Semarang’s Sunken Neighborhood East Kemijen

Sense of Place Dynamics in a Flood Prone Neighborhood

Thijs van der Caaij

Bachelorthesis Geografie, planologie en milieu (GPM)

Faculteit der Managementwetenschappen

Radboud Universiteit Nijmegen

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Thijs van der Caaij, s4377222

Begeleider: Martin van der Velde

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Summary

In developing countries flooding is one of the most frequent natural hazards. After China and India, Indonesia is the third most vulnerable country due to flood hazard in Asia. Semarang, the third city of Indonesia, is a high flood risk area and has experienced a severe rise in annual floods. Factors causing this flooding are heavy rainfall, land subsidence and sea level rise. Large parts of northern Semarang are already below sea-level and it is likely that this will only increase in the future. This makes flooding a big problem for these parts. Also because inhabitants threatened by the floods are often very poor and have little to adapt with. Tidal floods and those due to heavy rainfall are closely related to land subsidence, which is mainly caused by groundwater extraction and in some extent by natural consolidation and the load of buildings and constructions. Even if people have the ability to migrate, the emotional bounds to the lands and community where people live are very strong and thus not making this self-evident.

Loss of land by flooding means loss of identity. Through extensive interaction with a place, people may begin to define themselves in terms of that place, to the extent that they cannot really express who they are without inevitably taking into account the setting that surrounds them as well. The concept sense of place reveals this part of one’s identity. This concept is helpful to learn more about what flooding does to one’s identity.

The term place, in sense of place, in its most succinct definition, is defined as space that has been imbued with meaning through personal, group, and cultural processes. Generally, sense of place is the meaning attached to a spatial setting by a person or group. There is a lack of a common definition on sense of place but that of Tuan (1979) is most cited, declaring that a place is a center of meaning or field of care that emphasizes human emotions and relationships. Sense of place is often seen as a generic concept which encompasses a wide range of place-feeling related concepts. This thesis uses a broad sense of place theory which encompasses all such concepts as components of sense of place.

What follows is a debate on whether sense of place is a social construct, physically determined or something of both. Scholars in favor of social construct say that only when imbued with meaning through lived experience, spaces become ‘places’. They also state that too much emphasis has been put on the deterministic aspects of the environment in contributing to human behavior. Others suggests that amenities present in setting provide a source of sense of place and have slight
evidence for this in their own research. Of course the culture of a local community influences place meanings, but so might the physical environment of a setting influence community culture. Although social constructions are important, they hardly arise out of thin air: The local environment sets bounds and gives form to these constructions. Flooding in Semarang offers a useful case to study the effect of environmental change on sense of place. Sense of place is at least partially based on some material reality. An environmental determinism is not argued, but rather an investigation into the effects of a change in the physical environment on sense of place.

The floods in the northern part of Semarang have had major impacts on the lives of the inhabitants of this area. It is important to understand how this has shifted their sense of place. So the aim of this research is to acquire a better understanding of how floods affect the sense of place of people having to deal with them often. Its research questions are as follow:

**Main question:**
How has flooding affected East Kemijen inhabitants’ sense of place?

**Sub question 1:**
What are East Kemijen inhabitants’ relations to their area of residence?

**Sub question 2:**
What type of attachment do East Kemijen inhabitants have to their area of residence?

**Sub question 3:**
What perceptions do East Kemijen inhabitants have of flooding?

**Sub question 4:**
Have parts of East Kemijen inhabitants’ sense of place been altered by flooding and if so, how?

In order to develop further understanding about the influence of flooding on inhabitants their sense of place, it is necessary to capture their kind of sense to place and the strength of it as accurate as possible. Therefore, there is made use of two different aspects that together compose sense of place, namely the concepts relation to place and type of attachment. The first sub question is about the first concept describing sense of place; relation to place. The second sub question is about the second concept describing sense of place; community attachment. These concepts have to be captured accurately in order to be able to identify where the possible influence of flooding becomes
manifest. The third sub question examines what perception East Kemijen inhabitants have of flooding as this affects the influence of flooding on inhabitants’ sense of place. In conclusion, this influence is addressed in the fourth sub question.

The comprehensive theory of Cross was used to examine and analyze changes within sense of place due to flooding. In this theory sense of place consists of the two concepts relation to place and type of place attachment. Relation to place is about the kind of sense of place and type of place attachment are typologies on the strength of the place attachment. The theory includes an analytical part for the analyses on sense of place.

Data for answering the research questions was obtained by conducting in-depth interviews. These were done in East Kemijen. A neighborhood suffering from floods and ground subsidence with a young, relatively poor community. Important for assessing whether flooding changes parts of sense of place, is talking with respondents who know what it is like to live in a place that floods as well as in one that does not flood. Interviews were conducted with the help of translators and the interview guide consisted of general flooding related questions, background questions on East Kemijen, questions on the perception of flooding and questions on the two sense of place concepts.

Results were some general info about the neighborhood like it’s close community and strategic value. Wealth seemed to be an additional important factor as it probably is the main factor determining inhabitants their perception of flooding. This perception of flooding in turn influences the effect flooding has on these inhabitants their sense of East Kemijen. In general wealthy people are bothered much less by the flooding than poor people and poor people are appointed to each other or the ‘helpful’ community East Kemijen has. Wealthy people cope with the flooding financially and show a more physical nature of relations to East Kemijen. Flooding has somewhat enabled and disabled certain relations to East Kemijen for certain inhabitants. Flooding may have also made certain inhabitants shift from one to another typology on the strength of place attachment.

Flooding has both negatively and positively affected East Kemijen inhabitants’ sense of their area of residence. Negatively in the shape of interrupting daily life, making people worry, damaging both property and health, temporarily turning the normally loved environment into a troublesome watery world which makes inhabitants feel less attached to East Kemijen. Positively in the sense that it
might have enabled the East Kemijen community to become more connected as the financially less capable are appointed to each other in the absence of financial coping capabilities.
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1. Introduction

It is fascinating that people who have been or are struck by flooding on a weekly or even daily basis somehow manage to adapt their lives to this new setting and manage to survive. There are people who started experiencing this in Northern Semarang, Indonesia in the late 90’s. It is not only fascinating how they manage to do this, but also what this shift in environment does to them. Do they value the lands they live on more or less? Do they feel more connected to these lands because they have to fight for it? Or do these people perhaps abandominate their area of residence more, since it is not what it used to be. For starters we shall explore this flooding a bit further.

1.1 Project framework

In developing countries flooding is one of the most frequent natural hazards. After China and India, Indonesia is the third most vulnerable country due to flood hazard in Asia (Dewi, 2007). Semarang, the third city of Indonesia, is a high flood risk area and has experienced a severe rise in annual floods (Harwatisari & Van Ast, 2011). Factors causing this flooding are heavy rainfall, land subsidence and sea level rise (Marfai, King, Sartohadi, et al., 2008; Hadipuro, 2012). Large parts of northern Semarang are already below sea-level and it is likely that this will only increase in the future (Hadipuro, 2012). This makes tidal flooding a big problem for these parts. Also because inhabitants threatened by the floods are often very poor and have little to adapt with. Tidal floods and those due to heavy rainfall are closely related to land subsidence, which is mainly caused by groundwater extraction and in some extent by natural consolidation and the load of buildings and constructions (Harwatisari & Van Ast, 2011). Besides an increase in floods, the sea level rise will lead to environmental changes like coastal erosion, inundation and increased salinity as well (Marfai & King, 2008). Nevertheless, for now “The flooding here is usually not high enough to endanger human lives” (Harwitasari & Van Ast, 2011: 1). Therefore “In both the existing and the predicted flood prone areas, most people appear not to intend to leave the area, even when the floods become everyday routine” (ibid.: 1). Even if people have the ability to migrate, the emotional bounds to the lands and community where people live are very strong (Hugo, 2011). The environmental changes threaten the already poor livelihoods of the inhabitants in the coastal area of Semarang even more (Marfai, et al., 2008).

But the land on which people live is not only of great importance for making their living. Together with the natural resources on which people depend, these lands are inextricably linked to their
identity and culture. Dispossession from such land or restricted access to natural resources therefore not only leads to economic impoverishment but also to loss of identity and culture as these came forth from the physical setting the land has offered (Lund, 2013). The everyday life and territories of people can help us to better understand how cultures change, adapt to, or resist change (Scott, 2009). So in the case of inhabitants losing their lands, it is highly informative how their culture and identity adapts. Reflections on such processes show that territoriality is an essential dimension of society and that it creates people’s identity (Attanapola & Lund, 2013). Companion (2015) says that while many aspects of disasters and their environmental change have generated interest among scholars and practitioners, a vital area of research is consistently underemphasized, as little is written about the long-term impacts on a community’s culture. Ryden (1993, p.76) asserts that “Through extensive interaction with a place, people may begin to define themselves in terms of . . . that place, to the extent that they cannot really express who they are without inevitably taking into account the setting that surrounds them as well.” The concept sense of place reveals this part of one’s identity. This concept is helpful to learn more about what flooding does to one’s identity.

Let’s start with defining the ‘place’ in sense of place. In its most succinct definition, it is defined as space that has been imbued with meaning through personal, group, and cultural processes (Low and Altman 1992). Sense of Place often has been referred to as an overarching concept subsuming other concepts describing relationships between human beings and spatial settings (Shamai, 1991). Generally, sense of place is the meaning attached to a spatial setting by a person or group. There is a lack of a common definition on sense of place but that of Tuan (1979) is most cited, declaring that a place is a center of meaning or field of care that emphasizes human emotions and relationships. Some places have been given stronger meanings, names or definitions by society than others. These are the places that are said to have a strong “sense of place”. Cross (2001, p. 1) mentions that “the lack of a common definition or understanding of sense of place, results both from the fact that it has become a buzzword used to suit various purposes, and from the interdisciplinary nature of the concept.” There are many terms similar to sense of place such as community attachment, sense of community, place attachment, place identity, place dependence, place meaning and place satisfaction (Hidalgo & Hernandez, 2001). It is often difficult to tell whether we are talking about the same concept with a different name or different concepts. If it is a different concept, then it probably is also a component of sense of place. Sense of place is often seen as a generic concept which encompasses a wide range of place-feeling related concepts (Jorgensen & Stedman, 2001). Because this thesis uses a broad sense of place theory which encompasses all such concepts as
components of sense of place (on which more in the theoretical background), sense of place and related concepts are regarded as the same in this project framework.

