



## COMMUNICATION IN THE EARTHQUAKE REGION IN THE PROVINCE OF GRONINGEN: AN EVALUATION BY THE RESIDENTS.

An explorative study into how the residents of the earthquake region in the province of Groningen evaluated the communication activities by the Nederlandse Aardolie Maatschappij, the involved municipalities, the Province of Groningen and the Ministry of Economic Affairs.

Marit van Bruggen

1 May 2015

MASTER THESIS

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## SUMMARY

**Motive** – The residents of the province of Groningen are the victims of earthquakes in the province. Numerous residents have encountered damage to their properties. The earthquakes are caused by gas extraction of the Nederlandse Aardolie Maatschappij (NAM). Besides the NAM, the Ministry of Economic Affairs has an important role in the gas extraction in Groningen. As well as the Province of Groningen and the involved municipalities. As the residents of the earthquake region are the primary victims of this crisis, this study focuses on how the residents perceived the communication activities by the multiple involved parties.

**Goal** - This study has the goal to provide an exploratory insight into how the residents of the earthquake region in the province of Groningen evaluated the communication activities by the Nederlandse Aardolie Maatschappij, the involved municipalities, the Province of Groningen and the Ministry of Economic Affairs that have been used in order to inform them about the crisis events.

**Method** - Qualitative research using semi-structured interviews were conducted in order to answer the research question. The participants of this study were categorized into two groups. Group A were participants living in the official earthquake region, while Group B were participants living within the official earthquake region and were all members of an interest group. This distinction was made in order to find out if there would be a difference in crisis involvement between group A and group B. Thirty interviews have been conducted.

**Findings** – Participants of group A perceived the communication activities by the involved parties as good examples of communication. Besides, the participants felt sufficiently informed by the involved parties. Furthermore, ten out of the 15 participants of group A indicated to not feel affected by the earthquake events. The communication messages did have an influence on their feelings and thoughts about the involved parties. The participants of group B remembered more undertaken communication activities than the participants of group A and reviewed these activities more often as negative. Furthermore, all participants of group B felt insufficiently informed by the involved parties and all participants of group B felt strongly affected by the earthquakes and all participants believed that the communication messages of the involved parties could have been better.

**Discussion** – The findings of this study present that the victims of the earthquake events as the stakeholders of the involved parties evaluated the communication activities differently and that one group showed a higher level of involvement in the crisis events than the other group. Although the victims lived in the same place and received the same amount of information via communication activities of the involved parties. The findings of this study present that victims of a crisis as stakeholders of the involved parties showed various levels of crisis involvement. Although a few explanations are given in the discussion section for this phenomenon, there is little existing literature on the extent of crisis involvement among various types of stakeholders.

**Future research** – Future research is recommended in the areas of stakeholders involvement as a determiner of the outcome of a crisis, exploring the variety of emotions that can be involved in a crisis, the strategy of corrective actions and the importance of transparency in communication messages during a crisis.

## SAMENVATTING

**Aanleiding van het onderzoek** – Inwoners uit de provincie Groningen zijn het slachtoffer van aardbevingen die veroorzaakt worden door gaswinning. Vele inwoners hebben hierdoor schade aan hun woningen. De Nederlandse Aardolie Maatschappij (NAM) is verantwoordelijk voor de gaswinning in de provincie en naast de NAM heeft het Ministerie van Economische Zaken een belangrijke rol in de gaswinning. Eveneens als de Provincie Groningen en de betrokken gemeenten. De inwoners van het gebied worden gezien als de primaire slachtoffers van de aardbevingen en daarom focust dit onderzoek zich op de wijze waarop de inwoners van het gebied de communicatie vanuit de meerdere betrokken partijen hebben ervaren.

**Doel van het onderzoek** – Het doel van deze scriptie is om inzicht te verkrijgen in hoe de inwoners van het aardbevingsgebied in de provincie Groningen de communicatieactiviteiten van de betrokken partijen hebben ervaren. Met betrokken partijen worden in deze studie bedoeld: de NAM, de Provincie Groningen, de betrokken gemeenten en het Ministerie van Economische Zaken.

**Onderzoeksmethode** – Er is kwalitatief onderzoek uitgevoerd aan de hand van semigestructureerde interviews uitgevoerd om de hoofdvraag van dit onderzoek te beantwoorden. De deelnemende respondenten zijn onderverdeeld in twee groepen. De respondenten van groep A waren inwoners van het aardbevingsgebied. De respondenten van groep B waren naast inwoner van het aardbevingsgebied lid van een belangenorganisatie die opkomt voor de belangen van de inwoners in het aardbevingsgebied. Deze verdeling is gemaakt om te onderzoeken of er een verschil zou zijn tussen beide groepen met betrekking tot de mate van betrokkenheid bij de crisissituatie. In totaal zijn er 30 interviews afgenomen.

**Resultaten** – De respondenten van groep A beoordeelden de communicatieactiviteiten van de betrokken partijen over het algemeen als positief. Zij gaven aan zich voldoende geïnformeerd te voelen. Tweederde van de respondenten voelde zich niet getroffen door de aardbevingen. De respondenten van groep B herinnerden zich meer communicatieactiviteiten dan groep A en beschouwden deze communicatieactiviteiten in het algemeen negatiever. Bovendien gaven alle respondenten van groep B aan zich onvoldoende geïnformeerd te voelen en tot slot voelden alle respondenten van groep B zich getroffen door de aardbevingen.

**Discussie** – De resultaten van het onderzoek laten zien dat de slachtoffers van de aardbevingencrisis, als stakeholders van de betrokken partijen, de communicatieactiviteiten verschillend evalueren en dat de participanten van groep B een hogere mate van betrokkenheid in de crisis laten zien dan de respondenten van groep A. Ondanks dat de respondenten in dezelfde plaatsen woonachtig waren en dezelfde informatie vanuit de betrokken partijen ontvingen. Dit was dus niet van invloed in de evaluatie door de slachtoffers over de communicatieactiviteiten en de resultaten tonen daarom aan dat slachtoffers, als stakeholders van betrokken partijen, verschillende maten van crisisbetrokkenheid kunnen ervaren. Er worden in de discussie een aantal verklaringen voor deze bevindingen gegeven. Echter bestaat er weinig literatuur over de mate van crisisbetrokkenheid onder stakeholders.

**Vervolgonderzoek** – Aan de hand van de bevindingen van dit onderzoek worden de volgende aanbevelingen gedaan voor vervolgonderzoek: de mate van betrokkenheid van stakeholders tijdens een crisis, het onderzoeken van betrokken emoties tijdens een crisis, de invloed van correctieve acties als crisis response strategie en tot slot de rol van transparantie in communicatieboodschappen tijdens een crisis.

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# 1. INTRODUCTION

In 1959 one of the ten largest gas fields in the world was discovered in the Province of Groningen (RUG, 2014). The discovery of this gas field was of great importance to the development of the Netherlands after the Second World War. However, since almost thirty years it is known that the extraction of gas leads to earthquakes. Earthquakes take place along a fracture in the subsurface. Since gas from the soil is removed, the gas pressure in the soil decreased and the earth is compressed there. This is called 'compaction'. This creates pressure differences along existing fractures in gas fields and can cause earthquakes. The more gas extraction, the greater the compaction, the greater the risk of earthquakes and the greater the strength of the quakes (Staatstoezicht op de Mijnen, 2014). As a result of these earthquakes many residents of the province of Groningen became a victim. The Koninklijk Nederlands Meteorologisch Instituut (KNMI, 2013) registered already more than thousand earthquakes in the Northern part of the Netherlands. These earthquakes caused lots of damage in the earthquake region, about 30.000 residents experienced damage to their properties. Therefore the residents of the earthquake region are viewed as the primary victims in the crisis events.



[Image 1: An image of a crack in a wall caused by the earthquakes, source: NOS]

Thus, the more gas extraction, the greater the compaction and the greater risks of earthquakes. So, why is the Netherlands still extracting gas from the province of Groningen? The issue about the earthquakes in Groningen can be described as complex as there are multiple involved parties in the events. The Nederlandse Aardolie Maatschappij (NAM) is responsible for the extraction of gas. However, the amount of gas annually produced is determined by the National Government in the Netherlands. The issue of the earthquakes is assigned to the portfolio of the Ministry of Economic Affairs. The final responsibility rests with the minister of Economic Affairs, Minister Kamp. Minister Kamp determines the legislation and regulations concerning the policies of gas extraction. The National Government earns approximately ten billion euro's on annually base from the gas extraction and needs this amount of money for its state treasury. Above that, the Dutch households are (partly) dependent of the gas extraction in the province of Groningen for example for central heating. Moreover, it is the responsibility of the National Government to ensure the safety of its citizens.

