

DOES ROOM FOR THE RIVER TRAVEL? UNPACKING THE CASE OF THE OVERDIEPSE dePOLDER

The Dutch Room for the River program is often held up as an international model of climate adaptation through spatial planning. The program includes 34 projects throughout the Netherlands, some of which involved the relocation of households and businesses. Examining the redesign of land tenure in one of these cases, the Overdiepse Depoldering Project, offers the opportunity to understand the issues and conflicts that arose in this specific case and that therefore might arise in related cases of “managed retreat.” Referencing the qualitative, longitudinal studies of the case conducted previously, this paper focuses on several arenas of conflict including buy-out valuation, land reallocation, and land devaluation, and notes their resolution. While this appears to be a successful project, in that construction is almost complete, and there was a negotiated resolution of each of the conflicts, significant questions remain as to how this model might translate elsewhere. Its potential translation is investigated through a lens of comparative urbanism, asking how an approach such as this might transform through application to a North American context. Translation is examined through questions regarding the cultural history of flood control, political culture, and population displacement. The paper attempts to raise important questions to employ in thinking through the potential transfer of this case.

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11.308 Ecological Urbanism**

INTRODUCTION

redesigning land tenure

Packaged into shiny government brochures for export, the much lauded, headline-grabbing Room for the River program can be a black box. A number of researchers have sought to open up that black box through careful investigation of specific project processes, alternately focusing on governance, spatial planning, and cultural factors. They have asked key questions such as, is this really the paradigm shift it purports to be in either governance or planning terms? Whose voices are drowned out? This case study attempts to build on that effort, employing the longitudinal case studies Dik Roth and Madeline Winnubst have already undertaken on Overdiepse Polder, and furthering their suggestion that the project could serve as an example by specifically asking how it could “travel” or translate to the North American context.

While the Overdiepse Polder is a very small project, and only one in a coordinated strategy involving 34 distinct projects covering the Netherlands’ watersheds, it offers a provocative example as a form of “managed retreat.” Managed retreat is the process of conceding land occupied for residential, commercial, industrial or agricultural functions for a primarily ecological function while that ecological function might still include a temporary agricul-

tural or recreational use which accommodates the ecological mandate. In this context, land is conceded to permanent or temporary water bodies, but in the larger scheme of managed retreat, it could equally be given over to other types of ecosystems.

Though managed retreat is discussed within the protect-accommodate-retreat range of responses to increasing flood risk, it remains the least politically palatable, for obvious reasons. Where it has been employed, it has in most cases been in response to crisis, as in the isolated post-Sandy buy-outs on the New York and New Jersey shores. In similar crisis mode, there have been larger displacements of populations after natural disasters in other parts of the world, though typically those areas have subsequently been redeveloped for alternative use. In other words, in those cases, human land use is not retreating. In this crisis-driven context, there are very few examples of long range planning resulting in proactive retreat. The Dutch are unique in this regard, implementing several managed retreat projects under the Room for the River umbrella. Taking place within a democratic context, with a negotiated, participatory process, these projects potentially offer an instructive precedent for other countries facing similar

challenges. Further, given its small scale, the Overdiepse Polder offers an opportunity to understand the conflicts and resolutions within the retreat process at a very detailed level.

This case study will begin by briefly reviewing the history and geographic context of Dutch water control to set the stage for the departure that Room for the River represents. Room for the River will be examined in terms of the long-term issues that drove decision-making and an outline of the policy-making process. The process by which the Overdiepse Depoldering project developed will then be examined in detail. Issues of buy-out valuation, land reallocation, and land devaluation will be examined in terms of the multifaceted conflicts which arose throughout the process and their specific resolutions. Having examined the core of the existing literature on this project, this case study will proceed to ask how this particular example, arising out of a particular historical and cultural context, might translate to a North American context, using Colin McFarlane’s epistemology of comparative research as a lens (2010). The issues to be considered for translation are grouped into three subsets, cultural history of flood control, political culture, and population displacement.

DUTCH WATER CONTROL CONTEXT

The Dutch have a remarkably long history of water control. The Frisians who first settled in the area that is now the Netherlands began adapting to living with floods as early as 500 BC. In the 12th century, the Dutch began forming water boards to govern dike construction and progressively built a sophisticated flood control system in response to local and large-scale floods over the course of 800 years. Every article written on the subject mentions the flood of 1953 as a modern milestone. A massive North Sea storm surge overtopped flood defenses, killing 1853 people. In response, the Dutch government launched the Delta Project, strengthening flood control standards, in places to a 1/10,000 year storm level, and once again reengineering a comprehensive protection system. The flood control systems have consistently contended with the fact that much of the Netherlands is currently at or below sea level, with vast tracts of land reclaimed from the sea and/or subsiding; over 50% of the country is prone to flooding, along both coasts and rivers, necessitating coordinated flood protection. (Neuvel and van den Brink 2009) However, even with increasingly stringent design standards, more floods would call this approach into question.

ROOM FOR THE RIVER PROCESS

In 1993 and 1995, high river levels flooded the foreshore of the Meuse River. (Neuvel and van den Brink 2009) In 1995, protected areas along the Meuse and Rhine were threatened with flooding so that 240,000 people and a million cattle had to be evacuated, though ultimately, the dikes held. In response, some of the dikes were reinforced, but at this point, the government realized that continually strengthening the dikes was a losing proposition. In 1996, the government issued a Room for the River policy guideline, which proposed retaining existing space in floodplains for rivers and taking an explicitly spatial approach to water management. At the same time, a Flood Defense Act was passed, strengthening flood design standards (or representative discharge levels) for dikes and setting up a framework for reassessing them every five years. Several years later, the government issued the Room for the River white paper, making it explicit that while design standards were increased, that benchmark should not be addressed by strengthening dikes, but with spatial strategies. This occurred within a European context in which neighboring countries and the EU as a whole were starting to pay more attention to flood risk and the ecological function of rivers. The EU Framework

Directive on Water required that all water bodies be protected and restored, giving additional impetus to the Dutch plan. By 2006, the government approved a spatial planning key decision, rendering Room for the River law with a 2015 deadline for 34 projects throughout the major watersheds. (Rijkswaterstaat; Rijkswaterstaat 2006)

