code and the Urban Planning Code. In the Flemish Decree on Integrated Water Policy, the core of the principle is visible as well.<sup>21</sup>

19 A nuance should be made in that in the Netherlands, thresholds to ‘fill in’ the abnormal burden are extensively used to limit the amount of compensation.

20 See section 5.4.2.

21 The French code and the Flemish decree include aspects that are similar to the *égalité* principle. It is not the codification of the *égalité* principle, though.

Both Flanders and France in particular do not automatically compensate loss caused by preventive, spatial planning measures, and no compensation is possible for indirect damage. In these two countries, loss caused by protective measures mostly leads to expropriation, which is required to be fully compensated. In the Netherlands, the fear of no-fault liability claims – the compensation for preventive FRM loss – forms a serious threat for changing from protection towards prevention.<sup>22</sup> This fear in the Netherlands leads to the conclusion that a specific compensation regime potentially hampers the shift from one strategy to another and thus from one policy field to another. The more ‘generous’ or at least elaborated the compensation regime, the greater the reluctance to move towards a strategy to which this regime is connected. In both Flanders and France, a harmed party has a greater possibility of being compensated when a measure falls within the scope of water policy than when a measure is part of spatial planning policy; this results in an unequal distribution of adverse effects.

### *The public–private divide*

The Dutch State is responsible for water management and private parties still have limited responsibilities. Therefore, for the compensation of loss, people tend to look to the state to provide a solution. The fact that the state does indeed take responsibility for flood risk management and for compensation explains why a private system of insurances has not developed in the recovery strategy in the Netherlands. Nevertheless, the state provides the compensation in the recovery strategy in case this is necessary.

In contrast to Dutch citizens, Flemish private parties have more responsibilities in the field of flood risk management. This can be seen from the fact that they need to insure themselves against flooding, that there is a duty to inform potential buyers of property about flood risks, that the flood insurance premiums differentiate according to the flood risks of the property and that compensation of indirect damage is not common. Furthermore, the *égalité* principle is not as visible and applied as in the Netherlands. A less elaborated compensation regime, with less obligations to compensate lawfully caused loss, could lead to an easier shift between protection and prevention.

France is the opposite of the Netherlands. It is characterised by very strict compensation regimes for loss caused in the public interest and, more specifically, in the field of flood risk management and urban planning. The public–private divide is one of the main explanations for this difference. In France, flood risk management was traditionally the responsibility of the individual. Only recently has the state assumed responsibility for flood risk management. At that stage, no-fault liability regimes had already been developed for other fields of governmental action. Another important aspect in France is that when the state acts in the public interest in the field of flood risk management and urban planning, it is very unusual to compensate the resulting loss. For urban planning easements, the Urban Planning Code has codified the non-compensation principle, although exceptions are also included in the law. Thus, the

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22 This is visible in interviews with stakeholders and expert meetings which the author conducted for the STAR-FLOOD project.

law does not infringe Article 1 First Protocol European Convention on Human Rights. Not even the existence of the *égalité* principle leads to much compensation in the field of preventive flood risk management. Instead, that principle is seen as a last resort when no codified compensation regime is present. Compensation regimes, although very strict, are in place for preventive and protective flood risk management measures. The responsibility of private individuals is also present in the recovery strategy. Even though the public–private insurance scheme ‘CAT-NAT’ cannot exist without a strong state influence, all citizens pay for the disaster insurance. In the past, this system led to a strong recovery arrangement instead of a focus on prevention and protection.

#### *Connection between a compensation regime and a specific flood risk management strategy*

The causes identified show that the presence of a specific compensation regime is inextricably related to a certain flood risk management strategy.

The Netherlands is the most consistent of the three countries in compensating the adverse effects of flood risk management. For each strategy, the state budget is used to compensate disproportional adverse effects of measures, which is fully in line with the *égalité* principle. In Flanders, it depends which compensation regime is applicable. When the Flemish Decree on Integrated Water Management is applicable, a greater number of adverse effects are compensated than when the Spatial Planning Act is applicable. No compensation is provided for by the Water Test, just as is the case for indirect damage. However, now that the Constitutional Court has broadened the scope of the *égalité* principle, the regime might become more generous in the future. In France, the solidarity principle characterises the recovery strategy: loss caused by floods is compensated by the fund which is filled by the insurance premiums of approximately 95–98% of French citizens.<sup>23</sup> This differs greatly from burdens that a small group bears from measures that are needed to prevent a disaster from happening, just as is the case in Belgium. Whether or not a burdened party receives compensation depends on the cause of an adverse effect – a preventive or protective measure, on the one hand, or the occurrence of a natural disaster, on the other. *Ex post* compensation is better arranged and more generous in France and Flanders than *ex ante* or preventive compensation. This leads to the conclusion that in both of these countries, distributional effects are not spread equally among society. Of course, this contrast can be explained by the fact that the public interest causes adverse effects in the prevention and protection strategy, and natural incidents cause *ex post* damage. Thus, in both countries, actions for the public interest do not automatically lead to compensation.

#### *Perception of distributive justice*

It is important to start this section by emphasising the level of analysis of this research. The focus of this research was on *compensation regimes*, *i.e.* the way the

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23 Yoshida & Banba 2017, p. 436.

compensation of lawfully caused loss is arranged in the society by, *e.g.*, legislation, policy, unwritten law or jurisprudence (macro level), and not on the material execution of a compensation regime in specific cases (micro level).

The introduction amplified that the compensation of lawfully caused burdens is part of the concept of distributive justice, since the intention of compensating loss lawfully caused by flood risk management measures is not to restore the situation as before the interaction and to take away the gain of the wrongdoer, but to distribute the harmful effects of the measures, by redistributing benefits (protection against flooding)<sup>24</sup> and burdens (infringement of rights) by a given standard, thus creating a new distributive status quo. In general, the lawfully caused burdens of flood risk management are part of distributive justice, and the compensation, as a mitigation mechanism of these burdens, is part of the restoration of an unjust distribution.<sup>25</sup>

A consequence of the classification of the compensation of distributional effects as part of distributive justice is that a just distribution differs per society, *i.e.* a country, or even regions within a country. Per society, a distributive standard can be created to which the goods (or burdens) are allocated in a just manner, considering the specific context of the region. An absolutely equal distribution is probably not perceived as just. What is perceived as just is both time-dependent and place-dependent. The above-mentioned identified causes clarify these differences to some extent. For example, in France, solidarity forms the basis of the *ex post* system. However, for preventive and protective measures, solidarity plays a minor role, due to the fact that these measures are carried out in the public interest, which can override individual rights.<sup>26</sup> A utilitarian would probably think it is justifiable that property rights are infringed for reasons of general interest, because serving the interests of society as a whole creates the greatest happiness for the greatest number. An adherent to the theory of Rawls would prefer the Dutch system in which even the worst-off should benefit from inequalities.

The causes identified show that the inequalities of the way burdens are spread in the three countries are deeply embedded in these societies. Changing such systems not only has legal implications, but also necessitates changing the characteristics, values and ideas of a society, and therefore also touches upon other disciplines such as philosophy and sociology.

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24 Which is, of course, not redistributed by compensation, but by the FRM measure.

25 See section 1.3.1.5.

26 Of course, infringements of rights can demand compensation, even when the infringement takes place in the public interest, but it is a common French notion that the public interest limits the amount of compensation.

## 6.5 CONSEQUENCES OF THE CONNECTION BETWEEN A SPECIFIC FLOOD RISK MANAGEMENT STRATEGY AND A SPECIFIC COMPENSATION REGIME

The main conclusion is derived from the answers to the two main research questions addressed in chapter 5.

### *Consequences of a shift in strategies*

Because the roots of the inequalities of the distribution of burdens are embedded in the historical, social and legal development of flood risk management and the societies in general, it will be difficult to orchestrate a change in the applicable compensation regime. The connection between the compensation regime and flood risk management strategies should not be overlooked in times of broadening the strategies, due to the role that compensation regimes have as mitigation mechanisms for the distribution of burdens. The development of flood risk management towards a broadening of strategies should result in the consequence that states scrutinise the way adverse effects of the change or shift in flood risk management are distributed. If this distribution is still considered to be just, according to the interpretation of distributive justice in the country in question, it may be less of a problem to broaden or change flood risk management strategies. The tendency to move from reactive flood risk management towards preventive flood risk management is resulting in a shift of distributional – adverse – effects. It would suit both Flanders and France in particular to scrutinise the existing compensation regimes for the preventive strategies and to discuss whether they need to be as solidary as their *ex post* regimes and, if not, why this is not necessary from the point of view of distributive justice.