Besides the NAM and the National Government, the local governments in Groningen are involved in the crisis events. Minister Kamp assigned nine out of the 23 municipalities in the province of Groningen as officially earthquake registered region. These nine municipalities cover about 201.000 residents. These persons live nearby the gas field and closely to the different epicenters of the quakes. As a result, many residents of the region suffer from damage caused by the earthquakes. According to Minister Kamp, about 90.000 houses need to get reinforced in order to handle future earthquakes (Volkskrant, 2015). As a result, the crisis communication in the earthquake region can be described as complicated due to the fact that there are multiple parties involved in the crisis events. There is insecurity among the residents according to the future, it is not known what the power of the earthquakes can be and it is not known if the earthquakes will stop in the near future. As the crisis event is already complex, this makes it even more complex. In addition, with multiple parties involved; who is standing up for the residents of the region and who will communicate to the residents of the earthquake region? It leads to questions, a need for information and answers by the residents about why there are still earthquakes and if the National Government is willing to lower or even stop the gas production. It is chosen in this master thesis to focus on the primary victims of the crisis events and therefore the main research question of this study is: *How do the residents living within the earthquake region in the province of Groningen evaluate the communication activities by the Nederlandse Aardolie Maatschappij, the involved municipalities, the province Groningen and the ministry of Economic Affairs in order to inform them about the crisis events?*

There is one important note in this study concerning the handling of damage claims. In this perspective handling damage claims is rather viewed as crisis management and thus will not be researched in this study. This study focuses solely on the crisis communication. With multiple involved parties it would be interesting from the perspective of crisis communication to give an insight in how the residents of the earthquake region evaluate the communication activities by the multiple involved parties. As the term 'involved parties' is often referred to in this master thesis, a brief explanation of the involved parties is given here. The involved parties include the NAM, involved municipalities, province of Groningen and the Ministry of Economic Affairs.

***The Nederlandse Aardolie Maatschappij (NAM)*** - The NAM is the contractor of the National Government that has been given monopoly in the extraction of gas in the Netherlands and is therefore responsible by performing the extraction of gas. The NAM is a joint venture between Royal Dutch Shell (50%) and ExxonMobil (50%). The history, background and emergence of the NAM is given in chapter two in which the background of the crisis events is explained.

***The involved municipalities in the earthquake region*** - Nine out of the 23 municipalities in the province of Groningen are officially registered as earthquake region. This official registration is made in the agreement 'Vertrouwen op Herstel, Herstel van Vertrouwen', written at the 17<sup>th</sup> of January 2014 (Ministerie van Economische Zaken, 2014). This was an agreement between the following parties: Ministry of Economic Affairs, the Province of Groningen and the mayors of the nine official registered municipalities: Appingedam, Bedum,

Delfzijl, Marne, Eemsmond, Loppersum, Slochteren, Ten Boer and Winsum. All together, this region counts about 201.000 residents. Agreements concerning, for example, damage claims or compensation for depreciation to property owners are at this moment solely accessible for residents of one of these municipalities.



[Image 2: A map of the province of Groningen. The nine municipalities that are official registered as earthquake region are colored green. Source: Province of Groningen. Note: *the map is edited by the researcher*]

**The Province of Groningen** - The Province of Groningen is viewed as an involved party since the gas field is located in this province. The Commissioner of the King is Drs. Max van den Bergh. The province of Groningen is closely involved in the earthquake events and is an important negotiator in the negotiations with the National Government about the future of gas extraction in Groningen.

**The Ministry of Economic Affairs** - The Ministry of Economic Affairs, as part of the National Government, has an important - not to say inevitable - influence on the extraction of gas in Groningen. The Ministry of Economic Affairs, directed by Minister Kamp, is responsible for determining the legislation and regulations towards the extraction of gas. For example, the responsibility for the annual production level to which the NAM must adhere; this means that the Ministry of Economic Affairs decides how many cubic meters of gas the NAM is annually allowed to extract. The Ministry of Economic Affairs therefore gets advices from many parties, such as the 'Staatstoezicht op de Mijnen' (State Supervision on the Mines).

**Preview:** In the following chapter a comprehensive picture of the crisis events is given. It provides insights in the background of the crisis situation and the political involvement. In chapter three the theoretical framework is elaborated. Furthermore, the research method is provided in chapter four. Chapter five shows the results of this study and the discussion of the findings can be found in chapter six.

## 2. CRISIS SITUATION

To start, as explained in the introduction of this master thesis the earthquakes in the province of Groningen are the results of gas extraction by the Nederlandse Aardolie Maatschappij. NAM discovered the gas field in May 1959 in the municipality of Slochteren. At that time the magnitude of the field was still undefined. Another drill was done in 1960, nearby the place Delfzijl. The same compound and pressure was found as in Slochteren. It was concluded that an enormous gas field was located below the province of Groningen. Actually, the discovered gas field was the largest of Europe and it belonged to one of the ten largest gas fields in the world (Rijksuniversiteit Groningen, 2014). In 1961 the NAM asked for the concession of 'Groningen'.

One year after the discovery of the gas field the Ministry of Economic affairs published the 'Aardgasnota'. This document included the agreement that the exploitation of gas would be done by a partnership, with an interest of fifty percent for the NAM. In the same agreement the foundation for the Dutch 'Gasunie' was made. The concession for the NAM got approved in 1963. The founded gas field was of great importance for the development of the Netherlands after the Second World War. The gas led to the decision to connect all households in the Netherlands on to natural gas. In 1963, the Dutch 'Gasunie' was founded with the task to provide pipelines to ensure that local gas companies could supply gas. Within ten years, three-quarter of the Dutch households possessed natural gas. As a result, the importance of oil and coals as fuels reduced significantly. Nowadays each household has central heating and water provided on the base of natural gas. For the production of electricity, natural gas is used as fuel on a large scale (VARA, 2014).

The NAM was able to extract gas for many years without any significant consequences for the region. However the first earthquake was already felt back in 1976, nearby Witteveen in the province of Drenthe. At Second Christmas day in 1986, Dr. Van der Sluis, social geographer and State member of the Labour Party in Drenthe, made the first assertion that earthquakes were in relation with the gas extraction of the NAM. He made this assertion as a result of an earthquake close to Assen (VARA, 2014). Since the beginning of the 90s the earthquakes increased and there was spoken about a 'possible link' with gas extraction (NOS, 2015a). The Ministry of Economic Affairs started research into the earthquakes in 1993. It was thought that this was the first time in the Dutch history of gas extraction that the National State and the NAM acknowledged the relationship between the earthquakes and gas extraction. However, it got disclosed in 2015 that the NAM possibly started their first research after soil subsidence's in 1963 and that the Province of Groningen was informed since 1967 (NOS, 2015a). On recommendations of the local politics, the NAM came with their first claim settlement in 1995.

However, the process of claiming damage with the NAM was complicated due to the Mining Law of 1810. This law was founded by Napoleon and is nowadays still in use. The law states that the mining company who causes damage to the topsoil also has to reimburse this. However, the critical point is about the onus. It is about the

reversal of burden of proof; residents must prove that the damage to their properties is the result of gas extraction (VARA, 2014).

Meanwhile, there are still earthquakes in the province of Groningen. On the 16<sup>th</sup> of August 2012 the largest earthquake so far occurred, with a power of 3.6 on Richter Scale. The Province of Groningen decided to start a research after this earthquake into the consequences of gas extraction for the residents of the earthquake region. The research was conducted by 'Commissie Meijer'. As a result, the situation concerning the earthquakes in Groningen appeared back on the political agenda in The Hague. Minister Kamp of Economic Affairs came to Groningen to talk with the citizens. In addition, on the 25<sup>th</sup> of January 2013 the 'Staatstoezicht op de Mijnen' (State Supervision of Mining) advised the Ministry of Economic Affairs to decrease the production of gas in the municipality of Loppersum with forty percent directly. Their research showed that the earthquakes will be heavier in the upcoming years. However, Minister Kamp overruled this advice and decided to do more research, he took one year for his own research. The extraction of gas in Groningen leads to an average of ten billion euro's revenue for the State Budget each year. He gave a press conference in Loppersum for the citizens at the 17<sup>th</sup> of January 2013.