DUTCH WATER CONTROL HISTORY

1953
Major Flood
1853 Dead

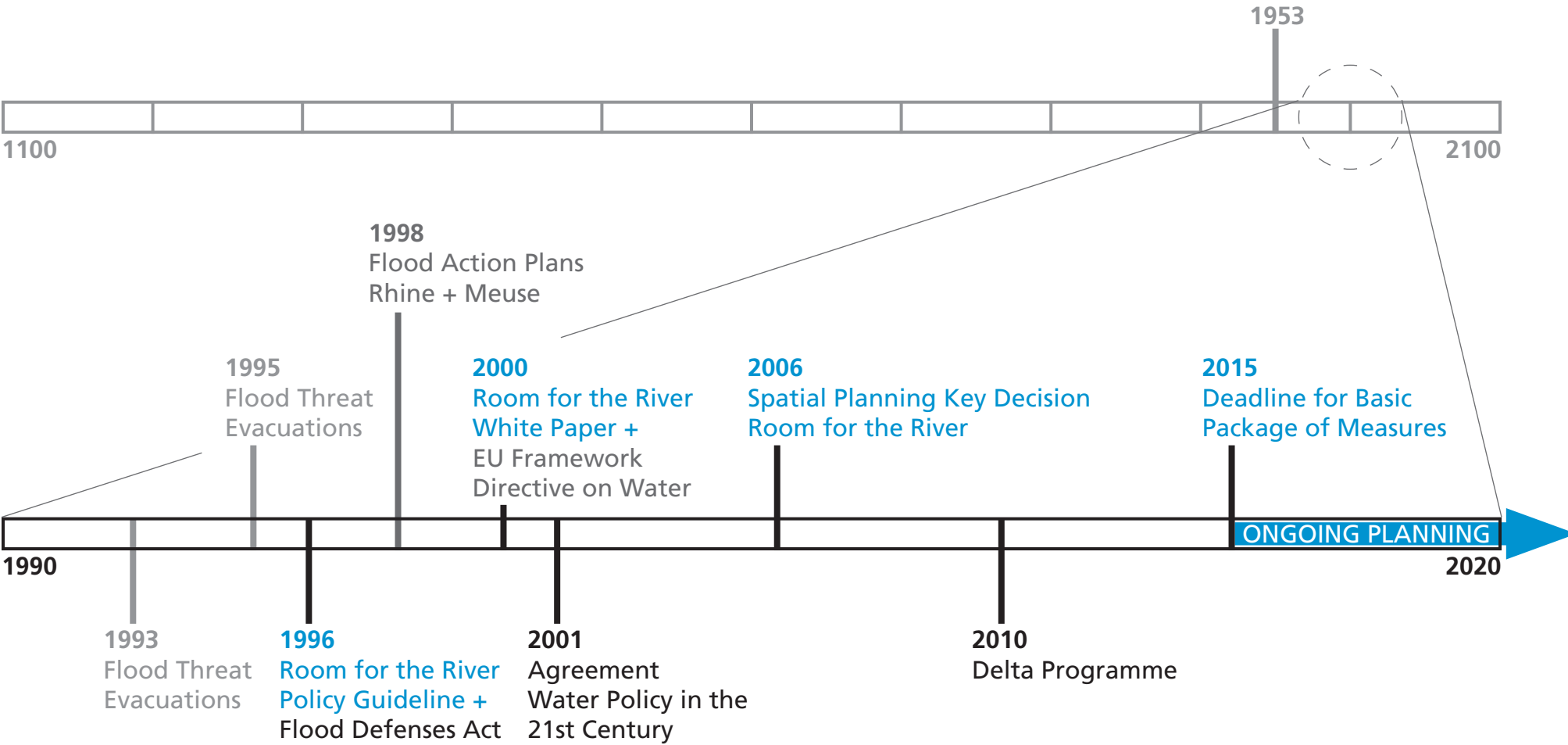


DUTCH WATER CONTROL CONTEXT



base map source: d-maps.com

ROOM FOR THE RIVER PROCESS



- International
- Room for the River
- Other Dutch Policy

ROOM FOR THE RIVER PROJECTS



base map source: d-maps.com

ROOM FOR THE RIVER DRIVERS

long term issues

Though the flood threats of the 1990s did provide an impetus, Room for the River was not a reactionary response to those events alone. Rather, the response was underpinned by conditions that had been evolving for centuries as unintended consequences of the historic Dutch water management approach. The so-called “control paradox” was central to these unintended consequences; as land was protected, it was perceived as safe, attracting further development, which would in turn increase the potential damages. With a very limited land base, and increasing development pressure from economic growth, this feedback effect continued to escalate. This points to an important aspect of flood risk, that the widely accepted definition of “objective flood risk” is the product of probability and damages, rather than the popularly assumed definition of probability as suggested by common use of the “100 year flood.” In a similar vein, the “bathtub effect” arose from the engineering approach to flood control. As dikes got higher, they became vulnerable to more failure mechanisms, and if they did fail, there would be a greater volume of water behind them, which would amplify impacts on flooded land. (de Vries and Wolsink 2009)

The engineering approach had also compromised ecological function, as rivers were canalized and so constrained that in some cases it was difficult to recognize how a natural watershed might have operated. These unintended consequences posed a significant challenge on their own, but would only be compounded by climate change, with the attendant threats of changing precipitation patterns and rising sea levels. Given the risks from historic behavior and climate change, spatializing water management within a long range planning framework emerged as the best response. The long range nature of Dutch planning is an important point to emphasize here. While immediate Room for the River Measures were set to take place between 2006 and 2015, the spatial planning decision explicitly noted an intention to address potential flooding to the end of the 21st century by adequately sizing those measures and implementing others as necessary.

One additional long-term driver, which receives less explicit attention in the public documents, is important to mention. As the control paradox creates a process of urban concentration, increasing value, and increasing flood risk, it also attracts increasing government attention to protecting those

urban concentrations, whether in the traditional engineering approach or the new spatial approach. Ultimately, it proved much simpler to protect urban agglomerations by addressing the risk upstream before it would even reach the city. That means that rural land, with its lower economic value, and less concentrated population, acts as a form of sacrifice zone, protecting the city. In other words, even in the Netherlands, there is a displacement of risk onto populations and places perceived as less valuable. (Roth and Winnubst 2009)