Although this conclusion is based on the research on the compensation of distributional effects in the Netherlands, Flanders and France, it could be extrapolated to other European Member States and beyond that develop flood risk management and thus harm people, since the underlying notion that compensation is a mitigation mechanism that redistributes adverse effects of flood risk management is not exclusively attached to the three countries studied.

### *Consequence of transferring compensation regimes to other strategies*

A shift of strategies has consequences not only for the applicable compensation regime and thus for burden-sharing. The opposite is also true: a specific compensation regime cannot be transferred to another strategy without taking into account that strategy's rationales and the principles on which the compensation regime is based. One cannot pick and choose a regime that looks the most attractive, because it has been developed over time, in specific circumstances, with a specific rationale and within a specific policy field. This conclusion is relevant because it differs from the conclusion reached by studies that have looked only at the material differences between compensation regimes – a micro level comparison; that kind of research might lead to the conclusion that a country can cherry-pick the most attractive aspects of a compensation regime,

without considering the general context and the role of the compensation regimes in the whole system of flood risk management and compensation.

To give an example: a public–private insurance scheme developed in France cannot be extracted from a large private responsibility of citizens. The latter is not present in the Netherlands and Dutch flood risk management has not been developed in a way that citizens have a large responsibility. In order to create a successful legitimate insurance system that can count on enough public support, a change in the attitude of the Dutch society to flood risk management first needs to be achieved. It is questionable whether such a change would have enough public support. Currently the way Dutch flood risk management is arranged has sufficient public support and is considered legitimate, which can put pressure on the legitimacy of flood risk management. The same would apply if France were to propose introducing a more generous compensation regime in its preventive strategy. Before a change of compensation regime can be achieved, there must be an incremental change in the perception of to what extent the public interest may infringe rights that are compensable to a small degree or not at all.

### *Lessons learned*

Chapter 5 concludes that burdens are unequally spread internally in France and Flanders and are spread unequally externally between the three countries. In the Netherlands, distributional effects are equally divided between the three strategies when the *ex post* compensation regime is called into force.<sup>27</sup> As the above-mentioned section describes, it is difficult to change the strategy or the applicable compensation regime separately, because of their strong interconnection.

From the point of view of the principle of equality, inequality is not necessarily wrong. Equals must be treated equally, but things or persons that are not equal must not be treated equally. The burdens of the different strategies are not equal, because the cause of the burdens differs. For prevention and protection, the cause is a deed or decision by a public authority, and for recovery it is a natural disaster. Although the burdens differ, the Dutch situation shows that the compensation thereof can still be done in a consistent way. This is different from the Flemish and French situations, as both countries have compensation regimes that distribute the burdens unequally.

Although the burdens are unequally spread, this does not automatically lead to the conclusion that France has an unjust distribution of burdens, because the *perception of distributive justice* also differs per country and time.<sup>28</sup>

Nevertheless, it would be recommendable for countries with a generous and very solidary *ex post* regime to examine whether the rationale for solidarity in the recovery phase could or should also be relevant and be applied in the prevention and protection phases, because a small group bears the burdens and this benefits the society as whole,

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<sup>27</sup> It is possible for the Calamities Compensation Act not to be called into force after a flood. In that case, the burdens are not equally distributed.

<sup>28</sup> See section 1.3.1.6.

not only because the measures that cause their burdens prevent floods, but also the insurance funds do not have to compensate loss caused by floods. This may lead to lower insurance premiums and thus forms a second benefit for the whole society.<sup>29</sup>

As the above-mentioned consequences show, it is difficult, yet not impossible, to achieve a change of compensation regime in a strategy. However, it should be borne in mind that the successful implementation of such a shift depends on many factors that are deeply embedded in a society and will probably need some time to change. This involves not only the equality of burden-sharing, but also the perception of a just burden-sharing in a specific society.

## 6.6 SOCIETAL RELEVANCE

One of the functions of comparative law is “to facilitate legislation and the practical improvement of the law.”<sup>30</sup> ‘The law’ is a broad concept: it may be domestic law, or international law, or judicial law. Legal comparisons start with knowledge of at least one legal system, which is often the legal system in the researcher’s country. In this case, it is the Dutch legal system that was the starting point of the research. This study and comparison focused on both the legal regimes of flood risk management and of no-fault liability: two distinct regimes for which the Dutch are renowned. For flood risk management, it is not the legal aspects that created this fame, but the technical *tour de force* of Dutch water management works. No-fault liability stands out, because of its maturity due to its long development and assumed generosity. In general, it is assumed that private parties harmed by actions of the public authorities are compensated. Of course, this statement needs some nuance. Parties harmed by governmental action may claim compensation, but the rules under which the damages are awarded are quite strict. For the Dutch, comparisons of foreign no-fault liability schemes are of great interest. The material aspects of the foreign compensation regimes receive particular attention.<sup>31</sup> For the legislator, research results of this kind lead to the conclusion that the Dutch system needs some improvement, *i.e.* it needs to become stricter. This research, however, informs the step that should be taken before one can properly study the material criteria, namely, it scrutinises the principles underlying the compensation regimes related to flood risk management and the different flood risk management strategies in the Netherlands, Flanders and France. It shows how the relationship between flood risk management strategies and the compensation of adverse distributional effects is arranged and explains the rationale of the different regimes and the differences that follow from these rationales.

For flood risk management, it is wrong to conclude in general that the Netherlands should move towards a stricter compensation regime for flood prevention and protection, just because Flanders and France seem to be less generous, without taking into account their solidary *ex post* compensation regimes that are much more detailed

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29 The first benefit is the prevention of the occurrence of a flood.

30 Maine, *Village Communities*, 1871, cited in: Kamba 1974, p. 490.

31 Tjepkema 2010; Huijts & Backes 2015.

and generous than the Dutch system for recovery and the identified reasons that underlie the differences in the compensation regimes. Besides, it is deeply rooted in Dutch society that preventing floods prevails over paying *ex post* compensation.

## 6.7 FUTURE RESEARCH

The four papers included as chapters 2 to 5 identified different knowledge gaps regarding the legal comparison of flood risk management in the Netherlands, Flanders and France, by identifying the legal aspects of the distributional effects of FRM, describing and comparing the compensation regimes related to flood risk management and the accompanying strategies and also the relationship between the compensation regimes and the flood risk management strategies defined by the EU Floods Directive. The research filled these gaps in knowledge and simultaneously encountered aspects that need to be researched in the future.

All issues that could lead to future research have a multidisciplinary character. The first relates to the role of compensation in the flood risk management strategies. This research shows that from the perspective of an equal distribution of burdens, compensation is a mitigation mechanism and is therefore of crucial importance for an equal and just distribution of burdens. Another question is how the compensation of lawfully caused burdens affects flood risk management and the shifts in strategies. In the Netherlands, policy-makers fear no-fault liability claims and take compensation into account when developing new policies. It would be very interesting to examine how policy-makers in other countries take the compensation of distributional effects into account by developing their flood risk management policies and deciding which measures to take. This proposed research has a social element (the role of compensation for policy-making) and an economic element (a cost-benefit approach to how the distributional effects are spread) that would be of practical interest for policy-makers in many countries.

Another question has a more philosophical character. In order to create distributive justice, it should be examined what is perceived as being 'distributively just' in the different countries. When the distributively just standard has been identified, it can be used to evaluate the way distributional effects are spread among society. This implies cooperation with the philosophical discipline and has a more theoretical character than the aforementioned future research.



# CHAPTER 7

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## SAMENVATTING

### 7.1 INLEIDING

Klimaatverandering en verstedelijking leiden tot grotere overstromingsrisico's in Europa. Ook de gevolgen van overstromingen worden groter. Zo kunnen zij "[...] levenskosten, mensen op de vlucht drijven, schade berokkenen aan het milieu, de economische ontwikkeling ernstig in gevaar brengen en de economische bedrijvigheid van de Gemeenschap ontwrichten"<sup>1</sup> Met name overstromingen vanuit rivieren hebben een grensoverschrijdend karakter, waardoor grensoverschrijdende samenwerking vereist is om overstromingen te voorkomen alsmede de gevolgen van overstromingen te reduceren. In 2007 is de Richtlijn Overstromingsrisico's vastgesteld, die een kader stelt voor de beoordeling en het beheer van overstromingsrisico's ter beperking van de negatieve gevolgen die overstromingen kunnen hebben op de gezondheid van de mens, het milieu, het cultureel erfgoed en de economische bedrijvigheid (art. 1 Richtlijn Overstromingsrisico's).

