The influence of connective capacity on the legitimacy of flood management

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Abstract

Flood management in Oxford can be characterized by three things. First, the responsibility for flood management in oxford is fragmented across a variety of governmental and private organizations. Second, flood management in Oxford has a bad reputation due to lack of maintenance. Third, it is complex, because many interests constrain the possibilities for flood management measures. In response to a series of flood events in past ten years, the Environment Agency (EA) undertook two flood management projects. The oxford flood risk management strategy (OFRMS) was a long-term and large-scale project. The Short term measures-1 had a smaller scale and a shorter time perspective. In these projects, the connective capacity of the flood management system was increased in creative ways: Various relevant actors were informally connected, the various interests were taken up in the plans, and the two projects were developed in cohesion. In this paper we will show how this attention to connective capacity has affected the legitimacy of flood management in Oxford.

Introduction

Flood risk management increasingly recognizes that flooding is interlinked with a wide range of other issues. Throughout Europe, flood managers are moving towards non-structural flood management measures rather than traditional engineered structural defenses. By taking non-structural/spatial measures, it becomes even more evident that flooding is interlinked with other issues. Indeed, the UK's "Making Space for Water" approach to flooding recognizes that flood waters require space on land and that this has a knock-on effect for competing land uses. For example, an urban flood water management scheme enables urban functions to be carried out whilst being protected from the disruption of flooding. However, such a management scheme would require space to be constructed, which might be in competition with other land use pressures (Mitchell, 1990:1; Pardoe, 2009). One of the biggest challenges is to develop flood management measures that recognize and accommodate how flood management is connected to other policy issues.

Another challenge for developing accepted flood management measures is to involve a large variety of different stakeholders and actors in an appropriate manner. In the UK, the responsibility for flood management is dispersed among many stakeholders, both governmental and private agencies. Stakeholders with flood management responsibilities include DEFRA (Department of Environment, food and rural affairs), the Environment Agency, county councils, city councils, private water companies and private land owners. Since many issues are interconnected with flood management, many stakeholders can be affected. Increasingly these stakeholders are becoming actively involved in flood management. In this paper, the concept 'connective capacity' refers to the ability of a flood management policy area to meet the two challenges mentioned above.

Gaining a sufficient level of public acceptance is important for any policy including flood management policies. When enough stakeholders accept a policy, this policy is more likely to be implemented successfully and at reasonable costs. However at times, it is difficult to gain public acceptance, because no policy is beneficial for all. Policies regularly have a negative impact on some stakeholders and therefore compromises must be made. However beyond self-interest and fear of sanctions, Fallon (2005) argues that there may be several other reasons for a policy to gain stakeholder acceptance. For example, one other reason is that a policy may be accepted if the policy sector in which it is developed is considered "legitimate".

Legitimacy refers to the prestige [of a policy sector] that it is morally justifiable and therefore authoritative. (Weber 1980). The term "prestige" indicates that legitimacy is a group-level concept: i.e. an individual stakeholder cannot single handedly legitimise a policy sector, but instead a relevant group, as a whole, makes the judgment if a policy sector is legitimate (or not). Commonly it is the impacted community that is regarded as the group that legitimises a policy sector (Lipset 1959; Easton 1965; Beetham 1991; Gilley 2006). Thus, a predominantly positive attitude towards the policy sector in the impacted community is an important indicator of legitimacy. Legitimacy is not a guaranteed attribute of a policy sector, and little is known about what influences it. However, it has been suggested that public participation has a positive influence on legitimacy,(Woltjer 2002): 444) although empirical evidence remains to this day mixed (Monnikhof and Edelenbos 2001; Enserink and Monnikhof 2003; Innes and Booher 2004).

As both legitimacy and connective capacity are important to the 'flood management' policy area, it is interesting to see if the two concepts influence each other in practice. This raises the question, does increased connective capacity (positively) influence legitimacy or not? This paper aims to provide a preliminary answer to this question. We will study the case of urban flood management in Oxford, in order to analyse if and how 'connective capacity' in these projects has influenced the legitimacy of flood management in Oxford. Below, the urban flood management in Oxford will be discussed in more depth, but first a short description of the data-collection and analysis methods is given.

1. Methods

For the purposes of this case study, 12 in-depth interviews were conducted with participating stakeholders in an ongoing urban flood management project in Oxford, called 'the Oxford flood risk management strategy'. In addition 18 structured interviews were held with residents of Oxford. Furthermore project documents such as the Strategic Environmental Assessment (SEA) consultation document SEA report were consulted. Respondents for the in-depth interviews were selected on the basis of the consultation report of the Environment Agency. They had been consulted by the Environment Agency on the Oxford flood risk management strategy prior to the public consultation, which was held from February to May 2009. In addition to these consultees, we also interviewed someone from the consultancy firm tasked with the Oxford flood risk management strategy and key persons from the Environment Agency.

With regard to the survey the respondents were selected from the telephone book (every 5th (reasonable) listed person). From the resulting list every respondent was assigned to a region based on their proximity to the flood plain. The Oxford area was therefore divided into four areas as indicated in figure 1: area 1, which is the floodplain; area 2, which is the area close to the floodplain; area 3, which is the area to the back of oxford away from the floodplain; and area 4, which is the area downstream of Oxford. Around 250 requests were sent to respondents in each of the areas. The response rate was 10%. Of the respondents 22% lived in the floodplain, 33% were from

region 2, 16,7 % were from region 3 and 27,8% lived downstream in region 4. Thus a reasonably equal distribution of respondents across the regions was reached.

The in-depth interviews were analysed through a scheme of sequential coding, in line with grounded theory practices. (Charmaz, 2006). The structured interviews were analysed through descriptive statistical methods, such as cross tabulations and frequency tables.

Figure 1 map of oxford flood area with respondent areas drawn in area 4 is not on map.