Moreover, the KNMI registered already more than thousand earthquakes in the Northern Netherlands so far, 14 earthquakes were larger than 3.0 on Richter Scale (KNMI, 2013). Hundreds of this earthquakes were between 2.0 and 3.0 Richter Scale. Earthquakes with a power lower than 2.0 are normally not felt by persons. In December 2013 Groningen was astonished by the news that the extraction of gas did not lowered in 2013, but increased to a new record. On the 17<sup>th</sup> of January 2014, exactly one year after the advice of the State Supervision of Mining, Minister Kamp came to Loppersum again to present his decretal. The results were: (1) 1,2 billion euro's for the region, (2) a limit for the gas production and (3) the gas production in Loppersum will be lowered with eighty percent directly.

To start, the following information after this line was published after the interviews of this study have been conducted. Thus, the following news updates were not included in the research of this master thesis. On the 16<sup>th</sup> of December 2014, the KNMI published the fact that the amount of earthquakes reduced in 2014 in comparison to 2013 (NOS, 2014b). It is unknown if this is due to the limit of gas production that Minister Kamp presented at the 17<sup>th</sup> of January 2014 or not. An overview of the heaviest earthquakes in 2014 is given below.

| Date         | Location    | Power (Richter Scale) |
|--------------|-------------|-----------------------|
| 13 February  | Leermens    | 3,0                   |
| 1 September  | Froombosch  | 2,6                   |
| 30 September | Ten Boer    | 2,8                   |
| 5 November   | Zandweer    | 2,9                   |
| 5 December   | Garmerwolde | 2,8                   |

[Table 1: Heaviest earthquakes in Groningen in 2014, source: NOS, (2014b)]

Minister Kamp presented his new gas decree for the upcoming year on the 16<sup>th</sup> of December 2014 (NOS, 2014a). He based his decision on advices of the State Supervision of Mining and he therefore decided to limit the gas production temporarily further down till the 1<sup>st</sup> of July, 2015. At the 24<sup>th</sup> of April 2015 it is still unknown what Minister Kamp will decide for the period after the 1<sup>st</sup> of July 2015. Furthermore, Minister Kamp wants to reinforce 3.000 properties in 2015 and 5.000 properties in 2016. These properties are closely located to Loppersum, the region with most risk for earthquakes. In the past year, 2014, 357 properties have been reinforced. According to Minister Kamp this is done to enlarge the feeling of safety in the area. In meantime, more than 30.000 damage claims were submitted to the NAM and in the upcoming years probably 90.000 properties will preventively need to be reinforced.

The new gas decree of Minister Kamp is strongly criticized. The Province of Groningen, the involved municipalities and the municipality of Groningen stated that there is more commitment necessary in order to restore the trust (press release: *'Meer nodig voor herstel van vertrouwen'*). Moreover, on the 18<sup>th</sup> of February 2015, the Onderzoeksraad voor Veiligheid (the Dutch Safety Board) published a report about the risks of the earthquakes in Groningen. The Safety Board concluded that the maximum yield has been more important so far than the safety of the residents in Groningen (NOS, 2015b). The Board stated that the parties involved in the gas extraction should recognize the fact that they have not been handling carefully. According to the Safety Board that is a condition in order to restore the damaged relationship with the population. The Safety Board also concluded that the communication about the gas extraction was characterized by a technocratic approach. The population remained receiving reassuring messages and were not sufficiently involved in the events. For this reasons, the population could not create an accurate picture of the situation and were given a fait accompli. The Safety Board wrote: "The unequal distribution of revenues, the inadequate handling of damage claims and the lack of communication significantly contributed to the feelings of mistrust and the increasing feelings of unsafety with the residents" (NOS, 2015b). On the 2<sup>nd</sup> of March 2015, minister Kamp offered his apologies on behalf of the entire cabinet to the residents of Groningen in a newscast from RTV Noord (NOS, 2015c).

On the 4<sup>th</sup> of April 2015, a former professor of the TU in Delft reported that the province of Groningen should reckon 1.100 more earthquakes in the future. Regardless of the amount of gas that will be extracted (NRC, 2015a). Earlier on, in February 2015 researchers of the NAM and Shell published the news that there is a chance of more than fifty percent that Groningen will be hit in the future by an earthquake with a power higher than 3.6 on Richter Scale (RTV Noord, 2015a). At the 14<sup>th</sup> of April, the Dutch State Council interdicted the NAM to immediately stop extracting gas in or nearby Loppersum. Gas may only be extracted from Loppersum if it is not possible elsewhere (NRC, 2015b). At the 20<sup>th</sup> of April 2015 the Province of Groningen came up with an alarming report about the earthquakes in Groningen with therein the conclusions that 170.000 properties and buildings need to get reinforced and that it will take 27 years and in order to do that (NOS, 2015d). Furthermore, as a consequence of the report of the Dutch Safety Board, the NAM offered their apologies to the population of the region at the 21<sup>st</sup> of April 2015 (NRC, 2015c).

### 3. THEORETICAL FRAMEWORK

#### **3.1 Definition of a crisis**

There are several scientists who defined the definition of a crisis. According to Coombs (2007b), a crisis can be defined as: "the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes" (pp. 2-3). The key component in this definition is focused on the perceptual nature of the crisis. Coombs (2007b) argued that a crisis does not exist if stakeholders do not perceive it as a crisis. In return, this means that a crisis *does* exist when stakeholders believe there is one. In addition, Weick (1993) described crises as low probability-high impact events that place severe demands on sense making for both participants and decision-makers. Furthermore, according to Seeger, Sellnow and Ulmer (1998) a crisis can be described as an event that is evoking high levels of threat and uncertainty. It causes a critical need for almost immediate and accurate information, usually provided by experts, emergency management professionals, governmental officials or similar authority figures. Roloff (2012) made a distinction in the Communication Yearbook between organizational crises and disasters. Roloff (2012) gave the following definition for an organizational crisis: "a specific, unexpected and non-routine event or series of events that create high levels of uncertainty and threaten or are perceived to threaten an organization's high-priority goals" (p. 231). Roloff (2012) claimed that disasters (such as hurricanes and earthquakes) are usually "viewed as large-scale community-based events that affect society or its subunits and that are managed by community, government or social group" (p. 231). Roloff believed that organizational crises are more characterized by mistakes, whereas disasters are characterized by the association with natural phenomena.

#### **3.2 Crisis types**

Crises differ considerably from one another and every crisis can be seen as unique. In addition, crises are inherently dynamic and unpredictable (Seeger, 2006). However, despite these differences it is possible to describe some main features of crises. A sudden crisis can be called a flash crisis, for instance a plane crash or a explosion. In addition, a crisis can also slowly emerge; this is called a creeping crisis, high water or animal diseases for example. However both crises types sometimes have an abrupt end, but usually decline slowly. (Instituut voor Veiligheid- en Crisismanagement, 2010). Seeger (2006) claimed that many crisis taxonomies have been developed in the research literature. He named a few typical examples, such as 'natural disasters' (tsunamis, earthquakes and wild fires), industrial accidents (spills, explosions and product defects), and intentional events (product tampering and terroristic attacks) and other kinds of harm-inducing events. Seeger (2006) stated that a distinction between various crises and disasters is of high importance since the crisis type will influence the requirements for effective communication. Therefore crisis communication and the different crisis response strategies are outlined in the following paragraph to give a further explanation.

### **3.3 Crisis communication and responses**

According to Seeger (2006) crisis communication often has multiple goals which may conflict. Seeger stated that the universal goal is 'to reduce and contain harm' (p. 234). Further, organizations associated with a crisis or disaster may seek to limit damage to their reputation, avoid responsibility and even shift blame.

Governmental agencies may prioritize reestablishing public order while the public may prioritize being informed, protected and even reimbursed.

The communication used by organizations is often the result of the crisis response strategy which is chosen to deal with the crisis event. The different crisis response strategies are outlined in this paragraph. According to Coombs (1995) crisis response strategies have three objectives related to protecting organizational reputation. The first objective is to shape the crisis attribution, the second objective is to change the perceptions of the organization in crisis and the last objective is to reduce the negative effects generated by the crisis. Crisis managers use the crisis response strategies to establish a frame or to reinforce an existing frame (Coombs, 2007b, p. 171). However it is important to state in mind that in most crisis situations, the news media is the final arbitrator of the crisis frames (Coombs, 2007b). The frames that are used in the news media are most likely the frames that the stakeholders of the crisis will experience and adopt. For this reason crisis communication is highly important for crisis managers in order to present 'their side of the story' to the news media to reach stakeholders.