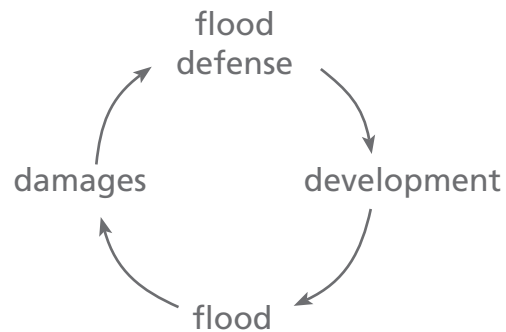
ROOM FOR THE RIVER DRIVERS

long term issues

FLOOD RISK FROM TRADITIONAL APPROACH

+ CLIMATE CHANGE

control paradox



bathtub effect



loss of ecological function

increasing sea levels

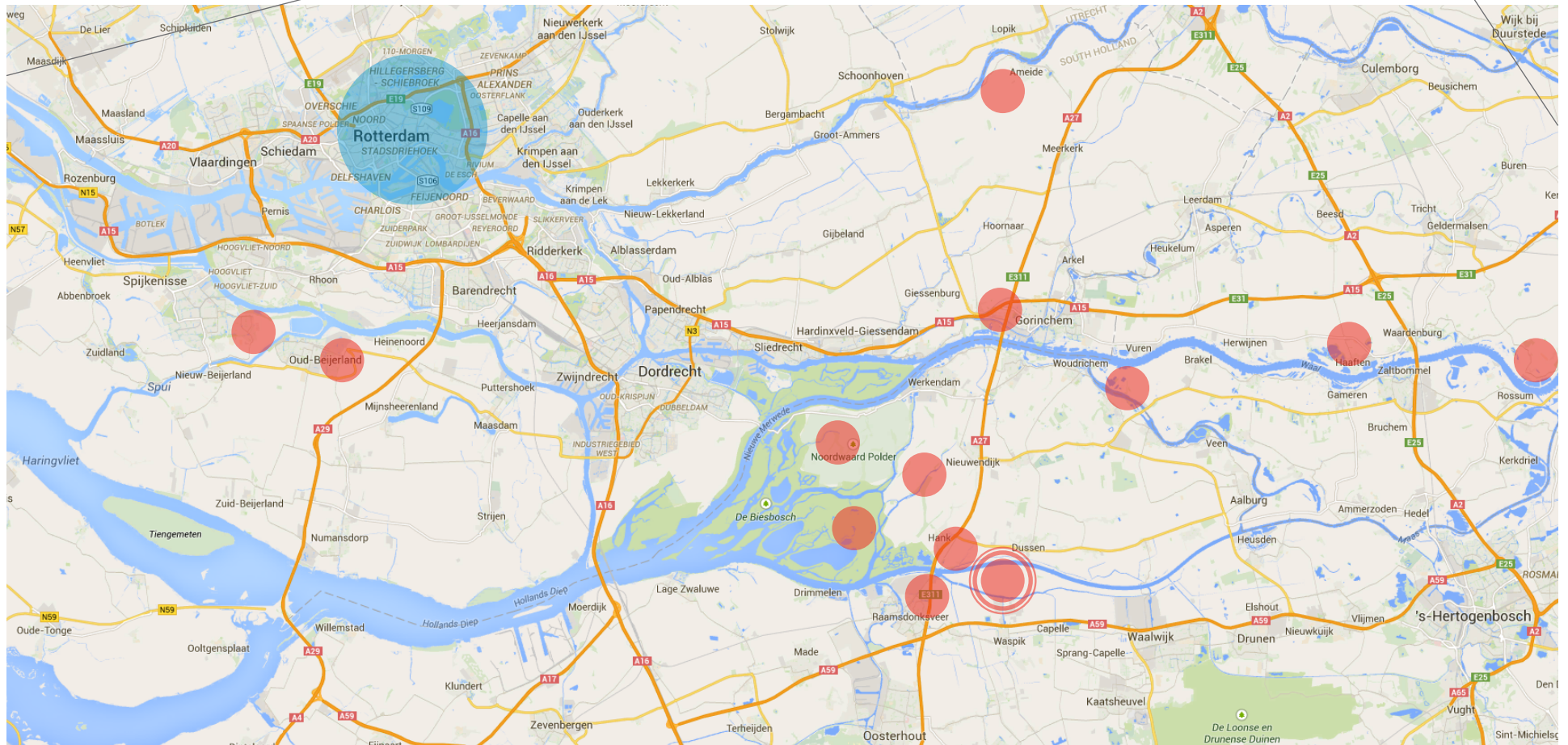
changing precipitation patterns

uncertainty

FLOOD RISK = PROBABILITY X DAMAGES

ROOM FOR THE RIVER DRIVERS

absorbing risk upstream



● Rotterdam Urban Area

- Room for the River Projects Upstream

OVERDIEPSE POLDER CONTEXT



source: worldlandscapearchitect.com/mound-plan-overdiepse-polder-the-netherlands-bosch-slabbers-landscape-urban-design/#.VFED-ckPZk

OVERDIEPSE dePOLDER PROCESS

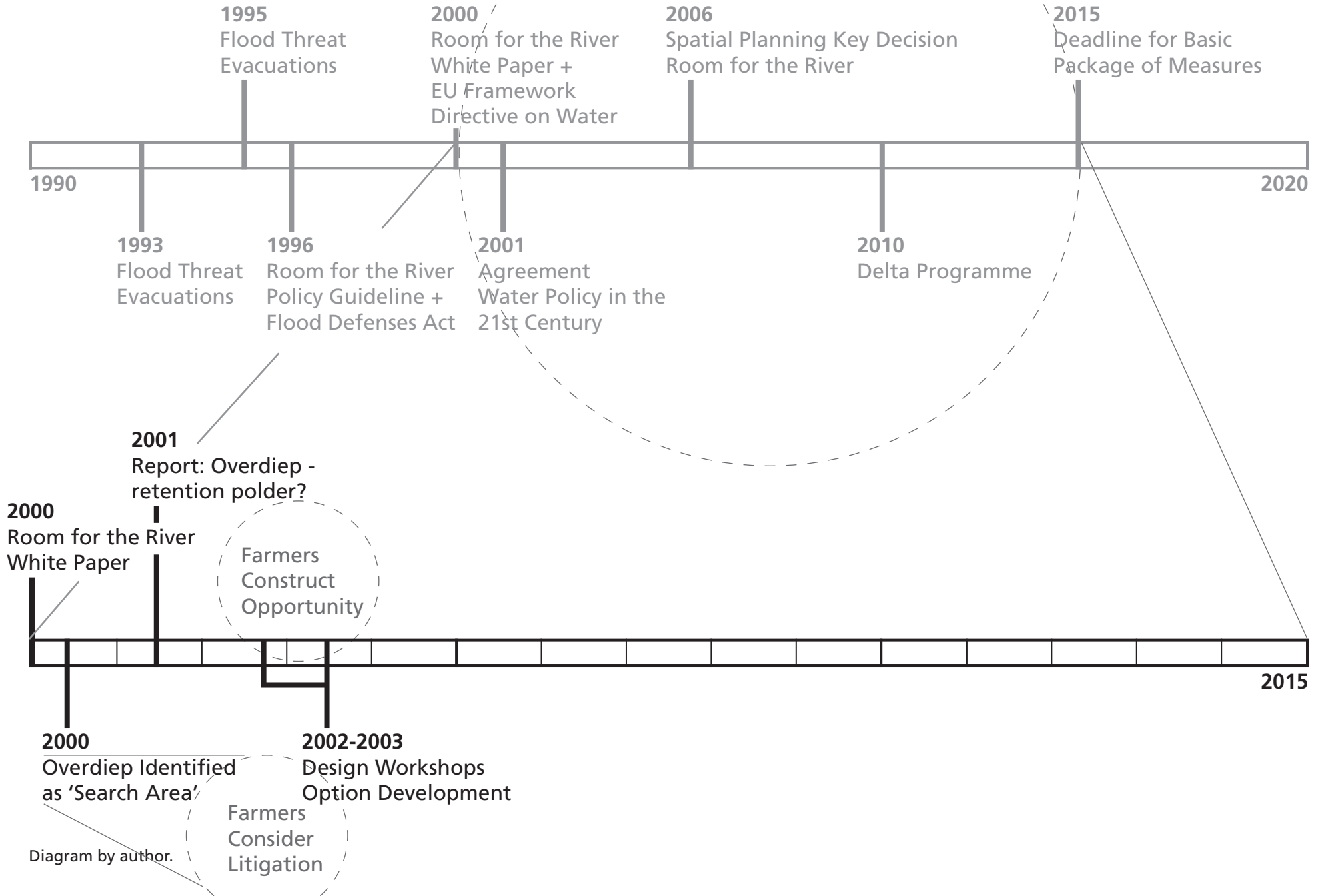
The Overdiepse Polder, originally created in 1904, comprises 550 hectares of land protected by dikes, and an additional 180 hectares of land in the fore-shore, exposed to flooding. The polder was largely uninhabited until the 1970s, when dairy farmers began operating there. At the inception of the Room for the River program, the polder was inhabited by 16 farming families, with a total population of 94. In the spring of 2000, these farmers were alarmed when they read in the local paper that their polder had been identified as a “search area” for the Room for the River project. After first considering suing the government, some of them came together and decided instead to take advantage of the situation; this could be an opportunity to take a strong negotiating position vis a vis the government, harnessing the Room for the River mandate to serve their own business interests. The farmers, who had formed the Overdiepse Polder Interest Group (OPIG), proposed taking control of the situation by preemptively creating their own design options. Both the province and the ministry were looking for experimental projects in this early stage of Room for the River, so the Overdiepse Polder appeared to be a valuable test case for participa-

tory spatial solutions. While early in the process one farmer remarked that “most people in the polder were more afraid of the government than of the water,” this attitude changed over time as the province proved open to engaging closely with the farmers. The Room for the River program required that in a departure from past practices, the provinces lead projects in a participatory manner. The province of Noord-Brabant took that mandate seriously, and supported the farmers in working with a local think tank, Habiforum, to produce and compare design options. In spite of their attention to local participation with provincial governments, the federal government retained a more conventional command and control position, so the farmers remained wary of the federal government’s role throughout the process. (Roth and Winnubst 2009; Roth and Winnubst 2014; Warner et al. 2013)