According to Stedman (2003), a three-component view that weaves together the physical environment, human behaviors, and social and/or psychological processes is common to sense of place studies. Research has especially been focusing on place meanings and attachment as products of shared behaviors and cultural processes, less of it as a product of the physical setting. A setting is a person’s immediate surroundings, which include both physical and social elements (Steele, 1981). In turn, symbolic meanings attributed to the setting are the base for sense of place formation (Hummon, 1992; Greider and Garkovich, 1994). Ryden (1993, p. 37–38) says that “a place ...takes in the meanings which people assign to that landscape through the process of living in it.” With this it is suggested that experience with a certain place is what gives sense to it. Also that spaces themselves have no effect on sense of place and that sense of place rather resides in the interpretations of the setting. Only when imbued with meaning through lived experience, spaces become "places" (Tuan, 1977). Tuan suggests that a space does not have important characteristics of its own: “What begins as undifferentiated space becomes place when we endow it with value” (Tuan, 1977, p. 6). Thus for Tuan, meaning is primarily socially constructed: Humans ascribe meanings to space on the basis of their experiences. Greider and Garkovich (1994, p. 2) assert that “landscapes are the reflections of these cultural identities, which are about us, rather than the natural environment.” They continue (p. 2): "Any physical place has the potential to embody multiple landscapes, each of which is grounded in the cultural definitions of those who encounter that place. Every river is more than one river. Every rock is more than just one rock. ... Of course, humans reside in a natural ... world that is there ... but this world is meaningless. Meanings are not inherent in the nature of things." These authors also assert that meanings of the environment are socially constructed. But they also state that too much emphasis has been put on the deterministic aspects of the environment in contributing to human behavior. Eisenhauer et al. (2000, p. 422) follow: “In essence, people confer meaning on the environment in ways that reflect their social and cultural experiences.” In this way, it is possible for a single space to encompass multiple “places,” reflecting the uniqueness of human culture and variations in experiences people have had with the landscape. It therefore can be said that the “social construction” view quite predominates place writings (Hufford, 1992).

But then there are those scholars who do credit physical settings in the formation of sense for a place. Shumaker and Taylor (1983) suggest that it are the physical amenities of the setting, such as
landscape attributes, that satisfy certain needs. Sack (1997) has found attributes in setting that are foundations of attachment and satisfaction. Kemmis (1990) suggests that amenities present in setting provide a source of community attachment (part of sense of place). A reciprocal relationship between places in nature and social interactions is asserted by Eisenhauer et al. (2000). They asked respondents why places held special meanings to them, and responses were evenly divided between social and physical characteristics of the setting. They attribute variation in answers to differences between communities, but could it not be that this variation is attributable to physical differences between settings?

Of course the culture of a local community influences place meanings, but so might the physical environment of a setting influence community culture. Stedman (2003) proved that aspects of the physical environment do matter in the construction of place meaning. Although social constructions are important, they hardly arise out of thin air: The local environment sets bounds and gives form to these constructions. It is argued that place meaning is vulnerable to loss of place, which suggests that sense of place can be affected through environmental change (Eisenhauer et al., 2000). It is important to understand how place meanings may change in response to physical change. Place myths are one of the ways how sense of place gains body and Urry (1995) notes that these are not eternal: If the physical setting changes it might no longer support the myths. A place identity is only maintained among people as long as it is plausible (Relph, 1976). A changing physical setting may make such myths implausible, because holding on to a place its meanings may become increasingly challenging as the gap widens between the meaning and the actual physical setting (Fitchen, 1991).

Flooding in Semarang offers a useful case to study the effect of environmental change on sense of place. Sense of place is at least partially based on some material reality. An environmental determinism is not argued, but rather an investigation into the effects of a change in the physical environment on sense of place.

1.1 Research objective
The floods in the northern part of Semarang have had major impacts on the lives of the inhabitants of this area. It is important to understand how this has shifted their sense of place. So in this thesis it is tried to acquire a better understanding of the effects of the floods and the link between environmental change and sense of place, which requires theoretical research (Verschuren & Doorewaard, 2007). This research contributes to the theoretical background of a shift in sense of place due to flooding and does not necessarily seek to solve a practical issue. The outcomes
however, could have value for policy as well because ideally policy is shaped by research (Gemenne, 2011). Also among others, Speldewinde et al. (2009) argues that sense of place is one of the things affected by environmental change that should be better understood. Sense of place is a very subjective concept. Every person has a different sense of place as everyone imbues a place with meaning differently because no one has experienced the same past and thus everyone has a different perspective to assess a place with. This makes making general statements about a group’s sense of place a hard and complex task. The effect of flooding on a group of people’s sense of place is affected by all the different perceptions people in a group have. Thus it is decided to acquire a better understanding of people’s perception on flooding as well. Tuan (1977) was one of the earlier scholars to state the importance of perceptions on the environment. “Perception is both the response of the senses to external stimuli and purposeful activity in which certain phenomena are clearly registered while others recede in the shade or are blocked out. Much of what we perceive has value for us, for biological survival, and for providing certain satisfactions that are rooted in culture.” (ibid., p.4) For this research it is of importance to look how the phenomenon of flooding is perceived. The aim of this research can be formulated: The aim of this research is to acquire a better understanding of how floods affect the sense of place of people having to deal with them often.

1.2 Research questions

In order to develop further understanding about the influence of flooding on inhabitants their sense of place, it is necessary to capture their kind of sense to place and the strength of it as accurate as possible. Therefore, there is made use of two different aspects that together compose sense of place, namely the concepts relation to place and type of attachment, which we will come back to in the theoretical framework.

This way of researching will produce descriptive knowledge (Verschuren & Doorewaard, 2007). In addition, insight into how environmental change such as flooding affects these two phenomena produce explanatory knowledge. So in the end the research has a strong explanatory approach. Therefore, the central research question is explanatory:

**Main question:**
How has flooding affected East Kemijen inhabitants’ sense of place?

**Sub question 1:**
What are East Kemijen inhabitants’ relations to their area of residence?
**Sub question 2:**
What type of attachment do East Kemijen inhabitants have to their area of residence?

**Sub question 3:**
What perceptions do East Kemijen inhabitants have of flooding?

**Sub question 4:**
Have parts of East Kemijen inhabitants’ sense of place been altered by flooding and if so, how?

In the research objective there is spoken of sense of place which consists of two concepts: relation to place (area of residence) and type of attachment. It is expected that flooding impacts these two concepts. Flooding is regarded as an independent factor which represents a part of the setting of the research case. Of course the two concepts describing sense of place could influence the flooding as well. A strong sense of place could for example enable otherwise not able co-operation in flood mitigation. But this is not examined in this research. This means that we are only looking at one direction of the feedback loop between flooding and the two concepts describing sense of place, namely the influence of flooding on these two concepts. We are not looking at influence vice versa because it is irrelevant to the research goal and the given time period would not be enough to examine another such complex process.

Therefore, the first sub question is about the first concept describing sense of place; relation to place. The second sub question is about the second concept describing sense of place; community attachment. These concepts have to be captured accurately in order to be able to identify where the possible influence of flooding becomes manifest. The third sub question examines what perception East Kemijen inhabitants have of flooding as this affects the influence of flooding on inhabitants’ sense of place. In conclusion, this influence is addressed in the fourth sub question. All four sub questions are descriptive in order to gain a best understanding. Besides descriptive, the fourth sub question is explanatory as well in order to find out how parts of sense of place have been altered by flooding.

1.3 Research Framework
The research objective and research questions have led to the development of the following research model (see figure 1). The different steps that were needed to perform this research are schematically visualized in this model. Going back and forth between the different steps happened a
lot, as research is an iterative process (Verschuren & Doorewaard, 2007). Therefore, the model is only guiding for the research process.

Figure 1. Research Model.

(a) Study of literature on flooding and sense of place, leads to a conceptual model (b) with which inhabitants their relation to their area of residence and their community attachment and the influence of flooding on this, can be examined. (c) Analysis of the results leads to (d) a better understanding of how floods affect the sense of place of people struck by them.
2. Theoretical framework

To achieve the aim of this thesis, sense of place theories will be combined to acquire a better understanding of how floods affect the sense of place of people struck by them.

2.1 Sense of place

Davenport & Anderson (2005) say that focusing on the strength of place attachments has its limitations. Stedman (2002) noted, “Research must deal not only with the strength of attachment but also with the meanings that one attributes to places or the beliefs one has about a spatial setting. Knowing that someone is strongly attached to place does not by itself suggest much about the nature of this attachment or what behaviors might ensue” (p. 566). So measuring the strength of attachment based on identity or dependence alone does not tell us why identity is important or what it means to depend on a place. A more holistic and integrated understanding is needed, one of place meanings and the setting to which these meanings are ascribed. What happens to sense of place when places change? What happens when landscape change threatens place meanings and emotions?

The sense of place framework by Cross (2001) provides most of the needed concepts to answer such questions. She argues that two concepts together are fit to describe sense of place. She says (2001, p. 1): “It seemed to me that sense of place was actually composed of two quite different aspects. The first aspect, relationship to place, consists of the ways that people relate to places, or the types of bonds we have with places. The second aspect, community attachment, consists of the depth and types of attachments to one particular place.” For the concept relationship to place she recognizes six types of relationships: biographical, spiritual, ideological, narrative, commodified, and dependent.

She (ibid.) explains: “This typology should be seen as ideal types, or analytic categories developed to facilitate understanding. The six types characterize what the people I interviewed describe as fundamental ways they relate to places. They should not be seen as descriptions of individual people. Many people are likely to have more than one relationship with a single place, and those relationships are likely to change over time. Regarding the level of analysis, people have relationships to places as small as a favorite rock next to the river, or as large as a geographical region.” Figure 2 shows a table with the different relationships to place, their corresponding types of bonds and the process which leads to the formation of such a relationships. ‘Processes of Place Attachment: An Interactional Framework’ (Cross, 2015), which elaborates further on the processes
behind sense of place formation, proved to be very helpful and will be discussed later in paragraph 2.3 on the theory for analysis.

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Relationships to Place</th>
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<tbody>
<tr>
<td></td>
<td>Relationship</td>
</tr>
<tr>
<td>Biographical (9)</td>
<td>historical and familial</td>
</tr>
<tr>
<td>Spiritual</td>
<td>emotional, intangible</td>
</tr>
<tr>
<td>Ideological</td>
<td>moral and ethical</td>
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<tr>
<td>Narrative (9)</td>
<td>mythical</td>
</tr>
<tr>
<td>Commodified</td>
<td>cognitive (based on choice and desirability)</td>
</tr>
<tr>
<td>Dependent (9)</td>
<td>material</td>
</tr>
</tbody>
</table>

Figure 2. Relationships to Place (Cross, 2001).

Cross speaks of community attachment which she has typologies for which mainly differ in strength of attachment. Community attachment could be a confusing term because community is a returning subject in this research which community attachment is not meant with. Therefore, Cross’ community attachment is referred to as type of attachment in this research. When talking of attachment to the community in this research, it is rather meant in the respect of the social nature of someone’s relation to place. As mentioned in the first chapter, place consists of both its physical aspect; the space, and its social aspects; the people living in the space or the community. A person’s type of attachment consists of their experience in a particular setting as well as their feelings about that place (Steele, 1981). David Hummon (1992) describes five types of attachment to place: ideological rootedness, taken for granted rootedness, place relativity, place alienation, and placelessness. Cross has revised his typology to include: cohesive rootedness, divided rootedness, place alienation, relativity, and placelessness. Each type can be described by a person’s level of
attachment, identification and involvement with the community, past experiences and future expectations, and their assessment of the place.