One of the most dominant theories in crisis communication research comes from Coombs (2007b). Coombs designed the Situational Crisis Communication Theory (SCCT) which provided an evidence-based framework for understanding how to maximize the reputational protection afforded by post crisis communication. According to Coombs (2007b) response strategies are mainly used to repair the reputation, to reduce negative affect and to prevent negative behavioral intentions. Crisis response strategies have three objectives relative to protect reputations: (1) shape attributions of the crisis, (2) change perceptions of the organization in crisis and (3) reduce the negative affect generated by the crisis.

In addition, Coombs (2007b) stated that it is important that the type of crisis is identified since it will tell how much crisis responsibility the stakeholders attribute to the organization. There are three factors in a crisis situation that shape the reputational threat, these are: (1) initial threat, (2) crisis history and (3) prior relational reputation. Thus, by identifying the type of crisis the crisis manager can anticipate onto the extent of responsibility that stakeholders will attribute to the organization and establish the initial responsibility level.

Coombs (2007b) distinguished three types of crises. The first crisis type is the victim cluster, this crisis type has very weak attributions of crisis responsibility and in this situation the organization is also viewed as a victim of the event. This is for example the case when a natural disaster occurs. Second crisis type is the accidental cluster type. This crisis type has minimal attributions of crisis responsibility and the event is seen by outsiders as unintentional or uncontrollable by the organization. This is for example the case when stakeholders claim

that an organization is operating in an appropriate way or the case of a technical-error incident. The final crisis type is the intentional crisis. In this crisis type, the organization knowingly placed people at risk, took inappropriate actions or violated laws or regulations. As a result, this crisis type has very strong attributions of crisis responsibility. This is the case when for example management violated the law or regulations or when human error causes an industrial accident.

As a consequence, the crisis manager can anticipate on the crisis event by choosing a crisis response strategy. By understanding the crisis situation, SCCT posits that the crisis manager can determine which crisis response strategy or strategies will maximize reputational protection. Research found that the primary SCCT crisis response strategies form three groups based upon perceptions of accepting responsibility for a crisis: (1) denial, (2) diminish and (3) rebuild (Coombs, 2007b). When using a denial strategy, organizations try to remove any connection with the organization. A crisis handled with the diminish crisis response strategy states that the crisis is not as bad as people think it is. Last, the goal of the rebuild strategy is to improve an organization's reputation. In this specific crisis response strategy the organization offers material or symbolic aid to the victims of the crisis. These material offers and symbolic aid are also referred to as corrective actions. This strategy is built upon Benoit (1997) image restoration strategy. When using a corrective action, the company promises to correct the problem and shows willingness to help the victims and to take actions to prevent the crisis from happening again in the future. This strategy is most used when an intentional crisis (Coombs, 2007b) occurred, when an organization knowingly placed people at risk and therefore has strong attributions of crisis responsibility. Research into how victims of a crisis evaluate corrective actions by an organization would be interesting. However, limited literature is found on these evaluations of corrective actions.

Important in understanding the reactions of stakeholders to the crisis is the perceived attribution of the crisis. According to Benoit (1997) people in times of crisis first want to blame a culprit and second want to determine to what extent the crisis forms a threat. As a fact a crisis situation involves a high degree of uncertainty. In addition, Coombs (2007b) complemented the literature of Benoit by expanding the factors. Coombs (2007a) identified three factors which determine the way stakeholders interpret the threat of the crisis. The first factor is the initial responsibility. This factor means that stakeholders share the perception of the organization being responsible for the emergence of the crisis. The second factor is the 'attribution of personal control by stakeholders' which the organization had during the emergence of the crisis according to the stakeholders. Lastly, 'pre-crisis relational reputation': the perception of the relation the stakeholders had with the organization for the occurrence of the crisis.

Furthermore, important in understanding the reactions of the stakeholders the disclosure of information is very important. According to Coombs (2007b), a crisis creates a need for information. Stakeholders produce stress by the uncertainty that occurs in a crisis situation. Information is a way to cope with psychological stress, stakeholders want to know what happened. A second aspect that stakeholders want to know is what is being done to protect them from similar crises in the future. In other words: what (corrective) actions are being taken

to prevent the crisis from happening in the future. Last, stakeholders expect expressions of concerns towards the stakeholders by the involved organization who caused the crisis event. Owing to that this combination of factors will lead to crisis attribution and can cause an emotional reaction of the stakeholders towards the crisis events or involved organization or institution. These reactions could serve as motivations for specific behavior of the crisis victims (Coombs, 2007b). When stakeholders held the organization accountable for the crisis, thus attribute the responsibility of the crisis to the organization, the chance is likely that the behavior of the stakeholders will be negative. In contrast, when stakeholders held the perception that the organization did not had any control over the crisis event, the chance is more likely that the crisis event will evoke positive behavior. The emotional effects which can be evoked by a crisis event are covered in paragraph 3.4.

### **3.4 Crisis effects**

Crisis attribution is an important factor in understanding the effects on stakeholders that may derive from the crisis. When victims are not in any other way connected to an organization until a crisis occurs, the victims can be emerged as stakeholders due to the crisis. As there are different types of crises, also the manner in which stakeholders perceive a crisis differs per individual. However, research on crisis emotions has been limited and has predominantly investigated anger and sympathy (McDonald, Sparks & Glendon, 2010). For example research using SCCT found that crisis responsibility predicted negative emotions, positive emotions and was positively correlated with anger (Choi & Lin, 2009). Therefore, stronger crisis responsibility can predict stronger emotional reactions (McDonald et al., 2010). Several studies found that emotions drive behavioral intentions (McDonald et al., 2010). For example anger predicts negative purchase intentions, negative word-of-mouth and indirectly reduces investment intentions. Sadness often results in a preference for emotional support and positive thinking, while on the other hand fear leads to venting intentions or avoidance. Despite the fact that post-crisis stakeholder affect can powerfully motivate stakeholders, the effect of crisis emotions on behavior has been little investigated and second, the research that has been conducted is based on consumer behavior (i.e. effects as word-of-mouth, purchase intention).

Nonetheless, psychological effects of a crisis do not always need to be negative. As a result, research on emotions following the terrorist attacks on the United States on September 11<sup>th</sup> 2001 showed that positive emotions experienced in the wake of the attacks -gratitude, interest, love, and so forth -fully accounted for the relations between (a) pre crisis resilience and later development of depressive symptoms and (b) pre crisis resilience and post crisis growth in psychological resources (Frederickson, Tugade, Waugh & Larkin, 2003). The findings of Frederickson et al. (2003) suggested that positive emotions in the aftermath of crises buffer resilient people against depression and fuel thriving.

Furthermore, a study by Claeys and Cauberghe (2012) suggested that the impact of individuals' crisis involvement on the effectiveness of message framing may depend on whether the crisis response strategy matches the crisis type or not. Claeys and Cauberghe (2012) showed that the framing of crisis responses has an impact on the effectiveness of the guidelines of the SCCT. The authors argued that when an organization

emotionally frames crisis information, the post-crisis attitude towards an organization does not differ depending on a match or mismatch between crisis response strategy. Messages with emotional framing appeal to individuals' emotions by using drama and including subjective, evaluative properties (Yoo and MacInnis, 2005). However, rational framing results in evaluative thoughts of consumers regarding the organizational credibility of the message. Messages with rational framing appeal to the rationality of the receiver by presenting information in an objective and straightforward manner (Yoo and MacInnis, 2005). As a result, matching the crisis response strategy to the crisis type is highly important in the case of rational message framing, however not in the case of emotional message framing. Therefore framing emotional messages can be an alternative for companies that are unwilling to admit responsibility when confronted a preventable crisis, due to liability concerns. This results related with the study of McDonald et al. (2010) that claimed that the organizations' control over a crisis is the single most powerful predictor of stakeholder reactions. Involvement elicited multiple positive and negative crisis emotions, while different emotion categories elicited different behavioral intentions. The attitude towards the organization also had impact on behavioral intentions.