Het beheer van overstromingsrisico's kan leiden tot een inbreuk op rechten, zoals een inbreuk op het recht op eigendom. Inbreuken op eigendomsrechten zijn de zogenaamde verdelende effecten (*distributional effects*) van het overstromingsrisicobeheer. In het kader van het overstromingsrisicobeheer worden maatregelen getroffen die nadelige gevolgen kunnen hebben voor individuele grondeigenaren of ondernemers. Het gaat bijvoorbeeld om maatregelen als het aanwijzen van waterbergingsgebieden, waardoor het gebruik van gronden en opstallen wordt beperkt. Een kleine groep grond- of woningeigenaren of bedrijven moet de lasten dragen die voortvloeien uit maatregelen die leiden tot voordeel van een grotere groep, in sommige gevallen de hele samenleving. De nadelige gevolgen van overstromingsrisicobeheer zijn dus ongelijk verdeeld over de samenleving. De meeste landen hebben compensatieregimes waar gedupeerden een beroep op kunnen doen teneinde de ongelijke verdeling van de lasten te mitigeren. Artikel 1 Eerste Protocol Europees Verdrag voor de Rechten van de Mens vormt een vangnet van minimumvereisten voor compensatie van inbreuken, wat niet wegneemt dat lidstaten elk hun eigen compensatieregimes hebben. Dit onderzoek richt zich op deze compensatieregimes en hun invloed op de verdelende effecten van overstromingsrisicobeheer.

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1 Overweging 1 considerans Richtlijn Overstromingsrisico's (Richtlijn 2007/60/EC van het Europees Parlement en de Raad van 23 oktober 2007 over beoordeling en beheer van overstromingsrisico's).

Het onderzoek in deze dissertatie richt zich op Nederland, Frankrijk en Vlaanderen, die de stroomgebieden van de Maas en de Rijn delen en waar het Franse beginsel *égalité devant les charges publiques* (gelijkheid voor de openbare lasten, hierna; *égalité*beginsel) wordt toegepast. De redenen dat niet de federale staat België, maar alleen één Gewest deel uitmaakt van dit onderzoek is gelegen in het feit dat het overstromingsrisicobeheer in België een gewest-aangelegenheid is en derhalve verschilt in Vlaanderen, Wallonië en het Brussel Hoofdstedelijk Gewest. Uit het oogpunt van efficiency en vanwege het feit dat Nederland vooral met Vlaanderen samenwerkt in het kader van het overstromingsrisicobeheer is gekozen om alleen het Gewest Vlaanderen in het onderzoek op te nemen.<sup>2</sup> Ook al zijn de geografische, institutionele en administratieve verschillen groot, de landen hebben met elkaar gemeen dat de overstromingsrisico's met name in stedelijke gebieden erg groot zijn. Dat heeft tot gevolg dat maatregelen om die overstromingen te voorkomen of te beperken gemakkelijk kunnen leiden tot de inbreuk op rechten van grond- of woningeigenaren of ondernemers.

De Richtlijn Overstromingsrisico's identificeert verschillende strategieën binnen het overstromingsrisicobeheer:

“Preventie: schade door overstromingen voorkomen door te vermijden dat woonhuizen en industriële installaties worden gebouwd in gebieden die kwetsbaar zijn voor overstromingen of dat in de toekomst kunnen worden; daarvoor kan worden gezorgd door toekomstige ontwikkelingen af te stemmen op het overstromingsrisico en door aangepaste vormen van bodemgebruik en landbouw- en bosbouwpraktijken te bevorderen [*prevention*];

Bescherming: door het nemen van structurele en andere maatregelen de kans op overstromingen en/of de ernst van de gevolgen van overstromingen op specifieke plaatsen doen afnemen [*protection*];

Paraatheid: de bevolking informeren over het overstromingsrisico en over de gedragsregels die bij overstromingen moeten worden gevolgd (*preparedness*);”<sup>3</sup>

Daarnaast zijn de volgende twee strategieën in de Mededeling van de Europese Commissie toegevoegd:

“Noodmaatregelen: opstellen van calamiteitenplannen voor als zich een overstroming voordoet [*emergency management*];

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2 Uit het oogpunt van leesbaarheid, wordt ook Vlaanderen aangeduid als ‘land’.

3 Deze drie strategieën zijn genoemd in de Richtlijn Overstromingsrisico's in o.a. artikel 7 en gedefinieerd in een Mededeling van de Europese Commissie (COM(2004)472 def). Wat meestal wordt begrepen onder mitigatie, namelijk het reduceren van de kans en de gevolgen van een overstroming door middel van het accommoderen van water, zoals aangepaste bebouwing, valt in deze beschrijving onder de strategie ‘preventie’.

Herstelmaatregelen en benutting van ervaringen: zo snel mogelijk de normale situatie herstellen en zowel de maatschappelijke als de economische gevolgen voor de getroffen bevolking verzachten [*recovery and lessons learned*]."<sup>4</sup>

Overstromingsrisicobeheermaatregelen kunnen worden ingedeeld per strategie. Voor dit onderzoek zijn met name de strategieën preventie, bescherming en herstel van belang, omdat uit deze strategieën schade voortvloeit die wordt gecompenseerd in de drie landen.

Maatregelen die vallen onder de preventiestrategie zijn gericht op de ruimtelijke ordening. Hierbij valt te denken aan zones in overstromingsgevoelige gebieden waar een bouw- of ontwikkelingsverbod geldt. Dit kan leiden tot waardevermindering van gronden.

In Nederland ligt de focus (nog) niet op dergelijke maatregelen, alhoewel er een tendens is om meer aspecten van het overstromingsrisicobeheer in het ruimtelijk ordeningsspoor te regelen, wat o.a. tot uiting komt in het concept 'meerlaagsveiligheid'. De 'watertoets' is een instrument dat past binnen deze strategie, omdat het de waterbelangen zou moeten borgen in bestemmingsplannen en andere ruimtelijke besluiten.<sup>5</sup> Zowel Vlaanderen als Frankrijk hebben meerdere beleidsinstrumenten, die passen binnen een sterke preventiestrategie. Zo heeft Vlaanderen signaalgebieden en een sterke watertoets<sup>6</sup> en heeft Frankrijk de verplichting om overstromingsrisicobeheerplannen als annex op te nemen in ruimtelijke plannen en kent het een systeem van zoneringswaarin overstromingsrisico's zijn opgenomen.<sup>7</sup>

Beschermingsmaatregelen zijn in veel gevallen structurele maatregelen, zoals dijken, bergingsgebieden (een gebied dat dient ter verruiming van de bergingscapaciteit van een watersysteem) of rivierverruiming. Het noodzakelijke ruimtegebruik en de inbreuk op eigendom of rechten van derden verschilt in deze strategie. Gaat het om dijken, dan is het ruimtegebruik relatief beperkt, maar in dat geval is minnelijke aankoop of onteigening vaak gebruikelijk, omdat de grond dan noodzakelijk is om de maatregel uit te kunnen voeren. Ook voor rivierverruiming door middel van bijvoorbeeld nevengeulen is minnelijke aankoop of onteigening de meest geschikte route. Voor bergingsgebieden ligt dit anders. Veelal zijn gronden die worden aangewezen als bergingsgebied in eigendom bij particulieren of organisaties. Aangezien de berging van water alleen in geval van hoge waterstanden noodzakelijk is, kan de grond nog wel gebruikt worden door de eigenaar of gebruiker. Desondanks moet deze wel het bergen van water op zijn grond dulden en kunnen eventueel aanvullende gebruiksbepalingen opgelegd worden. Derhalve zal de grond in waarde verminderen. Ook kan er sprake

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4 COM(2004)472 def.

5 Het is echter niet een erg sterk instrument.

6 Signaalgebieden zijn nog niet ontwikkelde gebieden met een harde ruimtelijke bestemming, zoals wonen of industrie, die tegenstrijdig zijn met waterbelangen. Als het waterbelang dat vraagt kan tot een vervolgetraject worden besloten, zoals het herbestemmen van het gebied. De Vlaamse watertoets wordt beschouwd als een sterk instrument om de waterbelangen te borgen, niet alleen in ruimtelijke plannen, maar ook in vergunningen.

7 Zie paragrafen 2.4.1, 2.4.2 en 2.4.3.

zijn van daadwerkelijke schade aan de grond of gewassen bij de activering van het bergingsgebied. Alle drie de landen kennen een regeling voor dergelijke schade.