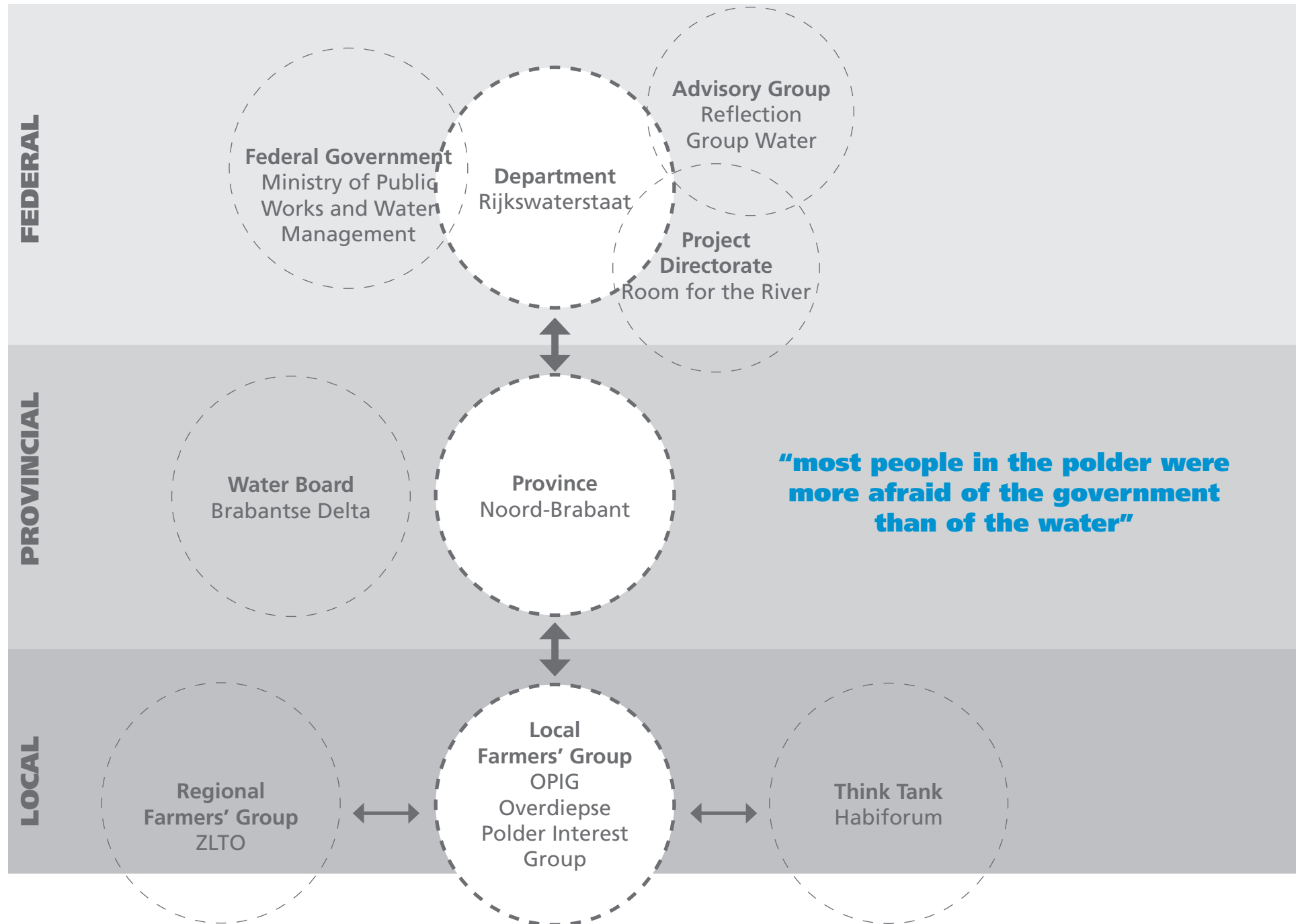
The design options which OPIG developed with Habiforum have only been documented in the literature in verbal form. They are reconstructed here as diagrams in order to facilitate comprehension of their concrete impacts on land tenure. Option 1, the “Central Dike” option, would have

retained farmland in its existing form for a majority of the polder while relinquishing a smaller part of the polder as potential flooding area. A dike to a similar standard as that protecting the polder from the Bergsche Maas would be introduced through the middle of the polder. Option 2, the “Terps” option, would remove the existing farms, replacing half of them with mounds on the south side, while lowering the north side dike to allow for intermittent flooding across the polder. The mounds would be built to an elevation such that the farm buildings sited there would remain above water even in the highest flooding events. Option 3, the “Back to Nature” option, would dismantle all agricultural use, removing the north side dike to allow for flooding. Options 1 and 3 received some support within OPIG, however the “terps” plan received majority support. The reasoning for this has not been explicitly documented, however, only the terps plan served the land consolidation goals jointly supported by the activist farmers leading the group and the provincial agricultural development plan. (Roth and Winnubst 2014; Rijkswaterstaat)

OVERDIEPSE dePOLDER PROCESS

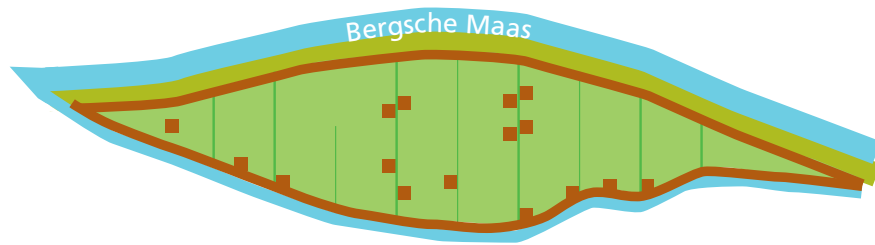


OVERDIEPSE dePOLDER STAKEHOLDERS



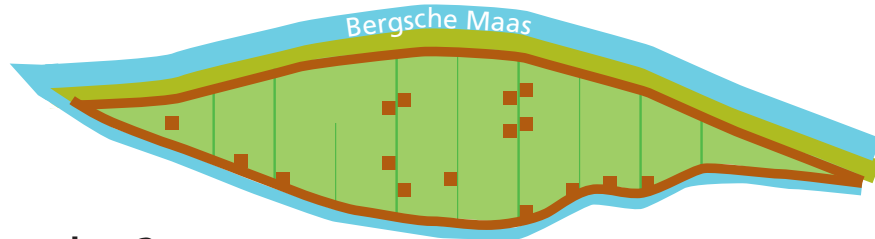
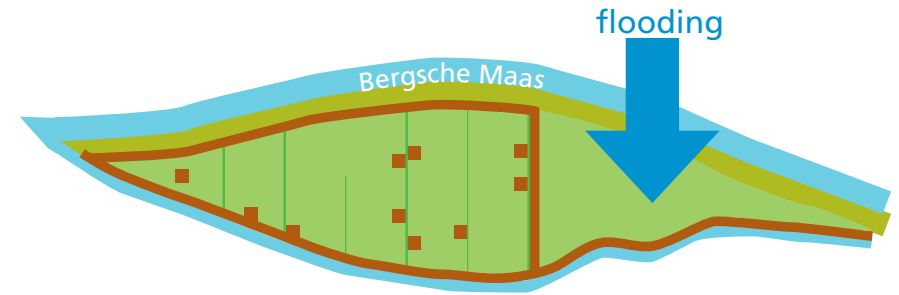
OVERDIEPSE dePOLDER PROCESS