2. Flood management in Oxford

In order to analyse the relationship between connective capacity and legitimacy, this paper analyses recent developments concerning flood management in Oxford. Before turning to the specific local context of flood management in oxford, first the national flood management context will be discussed.

Flood management- the national setting

In the last decade flooding has become a common event in England. Recently severe river flooding occurred in 2000, 2003 and 2007. In response to the floods of 2000, 2003 and 2007 pressure was put on the national government to increase spending on flood prevention. For instance flood insurance companies threatened to stop insuring flood risk properties if adequate measures to lower the risk were not taken (The Guardian 01-02-2005). In response to this pressure national government promised to increase their spending on flood prevention from £600m to £800m between 2008 and 2011. (See for instance: Farmers Guardian, 20-06-2008)

Funding for flood protection schemes in England is distributed by the Department for Environment, Food and Rural Affairs (Defra). Applications for funding are based on appraisals of flood defence schemes, which

consider a range of options and evaluate the costs and benefits of each scheme against a defined objective to find the 'best' option (Penning-Rowsell *et al* 2010). When the 'best' option has been identified, the application is submitted and considered in addition to applications for all other flood protection schemes in the country. The applications are then prioritised for funding based on the benefits they provide to the people, the environment and the economy. This is determined using Defra's priority scoring system which ranks all proposed schemes based on the three elements (people, environment and economics). The scheme with the highest score will be the first to be allocated funding (www1).

Given the recent economic crisis in the UK, the new coalition Government is undertaking a review of spending in all Government Departments. The expectation is that most Departments, including Defra which provides funding for flood protection measures, will be required to make cuts of around 25%. For Defra this would mean a cut of £725m (www2). These budget cuts, coupled with the earlier recession, have raised money as a key concern for flood defence works. Indeed, a recent article in the local newspaper highlights concerns that the planned work for Oxford may be at risk as a result of the budget cuts (www3).

As a result of the budget cuts, attention has now turned towards locating alternative sources for funding major flood protection schemes. In particular, this focuses on looking at local contributions from Local Authorities but also businesses and even residents in the areas affected. This new 'localism' agenda is promoting community action to raise part of the funds for defence work that will be of benefit to the community. This 'localism' theme to funding provision promotes such arrangements as giving power to the community, so that, for example, the community may choose to invest their own money, to top up the allocated funds in order to be able to afford a more expensive option that may provide additional protection. The approach is advertised as encouraging community ownership and buy in of the project which may increase support for it and engagement with the issues of flooding and flood defence provision.

However, these alternative funding arrangements rely on the public understanding and appreciating the value of a proposed scheme to the extent that they would be willing to contribute directly, either with their own financial resources or by arranging fundraising activities. Yet, this level of support requires the public to accept that they have a role in flood defence, rather than expecting the State alone to protect them. At a functional level, such an approach would also require the residents to have faith in partnerships between themselves, the local authorities and engineers and to feel that the decision making process is legitimate. Without such trust and willingness, local communities would be unlikely to dip into their own pockets to pay for defences they previously expected to be provided automatically.

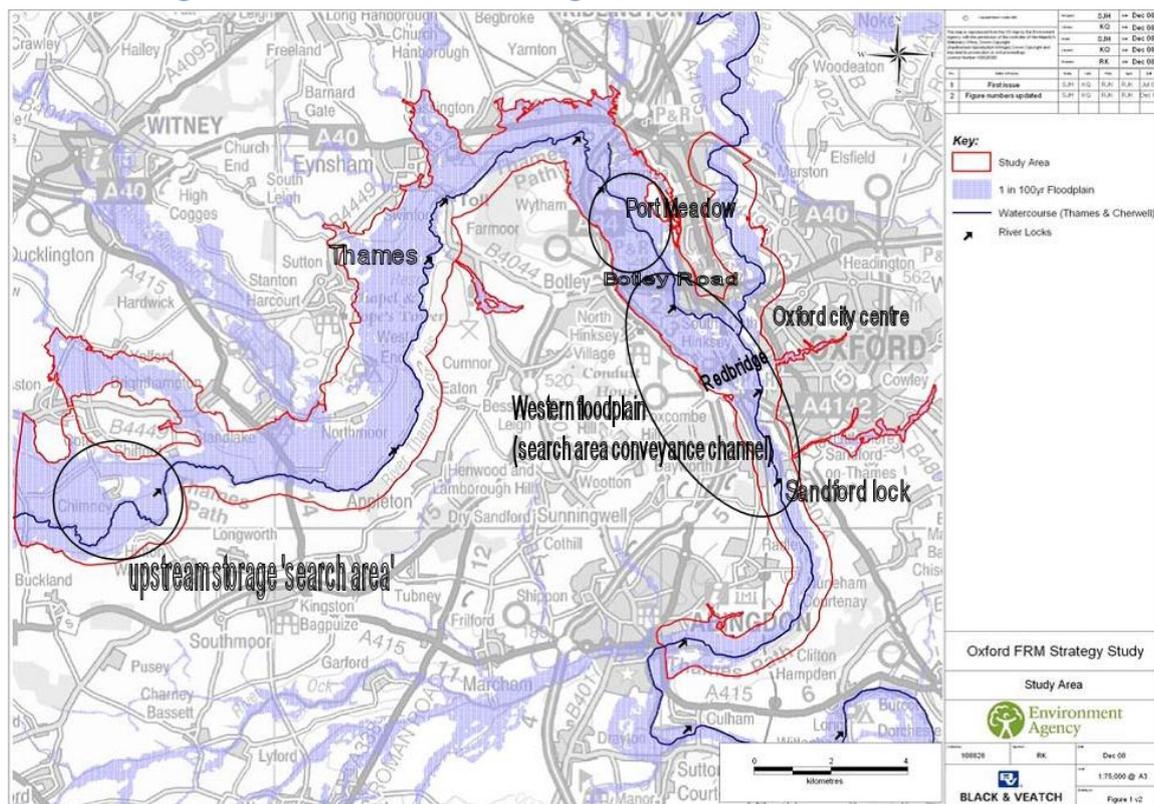# Flood management – the Oxford setting

Figure 2 map of 'search area of oxford flood risk management strategy

The city of Oxford has a population of approximately 149.300 citizens (Oxford city council, 2010a). The historical city was built on elevated land east of the floodplain of the river Thames. In this area, the river Thames consists of a number of relatively small branches flowing through the floodplain. The floodplain is relatively flat here and the soil consists mainly of gravel. In flood events this leads to a combination of river and groundwater flooding. Downstream the floodplain narrows significantly, creating a natural bottleneck. In floods this bottleneck obstructs the water flowing quickly away downstream.