De herstelstrategie onderscheidt zich wat betreft de schadeoorzaak. Bij de preventie- en beschermingsstrategie ligt de oorzaak van de schade in een besluit of handeling van een overheidsorgaan, binnen de herstelstrategie is dat niet het geval: de daadwerkelijke overstroming is de oorzaak van de schade. Nederland kent een publieke schaderegeling voor dergelijke schade, de Wet Tegemoetkoming Schade bij Rampen. Vlaanderen en Frankrijk hebben een publiek-privaat verzekeringssysteem ter vergoeding van overstromingsschade.

De laatste decennia hebben er wijzigingen plaatsgevonden in de dominantie van bepaalde strategieën in de drie landen.<sup>8</sup> In Nederland lag de focus van het overstromingsrisicobeheer met name op bescherming door middel van dijken, maar is een verschuiving richting preventie zichtbaar en komt ook de herstelstrategie meer in beeld. In Vlaanderen en Frankrijk is de verschuiving van bescherming naar preventie ook zichtbaar, zij het dat bescherming in beide landen minder ontwikkeld was dan in Nederland en de verschuiving richting preventie zich duidelijker ontwikkelt dan in de Nederlandse situatie. Ook ligt in Vlaanderen en Frankrijk een grotere focus op de herstelstrategie door de reeds goed ontwikkelde compensatieregimes.

## 7.2 GEBRUIKTE CONCEPTEN

Het begrip ‘verdelende effecten’ (*distributional effects*) komt veelvuldig voor in onderzoek naar overstromingsrisicobeheer, al is dit over het algemeen geen juridische onderzoek. Een goede, eenduidige definitie van het begrip is niet gemakkelijk te vinden. Daarom is het noodzakelijk om in het kader van dit onderzoek het begrip ‘verdelende effecten’ te definiëren. Bij verdeling gaat het om de manier waarop een beschikbaar goed wordt verdeeld onder mensen of in een bepaald gebied. In het kader van overstromingsrisicobeheer gaat het bij dat ‘goed’ in de meeste studies om de verdeling van overstromingsrisico’s, de schade als gevolg van een overstroming en de kosten die mensen of de samenleving dragen om het overstromingsrisicobeheer te financieren. In dit onderzoek gaat het om de verdeling van iets anders, namelijk om de verdeling van lasten, die het gevolg van zijn maatregelen die worden genomen in de preventie- en de beschermingsstrategie als ook de schade als gevolg van een overstroming in de herstelstrategie. Deze lasten bestaan uit een inbreuk op rechten van individuen, zoals het recht op eigendom. Een belangrijke begrenzing van het onderzoek is gelegen in het feit dat het gaat om de *rechtmatige* uitoefening van taken of bevoegdheden door overheidsorganen. Hiermee wordt de *onrechtmatige* daad uitgesloten. De definitie van verdelende effecten van het overstromingsrisicobeheer in deze dissertatie luidt dan ook: “de negatieve gevolgen van rechtmatig overstromingsrisicobeheer dat inbreuk maakt op rechten van individuen, zoals het recht op eigendom.”

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<sup>8</sup> Hierbij zij opgemerkt dat de focus met name ligt op de relatie tussen de ORB maatregelen en de compensatie van schade.

Deze negatieve verdelende effecten van het overstromingsrisicobeheer kunnen worden gemitigeerd door middel van compensatie. Compensatie kan dienen als een mechanisme waardoor de lasten die aan een enkeling worden opgelegd door het nemen van een bepaalde maatregel (gedeeltelijk) worden weggenomen. De lasten worden door de compensatie evenwichtiger verspreid over de samenleving, omdat de vergoeding door een grotere groep wordt gedragen. De ratio achter dit compensatiemechanisme is dat het ook deze grotere groep is die het voordeel heeft van de maatregel. De overstromingsrisico's voor de groep als geheel nemen immers af als gevolg van de maatregel. Aangezien de maatregelen van het overstromingsrisicobeheer ten goede komen aan de gehele groep, lijkt het rechtvaardig om ook de lasten over deze groep te verspreiden.

De drie onderzochte landen hebben twee compensatieregimes in de basis gemeen: het *égalité*beginsel en artikel 1 Eerste Protocol Europees Verdrag voor de Rechten van de Mens. Deze regimes kunnen worden beschouwd als mitigatiemechanismen om lasten evenwichtiger te verdelen over een samenleving.

Het begrip verdelende effecten wordt vaak in één adem genoemd met een ander begrip, dat van verdelende of distributieve rechtvaardigheid. Aristoteles heeft dit begrip, samen met corrigerende of vereffenende rechtvaardigheid geïntroduceerd in zijn werk *Ethica Nicomachea* (boek 5, hoofdstukken 3 en 4).

Bij *verdelende rechtvaardigheid* gaat het Aristoteles om de verdeling van goederen, zoals rijkdom of eer, over een samenleving naar een bepaalde (rechtvaardige) standaard. Hierbij wordt de zogenaamde geometrische gelijkheid aangehouden: gelijke gevallen moeten gelijk behandeld worden en ongelijke gevallen, ongelijk. Een belangrijk aspect bij de verdelende rechtvaardigheid volgens Aristoteles is het feit dat men recht heeft op een bepaalde mate van een goed in verhouding tot zijn verdienste.

Bij *corrigerende rechtvaardigheid* gaat het om zaken die niet in een samenleving verdeeld worden, maar tussen personen onderling worden verhandeld of verruild. In het geval van een onrechtvaardige verdeling, namelijk in het geval iemand niet datgene voor zijn goed krijgt als hij zou verdienen (bijvoorbeeld door diefstal of fraude), moet een rechter de situatie van voor de inbreuk herstellen. Dat herstel kan in natura of in de vorm van een schadevergoeding. Hierbij speelt de mathematische gelijkheid een rol, waarbij geen onderscheid wordt gemaakt naar persoon.

Compensatie van lasten zou in beginsel onder beide soorten rechtvaardigheid geplaatst kunnen worden. In dit verband is het *niveau van analyse* een belangrijk uitgangspunt. Rechtsvergelijkend onderzoek kan op verschillende analyseniveaus worden verricht. Zo kan de focus worden gelegd op de vergelijking van het materiële compensatierecht, waarbij uitgebreid onderzocht wordt hoe de criteria in verschillende casus worden uitgewerkt in verschillende landen (microniveau). Een ander uitgangspunt is dat niet de *uitvoering* van verschillende compensatieregelingen het onderwerp van het onderzoek is, maar het *compensatieregime* zelf, waarbij de focus wordt gelegd op de beginselen en uitgangspunten van het *regime* (dit wordt aangeduid met het

macroniveau), in plaats van hoe het regime van toepassing in verschillende casus. In dit onderzoek is gekozen voor een onderzoek naar compensatieregimes op macroniveau. Het onderzoek richt zich op compensatieregimes en de wijze waarop deze regimes de lasten van het overstromingsrisicobeheer verdelen over de samenleving. Om die reden past dit onderzoek in het concept van verdelende rechtvaardigheid. De keuze voor een bepaald compensatieregime, houdt op macroniveau een keuze in voor een bepaalde manier van verdeling van lasten over de samenleving. Op die manier wordt een distributieve standaard gecreëerd. Kijkt men naar het microniveau dan neemt de compensatie meer een corrigerende rol aan, namelijk het herstellen van de inbreuk tot het niveau waar de gedupeerde op grond van de distributieve standaard recht op heeft.

Na Aristoteles hebben meer filosofen zich gebogen over verdelende rechtvaardigheid. In paragraaf 1.3.1.6 wordt een drietal opvattingen besproken. Het utilitarisme (ofwel utilisme) streeft naar een zo groot mogelijke mate van geluk. Het algemeen belang prevaleert daarbij boven het individuele belang, omdat dat leidt tot het maximaliseren van voordelen voor een zo groot mogelijke groep mensen. Individuele belangen moeten hiervoor wijken.

Bij het libertarisme gaat het juist om een zo groot mogelijke vrijheid door individuele soevereiniteit. Er wordt zo min mogelijk inmenging in de persoonlijke rechten geduld, niet door private partijen en niet door de overheid.

John Rawls combineert twee principes in zijn theorie over rechtvaardigheid. Het eerste principe is het belangrijkste, namelijk dat er een principiële onschendbaarheid van individuele rechten en vrijheden bestaat. Het tweede principe ziet op sociale en economische ongelijkheid. Deze ongelijkheid is te rechtvaardigen als het de samenleving als geheel niet benadeelt en als het in het voordeel werkt van de meest benadeelden in een maatschappij (*difference principle*).