2.2 Conceptual Model
The theoretical background of the former paragraph is shown in the conceptual model in figure 3. The two most important concepts as identified in chapter 1 are the relations to the home area of the inhabitants of East Kemijen and their type of attachment to East Kemijen. The research question asks about a shift in sense of place, which is made up by these two concepts. Thus there are one headed arrows from these two concepts towards sense of place representing their influence on sense of place. It was also made clear that the flooding forms an independent factor, influencing the two concepts of relations to place and type of attachment. The effect of flooding on the two sense of place concepts however, is affected by inhabitants’ perception of the flooding.

![Figure 3. Conceptual Model](image)

The concepts of the theoretical background have to be operationalized for the purpose of the empirical research. The two main concepts contain different dimensions. Earlier a person’s level of attachment, identification and involvement with the community, past experiences and future expectations, and their assessment of the place were identified as factors which contribute to type of attachment. These form the dimensions for the concept type of attachment (see figure 4).
The earlier described typologies of type of attachment can be described by a person’s level of attachment, identification and involvement with the community, past experiences and future expectations, and their assessment of the place (Cross, 2001). The indicators (see figure 5 and 6) of these dimensions are inspired by the descriptions of Cross (ibid.) on the dimensions and based on research of other scholars.

Stedman (2003) asserts that a feeling of attachment to a place gives the urge to be there for all sorts of activities. The time spend in a place (perhaps even born there) and social networks are indicators for place attachment as Relph (1976) asserts that attachment to place grows through time and is based strongly on relationships with people in the setting. For indicating the level of identification there is made use of the assertion of Ryden (1993, p.76): “Through extensive interaction with a place, people may begin to define themselves in terms of . . . that place, to the extent that they cannot really express who they are without inevitably taking into account the setting that surrounds them as well.” Therefore ‘place part of identity’ is chosen as an indicator for the dimension ‘level of identification’. Hashemnezhad et al. (2013) mention that attachment to or a strong emotional relationship with a place is characterized by people identifying themselves with the goals of a place. A place can be meaningful and significant up to such a degree that people become satisfied by being active in and for the place. “They would like to invest their own resources such as money, time or talent in the activities of the place.” (ibid., p.8)

Past experiences play a role in the development of current attachment to a place. People tend to associate current place settings and corresponding conditions with those experienced in other
places to make meaning about their experience (Cross, 2015) and invest these in spaces (Bowers, 2012). Hummon (1992) among others concludes that although place assessment is done by individuals, past experiences have shaped people’s individual cognition and cultural narratives that affect this assessment. These aesthetic value judgements of course are a good way of measuring people’s community attachment as they inform if someone is satisfied with a place or not (Cross, 2015). As assessment gives insight into someone’s community attachment, people’s future expectations do so even more (ibid.). Whether a person sees him or herself living in their area of residence in the future, together with past experiences and current assessment, tells a great deal about how their community attachment has and is likely to evolve. After all, sense of place is a dynamic concept that can alter greatly over time (Shamai, 1991).

Figure 5. Level- of attachment, identification and involvement indicators.
The second component of Cross’ sense of place theory is the concept relation to place. It consists of biographical, spiritual, ideological, narrative, commodified and dependent relations as dimensions (see figure 7). These are categorizations by Cross (2001). Cross developed the types to facilitate understanding. People who she interviewed described these types as fundamental ways of relating to places. Following the discussion on the role of the physical environment and social constructs in sense of place creation, a seventh dimension is added to the relation to place concept. This dimension is about the nature of the other relationships to place. This nature matters because this research investigates the role of a change in the physical environment, or flooding, in sense of place formation processes.
The dimensions of the relation to place concept contain indicators which are inspired by the earlier discussed processes which according to Cross (2001; 2015) shape relations to place. The first relation to place, the biographical one, contains the indicators time spend, key events and personal-, family- and cultural history. This is usually the strongest type of relationship and develops over time. Low (1992) referred to this type of relation as one which develops in communities over centuries of time. Cross (2015) rather talks of a biographical relationship which can occur in an “individual’s lifetime and the lifetime of their immediate family, which may or may not extend into longer historical or cultural ties.” (ibid., p14) After all there are many people in the world who have been displaced either voluntarily or involuntarily and are creating new history. The narrative relationship is the second dimension of relation to place and is mainly made by storytelling and place naming. Besides experiencing a place yourself, stories will shape a big part of your view on a place. Through stories we learn about places, our own role in places and getting familiar with stories allows us to become part of a place (Cresswell, 1996). Such stories can vary from myths to local knowledge as family histories to political accounts. This relationship is very dynamic and as people select stories to emphasize on and what not to talk about new place stories are created. People already are familiar with a certain place narrative if they decide to go live somewhere. According to Cross (2015) the hearing and telling of stories can enhance the bond with a place. Such processes can alter our expectations of a place and be conserved in local knowledge. As mentioned before in the previous chapter, holding on to a place its meanings may become increasingly challenging as the gap widens between the its story and the actual physical setting (Fitchen, 1991). Therefore, experiences is the fifth indicator of narrative relationship, measuring it gives insight into whether the place stories can
be maintained. The third relationship is an ideological relationship. Ideological relationships are conscious commitments based on values and beliefs about how to relate to a place (Cross, 2001). These can be based both on formal and informal codes and of both religious and secular nature. Such codes can vary from the rules that come with property ownership to sacred codes which makes people worship certain places. The fourth relation to place dimension is a spiritual one. The spiritual relation to place is made unconsciously and can happen with any place. It is described as an unexpected feeling of belonging with a place which does not grow or decay over time. It is intangible as to say where the relation comes from. They come from intuitive feelings for a place which can hardly be described (Cross, 2015). The fifth dimension is a commodified relationship. The commodified relationship is characterized by voluntary choice. One gains a commodified relationship by choosing a place over another for its traits (Cross, 2015). The relationship is likely to decline over time as it quickly makes place for other relationships. People tend to have a commodified relationship when they choose to start living somewhere but as they live there the relationship will make place for stronger biographical relationship. Like many other, this voluntary choice of place is influenced by individual cognition and cultural narratives (Hummon, 1992). Besides voluntary choice and place traits the indicator ideal is added to this dimension as it shows the potential difference between the area of residence and the ideal place. It can provide information on how commodified a place can be by a person. Last in Cross’ relations to place dimensions is the dependent relationship. Other than the commodified relationship, the dependent relationship is characterized by its limitations of choice or having no choice at all. One can be both materially and socially dependent. Raymond et al. (2010, p.426) call material dependence a “functional connection based specifically on the individual physical connection to a setting; for example, it reflects the degree to which the physical setting provides conditions to support an intended use.” Cross (2001) expands this with social dependence and sees this as the reliance on others in a place for the personal wellbeing. Up to a certain degree a dependent relationship is present for everyone. People can consciously decide to go live, or stay living somewhere while it is not their first choice but they for example are limited to certain places by money or loved ones. The very last dimension of relationships to place is about the nature of those relationships. As mentioned earlier it is of importance to find out whether this is more social or more physical so these are the indicators of this dimension. These discussed dimensions and their corresponding indicators can be found in the figures 8, 9 and 10 below.
Figure 8. Biographical- and Narrative Relation to Place Indicators.

Figure 9. Ideological- and Spiritual Relation to Place indicators.
2.3 Theory for data analysis

In the previous paragraph theory has already be discussed to analyze relationships to place with. The processes which drive the creation of place relationships are summarized here (see figure 11 below) as they are important for the analysis of data.
Additionally, Cross (2001) has designed sense of place typologies fit for analyzing the type of attachment. These typologies were mentioned already in paragraph 2.1 and are for a great deal based on Hummon’s (1992) distinction between ideological rootedness, taken for granted rootedness, place relativity, place alienation, and placelessness. Cross (2001) has revised his typology to include: cohesive rootedness, divided rootedness, place alienation, relativity, and placelessness.

The strongest type of place attachment is rootedness. Cross recognizes cohesive and divided rootedness. Difference between these two types is whether someone is rooted in a single place or more. Both types of rootedness show a strong attachment, identification and involvement with one or more places. Cross (ibid., p.9) mentions that “people with a sense of cohesive rootedness have a strong sense of attachment, identification, and involvement in one community. They generally have a positive assessment of the place and expect to continue living there. In contrast, those people with a divided rootedness think of themselves in terms of two communities. They have strong attachments to two places and often have distinct identities associated with each place.” People with a divided rootedness for example feel attached to the area they grew up in and the place they

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Type of Bond</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biographical (9)</td>
<td>historical and familial</td>
<td>being born in and living in a place, develops over time</td>
</tr>
<tr>
<td>Spiritual</td>
<td>emotional, intangible</td>
<td>feeling a sense of belonging, simply felt rather than created</td>
</tr>
<tr>
<td>Ideological</td>
<td>moral and ethical</td>
<td>living according moral guidelines for human responsibility to place, guidelines may be religious or secular</td>
</tr>
<tr>
<td>Narrative (9)</td>
<td>mythical</td>
<td>learning about a place through stories, including: creation myths, family histories, political accounts, and fictional accounts</td>
</tr>
<tr>
<td>Commodified</td>
<td>cognitive (based on choice and desirability)</td>
<td>choosing a place based a list of desirable traits and lifestyle preferences, comparison of actual places with ideal</td>
</tr>
<tr>
<td>Dependent (9)</td>
<td>material</td>
<td>constrained by lack of choice, dependency on another person or economic opportunity</td>
</tr>
</tbody>
</table>

Figure 11. Processes behind place relationships.
currently inhabit. Another typology is place alienation. Alienated people often have a negative assessment of the place, do not identify with the place and are not highly satisfied with the place. Basically there are two types of alienated people: those who have been forced to relocate to a place they like less and those whose surroundings changed in such a way that they feel dissatisfied. They often have the desire to leave but are unable to do so. This typology especially is interesting with regards to flooding as it may have alienated people from the place they once so much loved. The notion that some voluntary disruptions in place, like moving for a job or retirement, are associated with increased place attachments while involuntary disruptions, like disasters or forced relocation create a sense of loss and diminished attachments (Brown and Perkins, 1992) is interesting to the case of flooding in East Kemijen as well. Does a silent disaster, like tidal flooding, indeed diminish attachment or does it strengthen attachment because one has to ‘fight’ for his area of residence?

The fourth type of place attachment is relativity. People in this category usually do not feel rooted in any particular place because they have lived in so many. Home is where their house is or they could feel home anywhere in the world. They often identify themselves with more than one place. These people’s sense of a home is very mobile and is often limited to specific place traits. Lastly there is the placelessness typology. People in this category have difficulties identifying themselves with any place and have a hard time getting attached to a community. Whereas people in the relativity typology can feel at home almost anywhere, those under placelessness fail to connect to any place.

A simplified overview of the different typologies and their characteristics can be found below in figure 12.