Oxford is known for its university; its important historic role; its city view, which has earned its reputation as, 'the city of dreaming spires"; and for its protected meadows, of which the main meadow (Port Meadow)- is situated in the North western floodplain, (see figure 2). All these issues restrict possibilities for implementing flood management measures. Next to these issues, also archaeological issues surfaced in this case study, because the proposed flood management schemes could potentially impact "Red bridge" on the Old Abingdon road to the south of Oxford's western floodplain (see figure 2). Remains of a stone cause way, constructed by D'Oilly, are believed to be present in this bridge. These remains are believed to be part of the same stone cause way from which Folly bridge, Oxford's Norman bridge still in use, is a part. This bridge was constructed by D'Oilly. In the 20th century building development took place in the floodplain, but no formal flood defense was put in place. In the 1990's building development took place in the floodplain in which houses were built on artificially elevated land. This building development has led to a decrease in streams and an increase of flood risk for older building development in the floodplain.

The first decade of the 21st century saw a number of flood events occur in Oxford. The most severe floods were those of December 2000, January 2003 and July 2007. (British Geological Survey, 2010). In response to

the 2003 flood, the Environment Agency developed the Oxford flood risk management strategy project (OFRMS). The July 2007 flood was unusual because it occurred in the summer. This flood led to large national media attention and interest as the event was part of a series of floods that occurred in other regions in England as well. In the case of Oxford the national pressure to come speedily to a flood prevention scheme became increasingly felt after the 2007 floods, leading to a tight time plan for the Strategic Environment Assessment (SEA) of the OFRMS. (interview E1). The SEA of this project went to public consultation in the spring of 2009. It proposed a conveyance channel on the western floodplain running from Botley Road south to Sandford lock (see figure 2), an upstream storage near Chimney (East of oxford) to account for climate change and finally a series of smaller short term measures. (Environment Agency, 2009). Other options listed in the consultation document were variations to this option (larger or smaller watercourse, just maintenance, small or large storage area etc.)

Apart from this project other action was taken by the governmental bodies responsible for flooding in Oxford. This action included a project called "short term measures 1", which consisted of a number of measures which were low cost, no regret measures that could decrease the flood risk. In addition the "Oxford Area Flood partnership" was set up to facilitate coordination between the various governmental bodies on flood issues. Aside from these actions by governmental bodies, citizens of Oxford responded to the flood events by setting up a number of "community flood action groups". After the 2007 floods some of these community flood action groups joined forces in what became known as the "Oxford Flood Alliance" (OFA). The OFA focused heavily on building working relationships with civil servants of the various governmental bodies and especially the EA and on developing ideas for small, short term flood defense measures. This strategy has seen results in that some of the OFA proposals were taken up as part of the short term measures 1- program. (Interview with OFA members, 2009)

3. Connective capacity of flood management in Oxford

3.1 Issues

The above description suggests that flood management in Oxford faces a number of interrelated issues that restrict the possibilities for taking measures. First of all the flatness of the floodplain and the bottleneck downstream of Oxford slow down the speed at which the water can flow through the floodplain near Oxford. This effect was even further complicated by the presence of a railway bridge crossing the floodplain near the bottleneck and the accumulation of clutter in the streams near the bottleneck and the. Another complicating factor which is directly related to flood management is the composition of the soil. Because the soil of the floodplain consists of gravel ground water levels and river water levels are closely connected and seepage is a common phenomenon. This limits the effects of bunding techniques as the water will seep under the bund and come up through the ground instead, causing groundwater flooding.

Aside from these geographical constraints on flood management there are also some other constraints on flood management. The most important of these are preservation issues, infrastructure issues and environmental issues. As we have seen the Western flood plain functions as an important site for Oxford. Thus preservation of this site is a key consideration for the design of any flood measure in this area. In addition the potential presence of the Norman stone cause way remains pose an important risk to any scheme trying to adjust Red bridge to allow a greater flow of water. In the development of the Oxford flood risk management strategy this has even been branded a potential 'scheme stopper'.

The protected meadow on the Northern part of the Western floodplain is another complicating factor. Any flood management scheme has to show that it will not affect the groundwater levels in this meadow,. Another issue which arose during the development of the Oxford flood risk management strategy was the presence of a conservation area upstream where the OFRMS foresees a future water storage area.

A third issue is that in the Western floodplain, an important railway and by-pass road are present. The by-pass functions at full capacity and beyond. Any flood management scheme needs to take these infrastructure works into account both in the development of flood measures as well as in the need to protect them from flooding.

A last important issue for flood management is the continued pressure to build on the floodplain. Building on floodplains is officially discouraged by national spatial planning policy and the Environment Agency has to advise on any building development plans on the floodplain. Despite this, there has been recent building development on the floodplain. Although the new building development should be better protected from flooding, the new development may still increase the risks for existing buildings, by narrowing the effective floodplain.

In the development of the Oxford flood risk management strategy, the above mentioned issues (gravel, environment, view, archeology) were treated as aspects that formed the boundaries for the design of a measure. For instance since the environmental requirements for port meadow were so high it was decided to develop a flood management measure to the south (downstream) of port meadow, in order to avoid impacting port meadow negatively. In a similar manner the SEA tried to show that the view of the dreaming spires would not be negatively influenced, by giving artist impressions of the proposed measure from a main lookout point on Boars Hill.