### **3.5 Research question and sub questions**

This study focuses on how the residents of the earthquake region evaluated the communication activities by the involved parties and therefore the following research question was designed: **How do the residents living within the earthquake region in the province of Groningen evaluated the communication activities by the Nederlandse Aardolie Maatschappij, the involved municipalities, the Province of Groningen and the Ministry of Economic Affairs in order to inform them about the crisis events?**

The following sub research questions provided the focus for this study:

1. How did the residents living within the earthquake region assessed the undertaken communication activities by the Nederlandse Aardolie Maatschappij, the involved municipalities, the Province Groningen and the Ministry of Economic Affairs?
2. How did the residents living within the earthquake region evaluated the communication activities from the major earthquake of the 16<sup>th</sup> of August 2012 up to November 2014?
3. To what extent did the communication activities regarding the earthquake events influenced the feelings and emotions of the residents towards the events?
4. To what extent did the communication activities regarding the earthquake events influenced the attitude and behavior of the residents towards the Nederlandse Aardolie Maatschappij, the involved municipalities, the Province Groningen and the Ministry of Economic Affairs?

Based on the research question of this study, the sub questions and the theoretical framework three constructs are designed that are concentrated on in this study:

- (A) **Crisis responsibility and attribution**
- (B) **Crisis communication and responses**
- (C) **Crisis effects**

## 4. RESEARCH METHOD

### **4.1 Research method**

In order to answer the research question of this study qualitative research is chosen. The goal of qualitative research is to come to theory- and concept development via exploration and description. For this reason qualitative research will show in depth information by going into underlying motivations, opinions, wishes and needs of the selected respondents (Wester, Scheepers & Renckstorf, 2006). Furthermore, it goes into the prevailing opinions and behaviors of the selected respondents. Hence it is possible to discuss the conscious and unconscious motivations of the selected respondents (Lucassen & Olde-Hartman, 2007).

### **4.2 Research instrument**

In order to show individual opinions and experiences of the respondents (Lucassen & Olde-Hartman, 2007), in-depth interviews with a semi-structured interview guide were conducted. The advantage of this technique was to be in the position to ask further questions when a response was incomplete and needed more explanation. By using semi-structured interviews it is possible to find a balance between the extent of freedom where respondents can speak about (Wester et al., 2006; Wester, 1987). Therefore 14 questions were set up in an interview scheme to be the guidance of the interview:

#### **I. IN GENERAL**

1. Have the earthquakes resulted into damage to your home or other possessions?
2. Do the earthquakes have impact on how you feel?
3. Who do you think should be held responsible for the earthquakes in Groningen?
4. Who do you think should be held responsible for the consequences of the earthquakes in Groningen?

#### **II. COMMUNICATION ACTIVITIES**

##### **a. From the 16<sup>th</sup> of August 2012**

5. Can you remember the earthquake of the 16<sup>th</sup> of August in 2012? Can you tell more about this earthquake? *This was the heaviest earthquake so far with a score of 3.6 on Richter Scale.*
6. Can you think of communication activities right after this earthquake of the 16<sup>th</sup> of August 2012 that have been organized by the involved activities?
7. Can you think of other examples of communication activities which took place between the 16<sup>th</sup> of August 2012 and the moment of interviewing?

##### **b. Present**

8. How would you describe the manner in which you are getting informed by the involved parties right now in comparison to the information right after the earthquake of the 16<sup>th</sup> of August 2012?
9. What do you think of the way you currently get informed about the earthquakes?
10. Why have the way you get informed changed according to you? (or have not changed)
11. Is there something you would have like to see differently in the way you get informed?
12. To what extent did the earthquakes affected you as a resident of the earthquake area?
13. Does the extent to which you are informed by the involved parties made you think differently about the earthquakes?
14. Does the extent to which you are informed by the involved parties made you think differently about the involved parties?

### **4.3 Research procedure**

#### **4.3.1 Selection**

The participants were categorized into two groups: group A and group B. The research conditions were the same. The selection criteria used in selecting the respondents of group A was living in one of the nine official registered municipalities of the earthquake region. The participants of group A were all approached and selected via the personal network of the researcher. Experiencing damage to properties caused by the earthquakes was not a criterion in selecting the respondents of group A. However, it turned out that 13 out of the 15 respondents from group A experienced material damage to their properties caused by the earthquakes. In total 15 respondents participated in group A. The participants of group B were also respondents living in the earthquake region in the province of Groningen. However most important criterion for selecting the respondents of group B was that the participants needed to be a member of one of the existing interest groups. This distinction between group A and group B was made to find out if there would be a difference in the level of crisis involvement among the various stakeholders of the crisis. There are several interest groups in the province of Groningen that aim to protect and defend the interests of the citizens in the earthquake region in the province of Groningen. The participants of group B were member of one of the following interest groups: Groninger Bodem Beweging (13 participants) and Schokkend Groningen (two participants). The goals of these interest groups- and platforms are described below:

#### **Groninger Bodem Beweging (GBB)**

*"The Groninger Bodem Beweging (Groninger Soil Movement) is committed to the interests of those who suffer or suffer damage from the effects of natural gas production in the Groninger gas field. The GBB is an independent association but also want to be a movement of and for the people. It therefore aims to achieve the greatest possible number of members; victims and those in solidarity with them." (Groninger Bodem Beweging, 2014).*

#### **Schokkend Groningen (SG)**

*"Hence the creation of Schokkend Groningen (Shocking Groningen), the action group that calls all Groningers to perform to give a clear signal together by (playful) actions; that it was enough! Only talking does not help, this did not return in the past. We also want to give you as much as possible information via our website, information that you do not receive from the authorities and the NAM. What we want: to make a fist together and to make sure that we get what we deserve." (Schokkend Groningen, 2014)*

The 'Groninger Bodem Beweging' is a foundation with a board and paying members. The annual contribution to the foundation is 10 euro's. Groninger Bodem Beweging counts about two thousand paying members. Schokkend Groningen is not an official foundation, it has no board nor any registered members. A person can just be a sympathizer of the interest group. Schokkend Groningen communicates via their website and social media channels such as Twitter and Facebook. At the 16<sup>th</sup> of January 2015, the Facebook Page of Schokkend Groningen had 1726 likes. These two interest groups were chosen for the following reasons: (1) the chosen interest groups are solely focusing on the earthquake events. There are more interest groups in the province of

Groningen, however they tend to have more interests than the earthquake events. Furthermore, (2) Groninger Bodem Beweging and Schokkend Groningen are the most active interest groups, in particular in 2014. For example the interest group Groningers in Opstand shut down their activities in June 2014 and restarted their activities in January 2015. Groninger Bodem Beweging and Schokkend Groningen have been most consistent in protecting the interests concerning the earthquake events in the past year. Besides Groninger Bodem Beweging and Schokkend Groningen other interest groups in the province of Groningen are: GroentFront!, Groningers in Opstand, Groningen Noord, Actiegroep Fossielvrij and Ga Anders Stemmen (RTV Noord, 2015c).

For approaching and selecting the respondents of group B the interviewer went to a meeting of the Groninger Bodem Beweging. This was a 'member-for-member' meeting at Saturday the 18<sup>th</sup> of October 2014 from 14.00 to 16.30 hours in a building at the Stationslaan 8 in Loppersum. There were twenty attendees at this meeting and all attendees were approached to participate in group B of this study. Six attendees agreed on making an appointment for an interview. Via this interviews, the network of the interviewee's was used to approach the remaining respondents. In total 15 respondents participated in Group B. All of the participants experienced damage to their properties.

#### ***4.3.2 Informed consent form***

In order to contribute to the ease of the respondents and in order to avoid socially desired answers all respondents were guaranteed anonymity (Downs & Adrian, 2004; Kvale, 1996). Furthermore, all participants of Group A and Group B were asked to fill in an informed consent form before the interview started. In this form the participants signed to declare that the respondents have understood the purpose of the study and were aware of the option to stop the interview at any given point. Furthermore, the participants signed to agree that the interviews were recorded on tape. All the conducted interviews have been recorded in order to be transcribe them later. None of the respondents ended the interview at their own sign. Finally, the interviewer signed the informed consent form as well to declare that the respondents were given enough information about the purpose of the study and the research questions.

#### ***4.3.3 Place of interviewing***

To create a good research setting and thereby contribute to the ease, most respondents were interviewed at home. This is a prudent choice according to Stacks (2002), he claimed that the location of the interview is an important factor for how a participant will feel and answer. From the thirty interviews, 22 respondents were interviewed at their own place and eight respondents were interviewed at their work office. The interviews that were conducted in a work office were conducted in a quiet room.