Billijkheid (*equity*) en gelijkheid (*equality*) zijn beide begrippen die nauw samenhangen met rechtvaardigheid. Aristoteles gebruikt beide begrippen. Billijkheid wordt beschouwd als een correctie of aanvulling op de wettelijke rechtvaardigheid in het geval deze wettelijke rechtvaardigheid tekortschiet. Hierbij kan het zo zijn dat iemand genoeg neemt met minder dan waar hij wettelijk gezien recht op zou hebben, uit het oogpunt van billijkheid.

Gelijkheid ziet op het recht dat iedere burger heeft op gelijke (wettelijke) rechten en een gelijke behandeling in gelijke gevallen. Dit betekent ook dat ongelijke gevallen niet gelijk behandeld hoeven te worden. Kijkt men naar de vertaling van het *égalité*beginsel, 'gelijkheid voor de openbare lasten', dan ziet men dat het compensatiebeginsel als uitgangspunt heeft om de gelijkheid tussen burgers herstellen. Eenieder die onderdeel uitmaakt van een samenleving dient een bepaalde mate van lasten te dragen, omdat diegene ook voordeel put uit het feit dat hij/zij deel uitmaakt van die die samenleving. Is er echter sprake van een disproportionele last, dan moet deze gecompenseerd worden. Wat een disproportionele last is, varieert van geval tot geval

en van samenleving tot samenleving. In deze dissertatie is onderzocht in hoeverre de lasten op een gelijkwaardige manier door middel van een compensatieregime over de samenleving verdeeld zijn.

Solidariteit is een begrip dat veel gebruikt wordt als het gaat om overstromingsrisicobeheer. Met name het Nederlandse overstromingsrisicobeheer zou gebaseerd zijn op solidariteit. Ook de Richtlijn Overstromingsrisico's hanteert het begrip. De Beer en Koster maken onderscheid tussen eenzijdige en tweezijdige solidariteit, wat tot uitdrukking komt in iemand helpen, zonder daar iets voor terug te verwachten (eenzijdig) of iemand verdedigen of helpen vanuit de gedachte dat het uiteindelijk ook in zijn eigen belang is (tweezijdig). Deze solidariteit kan vrijwillig zijn of opgelegd. In het kader van het overstromingsrisicobeheer kunnen deze verschillende vormen van solidariteit inderdaad geïdentificeerd worden. Zo draagt in het algemeen de hele samenleving bij door middel van belasting aan het beheer van overstromingsrisico's, dus ook voor gebieden waar zij zelf niet direct profijt van hebben. De verzekeringssystemen in Frankrijk en Vlaanderen hebben een solidair karakter, omdat alle verzekerden bijdragen met hun premies aan de vergoeding van schade van gedupeerden na een overstroming.

### 7.3 OVERSTROMINGSRISICOBEBEER IN NEDERLAND, VLAANDEREN EN FRANKRIJK

Om het verband tussen de verdeling van lasten in het overstromingsrisicobeheer en de compensatieregimes in de drie landen te kunnen vaststellen en de consequenties ervan te kunnen duiden is het noodzakelijk allereerst het overstromingsrisicobeheer van Nederland, Vlaanderen en Frankrijk in kaart te brengen en de overeenkomsten en verschillen van die drie systemen te beschrijven en verklaren.

Hoofdstuk 2 beschrijft de bevoegdheden en juridische instrumenten die relevant zijn voor het overstromingsrisicobeheer in de drie onderzochte landen. Op basis van drie thema's kunnen de overeenkomsten en verschillen worden verklaard.

Het eerste thema betreft de 'verdeling tussen het centraal en decentraal niveau' (*central-decentral divide*). Overeenkomsten zie ik in het feit dat alle drie de landen een orgaan hebben op centraal niveau dat het nationale beleid vaststelt of daar in ieder geval over adviseert. Ook kennen alle drie de landen decentrale organisaties die belast zijn met de uitvoering van het beleid. Daarbij hebben de Nederlandse organisaties, de waterschappen, de meest duidelijk taakomschrijving en ook de meest vergaande bevoegdheden. De kleinere waterlopen in Vlaanderen vallen onder het beheer van de provincies en gemeenten en ook in Frankrijk zijn gemeenten aangewezen als waterbeheerder, al kunnen zij de bevoegdheden delegeren naar zogenaamde 'openbare instellingen' (*établissements publics*), zoals een *établissement public territorial de bassin* (een instelling die gericht is op het waterbeheer in een stroomgebied). Door de mogelijkheid om de bevoegdheden te delegeren naar andere overheidsorganen is met name in Frankrijk de situatie erg complex.

Het tweede thema ziet op de scheiding tussen twee belangrijke beleidsvelden die relevant zijn voor het overstromingsrisicobeheer. Deze betreffen het waterbeheer en de ruimtelijke ordening (*water policy and spatial planning divide*). Alle drie de landen hebben te maken met een scheiding tussen deze beleidsvelden, met ieder eigen bevoegde gezagen en eigen juridische en beleidsinstrumenten. Dit kan leiden tot een frictie in de samenwerking tussen en de integratie van de preventie- en beschermingsstrategie. In Nederland is deze scheiding het meest zichtbaar. Waterbeheerders kunnen het instrument van de watertoets gebruiken om het bevoegd gezag in de ruimtelijke ordening te adviseren over het borgen van de waterbelangen in ruimtelijke plannen. Dit instrument is echter maar een advies en wordt behandeld als een normale zienswijze in het bestemmingsplanproces. Het ligt dus aan de welwillendheid van de betrokken overheidsorganen in het ruimtelijk domein hoe de waterbelangen uiteindelijk betrokken worden. Vlaanderen kent wat dat betreft juridisch sterkere instrumenten, zoals de signaalgebieden en een watertoets met een breder toepassingsbereik en een sterkere juridische binding. De Vlaamse watertoets is namelijk niet alleen verplicht voor plannen, maar ook voor vergunningen. In Frankrijk zijn de gemeenten verplicht in hun ruimtelijke plannen (*SCOT* en *PLU*) de overstromingsrisicoplannen (*PPRI*) mee te nemen, dan wel als annex bij een ruimtelijkplan op te nemen, zodat de overstromingsrisicoplannen altijd geborgd zijn in het ruimtelijk spoor. In de overstromingsrisicoplannen kan eveneens een zonerings worden opgenomen waarbinnen bouwverboden of gebruiksbeperkingen zijn opgenomen.

Het laatste thema is de scheiding tussen het publiek en private domein (*public-private divide*). Hier zijn grote verschillen op te merken tussen de drie landen. Zo staat Nederland aan de ene kant van het spectrum met een overduidelijke focus op het publieke domein: de overheid is verantwoordelijk voor het overstromingsrisicobeheer en burgers hebben in het kader van overstromingen (wat in Nederland onderscheiden wordt van stedelijke wateroverlast) geen enkele taak of verantwoordelijkheid. In Frankrijk daarentegen is de verantwoordelijkheid van de overheid voor het overstromingsrisicobeheer een meer recente ontwikkeling. In het verleden was het de verantwoordelijkheid van de burger om voor zijn eigen veiligheid te zorgen. Ook in Vlaanderen is er meer verantwoordelijkheid voor de burger te onderscheiden, wat zichtbaar is in het feit dat men zich kan verzekeren tegen overstromingsrisico's, net als in Frankrijk en dat er een informatieplicht bestaat bij de verkoop van huizen of langdurige verhuur die ziet op het informeren over de overstromingsgevoeligheid van het gebied. Voorts valt op dat Vlaanderen en Frankrijk geen landelijke waterveiligheidsnormen kennen, in tegenstelling tot Nederland.