Also the citizen group OFA implicitly took a connective strategy, for instance by lobbying for a downstream up approach: first making sure any blockages downstream are cleared before trying to take measures upstream. Another example is interviews with OFA members where they explicitly mentioned some of these issues and claimed that they wanted these to be taken into account, accepting that they functioned as constraints for the EA and went as far as saying that even though they wanted flood management, they didn't want it at any cost.

For representatives of specific interests, they expressed in their interviews an understanding that their issue was not the only area of concern and explained their strategy for making sure their particular interest was taken into account. Their strategy was to highlight their concerns and interests at an early stage in the process and to repeatedly raise them throughout the process.

3.2 Network:

In addition to the complexity of the content of Oxford flood management, the stakeholder network of the flood management policy area is also complex. First, as mentioned above, the responsibilities for flood management are divided among a number of actors in Oxford. Responsibility for taking large scale preventative measures against river floods lies with the Environment Agency, in addition they are also responsible for keeping streams clear during floods so the water flow can continue during a flood. Responsibility for sewage and the accompanying sewage floods lie with the private water company, Thames Water. Responsibility for government action during floods lies with the city council, for those areas in city boundaries and with the county or district council for those areas within their boundaries.

To deal with this complexity of divided responsibilities the initiative was taken after the 2003 floods to form the platform organization Oxford Area Flood Partnership (Oxford city council, 2010b). In this platform organization representatives of all the above mentioned responsible agencies are present. They meet regularly to discuss flood related issues and matters that require action. For instance if a flood related letter comes in to one of the agencies through this partnership the letter can be given straight to the responsible actor for follow-up. (interview with civil servant, 2009)

Apart from these many responsible and thus involved governmental stakeholders, also politicians from all layers of government are actively involved in the flood management issue in Oxford. For instance, after the flood events in 2003 and 2007 large interest arose among Members of Parliament (MPs) for flood management in Oxford. This interest can be partly explained by the historic importance of Oxford as a city and that many MPs have studied or lived in Oxford for a time. This includes the new Prime Minister, David Cameron, whose constituency is in the area where the Environment Agency is planning the upstream storage area.

OFA members dealt with this governmental complexity by having contacts at both the political level and civil servant level with as many of the above mentioned governmental bodies, but at the same time focusing on the most relevant player, in their eyes: the Environment Agency and developing a working relationship with civil servants of the Environment Agency. This informal administrative route is seen as more effective, because the political route tends to push civil servants towards a defensive stance and thus being less willing to commit themselves, whereas through this administrative route civil servants are pulled into the role of allies. A strategy from a central EA civil servant for dealing with this interest from political actors was to have early informal and confidential contact with the important political players on the plans which were being developed. In this way early acceptance could be fostered in the political arena, which was potentially useful in later stages of the process.

Secondly, the organizational structure of the EA adds to the complexity of the stakeholder network, because the EA is not hierarchically organized, but is instead divided into a number of regional and technical departments. For instance in the development of the Oxford flood risk management strategy the Thames/Oxfordshire area office was involved, next to the National Environment Assessment Service (NEAS) and the national project management service (NCPMS). In addition to these the Environment Agency hired an engineering consultancy firm to carry out the technical work. To deal with this internal complexity a close team-spirit was developed between the different departments of the EA and their consultants. This was done by having intensive consultation at various levels of decision making, but also between levels, so the consultants, who technically work for the NCPMS project manager, also had contact with the area manager of the area office and regularly helped him with the public consultation.

A third complexity is the involvement of citizen groups and interest groups in flood management issues. As mentioned above, the flood events of 2003 and 2007 induced citizens of the oxford flood plain to organize themselves in various "citizen action groups". The OFA was founded as a cooperative between various citizen action groups in order to gain more political sway. These groups had a two-fold goal; lobbying government for better flood management and the development of flood action plans, through which citizens hope to make themselves, their houses and their neighborhoods more resilient to flooding. Thus in Oxford a network of organized citizens has developed, next to the network of governmental organizations concerned with flooding. Besides these stakeholders who are primarily interested in flood management for its own sake

a number of interest groups exist who have competing demands on the flood plain, for instance environmental organizations and preservation organizations.

The division of labor within the EA gave the area manager, whose job it is to deal with the complex network of interest and citizen groups, a strong position. In the case of Oxford the area manager was remarkably accessible to anyone who took an interest in flood management. If a citizen group or an interest organization raised concerns about one of the flood management projects, he often offered a special informal meeting with specialists to answer any questions. He also participated in site visits to, for instance, another successful project (which the EA organized), but also to places where flood management issues had arisen according to the OFA. Through this strategy of openness and by having many informal meetings, the area manager gave the representatives of interest groups and citizen groups a sense of being listened to, being seen and of being important to the EA. Another method the area manager used was pointing out his limitations and constraints. Thus he explained why he did not investigate measures near Port Meadow and why a scheme was designed for Oxford but not for an upstream area. This strategy of blaming the system seemed to make the chosen plan more acceptable in the eyes of at least OFA members.

3.3 Two running flood management projects in Oxford

For the remainder of this paper our main focus will be on two specific running flood management projects: the OFRMS and the Short term measures-1 and 2 plan. The Environment Agency is responsible for these two projects and thus can be regarded as the actor most likely to influence connective capacity in these projects.

The Oxford flood risk management strategy is a long term strategy, designed to deal with flood risks on a 50 to 100 year time scale. In contrast the Short term measures 1 &2 are explicitly short term, meaning that it should be implementable within 5 years, relatively cheap, immediately effective and with a short pay-back time. Short term measures 1 implemented measures to clear blockages near Redbridge at OFA's suggestion. These measures were developed and implemented in a time span of approximately two years.