#### ***4.3.4 Duration***

According to Huizinga (2001) an open interview takes longer than a structured interview and therefore the duration per interview differs. The average duration of the interviews was 28 minutes. The longest interview lasted 1:00:00 minutes (respondent B7) and the shortest interview lasted 11:05 minutes (respondent A7).

#### 4.4 Participants

Scheme one shows an overview of the demographic details of the participants of group A and group B. The participants of group A were numbered from A1 till A15 and the participants of group B from B1 till B15.

| <i>Partici-<br/>pant</i> | <i>Age</i> | <i>Sex</i> | <i>Educational<br/>level</i> | <i>Municipality</i> | <i>Years living in the<br/>municipality</i> | <i>Material<br/>damage</i> | <i>Member of<br/>interest group</i> |
|--------------------------|------------|------------|------------------------------|---------------------|---|----------------------------|-------------------------------------|
| <b>A1</b>                | 38         | Male       | MTS                          | Loppersum           | 14  | Yes                        | No                                  |
| <b>A2</b>                | 64         | Male       | HBO                          | Appingedam          | 8   | Yes                        | No                                  |
| <b>A3</b>                | 41         | Female     | HBO                          | Oldambt             | 24  | No                         | No                                  |
| <b>A4</b>                | 49         | Female     | Mavo                         | Appinedgam          | 25  | Yes                        | No                                  |
| <b>A5</b>                | 34         | Female     | HBO                          | Eemsmond            | 34*   | Yes                        | No                                  |
| <b>A6</b>                | 54         | Male       | LTS                          | Ten Boer            | 54*   | Yes                        | No                                  |
| <b>A7</b>                | 33         | Female     | MBO                          | Bedum               | 33*   | No                         | No                                  |
| <b>A8</b>                | 44         | Female     | HBO                          | Slochteren          | 39  | Yes                        | No                                  |
| <b>A9</b>                | 66         | Male       | HBS                          | Bedum               | 42  | Yes                        | No                                  |
| <b>A10</b>               | 48         | Female     | HBO                          | Bedum               | 25  | Yes                        | No                                  |
| <b>A11</b>               | 49         | Female     | WO                           | Loppersum           | 8   | Yes                        | No                                  |
| <b>A12</b>               | 35         | Female     | MBO                          | Loppersum           | 35*   | Yes                        | No                                  |
| <b>A13</b>               | 26         | Female     | MBO                          | Ten Boer            | 26*   | Yes                        | No                                  |
| <b>A14</b>               | 60         | Male       | HBO                          | Eemsmond            | 38  | Yes                        | No                                  |
| <b>A15</b>               | 33         | Female     | HBO                          | Slochteren          | 33*   | Yes                        | No                                  |
| <b>B1</b>                | 67         | Male       | HBS                          | Loppersum           | 15  | Yes                        | GBB                                 |
| <b>B2</b>                | 51         | Female     | HBO                          | Loppersum           | 51*   | Yes                        | GBB                                 |
| <b>B3</b>                | 62         | Female     | HBO                          | Loppersum           | 38  | Yes                        | GBB                                 |
| <b>B4</b>                | 55         | Male       | LTS                          | Loppersum           | 30  | Yes                        | GBB                                 |
| <b>B5</b>                | 45         | Male       | MBO                          | Eemsmond            | 38  | Yes                        | GBB                                 |
| <b>B6</b>                | 47         | Male       | MBO                          | Delfzijl            | 14  | Yes                        | SG                                  |
| <b>B7</b>                | 67         | Male       | HBO                          | Loppersum           | 44  | Yes                        | GBB                                 |
| <b>B8</b>                | 58         | Male       | WO                           | Eemsmond            | 7   | Yes                        | GBB                                 |
| <b>B9</b>                | 61         | Male       | MBO                          | Appingedam          | 28  | Yes                        | GBB                                 |
| <b>B10</b>               | 49         | Male       | MBO                          | Loppersum           | 16  | Yes                        | SG                                  |
| <b>B11</b>               | 64         | Male       | HBO                          | Loppersum           | 38  | Yes                        | GBB                                 |
| <b>B12</b>               | 51         | Male       | MBO                          | Delfzijl            | 4   | Yes                        | GBB                                 |
| <b>B13</b>               | 54         | Female     | MBO                          | Loppersum           | 30  | Yes                        | GBB                                 |
| <b>B14</b>               | 53         | Female     | MBO                          | Delfzijl            | 53*   | Yes                        | GBB                                 |
| <b>B15</b>               | 56         | Female     | HBO                          | Eemsmond            | 15  | Yes                        | GBB                                 |

*Scheme 1: Demographic details of participants from group A and B.*

*\* Participants marked with a star behind 'number of years living in the municipality' means that the participant has lived in the mentioned municipality for his or her entire life. This were eight out of the thirty participants.*

The youngest participant was 26 years old and the oldest participant was 67 years old ( $\mu = 50,5$  years,  $\sigma = 11,1$ ). In total, 15 women and 15 men have been interviewed. The educational level of the participants ranged from Lower Technical School to University level. Furthermore, the most represented municipality in this study was Loppersum with 11 respondents. In total, the thirty participants originated from eight municipalities: Appingedam, Bedum, Delfzijl, Eemmond, Loppersum, Oldambt Slochteren and Ten Boer. It turned out to be that Oldambt is not officially registered to the earthquake region although the municipality is affected by the earthquakes. In the past two years about three hundred residents of the municipality Oldambt submitted a damage claim to the NAM (RTV Noord, 2015b). It was therefore chosen to not exclude this respondent from Group A. Last, the interviews were conducted between April 2014 and November 2014.

#### **4.5 Data analysis**

In order to analyze the data all thirty interviews were transcribed verbatim, which resulted in 129 transcript pages (A4). Thereafter the interviews were analyzed with the help of Atlas TI. Atlas TI is research software for qualitative data. It is an useful tool to code the quotations of the respondents. The usefulness is in the overview which the software offers. Without having all the transcribed pages on hardcopy, Atlas TI makes it possible to easily 'swop' between the respondents and the software gives an useful overview of the codes that have been used. Version 7.5.4 was used in this study for coding the transcribed interviews. The coding was done by a structured coding scheme which was made on forehand of the coding process. The coding scheme is based on the constructs who fulfill a key role and which is concentrated on in this study. The constructs were also mentioned in the theoretical framework and are represented here again:

- (A) Crisis responsibility and attribution**
- (B) Crisis communication and responses**
- (C) Crisis Effects**

The complete coding scheme that is used for analyzing the data can be found in appendix I. Thereafter, in order to maximize the reliability of this study, a second coder was asked to code four out of the thirty interviews with the help of the coding scheme. The four interviews were randomly selected, two interviews from group A and two interviews from group B, a Kappa of .73 was found between the results of both coders.

## 5. RESULTS

### 5.1 Crisis Responsibility and Attribution

#### **5.1.1 Attribution of responsibility for the earthquakes**

The attribution of the crisis event is important for understanding the reactions of the victims. Therefore the participants were asked who they held accountable for the earthquakes. To start, seven participants of group A believed that the NAM is responsible for the earthquakes in the Province of Groningen. Some respondents were very short in providing an answer to this question, others tried to explain it a bit further:

*"I guess that is the one who is also responsible for the exploitation, so in this case: the NAM" (A9, Bedum).*

On the other hand, in the responses of group B, two out of the 15 participants stated that the NAM is responsible for the earthquakes:

*"Gas extractors. In first instance I mean the party that is being held responsible according to the Mining Law, that is the NAM" (B8, Eemsmund).*

Next, four participants of group A believed that the National Government is responsible for the earthquakes. Respondent A4 from Appingedam stated the following:

*"The Dutch State. They want the revenues and those revenues are here in Groningen and I guess that it is all about the money".*

In the responses of group B almost half of the participants stated that the National Government is responsible for the earthquakes. The respondents mostly mentioned that the NAM is only the executor, but is handling commissioned by the National Government, as respondent B9 from Appingedam was mentioning:

*"Look, the NAM is just the executive body, they extract gas commissioned by the Ministry of Economic Affairs. Ultimately that is the culprit".*