#### 7.4 EEN VOORBEELD UIT NEDERLAND: OVER DE VERWEVENHEID TUSSEN HET OVERSTROMINGSRISICOBEBEER EN COMPENSATIEREGIMES

Hoofdstuk 3 zoomt in op het verband tussen het Nederlandse overstromingsrisicobeheer en nadeelcompensatieregimes. In Nederland zijn de compensatieregimes zeer nauw verbonden met het waterbeheer. In dit hoofdstuk wordt duidelijk dat met name de frictie tussen de beleidsvelden waterbeheer en ruimtelijke ordening voor spanning

kan zorgen in het kader van een gelijke verdeling van lasten. Omdat de compensatieregimes verschillen voor beide beleidsvelden en er een ander bestuursorgaan bevoegd is om over de schade te oordelen, kan dit ertoe leiden dat de schadevergoeding niet altijd eenduidig wordt afgedaan. Dit probleem van verschillende wegen die leiden tot compensatie is onderkend en in het waterbeheer is daar een oplossing voor gevonden door een bepaling in de Waterwet op te nemen die bepaalt dat schade die het gevolg is van de rechtmatige uitoefening van een taak of bevoegdheid in het kader van het waterbeheer moet worden afgehandeld op grond van het compensatieregime van de Waterwet. Echter, als de preventiestrategie via het ruimtelijke spoor daadwerkelijk verder ontwikkeld wordt en een meer dominante plaats gaat innemen in het overstromingsrisicobeheer, dan is een dergelijke bepaling niet meer afdoende en treedt er weer fragmentatie van de compensatieregimes op.<sup>9</sup>

## 7.5 VERDELING VAN LASTEN BESCHOUWD VOOR EEN DIJKVERSTERKING, WATERBERGINGSGBIED EN PLANOLOGISCHE MAATREGEL

Hoofdstuk 4 beschouwt naast Nederland, Vlaanderen en Frankrijk ook Engeland, Polen en Zweden.<sup>10</sup> In dit hoofdstuk wordt ingegaan op de specifieke compensatieregimes die gelden voor drie maatregelen, namelijk een dijkversterking, een waterbergingsgebied en een ruimtelijke maatregel. Eigendom wordt in alle landen beschermd door de wet, maar diezelfde wet biedt de mogelijkheid om het eigendomsrecht te beperken, mits in overeenstemming met artikel 1 Eerste Protocol Europees Verdrag voor de Rechten van de Mens. Zoals reeds opgemerkt, erkennen alle drie de landen het égalitébeginsel als grondslag voor de vergoeding van rechtmatig veroorzaakte schade. Echter, het égalitébeginsel wordt alleen in Nederland op dit moment toegepast voor schade veroorzaakt door maatregelen in het kader van het overstromingsrisicobeheer. Waar Nederland consequent het égalitébeginsel als grondslag voor rechtmatig veroorzaakte schade in zowel de preventie- als de beschermingsstrategie toepast, gelden er voor Vlaanderen en Frankrijk andere regimes. Een eerste verschil is dat inbreuken op het eigendomsrecht in veel gevallen plaatsvinden in de vorm van erfdienstbaarheden ten algemene nutte. Hier kan een vergoeding tegenover staan, maar dat hoeft niet. De criteria van het égalitébeginsel, zoals de abnormale en speciale last, komen voor in de compensatieregimes die gelden in zowel Vlaanderen als Frankrijk. Deze worden echter meer rigide toegepast als het geval is in Nederland. Een groot verschil vormt het *ex post* compensatieregime. In zowel Vlaanderen<sup>11</sup> als Frankrijk bestaat een verzekeringssysteem waarbinnen overstromingen gedekt zijn. In Vlaanderen worden overstromingsrisico's gedekt door de brandverzekering en in Frankrijk door de onroerend goedverzekering. In Frankrijk gaat een deel van de premie naar de *Caisse Centrale de Réassurance*, een herverzekeraar. Iedereen betaalt eenzelfde percentage aan premie, ongeacht de overstromingsrisico's. In Vlaanderen mogen de verzekeraars

9 Ten overvloede wijs ik erop dat de komst van Omgevingswet en de algemene regeling in de Algemene Wet Bestuursrecht die dit probleem van fragmentatie kunnen oplossen.

10 Deze zes landen waren onderdeel van het Europese STAR-FLOOD project. In deze samenvatting concentreer ik mij op Nederland, Vlaanderen en Frankrijk.

11 Het verzekeringssysteem is geregeld op federaal niveau, maar op gewestelijk niveau bestaat het publieke vangnet vanuit de overheid.

differentiëren in de hoogte van de premie al naargelang de overstromingsrisico's van het gebied waarbinnen het te verzekeren object gelegen is. In Nederland bestaat een dergelijk systeem niet. Wel kan de Wet Tegemoetkoming Schade bij Rampen in werking treden in geval van een overstroming. In dat geval wordt voor de specifieke situatie een publieke ad hoc schaderegeling opgesteld.

## 7.6 DE VERKLARING VOOR EEN ONGELIJKE VERDELING VAN LASTEN

Hoofdstuk 5 verbindt de verschillende onderzochte strategieën (preventie-bescherming-herstel) aan specifieke compensatieregimes in de drie landen. Nederland is zeer consequent als het gaat om het compensatieregime dat de lasten van het overstromingsrisicobeheer verdeelt: in zowel de preventie- als beschermingsstrategie is het égalitébeginsel de basis en ook in de herstelstrategie komen de uitgangspunten van het égalitébeginsel naar voren. Frankrijk en Vlaanderen kennen een meer rigide compensatiestelsel in de Franse en Vlaamse Wet op de ruimtelijke ordening (*Code de l'urbanisme* en de Codex Ruimtelijke Ordening, respectievelijk). In Frankrijk is zelfs sprake van een non-compensatiebeginsel voor erfdienstbaarheden die opgelegd kunnen worden door de *Code de l'urbanisme*. Echter, om te kunnen voldoen aan de minimumvereisten van artikel 1 Eerste Protocol Europees Verdrag voor de Rechten van de Mens zijn er uitzonderingen op het niet-compenseren, en wordt er in geval van een excessieve last overgegaan tot compensatie. In de beschermingsstrategie hebben de landen vergelijkbare regimes voorhanden. Gaat het om onteigening van eigendom, dan wordt de geleden schade volledig vergoed. Echter in geval van het aanwijzen van bergingsgebieden liggen de zaken anders. Aangezien de grond (gedeeltelijk) bruikbaar blijft voor de eigenaar, ligt onteigening niet in de lijn der verwachting. In Nederland kan de waardedaling vanwege de aanwijzing voor vergoeding op grond van de Waterwet en op grond van de Wet ruimtelijke ordening voor vergoeding in aanmerking komen. In Vlaanderen kan een eigenaar een beroep doen op de aankoopplicht op grond van het Decreet Integraal Waterbeleid in geval van waardedaling van het goed zeer ernstig is of de levensvatbaarheid van de bestaande bedrijfsvoering ernstig in het gedrang komt. In Frankrijk worden de bergingsgebieden aangewezen door middel van een erfdienstbaarheid, waardoor de rigide regels van de *Code de l'urbanisme* en *Code de l'environnement* van toepassing zijn en schadevergoeding niet aannemelijk is. Voor de ingebruikname van het bergingsgebied (dus de inundatie) hebben alle landen een soortgelijke regeling, schade aan gewassen of gronden komen voor vergoeding in aanmerking op grond van aparte regelingen. Zoals ook al bleek uit hoofdstuk 4 zijn de regimes in de herstelstrategie divers. Nederland kent een volledig overheidsstelsel, waarbij de schade wordt vergoed uit de algemene middelen. Vlaanderen kent een verzekeringssysteem waarbij de verzekeraar qua premie mag differentiëren naar overstromingsrisico's en Frankrijk kent een publiek-privaat systeem waarbij alle verzekerden eenzelfde percentage van de premie 'afstaan' en waarmee een fonds wordt gevuld waaruit schade vergoed wordt.

Uit de vergelijking vloeit voort dat elke strategie wordt gekenmerkt door een specifiek compensatieregime. Dat lasten niet in gelijke mate over de samenleving worden verdeeld komt het meest evident naar voren in Frankrijk. In de herstelstrategie worden

de lasten die een kleine groep draagt gecompenseerd uit middelen, waar de hele gemeenschap aan bijdraagt. Echter, in het geval er een maatregel wordt genomen om diezelfde overstroming te voorkomen (in de preventie- of beschermingsstrategie), dan dient de kleine groep die de lasten opgelegd krijgt, deze zelf te dragen. In Nederland worden in elke strategie criteria gehanteerd die voortvloeien uit het égalitébeginsel en derhalve worden de lasten op zeer consistente wijze over de samenleving verdeeld. Vlaanderen staat tussen Nederland en Frankrijk in. Weliswaar vormt het égalitébeginsel niet het uitgangspunt voor de compensatie, maar er zijn specifieke compensatieregimes van toepassing voor lasten die worden opgelegd in het kader van het waterbeheer.

Een verklaring voor deze verschillen in lastenverdeling schuilt in de thema's die ook al de verschillen in het overstromingsrisicobeheer zelf verklaarden. Met name de frictie tussen de beleidsvelden waterbeheer en ruimtelijke ordening en de scheiding tussen het publiek en private domein bieden verklarende factoren.