design workshops habiforum + OPIG



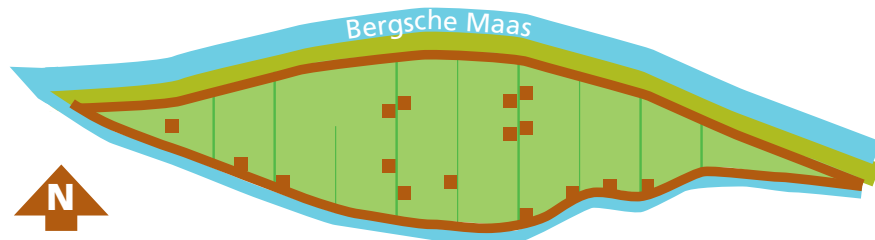
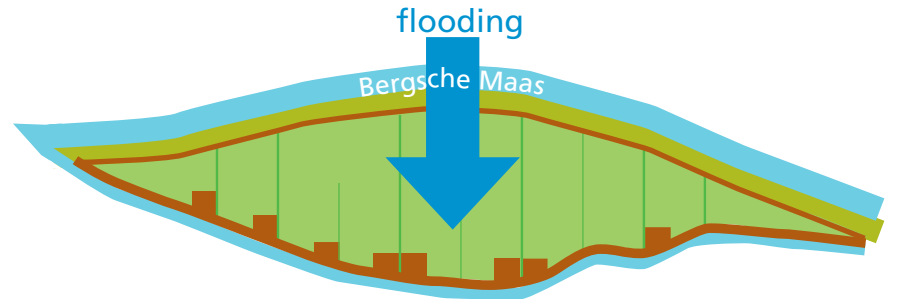
option 1: central dike

Some farms lost, water storage compartment



option 2: terps

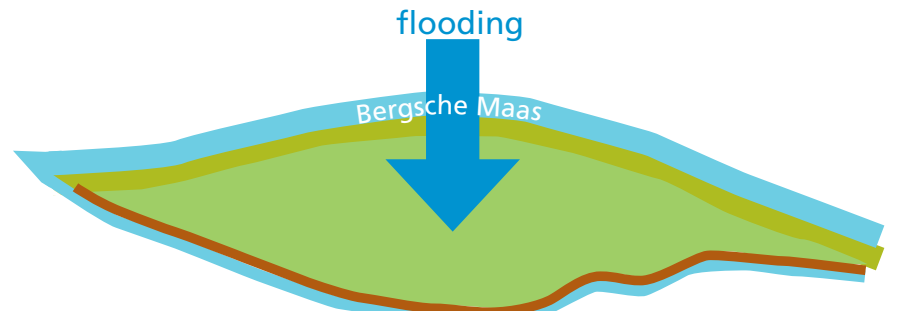
Some farms lost, occasional flooding of farmland



option 3: back to nature

All farms lost

Diagram by author.



OVERDIEPSE dePOLDER CONFLICTS

Though a majority of farmers supported the terps plan, divisions arose within OPIG when their representative reported to the province that support for the plan was unanimous. The province moved forward on that basis, and the project was integrated as a “forerunner” in the early stages of formalizing the Room for the River decision. However, a number of conflicts surfaced between the schematic development of the project and the final implementation agreement. With the terps plan in place, half of the farmers would be forced to relocate, but it remained unclear how land would be valued for government buy-out. Three potential valuation schemes were available: agrarian, market and expropriation value. Expropriation value would be the highest, at 25-30% more, so the government was reluctant to adopt that for fear of setting a precedent. However, both the federal government and the province had an interest in creating an early Room for the River success story, showcasing the new turn toward participatory planning in a “forerunner” project. In addition to the fact that the government would need this land eventually, the desire for a success story put the farmers in a strong negotiating position. In one example, a family had been wanting to move away from the

polder, so volunteered as the first buy-out candidate. OPIG pressed the province to pay the full expropriation value of the land, which would allow that farmer to relocate and demonstrate to the other farmers that this was a serious project.

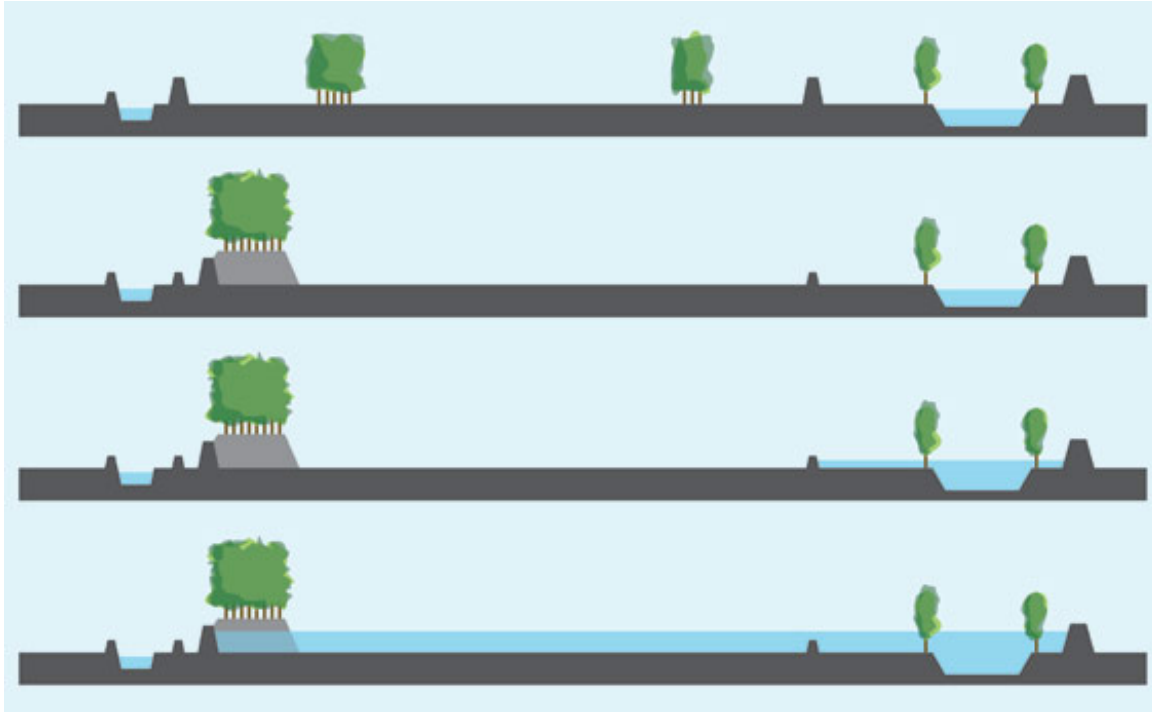
At the same time, reallocation disparities emerged, where those closest to the south side dike that was going to be retained were in a better negotiating position because the province needed their land specifically. Those who only leased their land, a full 40%, were at a disadvantage too. Though the farmers who moved would be compensated, given the difference in bargaining power, the group began to split into “stayers” and “movers,” and these were clearly unequal groups. Though the government has tried to portray this as a win-win situation, there were in fact winners and losers. Not only did some of the farmers achieve the ability to stay, they also had the opportunity to expand their holdings.