Also the revenues for the treasury were mentioned by this participants. Furthermore, three participants of group A claimed that both parties, thus the NAM and the National Government are responsible for the earthquakes:

*“There are a number of parties responsible of course. The one who extracts the gas and the one who receives the revenues. That is the reason why they are so royal in their compensations for the suffered damage. They feel that they have earned from it for years and years. The flip side of the coin emerges now” (A14, Eemsmond).*

In the responses of group B, six out of the 15 participants stated that both NAM and the National Government should be held responsible for the earthquakes:

*“The oil company together with our National Government. And of course Shell and ExxonMobile. They always seemed to be held out of the wind, but they are two major culprits of course. Thus, actually those three parties, NAM, Shell and ExxonMobile and our Government” (B12, Delfzijl).*

Last, in group A one participant was not sure about the responsible party:

*“I do not have an opinion about that because I just do not know. I do not know if it is the NAM” (A15, Slochteren).*

#### **5.1.2 Attribution of responsibility for the consequences of the earthquakes**

In addition, the participants were asked who they held responsible for the consequences of the earthquakes. With consequences was meant the handling of the damages caused by the earthquakes. For example the handling of the damage claims concerning material damage to properties. In the first place, seven participants of group A believed that the NAM is responsible for the consequences of the earthquakes. Participant A14 (Eemsmond) stated the following:

*“That it needs to be resolved is definitely the job of the NAM. They are the one who extract the gas from the soil. That is the party who physically apply pipes into the soil to extract the gas”.*

Five participants of group B stated that the NAM is responsible for the consequences:

*“In first instance the NAM is legally obliged to restore all the damage that they have caused” (B8, Eemsmond).*

Furthermore, three out of the 15 respondents of group A stated that the National Government is responsible for the consequences of the earthquakes. Respondent A8 (Slochteren) stated the following:

*“Also the National Government. The NAM is just in between. They are doing what they have to do. Just extracting gas and that this are the consequences of the extraction is because of the National Government”.*

By the same token, the majority of the respondents of group B named the National Government as responsible party for the consequences of the earthquakes:

*"I believe that the Ministry has to reimburse this from the gas revenues. The NAM is doing this right now, but mandated by the National Government. The National Government is only benefiting from the revenues and is doing all sorts of nice things from the revenues" (B9, Appingedam).*

Four respondents of group A and two respondents of group B claimed that the NAM and the National Government are responsible for the consequences of the earthquakes:

*"That is also the National Government including the NAM. The NAM is just the prime contractor of the extraction area and is a freestanding company via Shell. The National Government is benefiting from this. A few years ago the National Government said that they want more production and more extraction, the consequences are therefore high and many persons suffer from damage" (A1, Loppersum).*

This is the response of a participant from group B who held both parties responsible:

*"Also both parties. The NAM is basically the first point of contact for the reason that they are the causer within the meaning of extracting the gas. Thus, they say: damage will be reimbursed. But NAM always has to get concession from the National Government and the National Government is wittingly continuing gas extraction, thus they are also responsible. They have less influence of course, but the local politics are also partakers. Either the province as well the municipality, all of them" (B13, Loppersum).*

Last, one participant of Group A did not have an opinion about which party is responsible for the consequences of the earthquakes:

*"I think no one is responsible for that. I think it is like an environmental thing, the same as lightning or thunderstorms" (A15, Loppersum).*

## **5.2 Crisis Communication and Responses**

### **5.2.1 Remembrance of the major earthquake**

To find out if the undertaken communication activities have changed over time according to the residents, the participants were asked if they remembered the earthquake of the 16<sup>th</sup> of August in 2012. In total, 27 out of the 30 participants remembered the earthquake of the 16<sup>th</sup> of August 2012. For example participant A10 from Bedum:

*"Yes and I will never forget it".*

Four out of the thirty participants remembered that they were on Holidays at that moment. These participants were able to describe how they received the news. Furthermore, the majority who remembered the

earthquake was giving very detailed information about that day. Most respondents remembered the timing and what they were doing. However, two participants of group B and one participant of Group A did not remember the earthquake at all:

*"No, fortunately not" (B5, Eemsmond).*

### **5.2.2 Remembrance of communication activities after the major earthquake**

Owing to this remembrance, the respondents were asked if they remembered any form of communication by one of the involved parties (NAM, involved municipalities, Province of Groningen and Ministry of Economic Affairs) right after the earthquake of the 16<sup>th</sup> of August 2012. To start, 25 participants declared that they did not remember any form of communication right after this moment. In the first place media was mentioned by the participants as major informer about the earthquake of the 16<sup>th</sup> of August 2012. For example participant A6 from Ten Boer:

*"I cannot remember. Just the news papers and it was widely reported on radio and television. But I cannot remember if we received a letter or anything. If this was the case I would have remembered it"*

In addition, participant B7 from Loppersum:

*"No, by none of these involved parties. Everything you got to know was from the news papers. And from others. And via social media".*

Furthermore, four participants of group A stated that they remembered a form of communication. However, except for one respondent, the other three respondents seemed not highly sure about the form of communication:

*"No. No different than something in our Bokkeblad" (A8, Slochteren).*

*Bokkeblad* is a local news paper in the region of Slochteren. In Group B one participant remembered to receive a leaflet from the municipality:

*"I believe the municipality came with a leaflet" (B10, Loppersum).*

### **5.2.3 Remembrance of all the communication activities**

As followed, the respondents were asked if they remembered other forms of undertaken communication activities by the involved parties what have taken place between the 16<sup>th</sup> of August 2012 and the moment of interviewing. Several undertaken communication activities have been mentioned by the respondents, it was chosen to categorize the activities into four groups: (1) letters, (2) media attention, (3) meetings and (4)

information points. With letters are meant: letters from the Ministry of Economic Affairs and involved the municipalities. Second, with media-attention was meant: all the times the respondents answered being informed via media if they were asked to remember any form of communication from the involved parties. With meetings are meant: Minister Kamp's visits to Loppersum and other areas in the region, information meetings in the involved municipalities initiated by municipalities and the NAM. Last, with information points are meant the office of the NAM in the city hall of Loppersum. However, four participants of group A and one participants of group B could not remember any form of communication from the involved parties up to the moment of interviewing.

From the mentioned communication activities by the participants of group A, media was reported most as informer by the participants. Media attention was mentioned 20 times. Above that, the local news station *RTV Noord* was mentioned five times:

*"You let yourself rather be guided by what you see on RTV Noord and by what you read in the Dagblad van het Noorden or the Ommelander Courant or what your neighbors are saying; but there was no to barely any communication from the involved parties towards the residents"* (A11, Loppersum).

Thereafter, the participants of Group A mostly remembered the information meetings. Ten out of the 15 participants of Group A believed that these meetings were a good example of communication. After information meetings letters were mentioned most. Seven participants of group A mentioned letters as communication activity from one of the involved parties and five of them believed it was a good example of communication. However, two respondents of group A did not think it was a good example of communication, for example respondent A11 from Loppersum:

*"I found it an extremely bad example of communication. Because they spoke about things to do to be safe in your house. Safe in inverted commas. Screwing your furniture to the walls is the last thing you are thinking of at that moment. You are busy dealing with the larger things: will your house stand up straight anyway after a larger earthquake?"*.

However the following respondent did believe that the letters were a good example of communication:

*"I thought it was fine by a letter. And it stands out because it is coming from the Ministry of Economic Affairs and you think: wow, what is this? It's not an advertising letter in any way"* (A5, Eemsmond).

Furthermore, four participants of group A believed that information points were a good example of communication:

*"It is extremely important that you have an information point, definitely in Loppersum. Where people can go and where persons are who can give answers. That you do not have to call or anything. In this way you can give residents the feeling that you are listening to their problems. It is easier to have a place to go to. It shows involvement and I believe that is very normal"* (A3, Oldambt).

The participant did not visit the information point. None of the participants from group A believed that information points were a bad example of communication. The participants of group A were in general positive about all the four forms of undertaken communication activities by the involved parties. In contrast to the results of group A, the participants of group B reviewed the undertaken communication activities by the involved parties mostly as negative. The participants of group B were more negative about the information meetings and the letters. To illustrate, the information meetings were reported 15 times as bad examples of communication. For example by respondent B1 from Loppersum:

*"The only information came far later. When Minister Kamp visited the Boshal in Loppersum. That was a giant mistake of the mayor to start singing the 'Wilhelmus' on forehand of the meeting. That was the most stupid thing I ever saw someone doing"*

In addition, respondent B3 from Loppersum:

*"That emerges in such meetings. When you receive information from which you think: get the hell out! It is contradictory and it is just not right. The municipality of Loppersum is really trying to do best, but in my opinion the selection of speakers is extremely unfortunate. Look, if there is a speaker which is a geologist at the Rijksuniversiteit Groningen it looks reliable. However, if you hear later on that this man held a very high position within the direction of the NAM five years ago, the information is not objective any more"*.