For the EA, it is particularly important that any short term measures do not impede the long term strategy and that they will be effective and useful even after the OFRMS has been implemented. Likewise the OFRMS also incorporates short term measures and since funding for the scheme appears likely to be postponed, some of the features of the OFRMS are to be brought forward. Those that can be brought forward will now be implemented as part of the short term measures phase 2. At the time of the interviews a list of possible measures for the short term measures phase 2 was being drawn-up. Input for this list could come from various sources. For instance the OFA suggested a number of measures, but also internal EA departments contributed ideas for the list. The measures on the list were to be compared and the most feasible were to be implemented in the foreseeable future.

The development of the OFRMS started after the 2003 floods with initial research commissioned by a consultancy company. The results of this research phase were presented internally in 2005. Some questions remained on especially the risks to the flood management strategy and the side effects it would have on the environment. Therefore follow up research was commissioned. The resulting SEA underwent an internal review in the spring of 2009, following a 12 week public consultation round. At the internal review a number of smaller questions were raised which had to be answered before approval. Simultaneously, tests with new available data revealed a low incremental cost benefit ratio if climate change was not taken into account. As a result of this new data it appeared that the strategy would probably be implemented at a later stage than previously aimed for.

4. Support and legitimacy for flood management in Oxford

The goal of this paper is to see how the connective capacity of the oxford flood management policy area influenced its legitimacy. To be able to answer this question a solid understanding of legitimacy is necessary.

In the introduction we said that legitimacy is a dominant supportive attitude in an impacted community towards a policy sector. Since "a dominant attitude in a community" cannot be directly observed, it is necessary to also consider the support of individuals for a policy sector. Policy sector support is the individual level counter part of legitimacy. Support was defined by Easton as: "A supports B either when A acts on behalf of B or when he orients himself favorably toward B." (Easton 1965): 159) Easton thus implies that support knows an attitudinal and a behavioral part. Because of the known questionability of the relationship between attitudes and behavior (Fishbein and Azjen, 1975), we will focus on support as an attitude. An attitude can be defined as an individual evaluation of an object which is based on affections and cognitions (emotions and knowledge) (Boedeltje, 2009:30; Boer, 2003:122; Fishbein and Azjen, 1975) Thus an attitude refers to how a person thinks and feels about an object, in this case a policy area.

Though support and legitimacy are distinctive concepts and should not be confused with each other, they are related. It is from the attitudes of individual members of the relevant community towards a policy sector that legitimacy develops. However the relationship between support and legitimacy is not one of simple aggregation. Legitimacy is reflected through a *dominant* attitude towards a policy sector in a community. Dominance of an attitude is not necessarily the attitude of a majority. The attitude of some members might have more sway than others, moreover many community members might not have a completely formed attitude or simply be neutral towards a policy sector. For this paper we have therefore used two indicators for legitimacy: 'policy sector support' *and* 'perceived legitimacy'. To measure perceived legitimacy we have asked our respondents, how *they* thought *most people in their environment* thought about (the content and process of) flood management in Oxford. To measure policy sector support we asked our respondent how they themselves thought about (these aspects of) flood management in Oxford. In our research we have conceptualized attitudes toward content and attitude towards process as the two dimensions of the concept policy area support.

In a similar fashion we have conceptualized the attitude towards legitimacy of the OFRMS project discussed above. This was done in order to be able to analyse to what extent the attitude towards the OFRMS project influenced the attitude towards the policy sector as a whole. In the next section we will discuss the attitudes towards and the legitimacy of the OFRMS project and policy sector.

4.1 Attitudes towards the project

In Figure 4, the estimated project attitudes have been plotted on a two-dimensional scheme. The overall impression that arose from the open interviews with respect to this project is mostly one of postponed judgment. The views from the stakeholders varied from particularly negative views, such as IG2, who voiced concerns about the effectiveness and appropriateness of the plan (in which view she was supported by C1), as well as dissatisfaction with the level of involvement her organization had had until now (she felt that the process had been biased by involving only proponents of the plan). In contrast there were also very positive views of especially the civil servants on both content and process. Next to these civil servants the project had two other ardent supporters of the content: the expert responsible for the design of the option and one citizen. Most stakeholders were more neutral and awaited further development before forming definite opinions. Two citizens felt the information provided to them was not enough to form a definite opinion, one