<table>
<thead>
<tr>
<th>SENSE OF PLACE</th>
<th>Satisfaction</th>
<th>Home as Insidedness</th>
<th>Local Identity</th>
<th>Type of Attachment</th>
<th>Future Desires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rootedness Cohesive</td>
<td>high</td>
<td>here (physical, spiritual, emotional)</td>
<td>strong</td>
<td>biographical spiritual ideological</td>
<td>continued residence</td>
</tr>
<tr>
<td>Rootedness Divided</td>
<td>variable</td>
<td>there (physical, spiritual, emotional)</td>
<td>split</td>
<td>biographical spiritual dependent</td>
<td>variable</td>
</tr>
<tr>
<td>Place Alienation</td>
<td>low</td>
<td>there (physical, spiritual, emotional)</td>
<td>weak</td>
<td>dependent</td>
<td>desire to leave, but unable</td>
</tr>
<tr>
<td>Relativity</td>
<td>variable</td>
<td>anywhere</td>
<td>moderate</td>
<td>commodified (biographical) (dependent)</td>
<td>to live in ideal place, wherever that may be</td>
</tr>
<tr>
<td>Uncommitted Placelessness</td>
<td>(moderate)</td>
<td>anywhere/nowhere</td>
<td>weak</td>
<td>none</td>
<td>no specific expectations of place</td>
</tr>
</tbody>
</table>

Figure 12. Cross’ (2001) sense of place typologies.
3. Methodology

3.1 Research strategy

It is important to explain which methods of doing research have been used for achieving the aim of this research. The aim of this research was to acquire a better understanding of how floods affect the sense of place of people struck by them. Sense of place is a complex phenomenon which requires in-depth examination to describe it. In contrast to the closed questions of quantitative research, qualitative research offers the participants “in-depth responses to questions about how they have constructed or understood their experience” (Jackson, Drummond & Camara, 2007 p.23). This is of great importance as this allowed a good examination of respondents’ perceptions on flooding. By examining people’s connections to places as expressed through their own words, qualitative studies capture the subjective, lived experiences people have with nature (Davenport & Anderson, 2005). The inhabitants of East Kemijen provided a clear case study to examine this phenomenon. “A case study is a good approach when the inquirer has a clearly identifiable case with boundaries and seeks to provide an in-depth understanding of the case...” (Creswell, 2013 p.100). A single, revealing and theory-based, holistic case study suited best. Revealing because the effects of flooding on sense of place have not been described earlier. Theory-based because the focus is on sense of place. Holistic because although different individual experiences will be examined, altogether these may have enabled to discover a more general influence of flooding on sense of place. Reason for this specific case is that it is an extreme case of flooding, because people are affected by it on a very regular basis. Some of these inhabitants also remember a time before the flooding started or know what it is like without flooding, which was essential for examining its effects on sense of place.

The internal validity of this research needed to be guaranteed as best as possible. This has been done by triangulation, member checking and peer reviewing by an expert on flooding. Triangulation has been achieved by performing observations and interviewing both experts and inhabitants. Also respondents have been informed about the conclusions of the interviews so they could judge whether it was correct or not. They have also been asked if they have anything to add with regard to flooding and their feelings for their area of residence. To prevent incorrect conclusions and thus data, attention was given to not separate data from its context. The external validity of this research is rather restricted because there could be certain inhabitant characteristics like wealth or local culture which influence how flooding affects sense of place (Creswell, 2013).
3.2 Research methods

In order to answer the different sub questions, data was needed. This was collected by using two research methods. These are in-depth interviews and participatory observations. The interviews are the primary source of data but observations fostered the internal validity of the research by triangulation. The observations support the interviews and mainly act as background information as “relying on one source of data is typically not enough to develop an in-depth understanding” (Creswell, 2013 p.98).

In order to obtain the right information for answering the research questions, the right respondents were needed first. To find them it was decided to ask my contact at the Soegijapranata university in Semarang for help. This contact referred me to another professor who knew many coastal areas from his own research. After some communication difficulties he referred me to the head of a labourer’s association who happened to live in a flooding neighborhood himself. He is the neighborhood representative of his neighborhood Kemijen. He would find me the right respondents and thus took me and my first translator to his neighborhood. My first translator was Clevyra, a law student from Soegijapranata. My second translator, who also helped me because Clevyra was only limited available, was Ryan. Ryan is a psychology student from the same university. Translators were needed because the inhabitants of Kemijen usually did not speak English. They both never had been in Kemijen before. In interviews they would translate my questions and the respondents’ answers. Before conducting the interviews, the interview guide was discussed with them to see if they understood what kind of info was required. This was necessary because it was not possible to understand if they were correctly translating the questions to Indonesian. All three of us took notes during the interviews. Because the effect of flooding on people’s sense of place is what was required data on, people who had experienced living in both flood-free as flood-threatened areas were needed.

The kind of respondents interviewed varied a bit throughout the fieldwork. At first, the neighborhood representative would especially introduce me to friends of his. These were migrant families of which most family members lived in East Kemijen their entire lives. It was expected to meet people in Kemijen who experienced times before the flooding started or at least before it became worse. During the first two interviews however, it immediately turned out that East Kemijen had been flooding for a very long time already. Possibly even before the fifties as an eighty two-year old lady pointed out. This was not anticipated and therefore it was a bit troubling as it was needed
to talk to people who could reflect on their sense of East Kemijen both during times it did and did not flood. It seemed best to from that point on (after third interview) explicitly look for inhabitants who moved to East Kemijen. This was a bit struggling as most of the inhabitants grew up in the place and stayed there ever since, but by asking around in the neighborhood for people who moved in, me and my second translator managed to find them nonetheless. We for example spoke to inhabitants who had left the neighborhood but came back and some who came from wealthier uphill areas. Besides that, after a few interviews it seemed that the neighborhood representative both affected my interviews too much and could not help find further respondents needed. He only let us interview people he knew (friends maybe) and most of these could only try to imagine what it would be like without flooding.

For the interviews there is made use of a guide. The sub questions of this research have broadly shaped the guide and precise questions are based on the operationalization of the conceptual model. The interview guide is semi-structured, this gives some freedom to go into more depth but at the same time make sure that the interview does not wander too much from the questions to be answered. It allows the personal experience of the respondent to come forward.

Ideally an expert interview was conducted before starting to interview inhabitants to make sure East Kemijen was entered with some background information. The expert interview prior to the interviews was scheduled with a professor who knows East Kemijen from his own research on flooding but unfortunately this appointment got cancelled last minute. It was managed however to do an expert interview after the interviews with inhabitants were conducted. This was with a professor who knows other areas being flooded and who has experience on the field of place identity. Together with him, data resulting from my other interviews was reflected on and some early conclusions were drawn on together. For this expert interview no use was made of a guide, it was fairly unstructured but the questions for respondents were what was talked about so we did not wander too much. This interview might also have added a bit to the internal validity of this research as conclusions have not been drawn on all alone. Then there were a few inhabitants who happened to be quite active in the neighborhood (chief, watch), they were good for some general information but as they were also inhabitants the same guide was used with them as was done with others.

This guide exists of an introduction in which some general information, like the topic of the research, is made clear. There is also asked for permission to record the interview and it is mentioned that there are no right or wrong answers. Then there is asked for some background information like the respondent’s name and the name of their kampung and it is mentioned that they can stay anonymous if they prefer to. It is also asked how long respondents have been living in East Kemijen
and what brought them there. This question is not only important to see how suitable respondents are to draw conclusions from, it often can also tell if someone has built up a biographical relationship with the place or not. After this some questions followed about flooding with which it was also tried to grasp inhabitants’ perception of flooding. First it was asked if they were bothered by flooding or not and if so, due to heavy rain or due to the canal/sea or both. Then it was asked whether they could remember when the flooding started and if they knew if the flooding had changed or not, if so also if they knew why. Then it would be asked how they dealt with the flooding. A question which has been added later to this general info section is whether an inhabitant rents his house or owns it. This is asked because it soon proved to determine quite a lot for their type of place attachment and their relation to the place as renters will less likely not invest in the house and often plan to live there only temporarily.

Brown & Perkins (1992) among others made the notion that respondents are often unconscious of sense of place. They would only become conscious of it by a break or distancing from the place of attachment. Therefore, Hidalgo & Hernandez (2001) came up with a question to measure attachment which also should force the subject to imagine a break or distancing situation which could reveal place attachment: ‘I would be unhappy to leave.’ Or ‘I would be sorry to leave’. Therefore, before heading to other sense of place related questions, the inciting question would be asked whether they would be happy to leave the place, hoping to make respondents aware of their attachment to East Kemijen.

The next section contains questions about the type of attachment of the inhabitants. First a bit general question would be asked regarding place attachment; whether the respondent feels at home or not. And if this was any different before and if the flooding had anything to do with that. Next it was needed to know something about the level of attachment to the place so it was asked whether the respondent felt the need to be there. If this was not understood correctly, it would be asked if they missed the place whenever they would be gone for a longer period of time. Following that, it would be tried to grasp the level of involvement in the neighborhood by asking whether they were willing to invest in the neighborhood in the shape of money and or effort. Then in order to find out how much the place is part of their identity, the respondents were asked whether the place feels part of them and if they could describe who they are without the place. Hereafter it would be downright asked if they are satisfied with the place to sense their assessment of the place. Lastly for this section, it was asked downright if the respondents felt attached to East Kemijen. Of course this question refers to the dimension level of attachment as much as asking if they feel the need to be at the place does. But because of translation difficulties two questions about this dimension were asked to make sure their level of attachment was sensed correctly. On the type of attachment
dimension ‘past experiences’ information was acquired indirectly throughout the interview and the dimension ‘expectations’ information was gotten about already by asking whether they would feel sorry to leave the place.

Hereafter questions would be asked related to the respondents’ relation to the place. First of all, more knowledge was wanted about their biographical relation to the place which was enquired about earlier by asking how long they had been living there already and other related questions. Then the section started by asking if they voluntarily chose to live here, only if they had not told this earlier of course. This matters because it is needed to know if they consciously made a choice, which is necessary to form a commodified relationship with a place. A commodified relationship is also characterized by picking a place because of specific traits, therefore inhabitants were asked what for them the ideal place looks like and how much that differs from the place they are living in now. The dimension of a narrative relationship was also assessed throughout the whole interview, but to gain a bit more insight to the local narrative it was asked if besides flooding there was anything else about the place that should be known of. Besides it was also downright asked what kind of connections the respondents thought they had with East Kemijen. To help them going it was suggested that they might have a sacred, more religious connection, or perhaps a rather spiritual connection, a sense of belonging. By asking how active they were in the local community and asking if they invested in the place it was tried to grasp whether they had a certain commitment to the place, which might be a sign of a more ideological relation. After this it would be asked if they think they are dependent of the place, as this would, obviously, indicate a dependent relationship. It was made clear that this could be both materially as socially the case. Lastly in this section it was enquired about whether the nature of their relationships to the place is more social or physical by asking if they had to choose between moving with the community to another place or having a whole other community at the place, which one they would pick. The definition of place in this research is that of space, the physical part, imbued with meaning by people living in it, the social part. A place is both a space as the people living in it, the community. It was agreed upon with the translators talk about the physical aspect of place by referring to it as the ‘place itself’ and to the social aspect as the community because likely not all respondents would perceive the word place as both a space and its people.