Een voorbeeld: preventieve maatregelen vallen binnen het beleidsveld ruimtelijke ordening, waarvoor in Frankrijk en Vlaanderen een meer stringent compensatieregime geldt dan voor maatregelen in het kader van het waterbeheer, die binnen de strategie bescherming vallen. De lasten van beide soorten van maatregelen kunnen even zwaar drukken op een recht van een eigenaar, bijvoorbeeld gebruiksbeperkingen of een bouwverbod. Echter, de kans op vergoeding is groter wanneer een maatregel binnen het waterbeheer valt dan wanneer de maatregel wordt genomen in het kader van de ruimtelijke ordening. In Nederland zijn deze verschillen eveneens aanwezig, maar kleiner, omdat in beide strategieën de compensatieregeling berust op het égalitébeginsel en derhalve dezelfde uitgangspunten worden gebruikt.

De verantwoordelijkheid van burgers en dus het private domein vormt ook een verklaring. In Nederland hebben burgers nauwelijks een eigen verantwoordelijkheid binnen het waterbeheer en ook voor de schade – zowel vooraf als achteraf – neemt de overheid de verantwoordelijkheid op zich. Doordat de waterbeheerder de volledige verantwoordelijkheid heeft (althans dat is de publieke opinie, juridisch wordt deze verantwoordelijk begrensd door de waterveiligheidsnormering) voor het beschermen van het land en haar burgers, is het nut en de noodzaak van een (vrijwillige) overstromingsverzekering niet aanwezig.

In Frankrijk hebben burgers wel een eigen verantwoordelijkheid. In het verleden waren zij verantwoordelijk voor hun eigen bescherming en het is een – in vergelijking met Nederland – tamelijk recente ontwikkeling dat de staat die verantwoordelijkheid langzaam maar zeker, en dan nog slechts ten dele, van de burger overneemt. In het kader van de eigen verantwoordelijkheid van burgers past het verzekeringssysteem CAT-NAT. Iedere eigenaar van onroerend goed betaalt een premie om zichzelf te verzekeren tegen schade. In Frankrijk wordt het als zeer solidair beschouwd dat er niet gedifferentieerd wordt naar overstromingsrisico's en een ieder dus gelijk bijdraagt aan

de vergoeding van schade van gedupeerden.<sup>12</sup> In Vlaanderen bestaat ook een grotere verantwoordelijkheid van burgers. In Vlaanderen is dit met name zichtbaar in het *ex post* verzekeringssysteem, waarbij meer eigen verantwoordelijkheid voor burgers zichtbaar is dan in Frankrijk. Dit verschil wordt verklaard door de mogelijkheid om de premies te differentiëren al naargelang de overstromingsrisico's van het onroerend goed en in de informatieplicht van een verkopende of verhurende partij aan potentiële kopers of (langdurige) huurders om hen te informeren over de overstromingsrisico's in het gebied.

Vanuit het oogpunt van de gelijkmatige verdeling van de lasten springt Nederland eruit. Omdat in de strategieën preventie en bescherming de compensatie plaatsvindt op grond van het *égalité*beginsel en de uitgangpunten van dit beginsel ook zichtbaar zijn in de *ex post* regeling, kan geconcludeerd worden dat in Nederland de lasten op een zeer consistente wijze verdeeld worden over de samenleving. Dit is niet het geval in Frankrijk, waar in de preventie- en beschermingsstrategie compensatie slechts sporadisch plaatsvindt, in tegenstelling tot de herstelstrategie waar *ex post* schade wordt vergoed op basis van een zeer ruimhartige regeling. In Vlaanderen is een mix tussen beide andere landen terug te vinden. Regelingen in de preventie- en beschermingsstrategie zijn voorhanden, maar minder genereus dan in Nederland, maar ook het *ex post* systeem, alhoewel solidair, kent een minder ruimhartiger karakter dan de Franse evenknie, door de mogelijkheid om de premies te differentiëren.

## 7.7 CONCLUSIE

De conclusie bestaat uit de beantwoording van de twee hoofdonderzoeksvragen:

- 1) Worden de lasten gelijkmatig verdeeld in de overstromingsrisicobeheerstrategieën in Nederland, Vlaanderen en Frankrijk?
- 2) Zo nee, wat zijn de oorzaken van deze ongelijke verdeling?

Daarnaast worden de drie belangrijkste conclusies van het onderzoek toegelicht:

- Compensatieregimes, gebaseerd op verschillende beginselen en principes, hebben als doel een specifiek type schade, dat behoort tot een specifieke overstromingsrisicobeheerstrategie, te mitigeren en zijn derhalve verbonden aan een specifieke strategie.
- Voor een succesvolle verschuiving van strategie of verbreding van strategieën, is het noodzakelijk dat de rol en de beginselen van het compensatieregime worden meegewogen, om ongewenste en onvoorziene gevolgen te voorkomen.

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<sup>12</sup> Hierbij zij opgemerkt dat er een mogelijkheid (art. L125-5 *Code d'assurances*) bestaat om onroerend goed dat gelegen is in gebieden die aangemerkt zijn als 'onbebouwbaar' in risicopreventieplannen (*PPR*) en die gronden zijn aangekocht nadat de plannen gepubliceerd zijn waarin het gebied als dusdanig is aangewezen, kunnen worden uitgesloten van de verzekering.

- Een compensatieregime dat is ontwikkeld voor een bepaalde strategie kan niet overgeheveld worden naar een andere strategie zonder het doel en de beginselen die ten grondslag liggen aan dat compensatieregime mee te wegen om ongewenste en onvoorziene gevolgen te voorkomen.

Uit het onderzoek is gebleken dat in de drie landen elke strategie gekarakteriseerd wordt door een specifiek type schade, waar een specifiek compensatieregime aan verbonden is. Zo kenmerkt de schade ten gevolge van maatregelen in de preventiestrategie zich door waardedaling van gronden als gevolg van ruimtelijke maatregelen, waar in alle drie de landen een ‘Wet ruimtelijke ordening’ een bepaalde schadevergoedingsregeling voor kent. De maatregelen in de beschermingsstrategie vallen uiteen in twee soorten maatregelen. Dit betreft enerzijds maatregelen waarvoor land nodig is voor de uitvoering van de maatregelen. Daarvoor geldt in alle drie de landen dat dit land verworven wordt door minnelijke aankoop of onteigening, waarbij volledige schadeloosstelling het uitgangspunt is. Anderzijds betreft het maatregelen voor het aanwijzen en de ingebruikname van bergingsgebieden. Daarop zijn verschillende compensatieregimes van toepassing. Voor de planologische aanwijzing geldt in Nederland een *égalité*-compensatieregime. In Vlaanderen geldt er mogelijk een aankoopplicht in geval de waardedaling te ernstig is of de bedrijfsvoering ernstig in gevaar komt. In Frankrijk is het gebruikelijke ruimtelijke orderings-compensatieregime van toepassing, dat een zeer beperkte mate van compensatie kent. Voor de daadwerkelijke inundatie van het gebied kennen de drie landen een aparte regeling waarbij in geval van schade aan landbouw (en in geval van Vlaanderen ook bosbouw) schadevergoeding wordt toegekend. Bij de *ex post* schade kent Nederland een volledig publiek en ad hoc compensatieregime, waarbij de uitgangspunten van het *égalité*beginsel zichtbaar zijn. In Vlaanderen kent men een verplicht verzekeringsstelsel via de brandverzekering en in Frankrijk is het verplichte verzekeringsstelsel gekoppeld aan onroerend goed en specifiek roerend goed.

Dit onderzoek laat zien dat aan elke strategie een specifiek compensatieregime gekoppeld is. Ik concludeer dat de grote verschillen tussen de regimes binnen Vlaanderen en Frankrijk op macroniveau leiden tot een ongelijkmatige verdeling van de lasten die voortvloeien uit het overstromingsrisicobeheer, omdat in de preventie- en beschermingsstrategie op minder compensatie gerekend kan worden dan in geval van een overstroming.

De onderliggende oorzaken voor de ongelijkmatige verdeling zijn voor een deel gelijk aan (of gerelateerd aan) de oorzaken, genoemd in paragraaf 7.6. Dit betreft 1) de scheiding tussen de beleidsvelden waterbeheer en ruimtelijke ordening en 2) de scheiding tussen publieke en private verantwoordelijkheden. Korthedshalve wordt naar de behandeling hiervan in voorgaande paragraaf verwezen. Naast deze twee verklaringen, zijn er nog twee verklaringen te identificeren. Deze betreffen 3) de sterke verbinding tussen de strategieën en de compensatieregimes en 4) de perceptie van wat als verdelende rechtvaardigheid geldt in een bepaald land in een bepaalde tijd.