civil servant felt that since he was not a "real" stakeholder (he did not himself live in the area), it was inappropriate to form a personal opinion
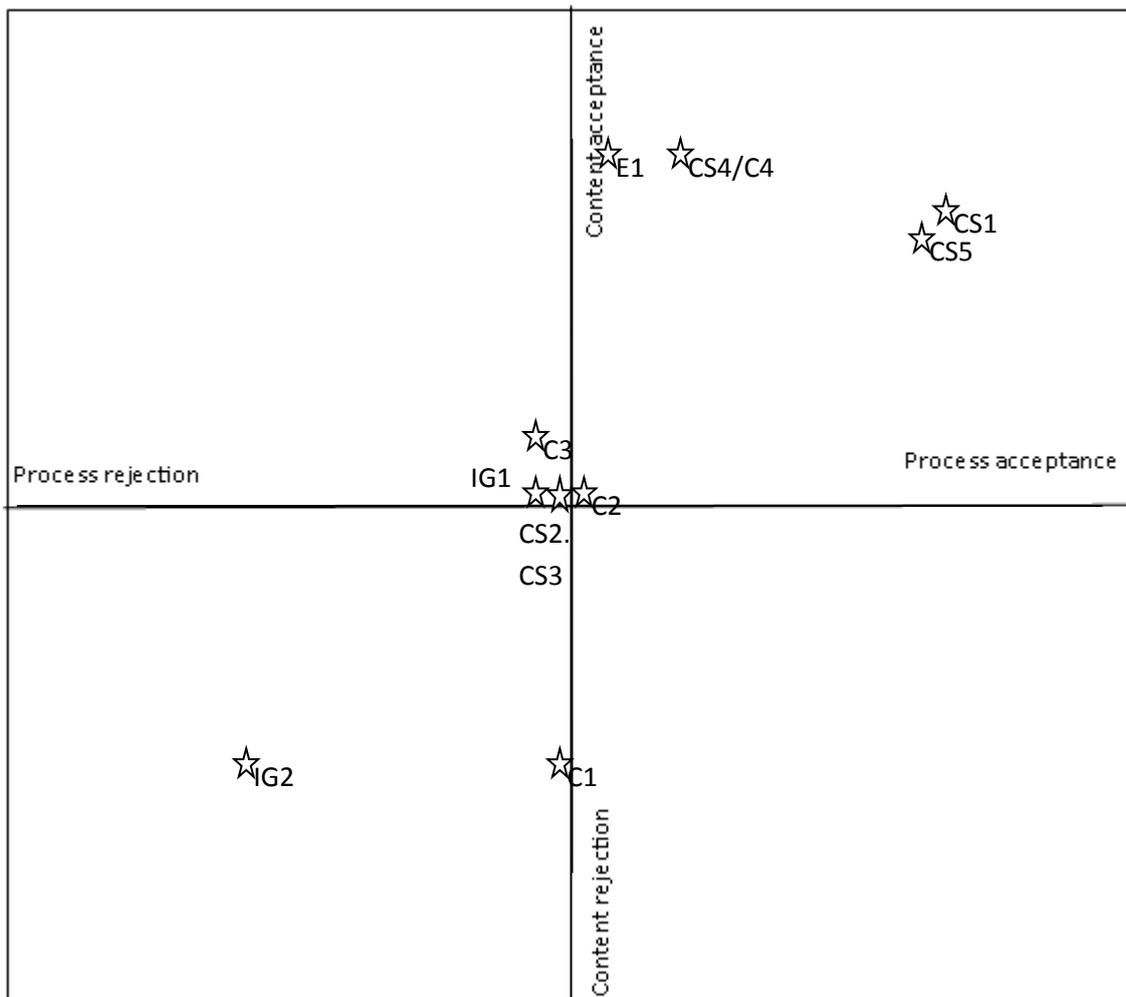

Figure 3 project attitudes

Among non-participants there was little awareness of the Oxford flood risk management strategy. Half (50%) of the respondents were unaware of the project. Of those aware, only one had been involved in the project in some way (by visiting a citizen meeting). There were three main considerations for becoming involved or not: whether the respondent felt they had a personal stake in the project, whether they felt they had enough resources (time and knowledge) to play a role and whether he felt the government would be responsive enough for his involvement to be useful. Attitudes towards content and process among those aware of the project were very mixed with a substantial group feeling unqualified to make a judgment about the content. Necessity of the project was, however, widely recognized. Also trust in experts and trust in the involved experts and the expected positive side effects were mentioned as reasons for being positive about the content. Though the process was found acceptable by those who were aware of the project, simultaneously there was little confidence among the respondents that the process would lead to good decisions.

The image arises of a project in which judgment for the time being is postponed until more becomes known. Necessity for flood management measures is widely recognized, but due to lack of detail it remains uncertain whether the proposed flood management measure is the correct thing to do. Most respondents

seem to accept the process, but wild enthusiasm is absent. Again it seems most respondents are postponing their judgment to see how the project will further develop.

4.2 Perceived legitimacy of the OFRMS project

Most respondents (of the in-depth interviews) who had participated in the projects had the perception that the OFRMS had legitimacy. Civil servants perceived a high level of social basis, since resistance has been absent until now. One person had no perception since he was not a member of the community and thus felt unable to judge. Among citizens and interest group representatives there was generally the perception that although the current state of the flood management was deplorable, most would find it a good thing that more attention was given to flood management now and something was being done. Yet one interest group representative nuanced this perception by indicating that attitudes toward the project could very well vary in society from sceptical to something needing to be done.

4.3 Attitude towards Short term measures 1

To understand the postponement of judgment on the Oxford flood risk management strategy by OFA members, it is important to take into account the attitudes toward the project Short term measures 1, in which these people were very active.

Being active in this project gave these citizens a feeling of empowerment, both among the citizens on the board of OFA and those supporting OFA. One supporting citizen said:

> "And I think that [letter writing campaign] was actually very empowering for people, because we felt that it actually made a difference for us to write so many letters, because if they don't want us to do it, then if they're sensible they will do something about our problems. So I think that was a really good experience." (Interview C1)

As stated above, the OFA has successfully suggested a set of measures near Redbridge. These measures were implemented as a part of the STM1-project. From this experience grew the perception that it was possible for OFA to activate governmental bodies, even though governmental bodies were not very active if left to themselves. This perception increased the support for OFA among OFA supporters, but did not have a positive effect on the image these OFA supporters had of the governmental bodies themselves.

OFA members also expressed an understanding of the limitations of the system which civil servants face. This understanding led to a willingness among OFA members to accept that not all possibly beneficial measures could be taken and to a willingness to accept that the plan development and implementation takes time.

> "Well they reacted by doing them in the end, after a year. But you know I think they agreed early on that there were problems. And obviously it takes time to go through the various stages of actually achieving it." (interview C2)
>
> "There is no point in trying to propose a scheme that is potentially going to endanger those[protected plants], because there is so much regulation, it would just never happen. And he is not going to, he has got a limited number of people, he has got a lot of work to get on with, he can't afford to have people spending lots and lots time dealing with trying to push through proposals that are meeting lots and lots of opposition from other bits of government and so on. And I can understand that, because that's what my own working environment is like. I can completely relate to what he is trying to do." (interview C3)

Throughout the STM1-project a positive working relationship developed between the OFA and the EA which was confirmed in the interviews by both sides. OFA nurtures this working relationship by refraining from public critique in the media. EA nurtures this working relationship by having regular informal meetings in which more information is shared then which is normally available to the public.