To conclude, the interviews ended with a few questions which came up during early interviews. The first respondent told about people who moved out of East Kemijen to later move back in because they missed the place too much. All other inhabitants were asked after that if they could imagine this happening. This way it was tried to find out if they also heard such stories, gain more information on a possible narrative relationship to the place and sound whether the other
respondents also had such a feeling for the place that they could see themselves coming back. Following that they would be presented with a hypothesis that came up during the interviews. It was asked whether they in general thought if people in their community feel more or less connected to the place due to flooding. It could be imagined more because people have to fight for their place against the flooding, protect it, putting effort in the place. But on the other hand someone might feel less connected because the place is not how they used to like it. The respondents’ thoughts on this could possibly help draw conclusions on the second sub question on the type attachment to the place. Lastly, it would be asked if there was something else the respondent thought there should be known about in regard to flooding and their feelings for the place to make sure once again that their perception on the topic was understood as good as possible.

Of course new questions were probed after every answer whenever it was possibly relevant. It often would be asked how and why it is what the respondents answered to gain a better sense of their experiences. In order to successfully answer the fourth sub question on whether East Kemijen inhabitants’ sense of place has been altered by flooding, the question was probed what possibly could have been the impact of flooding on every answer. This guide proved to be useful during the interviews, both for me as for the translators helping me. Although translating at times was difficult and made me dependent of the correct interpretation of the translators, overall they were really helpful and thought along really well. Almost every interview gave new insights and it could not have been achieved on my own.

The methods used also had their own specific traps. With one-on-one interviews there usually is the danger of not enough data being gathered because the respondent is not at ease, being restrained or not answering questions to their truth. Especially because the respondents were being interviewed by a foreigner and that sense of place might be an emotional subject. In order to prevent this as much as possible, interviews were held in a place of the respondent’s choice, techniques like reflecting were used to make the respondent at ease, the possibility of anonymity was given and it was stressed that there is no right or wrong answer. Further notes were taken and questions were formulated as simple as possible. The more sensitive questions were not asked too directly. The observation was done partly as a participant. It had the form of a little tour by the neighborhood representative of Kemijen and some wandering around on different times of the day. The biggest advantage of this is that it allowed a bit of access to ‘insider views’.
3.3 Data analysis

There is made use of different perspectives to answer different sub questions by the analysis of data. The first and second sub question regarding the description of sense of place concepts are analyzed using a phenomenological approach just like the third sub question on the perception of flooding. The fourth sub question, which concerns the explanation of flooding’s influence on sense of place, is analyzed using the grounded theory approach.

“A phenomenological study describes the meaning for several individuals of their lived experiences of a concept or a phenomenon” (Creswell, 2013), in this case their sense of place. By collecting data from individuals it is tried to understand what the actors experience and how they experience it (ibid.). A phenomenon is only perceived and understood in the context of the experience of the individual (ibid.). So the approach is taking the personal perspective of the actor as a starting point to explore a phenomenon experienced by all the actors; sense of place. Greider & Garkovich (1994) among others emphasized the common meanings people have towards places if they have shared or similar experience. For the first three sub questions specifically the empirical phenomenology approach has been used, in which the researcher describes the experiences of the participants, rather than explaining it (Creswell, 2013). In this type of phenomenology, it is tried to set aside the experiences of the researcher him/herself in order to start with a fresh perspective (ibid). However, it is important to acknowledge that the process of discovering the universal essence of the experiences of individuals, is strongly related to the interpretation of the different individuals (ibid.). By seeking common experiences among the respondents it is tried to describe the phenomenon sense of place and the respondents’ perception on flooding.

The grounded theory approach has been useful to answer the fourth sub question as good as possible and with that the main question of the research as well. The approach might have helped me in adding environmental change knowledge to the sense of place theory. By abductive reasoning, the simple seeking of the most likely explanation (Sober, 2001), I tried to answer how parts of East Kemijen inhabitants’ sense of place had been altered by flooding, if this is the case at all. Transcripts are made of every interview. In these transcripts only the English spoken conversations are shown. The Indonesian conversations between the translators and the respondents are left out as they add little information. After transcribing the interviews and matching them with the corresponding notes of me and the translators, I systematically coded them in the qualitative data program ‘Atlas.ti’. First, more deductive codes were used which are based on the operationalization of the conceptual framework for this research and the questions in the interview guide. An example of such a code is the family code ‘dependent relationship’ which refers to the operationalization. But additionally more inductive codes were used because there of course were factors involved other than those
anticipated in the operationalization. For example, ‘wealth’ is such a code. It is a recurring subject which very possibly affects flooding’s influence on people’s sense of place. After assigning these codes they were put in categories by axial coding in order to discover more common relations. These codes revealed relevant outcomes. The outcome regarding the first sub question summarizes the relations East Kemijen inhabitants have with their area of residence. Codes relevant to the second sub question answer what type of attachment East Kemijen inhabitants have to their community. The third sub question leads to a collection of flooding perceptions which for example reveal the distinction between tidal and heavy rainfall flood for inhabitants. The fourth sub questions explores if the answers on the first two sub questions have been altered by flooding and considers the relevance of additional factors. Ultimately, conclusions were drawn by both using the analysis theory from the previous chapter as well as looking what insights the inductive coding gave me.
4. Results

Kemijen is a sub district North-East of the center of Semarang. It lies not directly on the coast but the district is connected to the sea by a so called ‘East Banjir Kanal’ (EBK). It is a fairly accessible neighborhood by road, it lies close to the Semarang harbor and inhabitants told that there also are good public transport connections to and from the place. The EBK is part of a polder project executed by the Semarang municipality and the Dutch government. The polder is not fully preventing floods yet because it is not finished and the canal is often piled with trash which prevents it from functioning correctly. Although it is mentioned that trash cans are being provided, people are being taught in school not to trash the canal and signs say not to throw trash in the canal, inhabitants do so anyway. A neighborhood representative called it a lack of discipline and not thinking of the consequences. And as the land subsidence keeps lowering the ground in Kemijen, floods both by tide (‘rob’ in Indonesian) and heavy rainfall keep occurring and some inhabitants mention them getting worse (on which more later). Inhabitants collectively have to pay maintenance costs for pumps in the Banjir polder project according to a neighborhood chief.

Although it is troubling to find data on Kemijen on the internet, let alone be it in English, Dewi (2007) provides us with a little bit of demographic data. Back in 2000 approximately twenty-five percent of the inhabitants were younger than fifteen years old. Thirty to thirty-five percent was aged sixteen to thirty. Thirty percent was of thirty-one to fifty-five. Less than ten percent was older than fifty-five. Dewi points out that this is quite a young group of people and therefore probably relatively strong and energetic. Data on East Kemijen is nowhere to be found, but the whole district of Kemijen is 1,41 square kilometers in size with 13,326 people living in it back in 2007. This results in an average of 9451 persons for a square kilometer. Further East Kemijen seems to contain a mix of poor and rich people living next to each other. High above the road three-story houses stand next to shacks so low that they hit the groundwater level. Lastly, the first respondent asserted that many migrant families live in East Kemijen. Below the position of East Kemijen, Semarang can be seen in figures 13, 14 and 15.
4.1 Background on flooding in East Kemijen

Once arrived in Eastern Kemijen we parked our car next to a canal, which appeared to be in direct connection with the sea as the water level nearly hit the street at a later visit (figure 16). Puji gave us a tour through his neighborhood and later we started visiting inhabitants for interviews. Puji showed us a lot of ‘sinking houses’, houses that had not recently been heightened after the ground underneath it sank. He told us that the ground sinks five to ten centimeter each year, according to him due to the load of buildings, water winning in the past and the fact that the neighborhood is built on a swamp. This subduction is also the main reason why some parts flood so often. This has
lead the inhabitants to build many of the streets with open sewers at the sides of the road in a hope of preventing water to flow into their houses. What Puji also wanted us to see, is that quite some households used pumps as temporary solutions against the flooding. Some of them operate close to 24/7 in order to keep houses livable. The lowest house that we have seen, only had its roof just protruding above the road (figure 17). Another particular sight were some doors build in up to half of their height by a new layer of concrete functioning as a little pavement (figure 18). A neighborhood chief informed me that the community shows willingness to work together by all paying a share in order to keep a big pump working in case the electricity stops working. With the inhabitants’ monthly contributions fuel and maintenance are paid.

Figure 16. High water in canal and bridge which gets inundated every flood.

A returning statement from respondents was how nice of a neighborhood Eastern Kemijen is, except for the fact that it is being flooded so often. It is well positioned versus the road net, public transport and the port. Markets and jobs are nearby. The neighborhood is relatively very safe and inhabitants would be very helpful. People would for example perform ‘gotong royong’, mutual aid, in desperate times asking for co-operation. While this is a typical phenomenon in Indonesian culture, the practice is not so self-evident anymore these days. Related to flooding, the community would perform gotong royong to clean the canal of trash or to heighten the road.
4.1.1 Wealth
Road heightening is a particular practice in the flood-handling context. Both the municipality and the inhabitants contribute to the heightening of the road to get it above water level again. From the expert interview with professor Wijanto there seemed to be some kind of social pressure that you are expected to pay a share for the road and if you really cannot you at least help building it. He finds this very paradoxical as the poor dig their own grave this way. By heightening the road, it ‘is not lowest anymore. Now it is their house. The water will come to their house. So that’s why heightening the road is not a good solution for some people. Especially not for the poor people. For the better off, it is more of a solution. They can go anywhere without being bothered. It is very
paradoxical in my opinion.’ The same social pressure applies to the heightening of your house. If I correctly understood professor Wijanto, inhabitants will spend their last money on the heightening of their houses because you are being looked upon if your house is leveled below the road. It is like some sort of matter of social status, the higher your house the more status. As probably already noticed, financial capabilities play a big role in how the flooding could affect inhabitants their sense of Eastern Kemijen. Financially more capable inhabitants often are people who bought cheap land in Eastern Kemijen so they can build a much more luxurious house compared to when they would live in an uphill area. Related to this, professor Wijanto said that inhabitants sometimes also hesitate to leave because they hope that the area gets protected better from water and they can sell their lands for more.

Figure 18. Built-in doors.

Next results are discussed while using the conceptual model from chapter two as a guidance. A quick recap on the conceptual will be given. Its two most important concepts are the relations to the home area of the inhabitants of East Kemijen and their type of attachment to East Kemijen. The research question asks about a shift in sense of place, sense of place consisting of these two concepts. Questions are also asked to discover the influence of flooding on these two concepts. The effect of flooding on the two sense of place concepts however, is affected by inhabitants’ perception of the flooding which’ results will be discussed now.
4.2 Perception of flooding

Other than the neighborhood representative, respondents mainly blamed just ‘rob’ (tide) and heavy rainfall for the flooding. Some also said that trash in the canal was the reason for the flooding. This would make tidal floods hit the neighborhood easier. At first it was quite confusing how often the inhabitants really had to deal with flooding. But soon it became clear that not all inhabitants perceived heavy rainfall as a cause of flooding. This type of flooding mostly affects the poor as they do not have enough money to keep heightening their houses and so they often are the lowest points, resulting in heavy rainfall streaming into their houses. This is why the more financially capable usually spoke of much less floods (only a couple times a year), only those caused by the tide/canal. And in case of such a flooding, the financially more capable are not necessarily bothered because they inhabit higher grounds and more strategic locations versus the water thread. For comparison one inhabitant mentioned only three floods last year and yet only one in 2016. Others would say the last flood was last night.