Even for those who would stay, the impact on their land value was problematic. The majority of their land would move from a protected, precious, “inside the dike” status to a vulnerable “outside the dike” status. An increase

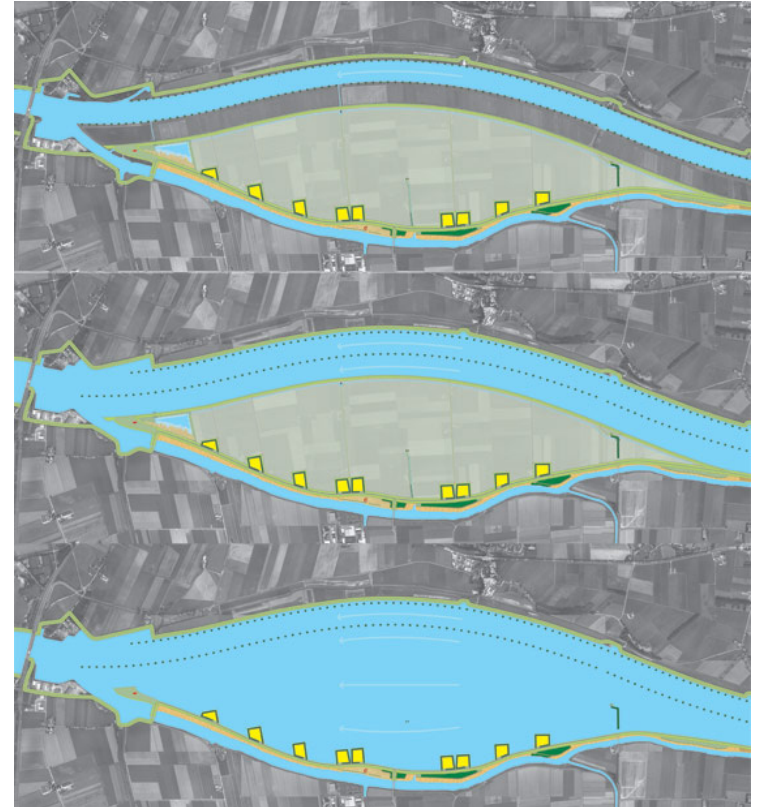
in land area for each remaining farmer potentially offered a form of compensation, but the land itself might be compromised. The consequence of occasional flooding wasn’t just the loss of pastureland during that brief period; floods could potentially contaminate the soil, and the milk that would come as a product of that soil. Faced with the option of one-time compensation for all future damages or event-based compensation, the farmers negotiated 100% compensation for yield loss and other damage after each flood event. While the project cost approximately 90 million euros for construction, it would also incur ongoing costs in perpetuity, with compensation values to be adjusted on a yearly basis. While flooding is projected to have a likelihood of once every 25 years, primarily in the winter and early spring when there will be less damage to crops, there is a level of uncertainty, and that probability could increase with climate change. (Roth and Winnubst 2014)

OVERDIEPSE dePOLDER RESULTS

flooding stages



At the highest flood stage, only the mounds remain above water, as illustrated in these plans and sections. This demonstrates the extent of potential flooding and related damages that the farmers could sustain, as referenced in the 'conflicts' section.



OVERDIEPSE dePOLDER TRANSLATION

In spite of these conflicts, which complicate the sanitized image of Room for the River, each issue was negotiated to a resolution that allowed the project to proceed. Construction began in 2011 and is projected to meet the 2015 deadline. Given this level of success in mitigating flood risk and resolving competing land use interests, this project specifically, and the Room for the River program as a whole are promoted by the Dutch government and covered by diverse media outlets as models for the international community to emulate. (Kimmelman 2013; ClimateWire 2014; (BUZA) 2014) Given that the project is being looked to as a model, it is important to ask, how does it travel, and more specifically, how does it translate? In order to focus the question to some extent, the comparison will be limited to the U.S. context. In asking how does it translate, the question relates to a specific lens of comparative urbanism, one which draws from policy mobility studies, but seeks to problematize that approach.

In theorizing comparative urbanism, Colin McFarlane builds on post-colonial theory, with a particular concern for comparisons between so-called developed and developing countries, but seeking to extend the theory to any

urban comparison, questioning all conventions of the form (2010). Examining the potential for this model to travel from the Netherlands to the U.S., one could consider shifting the frame of developed and developing, considering the Netherlands as developed, based on its ability to effectively deliver infrastructure, and the U.S. as developing, based on its "D+" grade in that arena (American Society of Civil Engineers 2013 Report Card). But ultimately, those categories are secondary and mostly obsolete. And regardless of that framework, McFarlane's theory of urban comparison is relevant here, offering up "translation" as a form of indirect learning, with great potential in the misreadings and uncertainty that inherently accompany that endeavor. He argues for comparison as a strategy for destabilizing knowledge in the interest of developing new lines of inquiry. Recognizing that Room for the River is being served up as a model to be emulated, this is a useful way of not just critiquing it, but developing the questions that might lead to its productive interpretation within another context. At this starting point, translation raises more questions than it answers. (McFarlane 2010)

OVERDIEPSE dePOLDER TRANSLATION

Cultural History of Flood Control

As mentioned earlier, the Netherlands has a long history of water control. The Frisians who first settled the area began building dwelling mounds or terps as early as 500 BC to fortify themselves against floods. Successive waves of mound building continued until the society began building dikes in the 12th century. In other words, by building terps, the Overdiep farmers were resurrecting a traditional approach which had been used periodically throughout the length of Dutch history. The solution might look radical from an American perspective, but for these Dutch farmers it was well within their cultural lexicon. Even focusing on modern history, the Dutch are accustomed to living within a highly engineered, carefully calibrated water system that is continually being retuned to address competing water demands. In the Netherlands, more than most places, this system has a pervasive physical presence. While Room for the River might be considered a paradigm shift on one hand, with more historical perspective, it could be considered a reconfiguration of a longstanding system. So what does that mean in a North American context where the vast majority of the population is accustomed to an engineering approach to water that quietly operates

in the background or underground? Are there traditional approaches to flood resilience that might be resurrected? Is it important to harness traditional methods as a foundation, or does this absence merely present an extra hurdle? Perhaps most importantly, are there other conventional urban practices that might be repurposed for flood control?