Wat betreft de derde oorzaak, de sterke verbinding tussen de strategieën en een daarbij behorend compensatieregime, valt op te maken dat in de overstromingsstrategie, waarop van oudsher de focus ligt, ook het compensatieregime zich meest heeft ontwikkeld. Zo ziet men in Nederland een zeer goed ontwikkeld compensatieregime in het kader van het waterbeheer en een veel minder uitgebreid regime voor *ex post* schade. De nadruk heeft in Nederland altijd gelegen op het voorkomen van overstromingen, hetgeen gezien de ligging van Nederland niet vreemd is, en het overstromingsrisicobeheer is niet gericht op herstel na een overstroming. In Frankrijk is het omgekeerd: daar ligt de focus op het herstel na een ramp, in dit onderzoek meer in het bijzonder een overstroming, met een vergaand ontwikkeld verzekeringssysteem als gevolg. Dit verzekeringssysteem is ook al vele malen in werking getreden na overstromingen. In Frankrijk is het overstromingsrisicobeheer als overheidstaak r later tot wasdom gekomen, wat ook zichtbaar is bij de compensatieregimes die gerelateerd zijn aan het overstromingsrisicobeleid voor zover dat deel uitmaakt van de ruimtelijke ordening. In Vlaanderen ziet men, zoals op meerdere terreinen in dit onderzoek, dat de middenweg bewandeld wordt. Zo is de preventiestrategie gekoppeld aan de het compensatieregime zoals dat geldt binnen de ruimtelijke ordening, maar bestaat voor de beschermingsstrategie een aparte compensatieregeling op basis van het Decreet Integraal Waterbeleid. Voor de herstelstrategie is gekozen voor een verzekeringssysteem naar voorbeeld van Frankrijk, zij het met een eigen invulling die een betere relatie legt tussen de verschillende strategieën.

Dat de lasten op macroniveau niet gelijkmatig over de samenleving worden verdeeld in, met name, Vlaanderen en Frankrijk, wil niet zeggen dat deze verdeling onrechtvaardig is vanuit het oogpunt van verdelende rechtvaardigheid. Wat als rechtvaardig beschouwd wordt hangt af van de samenleving en de tijd waarin men leeft. Zo kan vanuit utilistisch oogpunt de Franse situatie als volkomen rechtvaardig worden beschouwd. Ook al moeten individuen de lasten van preventieve maatregelen bijna geheel zelf dragen, toch kan het compensatieregime als rechtvaardig worden gezien omdat de gevolgen van de maatregelen het grootste geluk voor de grootste groep oplevert. Een aanhanger van de theorie van Rawls zou zich echter veel meer thuis voelen bij de Nederlandse benadering. Immers, in deze benadering gaan de mensen die het slechtst af zijn (namelijk diegenen die schade lijden door preventieve maatregelen) er door het ontvangen van compensatie minder op achteruit, dan wanneer deze schade niet gecompenseerd zou worden.

Deze eerste conclusie heeft direct gevolgen voor een mogelijke verschuiving tussen of verbreding van overstromingsstrategieën in landen. Zoals uit dit onderzoek blijkt, zijn de verschillen in strategieën en compensatieregimes te verklaren door oorzaken die diep in een samenleving ingebed zijn en die niet licht veranderen.

Er is een tendens gaande om steeds meer te focussen op de preventiestrategie. Dit heeft in Vlaanderen en Frankrijk tot gevolg dat de lasten als gevolg van een toenevend aantal maatregelen in de preventiestrategie ongelijk verdeeld worden. Zoals reeds opgemerkt leidt dit niet direct tot de conclusie dat deze ongelijke verdeling ook onrechtvaardig zou zijn, maar het is belangrijk deze consequentie mee te wegen in de

beleidsbeslissing om meer preventieve maatregelen te nemen en minder te rekenen op de verzekering als compensatieregime in de *ex post* strategie. Dit geldt des te meer omdat door het verschuiven van herstelstrategie naar de preventiestrategie er ook voordelen zijn voor het *ex post* regime. Wanneer overstromingen worden voorkomen zal er immers minder overstromingsschade zijn. Dit kan leiden tot lagere premies, omdat de verzekering minder hoeft uit te keren, wat eveneens een belangrijk voordeel is voor de hele verzekeringspremie betalende gemeenschap.

Andersom geredeneerd, kan een compensatieregime ook niet eenvoudig worden gewijzigd, om dezelfde redenen die zijn besproken bij een verschuiving of verbreding van strategieën. Dit is met name relevant voor de Nederlandse wetgever die in de verleiding zou kunnen komen om te denken dat de Nederlandse compensatieregimes te ruimhartig zijn in vergelijking met andere landen en die dus naar buitenlands voorbeeld een meer rigide insteek zou kunnen kiezen. Bij een wijziging van het compensatieregime moet rekening worden gehouden met de gehele context, waarbij in het bijzonder het uitgebreide *ex post* systeem van verzekeren in Vlaanderen en Frankrijk van belang is en er andere opvattingen gelden wat onder het algemeen of publiek belang wordt verstaan. Om die reden is in het kader van het overstromingsrisicobeheer 'cherry-picking' van compensatieregimes niet wenselijk, omdat op die manier niet voldoende rekening wordt gehouden met de nationale context en de ontwikkelingen die een specifiek compensatieregime hebben gevormd. Daarmee is niet gezegd dat dat een wijziging onmogelijk is maar dit onderzoek toont aan dat er met veel factoren rekening gehouden moet worden, wil men overgaan tot een wijziging van hetzij de dominante strategie, hetzij een compensatieregime dat verbonden is aan een bepaalde strategie.



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 | 3.6.4.1 | 3.6.4.2 | 3.7 | 3.8 | 4.4.1 |  
 4.4.2 | 1 | 4.4.2 | 5.3.1 | 5.4.2.1 | 6.4.3
- Water Assessment (the Netherlands)** 2.4.1  
 | 2.4.2 | 2.4.4 | 2.5 | 2.6.2 | 5.3.1 | 6.4.1
- Water Management Plan (SAGE)** 2.4.3 |  
 2.4.3.1 | 2.5 | 2.6.2 | 2.6.3 | 4.4.2.2 |  
 5.4.1
- Water storage area** 1.2 | 1.3.1.1 | 1.3.1.5 |  
 2.4.1 | 2.6.3 | 3.6.3.1 | 3.6.3.2 | 3.6.4.1  
 | 3.7 | 3.8 | 4.1-4.3 | 4.4.2.2 | 5.2.1 |  
 5.3.1-5.3.3 | 5.4.1 | 6.1 | 6.4.1
- Water Test (Flanders)** 1.2 | 2.4.2 | 2.4.2.1  
 | 2.4.4 | 2.5 | 2.6.2 | 4.4.1 | 5.3.2 |  
 5.4.2.3 | 6.4.1 | 6.4.3

# DANKWOORD

Men zegt wel dat het afleveren van een proefschrift een zware bevalling is. Nu heb ik tijdens mijn promotietraject drie bevallingen mogen meemaken en kan constateren dat beide trajecten inderdaad enkele overeenkomsten hebben. Zo is er een *due date* die enigszins flexibel blijkt te zijn, kennen ze vele ontberingen en is het eindresultaat iets om blij mee te zijn. Net zoals tijdens een zwangerschap en bevalling is het van groot belang dat een promovendus wordt bijgestaan door deskundigen die de voortgang monitoren en waar nodig bijsturen. Ik heb het geluk op deze plaats een groot aantal mensen te mogen danken voor hun bijdrage aan deze dissertatie.

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## CURRICULUM VITAE

Willemijn van Doorn-Hoekveld was born in 1983 in Baarn, The Netherlands. She studied law with a minor in urban and regional planning at Utrecht University from 2002 until 2008. In 2008 she graduated with honours in Dutch law, specialising in environmental law.

From 2008 until 2013 she worked as a legal advisor for Rijkswaterstaat, an agency of the Dutch Ministry for Water Affairs in the field of water safety and no-fault liability.

In 2013 she started at Utrecht University as a PhD student, where she participated in the European FP7 project STAR-FLOOD, which stands for “STrengthening And Redesigning European FLOOD risk practices: Towards appropriate and resilient flood risk governance arrangements”. The project focussed on analysing, explaining, evaluating and designing policies to better deal with flood risks from rivers in urban agglomerations across Europe. She also advised various water authorities and taught courses on water law. Besides the four papers that are part of this dissertation, she authored and co-authored several book chapters and articles which were published in various journals.

Willemijn is currently working as postdoctoral researcher at the Utrecht Centre for Water, Oceans and Sustainability Law. She researches the implementation of new risk standards in the flood protection program, which is part of the NWO project All-risk.