Respondents also had different answers to the question whether flooding had increased or worsened during the years or not. This also seemed to associate with the financial capabilities of inhabitants. It got better for those who have money and it got worse for those who do not. As said earlier, this probably is the case because wealthier people are bothered less by flooding. Why one less wealthy said it got worse and the other better is not really clear. Perhaps it is due to changing personal situations of the respondents or perhaps tidal flood got less bad and heavy rain floods worse.

When inhabitants and the neighborhood representative were asked about the consequences of the flooding, we often got the same answers. Besides having water up to the ankles or waist being very bothering in the daily lives of inhabitants, they often are scared that their properties will get damaged by the water. Flooding also leads to electricity outage, making electric pumps useless and making matters only worse. Respondents also mentioned that the water is bad for the health and can cause diseases and rashes. If inhabitants lack the money to heighten their houses they often create heightened spaces in their houses where they can keep themselves and their valuable belongings safe. Yet, the flooding is not always that bad. As kids exuberantly tried to make clear how they would play in the water and learn to swim. According to my translator Clevyra, one of my respondents, the neighborhood chief, said that ‘He is grateful for the floods. It acknowledges his knowledge about innovation, not just his but people’s knowledge about innovation how to handle the flood, how to get rid of the flood.’
These impressions on the flooding in Eastern Kemijen were coupled with various emotions. Inhabitants would mention that the floods made them sad and worry. But on the other hand a very accepting sound came forward, one that presumably has to do with Indonesian culture. It seemed as if quite a few respondents stopped worrying and just accepted the floods, seeing them as a change of environment that asks for adaptation and a different style of living. A ‘so be it’ mentality. These impressions show quite already what impact the flooding has on people’s lives and how it possibly affects their culture, their sense of area of residence. In the next paragraph there will be amplified further on the more theoretically approached sense of place in relation to flooding in Eastern Kemijen.

4.3 Sense of place in East Kemijen
Before the results on perception of flooding were shown. Here results are presented which are more strictly related to the used theoretical framework, which will be elaborated further on in the following analysis chapter. The results on different relations to place and the type of place attachment dimensions from the theoretical framework will be discussed together with the effects flooding has on these concepts. They will be discussed by using some of the answers to the interview questions and some interesting relevant respondents will be highlighted.

4.3.1 Relation to place
Many of the interviewed inhabitants either lived in East Kemijen all of their lives or left and at a certain point return to move back in. According to all of the interviewed inhabitants this historical tie is a reason why they feel attached to their area of residence. When asked if they could describe themselves, who they are without this place, they all answered no. The place East Kemijen is a part of their identity. The place has a lot of emotional value for them. There were mixed sounds on the circulation of homeowners in the neighborhood, some say many new come in, others say people live here all their lives and inherit houses.

None of the respondents mentioned having or having had a spiritual relationship. But it is a bit difficult to say if this is correct so this will be further analyzed in the next chapter.

When directly asked if inhabitants had an ideological connection with the place, like for example one with sacred motives, they would answer no. One respondent said because many of the inhabitants are immigrants they feel less of a holy connection. Inhabitants did mention that some of them feel some sort of ancestral respect in committing to houses which are inherited from parents or grandparents. Other commitments very well came forward in the different conversations with more
active inhabitants who were spoken with. First there was the neighborhood representative, then the neighborhood chief and the neighborhood watch was spoken with. According to the neighborhood watch it is not that common that people help one another in such a degree as seen in East Kemijen. This was also not the case in another flood-threatened area where he previously lived. When asked on how such a difference could have come to be, he answered that this probably is due to different levels of leadership approval. The other place would be more individualistic. He rented a house there among many other renters.

People can gain a relationship with a place through narratives as well. It is not quite clear to what extent this is the case in East Kemijen. One of the respondents said that tidal floods could be tackled with the new dam and canal system they have, but that this fails to work because of all the trash in the canal. Inhabitants often just throw their trash into the canal. This was not a big problem in the past, when trash still mostly consisted of organic material. But nowadays there are big amounts of plastic in the garbage which do not deteriorate and fill up the canal. This would make it together with the dam inefficient at preventing tidal floods from entering the neighborhood. The interviewed garage owner said that there is a lack of a narrative about how throwing trash in the river has bad consequences. He added that there is no enforcement of the law or by the community to prevent people from throwing trash into the canal.

Commodified relationships to a place have little to do with personal or family history. They are founded on choice and desirable traits of a place. They are not so much about emotional ties with a place but rather about how ideal the place and the consumable aspects are to someone. Many inhabitants describe East Kemijen as their ideal place except for the flooding. It is also described how wealthier inhabitants moved into the neighborhood to buy cheap land and having more money to spend on building a nice house.

Lastly, inhabitants of East Kemijen often seem to have a relationship with their area of residence which is based on dependency. These people have either no choice of where to live or are severely limited in it. They often do not live at their first choice of places but are limited by their dependency. Some inhabitants said they moved here because their wives lived here with their families. More characteristically, many inhabitants have invested in the place and are dependent of it. They often stated how they have invested in a shop or just their house and have no money to move somewhere else. When asked if they would be eager to move if it was financially possible, some would immediately answer yes but come back to that answer later. The neighborhood chief said that he used to travel around a lot for his work, but that he would think twice before moving out of East
Kemijen. Others mentioned that they would not leave and only two respondents said that they really wanted to leave.

Wealthy inhabitants showed more physical attachment. They were the only ones who to choose for the physical setting of the place or their houses if they had to choose between the material setting of their area of residence or the community living in it. One of the interviewed ladies said that she feels at home because her family’s shop is here. Other inhabitants would mention that East Kemijen is such a nice area to live in because they had such good experiences with its social aspect: the community. All of the inhabitants state being disturbed by the flooding one way or another, diminishing their physical attachment to East Kemijen at times of flooding.

4.3.2 Community attachment
Of course the long time spend in East Kemijen adds to the level of attachment of most inhabitants. When inhabitants got asked whether they would feel sorry to leave the place, almost all of them answered yes. Those who answered no showed to have changed their minds about that later in the interviews as they seemed to realize that they actually would feel sorry to leave because they are so attached to their area of residence. All respondents but one would mention they feel at home in East Kemijen as long as it is not flooding. The one who did not feel at home (yet) just recently moved in needed some time but was feeling more home slowly. When asked if the inhabitants felt a need to be in East Kemijen. This question was not always well understood so in order to clarify it was asked if they miss the place if they are gone for a longer time. Again all respondents answered yes except for the recently moved in inhabitant.

The level of identification was measured by asking inhabitants the question whether the place they are living in feels part of them and if they could describe who they are without the place. Most inhabitants would say that East Kemijen is a part of their identity. Even the flooding had become a part of most people’s identity.

The information on renters and buyers gives a great deal of information already on inhabitants their level of involvement. Only the recently moved in inhabitant currently rents a place. Some others have done so in the past. Renting makes inhabitants much less likely to invest in a place and thus unlikely to have a high level of involvement in East Kemijen. People seem to be active in the community of East Kemijen for different reasons which is elaborated on further later in this paragraph in a highlight on the inhabitant who’s a neighborhood watch. There are also some inhabitants who clearly invest a lot of time in the place because they love the place and its people and try protect these from harm.
Past experiences of the earliest interviews only took place in East Kemijen as those respondents never lived somewhere else. They had mixed experiences on flooding. One said it got worse and the other said it got slightly better. People who had lived in other places never mentioned to feel sorry to have moved to East Kemijen.

While nearly every respondent showed attachment to East Kemijen. Not all of them currently had an assessment of the place satisfying their needs. Once again, this had everything to do with the flooding as the beneficial properties of the neighborhood further left little to wish for.

Inhabitants their future expectations were a bit mixed. Some mentioned having the wish to leave because of the flooding but not being able because they were somehow dependent, others say they got used to the flooding and that all the positive characteristics they see in East Kemijen make up for it. In the expert interview with professor Wijanto it was mentioned that the local municipality offered apartments very nearby but that people did not want to move there although it is flood-free.

The in the previous paragraph mentioned wealthy lady also moved back to her parents’ house to work there. The floods disturb her and at her previous uphill house she felt more at home because she was not bothered by floods there. But her current house makes up for that because it is her parents’ house. She has memories of growing up in this place. It is part of her identity. Her willingness to invest was clear as she just bought expansion space for the shop. She also participates in a housewives organization but says she feels more attached to the place rather than the people living in it. She is not dependent of the place, just attached to it because of her history. She does not feel less attachment due to the flooding. That’s just a part of her life and identity.

When the neighborhood watch was asked about the identity of East Kemijen, he told me that ‘the identity of this place is helping each other.’ This person used to be a policeman and said that he became a neighborhood watch because he cares about the place so much and feels home here. He invests quite some time to keep the neighborhood the place he likes it to be. He also pushes the government to help more, but this has not yet paid off. He mentioned that awaiting more support is as if they were waiting for a miracle to happen. In general people are quite active in the community of East Kemijen. Often inhabitants have quite community involved jobs like owning a warung, a local store, being a local garage owner, etc. The practice of gotong royong also shows a quite high level of community involvement among the inhabitants. Agus the neighborhood chief not only mentioned that after a while the place becomes part of you, the flooding does as well. He told he that he liked how flooding raises community awareness.
The newcomer who just moved in a few months ago mentioned he would already miss the people here more than where he previously lived for seven years. But he was not sure if he felt at home yet, though it gets better now that the rainy season is coming to an end. He rents his place and lives here temporarily and thus is not going to invest in the place. He said that he dislikes the physical environment very much but that he likes his fellow inhabitants. As a newcomer he would be able to see that people get attached to each other because they have to work together to overcome environmental challenges. He really hopes that one day it gets better here.

All the participants said that East Kemijen is a nice area to live in as they mentioned being it an attractive location. Not only because of the strategicness but also because they had such good experiences with the community. It really differs person from person whether the place satisfies their needs. Some cannot live with the threat of flooding but most can and others are not bothered by it that much. In general people are bothered in some way and to a certain degree by flooding, but it seems to get used or normal over time. Some would say that they only felt at home when there is no flood, others are usually not at home during floods and stay at friends’ houses until the water is gone. These do miss the place when they are out of town. Two respondents even mentioned that there are people who moved out of East Kemijen but came back because they missed the place too much. They felt the need to be there even though they now live in an area that is flooded quite sometimes.
5. Analysis

In the previous chapter results have been presented and in this chapter the results will be further assessed. In order to do so, use will be made of the in the theoretical framework discussed relation to place processes and the place attachment typologies. Using the conceptual model as guidance once again, the effect of flooding on every dimension of these concepts is analyzed and the concept relations in the conceptual model are qualified. Ultimately a recap is given on the most important analysis.