Political Culture

In the Netherlands, a strong centralized government long committed to flood control would not permit water policy to dissolve into political bickering. The government conducts public and stakeholder consultation within a formal process, but ultimately appears to make decisions based on predetermined goals. The language published for public consumption at the end of this process bears this out in its dismissive tone. For example, public comments are summarized in one section: "Many also say that climate change and its effects are associated with too many uncertainties to justify land being reserved." The government responds: "Given the great pressure on space in the Netherlands, the Government considers it necessary to reserve areas for the future in order to create more room for the country's rivers." While participation was encour-

aged, it was not going to affect a major shift in direction at the federal level. (Rijkswaterstaat)

At the local level, participation did play a more significant role; with its participatory process, the Overdiepse project represented a departure from typical centralized planning. Though it was clear from the outset that high level government flood defense objectives would be met, the small group of farmers was able to claim a powerful role for themselves in the process, as evidenced by the OPIG-led design process. However, the power dynamic in this case, between relatively homogeneous dairy farmers and the central government, is quite different from a potential American analogy in New Orleans. After Hurricane Katrina, when the Urban Land Institute's plan suggesting that certain neighborhoods shouldn't be rebuilt came to light in the newspaper, and those were disproportionately marginalized, African-American areas, the mayor determined that it wasn't politically feasible to negotiate the ensuing conflict, and that everyone could rebuild in place, regardless of long term consequences. (Wolff 2014) This raises the question of whether or not it is even possible for the Dutch case to translate to the North American con-

OVERDIEPSE dePOLDER TRANSLATION

text given the differences in scale and power dynamics. Can translation lend itself to a local level, conceding that coordinated re-evaluation of land tenure strategies is unlikely to occur at a state or federal level? Can local organizations or governments adapt lessons from the Dutch consultation and negotiation process to achieve this? What are the ramifications of working at a local level when addressing a water system that necessarily operates at a much larger scale?

Population Displacement

Taking the scale issue further, this was a tiny project, with 16 households implicated and only 8 displaced. For the farmers who had to relocate, this may have been a hardship. But on a geopolitical scale, this was an infinitesimal change for a few Dutch farmers to move to Canada, Portugal, and Denmark, according to their preferences. (Roth and Winnubst 2014) Even considering the entire scope of the Room for the River program, involving the displacement, or “relocation,” of 150 houses and 40 businesses (Rijkswaterstaat and UNESCO-IHE), the impact remains minute on a national or global scale. While these numbers are mere noise compared to the displacement occurring in the developing world,

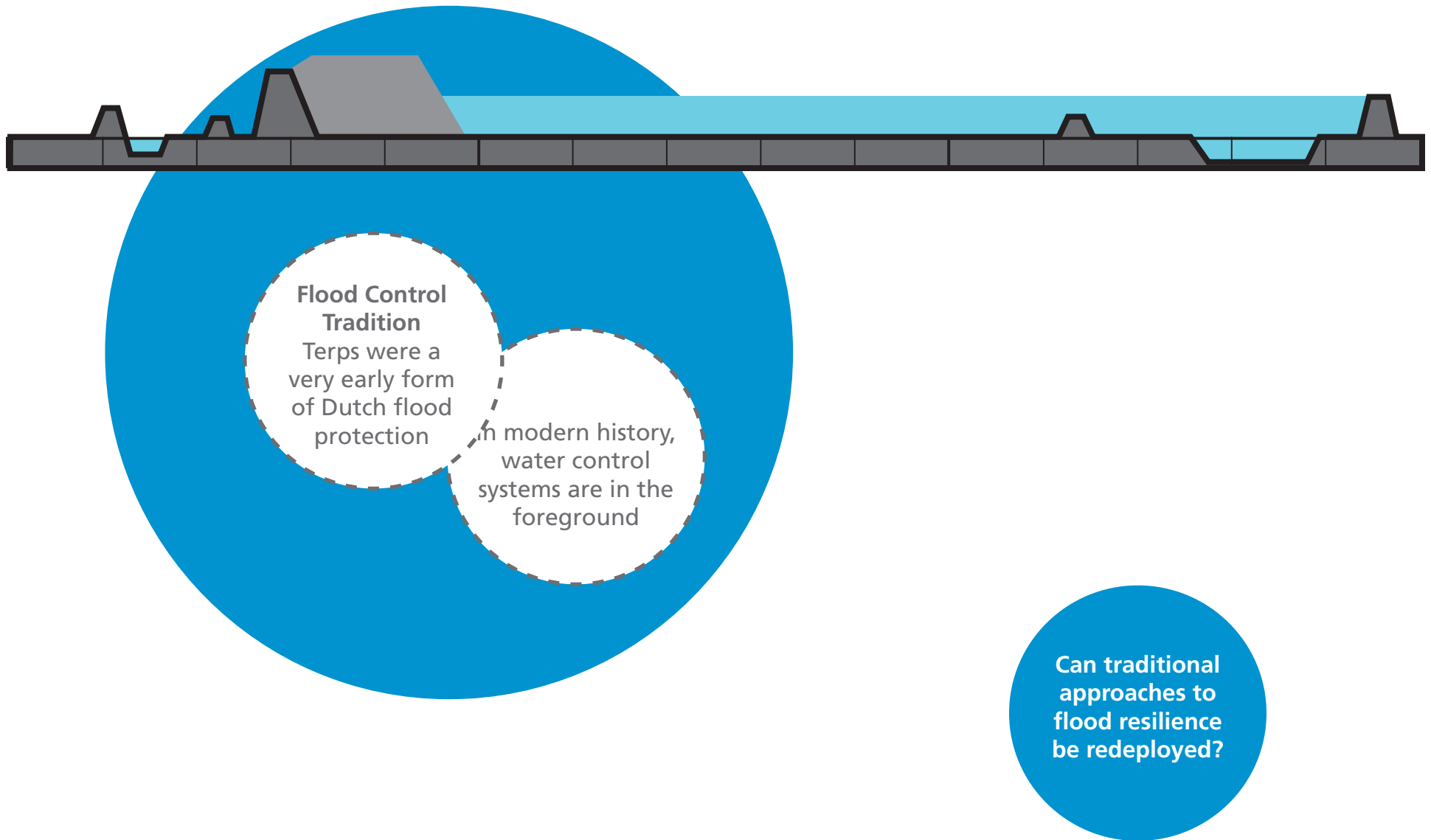
they are significant, because they arise within a democratic, negotiated context, and therefore have implications for strategies that other democratic governments might pursue. But that demands a critical appraisal of population displacement. Are these climate refugees? And if so, if developed countries look to mitigate natural hazard risk in a similar way, what are the implications? When large-scale displacement happens in the U.S., due to flooding, drought, or wildfires, will people be internally or externally displaced? These will become increasingly urgent issues as climate disasters play out over the coming decades.