Finally as a result of STM1 OFA board members gained the perception that flood management in Oxford showed progress. In their opinion still many more measures, especially those relating to maintenance, were needed, yet the perceived progress was a powerful incentive to give the EA the benefit of the doubt when new measures were proposed.

4.4 Attitudes towards the policy sector

In figure 5 the attitudes toward the policy sector "Oxford urban flood management system" are approximated. Of a number of respondents no approximate score could be determined (E1, CS2, C1). The attitudes toward the governing system among the interviewed respondents are more explicit than those concerning the process. The interviewed interest group representatives questioned the approach taken to urban flood management in Oxford, which they felt was not integrated enough as yet. Only IG2 was negative about the process elements of the policy sector, she was especially critical of the (negative) influence of the financing structure on projects, claiming only large projects were funded and too little money was available for maintenance etc.

Citizens were positive about the policy sector: they felt empowered and listened to by seeing their input taken up in the design of flood management plans and accepted the constraints of the flood managers with regard to procedures etc. Though the citizens felt much was still wrong with how the flood management (mal)functioned in the Oxford area, they were pleased with the progress that had been made in the last years.

Cs1 and Cs5 were positive about the process and the content: Cs5 was pleased with the progress made in this area, that the issue of flood management seemed widely recognized in the area, but felt concern for the lack of funds and the need to stay on the agenda as a topic at the national level. Cs1 was pleased with the transparency of the funding decision making at the national level, but critical of the availability of money and the easiness with which cut backs could be made on flood management.
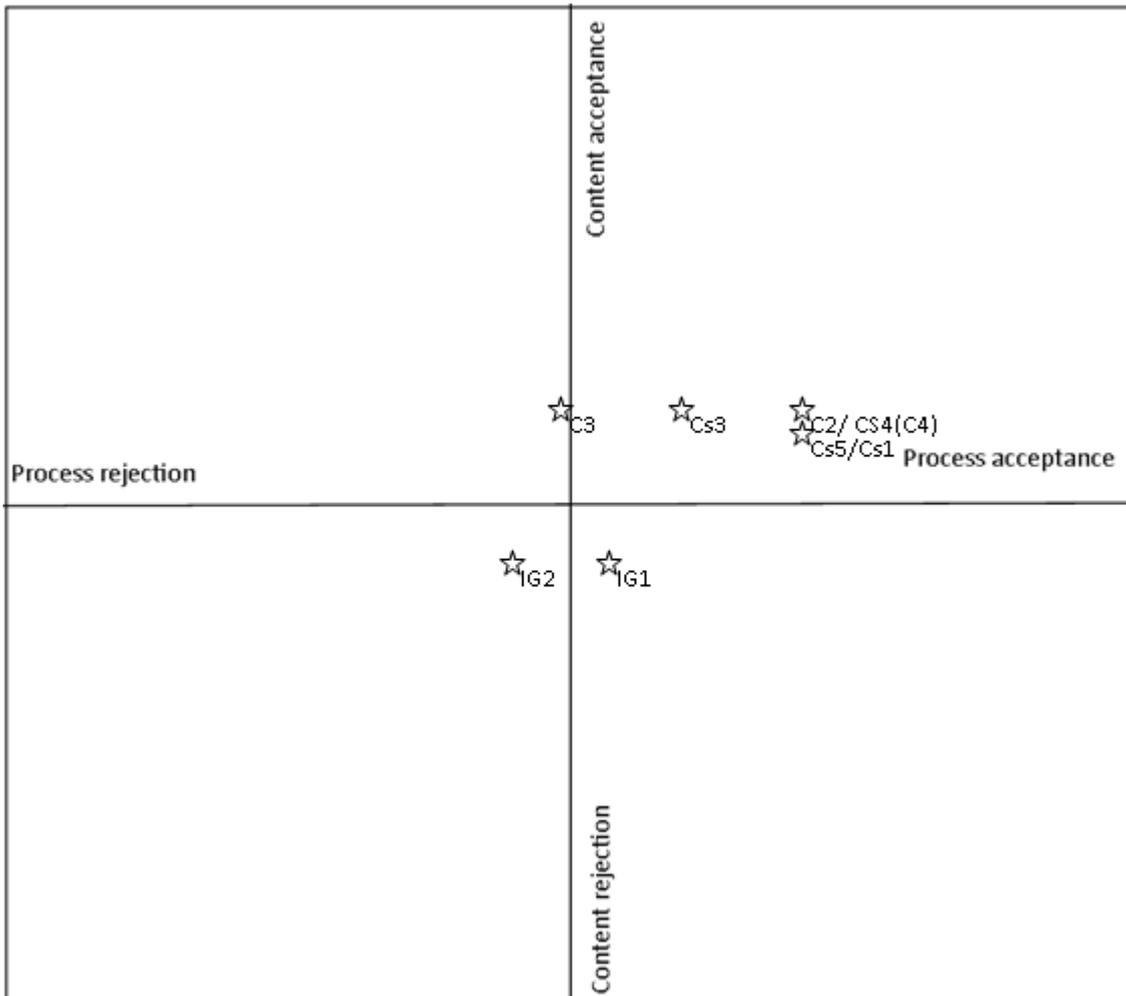
Figure4 attitudes towards policy sector

Attitudes toward the policy sector varied among the respondents to the questionnaire. In answer to the question: do you find the flood management measures taken in oxford acceptable only 2 responded that they supported the measures and 1 responded that he strongly opposed the measures, 6 found the measures acceptable and 7 found the measures unacceptable. With regard to the process, only one person trusted flood management projects to take a proper course. 1 person had little trust, 6 had very little trust and 7 had no trust in this respect (on a Likert scale running from deeply trust to no trust) There was especially low trust in the behavior of governmental actors and in a correct weighing of interests in such projects. Also it was felt by 13 respondents that too few flood management measures were taken, while 17 respondents thought it was important or very important that flood management measures were taken in the area. After plotting the attitudes towards the process and attitudes towards the content against each other the resulting attitudes of these respondents were: 5 had an attitude of support, 1 had a neutral attitude, 2 had an ambivalent attitude towards the sector and 8 had an attitude of rejection towards this flood management sector.