5.1 Relation to place processes

The processes that constitute to a certain sense of place can be divided in biographical, narrative, ideological, spiritual, commodification and dependency processes. If one of these processes leads to sense of place formation in the area of residence, then an inhabitant of course also has such a relation to its area of residence. First of all, we have the biographical sense of place process. Of all the processes, it is most time bound. It develops over time as a person has experiences in a certain place. Because East Kemijen inhabitants generally have been living in the neighborhood for so long, it is argued that this immediately is the most important process when it comes to the influence of flooding on sense of place. The biographical process determines how often people have been exposed to floods, how badly, how they perceived this, etc. But this process might be even more important when looking at people who lived in places which did not flood. The experiences in different places are suitable for comparison on what flooding does to one’s sense of place. On first hand it seems that experiences with flooding make people like the physical setting less, both because of the feeling of a threat and for most respondents even worse if the place is actually flooded. But this point will be discussed further somewhat later. It is unfortunate that none of the interviewed inhabitants could clearly say if flooding got worse over the years or not. This way respondents could have shared their thought on what this did to their sense of place. Also none of the respondents who lived in East Kemijen all of their lives could remember a time before the flooding started. This might have made flooding so common for them that they are less good examples for looking at the influence of flooding on sense of place. But on the other hand it also were the respondents who moved into the neighborhood who said that the flooding became a part of their identity.

As for the narrative process of sense of place making it are stories that we tell ourselves and each other by which we make meaning out of the world around us. Inhabitants probably have been learning about East Kemijen and developing bonds with it through the telling and hearing of stories.
Given that most people’s families lived in the place long before them, they surely must have created a bond with the place. Families of course tell the youth about the place they are living in. But what role these narratives have had in creating a relationship with the place is not clear. With regard to flooding inhabitants of course tell each other stories of their experiences with it and this makes them able to collectively and intergenerationally respond to the threat. It did not seem the case though as if by this narrative process of sense of place making East Kemijen and flooding got any myths created about them. What people told me seemed to be mostly factually the case, real experiences confirmed the stories told. Because the narrative process has no divergent result compared to the biographical process, it is subsumed by it. When inhabitants were asked if they also actually experience the stories they hear about both East Kemijen and flooding, they would all answer yes.

The ideological process probably constituted less to sense of place making than previously thought. Whereas it was expected that people for example want to save a holy site like a mosque or a cemetery, this was not at all the case among my respondents. It was even told that because they could not remember who laid where on a used to be cemetery, they did not bother building houses on top of it. In the results was shown how a respondent said that because many of the inhabitants are immigrants they feel less of a holy connection. This was difficult to understand because many inhabitants seemed Muslim and praying along with the local mosque. Perhaps the migrant families spoken to earlier are supporters of another faith. This would require further investigation but it nevertheless is not affected by flooding. But one can have an ideological process by committing to a belief or a goal as well. This is something that was clearly seen. For one you have community active people like the neighborhood representative, the neighborhood watch and the neighborhood chief who put a lot of effort into protecting the place, keeping ties with its inhabitants and making sure it stays such a nice place. They clearly invest a lot of time because they love the place and its people and believe they can keep it that way. The neighborhood watch told about a similar place where he used to live. Over there they suffered from the same amounts of flooding but there they had no close community whatsoever. Active inhabitants such as the mentioned neighborhood roles can make sure a community works together. They felt the need to step up because of the flooding. Like a recently moved in inhabitant of East Kemijen, here it is also argued that it is partly due to the threat of flooding that East Kemijen got such a close, cooperating community. If this really is the case then something that on the first sight seems to make people abominate their area of residence more physically, is indirectly making them feel more connected with its corresponding community. We should ask ourselves why this then does not happen at the neighborhood where the neighborhood
watch comes from. The answer might be because over there most of the houses were being rented, making a commitment to take good care of property less likely. Or perhaps the difference is just pure coincidence. It is safe to say though that the floods definitely did have some contribution to making the East Kemijen community so likeable. Then besides that East Kemijen is, as the inhabitants call it, a strategic neighborhood because of its position and working opportunities.

As mentioned before it was difficult to recognize a spiritual process of sense of place making among the respondents. Some of them probably do have a sense of East Kemijen of some sort of belonging. That would not be surprising at least, seen some of their commitment to the neighborhood. And while people say they do not, it is argued that some people do feel a sense of belonging but ascribe it to other factors. They try to explain why it is so, instead of having the feeling inexplicably being there. Also, a sense of belonging seemed to be a difficult term to translate and therefore it cannot be said for sure that inhabitants do not have an inexplicable sense of belonging to East Kemijen.

The commodified process is an interesting one. While many inhabitants describe East Kemijen as their ideal place except for the flooding, most of them probably have not chosen the place voluntarily out of a list of places. It is possible still that inhabitants have had the possibility of moving to another place but decided not to because they like this place most. In such a case it is more of a biographical or ideological relationship. Commodified relationships are more about seeing places as a consumable. The case of wealthier inhabitants who moved into the neighborhood might be a better example of a commodified relationship. They chose land in East Kemijen because it was cheap and so they can build a nicer house. This is a textbook example of an early commodified relationship. Through time this will typically make place for a biographical or ideological relationship. It is good to mention though that the commodified relationships have been made possible by flooding. Without the flooding the land in East Kemijen probably would be much more expensive and wealthier people who now live in the neighborhood probably would not be there. This is yet another way how the flooding has made new relationships to East Kemijen possible. Even though a commodified relationship usually does not last long, it often makes room for a biographical one.

Concerning the dependency process as much choice as the wealthy inhabitants had to settle in East Kemijen, so little choice have some of the poorer inhabitants who might be willing to leave East Kemijen. This process is most connected with flooding by the fact that people might want to leave because of it, but are not able because of their dependency. The flooding might have made them even more dependent. In the results inhabitants were mentioned who moved to East Kemijen...
because their wives lived there with their families, this suggests a social reliance but probably is not affected by flooding in any way.

The nature of wealthier inhabitants’ relationships being more physical and those of less wealthy inhabitants being more social adds to the distinction made in the results chapter. Wealthy inhabitants seem less dependent because of their financial capabilities while financially less capable are appointed to more social relationships because of the flooding.

5.2 Place attachment typologies

Next Cross’ sense of place typologies are used to assess the strength of my respondents’ place attachment and what possible effect flooding could have had on this.

The previous chapter has shown that in general the inhabitants of East Kemijen are quite fond of their neighborhood. It seems that they have a strong connection with the place because of it being such a ‘good’ neighborhood and the fact that they have been living there for so long. These people feel a strong sense of attachment to both place and community, but would choose community over physical setting. They seem to be eager to actively participate in the community and invest time and money in keeping the place to be as they like. They mention not being able to identify themselves without the place as it is a part of who they are and vice versa they are part of the place. Even though their place is threatened by both tidal and heavy rain floods, they have a positive assessment of the place. They see themselves continue living here. These people clearly belong in the strongest place attachment typology: cohesive rootedness.

Then there are the few who do like the place, but who really struggle living with the flooding. They do identify with the place but are not highly satisfied with the place. Financially they have limited capabilities which prevent them from moving. They would think twice before leaving East Kemijen but if they had the money then they would surely take it into consideration. Flooding clearly has taken its toll on these people’s place attachment. Without the flooding they could have felt totally rooted in East Kemijen but now these people tend a bit towards being alienated from the place. Not because they have been forced to move from a place in which they were rooted but because they are dissatisfied with the place they love and feel rooted in changing so badly when it floods.

Last there was one example of an inhabitant who just moved in recently and who could see why people like each other so much in East Kemijen. However, this person was heavily bothered by the floods and mainly moved in because the rent was low and he needed more space for his family. ‘I feel home anywhere it’s safe’, he said. This made it seem that the man was not strongly rooted to
any particular community. He could feel at home anywhere as long as his family is safe. This is a
typical relativity type of place attachment. Because he had not yet witnessed a more tidal flood, but
only the common heavy rainfall floods of the rainy season which are perceived less bad, he did not
really feel threatened. The wealthier lady is also a good example of a person with a more relative
attachment to the place as she feels more connected to a house rather than a community. She also
mentioned that she would rather keep the house than the community.

There was no respondent whose rootedness seemed divided. When I asked inhabitants who used to
live somewhere else if they felt sorry to leave that place, none of them answered yes. Also none of
them seemed to have an uncommitted placelessness as none of the respondents showed a lack of
emotional attachment to places.

5.3 Analysis recapitulation
Following the results and the corresponding analyses it can be recapitulated that the relations
between the concepts from the in chapter two proposed conceptual model hold only partially.
Flooding does affect certain inhabitants’ relations and type of attachment to East Kemijen. How
flooding exactly affects these two concepts partly remains unknown in external factors but for a
great deal it is shown to be influenced by inhabitants’ perception of flooding. The biggest differences
in perception of flooding among inhabitants were found to be driven by a difference in wealth. For
wealthier inhabitants flooding has a negative effect on their sense of East Kemijen. The flooding
bothers them mainly in transportation and it is a big expense as it requires the heightening of a
house every five to ten years. At the same time the flooding makes land in East Kemijen cheaper
which is inviting to wealthier people because cheaper land means more money to spend on a nice
house. For less wealthy inhabitants flooding can either have a negative and a positive effect on their
sense of East Kemijen. A negative effect comes forward as less wealthy people are also bothered by
flooding, but way worse. They do not own the financial capabilities to indefinitely keep heightening
their houses and are struck worse by both tidal and heavy rain flooding because their houses are
often positioned below the road, being one of the lowest points and thus gravitationally attracting
water flows. However, the less wealthy inhabitants of East Kemijen seem to be appointed to each
other when it comes to coping with the floods. This arguably has made them a closer community,
resulting in a positive effect from flooding on inhabitants their sense of East Kemijen.
6. Conclusions

In this research inhabitants’ sense of East Kemijen was examined together with the influence of flooding. The aim of this research was to acquire a better understanding of how floods affect the sense of place of people having to deal with them often. Based on the results in chapter 4, chapter 5 through analysis provided conclusions on the influence of floods on inhabitants’ sense of East Kemijen. While many different insights were acquired, it is tried next to present conclusions keeping the research questions in mind. After that some recommendations and a short reflection on the research follow.

6.1 Conclusions

The perception of flooding among East Kemijen inhabitants seems to be influenced by the wealth of a certain inhabitant. Financially more capable inhabitants are less bothered by flooding, perceive fewer floods and have the feeling that floods got less bad. Financially less capable inhabitants are bothered more by flooding, perceive more floods and have the feeling that floods got worse. This difference lies in the fact that wealthier inhabitants can heighten their houses while less wealthy inhabitants often cannot. Because the poor have their houses positioned low and often below the road, both tidal flood and heavy rainfall water will gravitationally stream towards their houses and therefore are bothered more, perceive all the floods and while the roads keep getting heightened and their houses not, the flooding probably keeps getting worse. Consequences of the flooding are property damage, electricity outage, health dangers like diseases and rashes from stagnant water. More involved inhabitants think the flooding makes the community aware and acknowledges the local knowledge on coping with floods. On the one hand flooding makes inhabitants sad and worry but on the other hand many inhabitants showed an accepting sound towards the flooding as they have no choice but to live with it. They take the situation as it is and are learning to live together with the flooding making it part of their identity.