Conclusion

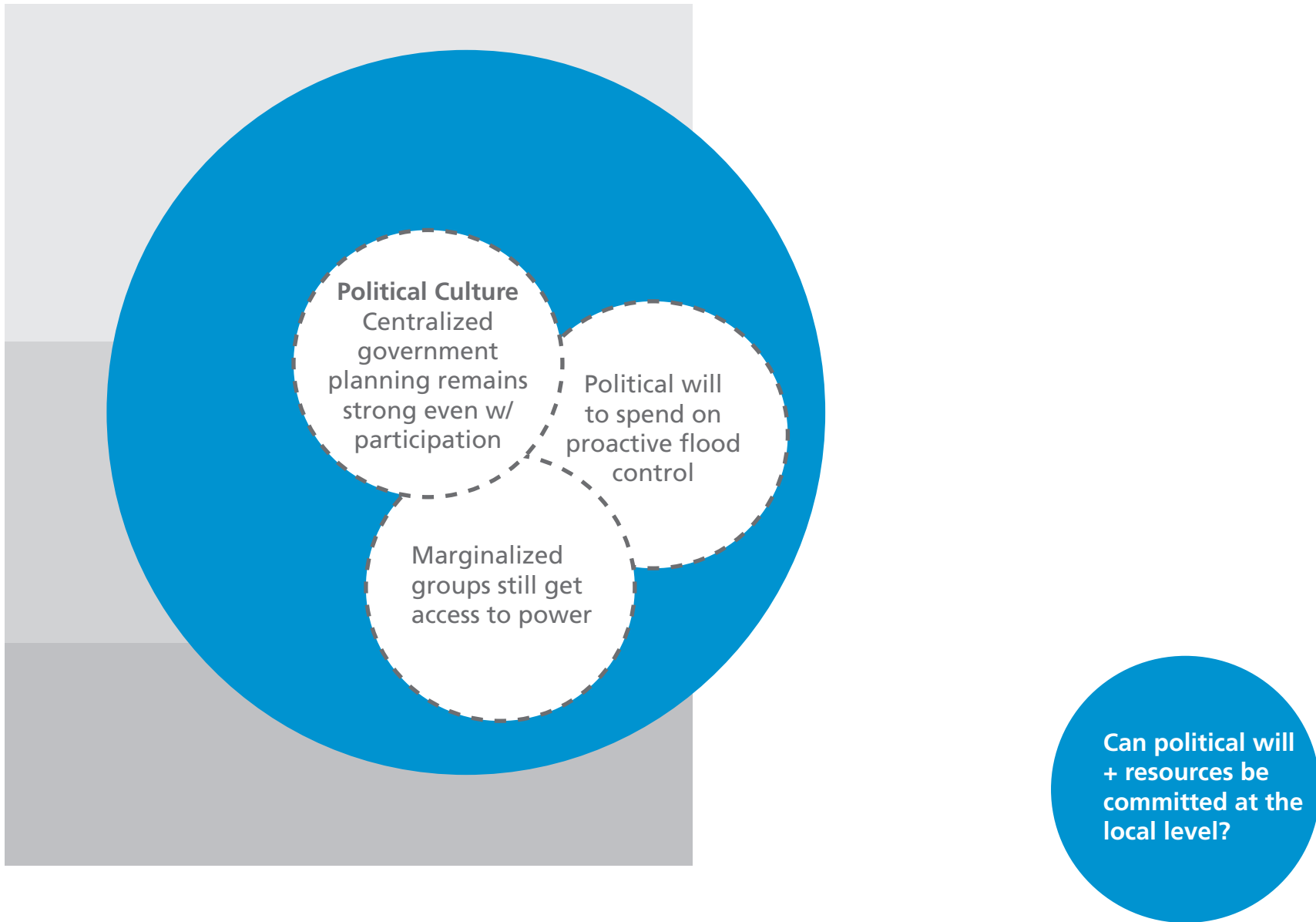
These questions, and many more that could be raised, point to the caution necessary in holding this case up as a model. The research that has been conducted on the Overdiepse Polder also demonstrates the value in pursuing long term qualitative research to analyze radical climate adaptation projects that employ strategies such as managed retreat, or radical planning projects in general. While it is easy to digest the sanitized package offered by the Dutch government with its aspiration to “spatial quality,” the hard work of translation can only begin through unpacking

the real conflict and complexity inherent in the profound redesign of land tenure.

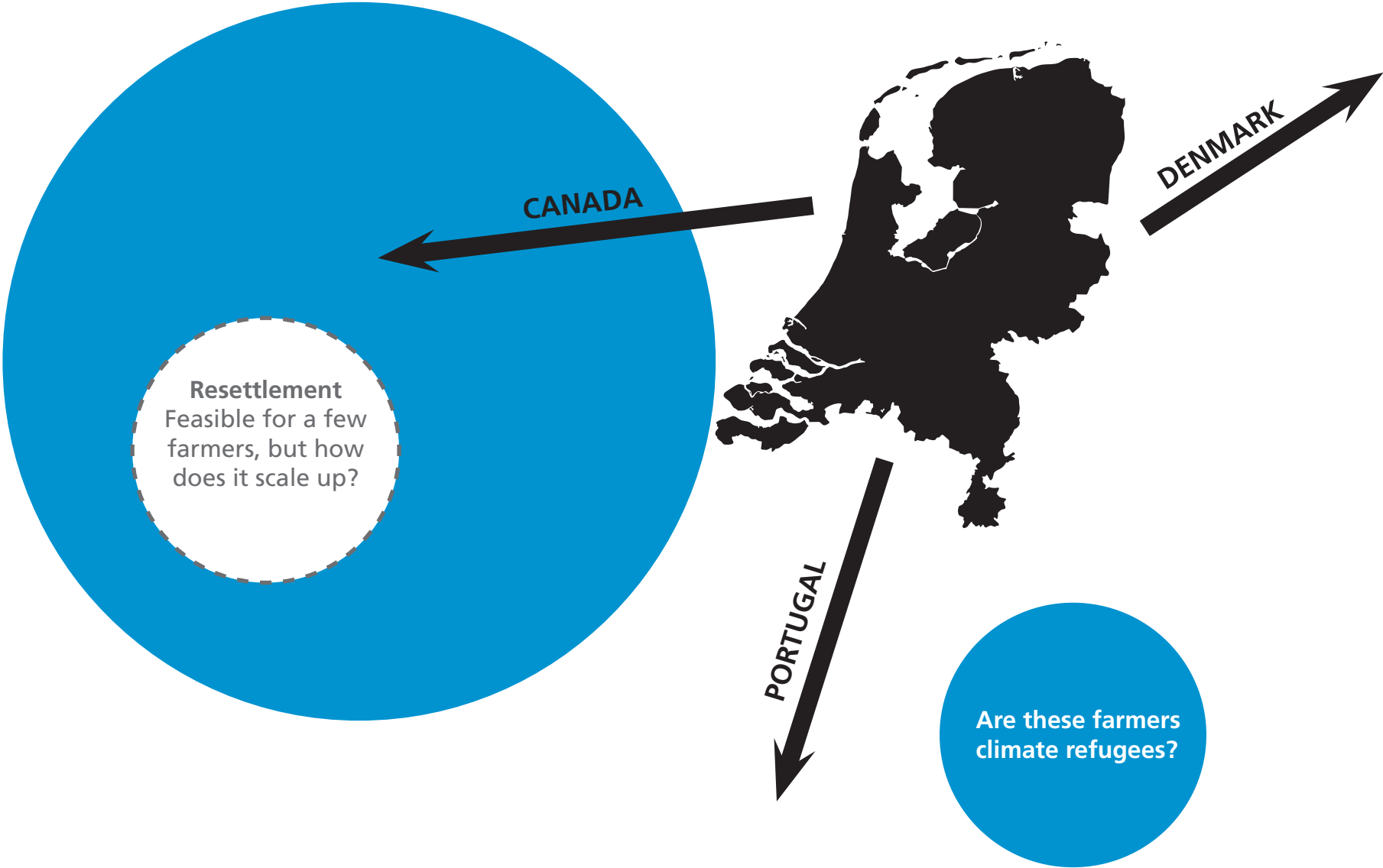
OVERDIEPSE dePOLDER TRANSLATION



OVERDIEPSE dePOLDER TRANSLATION



OVERDIEPSE dePOLDER TRANSLATION



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