With regard to the perceived legitimacy, the survey unfortunately only measured the perceived public support for the content and it lacked a good measure for perceived public support for the process side of the flood management system. 4 indicated perceived a dominant positive attitude towards the content (either support or acceptance) 5 indicated that opinions were varied among the public and 6 indicated a perceived

dominant negative attitude towards the content. These results from the survey do not bode well for the legitimacy of the flood management system in Oxford. Both support for the policy sector and perceived legitimacy score alarmingly low. With regard to these results it must be noted at this point that the survey was held shortly after the MP's expenses scandal became public in the UK. The alarming negative attitudes which speak from these results are likely to have been influenced by this scandal.

5.   How connective capacity influenced legitimacy

So how has connective capacity of the policy area "Flood management in oxford" influenced the above discussed attitudes towards the OFRMS, the short term measures 1 and 2 and ultimately the policy area in general?

The efforts of the area manager towards enlarging the connective capacity of the FM in Oxford seems to have had a very positive influence on promoting connectedness, such as members of OFA and also other active members of community groups. As the area manager was highly accessible he fostered the feeling among stakeholders that they were regarded as important by the EA, that they had power to influence the flood management in Oxford and that flood management in Oxford was making progress. Moreover a growing understanding of the limitations of the civil servants working in flood management was visible among the actively involved stakeholders. Also where experts have been able to demonstrate their knowledge in general the stakeholders responded with a more positive attitude towards the policy area.

It can be questioned whether the area manager's strategy of "blaming the system" will in the long run be beneficial. Although honestly and bluntly pointing to the limitations of the system for the civil servants seems to foster support for the projects at hand. It makes one wonder if in the long run this strategy could backfire when it could also foster negative attitudes towards the Flood management system as a whole. The first signs of this development can be observed in the reactions of the less enthusiastic respondents. Critique focused on the questioning of the appropriateness of the size of the measure for the size of the problem and on how *the system* seems to promote large scale projects, regardless of the appropriateness.

Though the connective capacity thus seems to have positively influenced the attitudes of those connected, unfortunately the results do not show a positive influence (yet) on the legitimacy of the policy area. Non-mobilized citizens show little interest at the moment and little awareness. Those who are aware feel that the lack of efforts to activate them actually leads to de-activation and some wonder if this is a conscious strategy on the part of the EA. Moreover in contrast to the OFA members, these non-mobilized stakeholders are not aware of any progress and thus are rather negative about the current state of flood management of Oxford. Some currently unmobilized stakeholders have indicated a willingness to resist in later phases of the projects if this became necessary.

These results seem to indicate that the attitudes of mobilized stakeholders have not yet diffused through the community. Moreover it seems that opponents of the flood management system, to date, have not been mobilized in the OFRMS-project. Though until now the fact that only proponents were mobilized has been positive for the project's continuance, however, this development poses a high risk for the later stages of the project. In later stages opponents may suddenly become mobilized and it might be more difficult to appease them at that stage. This potential danger is ever more threatening because there seems to be little awareness among the active stakeholders and especially the civil servants of this discrepancy between the

attitudes of the mobilized and the attitudes of the non-mobilized. The lack of active resistance seems to have quieted any concerns for support or legitimacy of the policy area.

6. Conclusion

In this paper the question was asked how connective capacity influences the legitimacy of the policy area 'flood management'. To answer this question the case of flood management in Oxford was studied. In this case, various flood management projects were developed simultaneously. The two most important projects being the long term project "Oxford flood risk management strategy" and the short term project "Short term measures 1 (and 2)". In these projects a variety of issues were important next to typical flood management issues, such as environmental issues, the city view and archeology. These issues were integrated in the projects by using them as constraints on the possible design. Also in the design of the two projects the possible effects of one project to the other were taken into account in the design. Also with regard to the stakeholder network efforts were made to increase the connective capacity. This took the form of establishing a formal platform organisation consisting of all responsible agencies, and also establishing working relationships with interest organizations and citizen action groups through, mostly informal, contacts, meetings and site visits.

The legitimacy of flood management in Oxford meanwhile is not in an impressive state. Findings from our case study show great dissatisfaction among the public with the current state of flood management. Causes of this negative state are perceived to be building development on the flood plain, climate change and very importantly, lack of maintenance. For non-participating citizens it is very difficult to see any kind of improvement. Some skepticism with regard to the plans of the Environment Agency is prevalent. The view among participating citizens seems to be decisively better. Although they likewise are dissatisfied with the current state of flood management, they acknowledge that improvements have been made recently.

The efforts toward increasing connective capacity seem to have mainly influenced the attitudes of those participating. Through improved connections stakeholders gained the perception of being perceived as important by the EA and of having genuine influence. Also an increased awareness and understanding of the constraints of the Environment Agency were visible among these participants.

However the area manager's success in making connections with a variety of stakeholders contains the threat of losing sight of who is NOT connected. In this case study there was very little awareness among civil servants of the negative image of flood management that is prevalent among non-participants. As long as the plans for flood management in Oxford remain relatively non-contentious this bad image does not pose a significant threat. And with regard to the causes of this negative image any visible improvements may positively influence this image. However if more invasive measures are designed these civil servants might be surprised by sudden unexpected resistance in future.

This case study in our view gives support to the hypothesis that increasing connective capacity can have a positive influence on legitimacy. However this positive influence is limited to those stakeholders who are being connected. When increasing connective capacity in a policy area in the hope of increasing legitimacy, the non-connected stakeholders should not be lost out of sight. In other words when designing a policy making process it is vital to take notice of who is not being connected next to who is and what their attitudes towards the project and towards the policy area are. In this way one can prevent being surprised by unexpected resistance and lack of legitimacy in the future.

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