It differs between East Kemijen inhabitants’ relationships to their area of residence whether they have been affected by flooding. The biographical relationship is strongly being affected by flooding experiences, especially for those inhabitants who have lived somewhere where it did not flood. The longer they are exposed to floods the more they develop a certain feeling for East Kemijen. The narrative relationships are kind of subsumed by the biographical ones as the narratives seemed to be as good as identical to the personal experiences. Flooding did enable ideological relationships to take formation. Inhabitants who liked East Kemijen for its strategic qualities and helpful community, stood up to get more involved in the community with the goal of trying to protect the place the love
from flooding. Also many inhabitants are committed to houses inherited by (grand)parents. No real proof of a spiritual relationship towards East Kemijen could be found among the respondents of the fieldwork. So nothing can be said about the influence of flooding on this either. Flooding made land in East Kemijen cheap compared to places where it does not flood. This has attracted wealthier inhabitants to buy this cheap land and having money to spend on the construction of a nice house. This way flooding has enabled a commodified relationship between these wealthy inhabitants which in time will make place for a biographical one. There are inhabitants who might want to leave East Kemijen because of the flooding but who cannot because they are materially dependent of the place. They for example have invested in a shop and first need to gain profit. The flooding in turn can make them more dependent as its damage takes up profit. The nature of wealthier inhabitants’ relationships being more physical and those of less wealthy inhabitants being more social adds to the distinction made about the perception of flooding. Wealthy inhabitants seem less socially dependent and connected because of their financial capabilities while financially less capable are appointed to more social relationships and the helpful community because of the flooding.

Three place attachment typologies were identified among the respondents of the fieldwork: cohesive rootedness, place alienation and relativity. In general, the inhabitants of East Kemijen are quite fond of their neighborhood, have a strong connection with the place and have been living there long (most were born in the place). They feel a strong sense of attachment to both place and community, but would choose community over physical setting. They are willing to invest time and money in the place. The place as it is a part of who they are and vice versa they are part of the place. Even though their place is threatened by both tidal and heavy rain floods, they have a positive assessment of the place. They see themselves continue living here. These people belong to the cohesive rootedness place attachment typology. Without the flooding they could have felt a bit more alienated as the flooding assumedly connected the community of the place. Then there are the few who do like the place, except for the flooding. They do identify with the place, but are not highly satisfied with it. They are financially limited in moving. They are not sure if they would if they were. Flooding clearly has taken its toll on these people’s place attachment. Without the flooding they could have felt totally rooted in East Kemijen but now these people tend a bit towards being alienated from the place. Not because they have been forced to move from a place in which they were rooted but because they are dissatisfied with the place they love and feel rooted in changing so badly when it floods. Last there was an inhabitant who was heavily bothered by the floods and mainly moved in because the rent was low and he needed more space for his family. The man was not strongly rooted to any particular community. He could feel at home anywhere as long as his family is safe. This is a typical relativity type of place attachment. Because he had not yet witnessed
a more tidal flood, but only the common heavy rainfall floods of the rainy season which are perceived less bad, he did not really feel threatened. The wealthier lady is also a good example of a person with a more relative attachment to the place as she feels more connected to a house rather than a community.

Having concluded on the sub questions of the research, an answer can be given on the main question of this research. The main question was as follows:

*How has flooding affected East Kemijen inhabitants their sense of place?*

Flooding has both negatively and positively affected East Kemijen inhabitants’ sense of their area of residence. Negatively in the shape of interrupting daily life, making people worry, damaging both property and health, temporarily turning the normally loved environment into a troublesome watery world which makes inhabitants feel less attached to East Kemijen. Positively in the sense that it might have enabled the East Kemijen community to become more connected as the financially less capable are appointed to each other in the absence of financial coping capabilities. While it is very true that “Places are repositories and contexts within which interpersonal, community, and cultural relationships occur, and it is to those social relationships, not just place qua place, to which people are attached” (Low and Altman, 1992, p.7) I would like to add that the physical state of a place may very well influence such social relationships.

### 6.2 Recommendations

During my research quite some thoughts for further research came up to my mind.

According to Donny, the professor from the Soegijapranata university, there is a piece of land in front of the coast somewhere near Semarang whose surroundings have been inundated for good and now it is the only part of the Bedono village which is still in use. “Only an area about twice the size of a soccer field remains in Bedono sub district. Two hamlets ‘Tambaksari and Senik ’ are both far from public facilities such as community health centers (Puskesmas) and schools.” (Rohmah, 2014) This also seems like an interesting case to research sense of place or other relevant concepts on. What does being cut off from public facilities do to the few people still living there? How does this alter their identity? How do they survive? Ruwiyan, a resident still living there said that ‘I used to be a farmer. Now I make a living by fishing near my house.’ (Rohmah, 2014) My contact at the Soegijapranata university told me that nowadays people like Ruwiyan still live there and that the situation of these few remaining residents of Bedono village attracts quite some tourists.
Unfortunately, I found out about this too late and I did not have time left to visit this community myself.

I discussed the arrival of wealthy inhabitants as a result of low land prices in East Kemijen. I wonder if this is an increasing trend and am curious about what this might do to East Kemijen. Are these inhabitants always more individualistic as they do not have to socially rely on others but rely on their financial capabilities? What do traditional inhabitants think of these newcomers? Are they accepted? How could it influence the cohesion of the community? These are all interesting questions which form a good start for further research.

The interviewed neighborhood watch mentioned living in another flooding place before where it was not so self-evident to help each other. The watch thinks that the difference lies in leadership approval which is big in East Kemijen. I wonder how such differences came to be and encourage further comparative investigation into the effects of flooding on different neighborhoods.

6.3 Reflection
First of all, the case of flooding in East Kemijen proved to be a very fit case for an investigation into sense of place. Inhabitants were very co-operating in conducting interviews but the concept sense of place proved to be a difficult concept to do research on. It is highly theoretical and difficult for respondents to relate to. I sometimes had the feeling respondents did not get why I was asking these questions although the translators would explain what the research was about every interview.

That is where another difficulty comes in. It was great to gain the help of translators, of course it is better than, but it restricts very much in knowing where the interview is going and you are unable to hear what precisely is said. Especially for such a precise theoretically subject like sense of place it is of importance that terms are being translated correctly. I made agreements on this with my translators but I still have the feeling that questions sometimes did not get interpreted in the intended way.

Therefore, some conclusions might be drawn inappropriately because of language difficulties. Nevertheless, I feel like the combination of notes, evaluations and the interviews themselves gave some meaningful information. Ideally I would have had more time for the fieldwork as the answers of ten respondents of course cannot be generalized too much. Also then maybe I would have been able to design fieldwork more fit to the circumstances of interviewing Indonesian speaking people.
Literature


Appendix 1: Interview guide inhabitants

Introduction

My study is about the floods in Semarang and I would like to ask you some questions about the floods and what they do to your feelings for this place.

General questions

First I would like to ask you some general questions. Is it ok that I record it?
There are no right or wrong answers, it is important that you tell me your experiences as truthfully as possible.

- What is your name? (If you want, I can change your name in my thesis, so it will be anonymous).
- Rent or own house?
- How long do you live already in this area? If you lived somewhere else, where and why did you move to this place?
- Are you bothered by flooding? If so, by rain or flood/river?
- Do you remember when the flooding started?
- Has the flooding changed? Do you know why?
- How do you deal with the flooding?
- First of all, would you be happy to leave this place? (Inciting question)

Community Attachment

- Do you feel at home here? (And before the flooding started?) Why (not)?
- Do you feel the need to be here?
- Are you willing to invest in this place (money/effort)?
- Does this place feel as a part of you? Could you describe yourself without this place?
- Are you satisfied with this place?
- Do you feel attached to this place?

Relation to Place
- Did you choose to live here?
- If you think of an ideal place, what do you think of?
- Is there anything else about this place besides flooding I should know of?
- What kind of connections (spiritual, ideological, dependent, etcetera) do you have to this place?
- Do you have a spiritual or sacred bond to this place?
- Are you dependent of this place?
- If you had to choose, would you rather move with your community to another place or rather have a whole another community in this place?

End with sense of place questions in regard to flooding

- People told me that people who moved away came back because they missed this place too much. Can you imagine why?
- In general, do you think people in this community feel more or less connected to this place due to flooding? I can imagine more because people have to fight for it, protect it. But on the other hand someone might feel less connected because the place is not how they used to like it.

Thank you very much. I finished all my questions, is there something else about the floods and your feelings for this place you want to tell me?
Appendix 2: List of codes

Code Families

_________________________________________________________

HU: Bachelorthesis flooding
File: [C:\Users\tjast\Documents\Scientific Software\ATLAS\TextBank\Bachelorthesis flooding.hpr7]
Edited by: Super
Date/Time: 2016-06-07 23:15:57

_________________________________________________________

Code Family: Assessment
Created: 2016-06-02 00:00:00 (Super)
Codes (3): [Flooding experience] [Place perception] [Place stories]

_________________________________________________________

Code Family: Biographical relationship
Created: 2016-06-02 00:00:00 (Super)
Codes (2): [Place stories] [Time spend]

_________________________________________________________

Code Family: Commodified relationship
Created: 2016-06-02 00:00:00 (Super)
Codes (3): [Flooding experience] [Ideal] [Voluntary choice]

_________________________________________________________

Code Family: Dependent relationship
Created: 2016-06-02 00:00:00 (Super)
Codes (1): [Material reliance]

_________________________________________________________

Code Family: Expectations
Created: 2016-06-07 16:41:08 (Super)
Codes (2): [Wish to leave] [Wish to stay]

Code Family: Flood perception
Created: 2016-06-02 00:00:00 (Super)
Codes (4): [Flooding experience] [Flooding perception] [Place perception] [Place stories]

Code Family: Future expectations
Created: 2016-06-02 00:00:00 (Super)
Codes (1): [Investment]

Code Family: Ideological relationship
Created: 2016-06-02 00:00:00 (Super)
Codes (2): [Commitment] [Ideal]

Code Family: Inductive
Created: 2016-06-02 00:00:00 (Super)
Codes (7): [Acceptance] [Community] [Culture] [Explanation] [Social reliance] [Strategic place] [Wealth]

Code Family: Level of attachment
Created: 2016-06-02 00:00:00 (Super)
Codes (3): [Need to be there] [Place attachment] [Sense of belonging]

Code Family: Level of identification
Created: 2016-06-02 00:00:00 (Super)
Codes (1): [Identity]
Code Family: Level of involvement
Created: 2016-06-02 00:00:00 (Super)
Codes (2): [Activity] [Investment]

Code Family: Narrative relationship
Created: 2016-06-02 00:00:00 (Super)
Codes (4): [Flooding experience] [Local knowledge] [Place perception] [Place stories]

Code Family: Nature of relationship
Created: 2016-06-02 00:00:00 (Super)
Codes (3): [Community] [Physical setting] [Place perception]

Code Family: Past experiences
Created: 2016-06-02 00:00:00 (Super)
Codes (4): [Bad experience] [Flooding experience] [Good experience] [Place stories]

Code Family: Spiritual relationship
Created: 2016-06-02 00:00:00 (Super)
 Codes (1): [Sense of belonging]