Second, 11 out of the 15 participants of group B reported that they received a letter and ten out of the 11 respondents reviewed this letter as a bad example of communication. For example respondent B2 from Loppersum:

*'There were strange advices in it. In the sense that you should store your valuable dinnerware in the closet, and that you have to screw the closet to the wall. In my opinion it was a bit infantile. I found it childish what was said"*.

Furthermore, attention from the media was mentioned 11 times. In contrast with the results of group A, where media attention was mentioned twenty times:

*"No, not by the involved parties. Only via the media. It became sure pretty soon that it was an earthquake in the area. This news did not come from the National Government or from the NAM. It might be that they have alarmed the media, but I don't know that"* (B5, Eemsmond).

#### **5.2.4 Influence of undertaken communication activities towards involved parties**

In similar fashion the participants were asked if the good and- or bad examples of communication activities by the involved parties have influenced their feelings and thoughts towards the involved parties: NAM, the involved municipalities, the Province of Groningen and the Ministry of Economic Affairs. In group A, six participants reported that the example of communication had influenced their feelings towards the involved parties. The extent to which the communication example had a positive or negative influence on the feelings and thoughts towards the respondents differed. From the six participants of group A who reported being influenced, three respondents were speaking about a positive influence:

*"No, at that moment I found it all very positive. Because they had all the different initiatives and I found that positive at that moment"* (A8, Slochteren).

On the other hand, the participants of group B held stronger opinions about their feelings towards the involved parties. The majority of group B reported that the undertaken activities influenced their feelings and thoughts towards the involved parties NAM, the involved municipalities, the Province of Groningen and the Ministry of Economic Affairs in a negative way. As a result, 'mistrust' was a key word in the responses of this majority of 12 out of the 15 participants. The participants were talking about not getting taken seriously and about losing all faith in the political system of the Netherlands, for example respondent B5 from Eemsmond:

*"I have slowly become very suspicious. I believe that there is a lot more information out there than what gets disclosed right now. And I became suspicious by all the studies that needed to be done and because of Minister Kamp, who is postponing his gas decretal again. I have the feeling that they go all the way and will do everything what is possible to extract as much gas from the soil as possible before they stop or lower the gas production. But they will make sure that they extracted enough on forehand"*.

Besides, three participants in group A were talking about a neutral towards negative influence:

*"I thought they need a new communication advisor over there. I thought it wasn't a strong letter. It evoked more questions than that it answered questions"* (A11, Loppersum).

Furthermore, three participants in group A and three participants in group B mentioned that the examples had no influence on their feelings and thoughts towards the involved parties:

*“No, not then. I was still positive back then and I still had hope. It looked like Minister Kamp was onto the topic and like he would solve it! However, it did not take long before my hope disappeared” (B11, Loppersum).*

Not all respondents were able to reply to the question, for the reason that not all respondents remembered a form of communication by the involved parties.

#### **5.2.5 Responsible party for the communication towards residents**

The participants were asked who they held accountable for the communication about the earthquakes towards the residents of the earthquake region. Ten participants of group A and 11 participants of group B claimed that the Government is responsible for the communication. In group A eight respondents believed the responsibility lies with the involved municipalities:

*“I think that responsibility rests with the municipality. They are the link between the NAM and the residents. And the municipality has the obligation to guide their residents as good as possible. Thus, the municipality of Loppersum” (A12, Loppersum).*

Besides, the mayors of the involved parties were repeatedly mentioned by the participants of group B, for example by respondent B3 from Loppersum:

*“Eventually the mayor of course. I believe that the mayor is a very important face. That is the one where everyone is looking at and listens to. And of course the Province. I definitely think that the mayors of the earthquake region and also Max van den Berg (Commissioner of the King) should have been a lot tougher. They do not go in it too far, they let themselves get influenced by the political game and that is a pity. You are mayor, I have spoken about that in a letter, you are the mayor, you are responsible for the safety of your residents. And that responsibility is a job that you need to do till the end. And not till you are afraid of losing your face. A captain leaves the ship as the last person, that is what a mayor should do for his residents. And that is not happening in my opinion. But he, mayor Rodenboog, is absolutely trying. However, this is new for him as well of course. A change in their functioning”.*

In addition, there were nine participants (five in group A and four in group B) who stated that the government and the NAM are responsible for the communication activities towards the residents of the earthquake area together. For example participant A1 from Loppersum:

*“The NAM in cooperation with the municipality of Loppersum and I believe that both parties should make clear to the residents what is happening here”*

In addition, participant B11 from Loppersum:

*“If it is about substantive information it should be the NAM. The NAM could tell us a lot more after 25 a 30 years of studies. However, they are not doing it. They keep things to themselves and go constantly for reexamining things. What they do not know by now, they will not find out in the future. Thus, if it is about general information, then it should be the municipality of Loppersum in first instance. The municipal council”.*

There was one participant of group B who believed that the NAM is responsible for the communication towards the residents. Another participants of Group B stated that all the parties are responsible, including for example the *Veiligheidsregio Groningen*.

#### **5.2.6 Extent to which residents feel sufficiently informed**

The participants were asked to what extent they feel sufficiently informed by the involved parties about the earthquakes. To begin with, nine out of the 15 participants from group A indicated to feel sufficiently informed by the involved parties about the earthquake events in the region:

*“No, I am continuously informed in a sufficient manner and otherwise I am going to look things up on the Internet. I got well informed via the media-attention, RTV Noord, the municipality of Loppersum and the local news papers” (A1, Loppersum).*

This results of group A showed a contrast with the results of group B. In group B, 14 out of the 15 participants stated to feel insufficiently informed by the involved parties about the earthquake events:

*“It is unilateral information, they give exactly the information from which they believe that it is beneficial to their image. In mean time, via other sources I know that the information they give is unilateral” (B8, Eemsmund).*

In addition the response of respondent B7 from Loppersum:

*“Well, zero percent. Thus, one hundred percent insufficient. More than outrageous”.*

#### **5.2.7 Extent to which residents undertake action(s) to receive more information**

To begin, the respondents were asked about what they did at the moment when they felt insufficiently informed. In group A, eight out of the 15 respondents reported to look after information themselves when they felt insufficiently informed. Three of the 15 participants from Group A named Internet as an useful source to obtain more information:

*“If I do not have information I will make sure I will find the information and Internet is the most successful way” (A1, Loppersum).*

Furthermore, other respondents just mentioned the fact that they will go and look after information themselves. In addition, seven participants of Group A mentioned that they did not feel the need to get extra information and felt well-informed by the involved parties, this respondents did not undertake any form of action:

*"I do not feel that need. I am quite calm about what is happening and down to earth as well. I do not feel the need. However, if I did had questions I would just call the municipality"* (A12, Loppersum).

On the other hand, the results of Group B showed that all participants have undertaken actions to obtain more information in relation to the feelings of being insufficiently informed by the involved parties. This results showed a contrast with the participants of group A. However, it makes sense that the participants of group B are more actively looking for information by themselves, since 14 out of the 15 participants of Group B indicated in the previous question to feel insufficiently informed by the involved parties about what is going on. Internet was also in group B mentioned as a useful tool to obtain more information, for example by respondent B5 from Eemsmond:

*"Then you go and look after information yourself. Luckily we have the medium Google. You can find a lot on Google. Furthermore, you follow the news in the region a bit more and try to find information there"*.

Furthermore, eleven participants of Group B named 'interest groups' as an important source to obtain more information at the moment when they felt insufficiently informed. For example respondent B8 from Eemsmond:

*"Oh then I go and look after information myself. I am with a club, the Groninger Bodem Beweging. That is an association that stands up for the interests of the persons who live in the earthquake region and there we have a couple of talking groups and contacts via social media. We are also in contact with persons who worked at the NAM, thus former employees of the NAM who can tell a lot about what is really true, what is not true and what information is unilateral. Thus well, actively seeking for information. In any case I assume that the information we receive is incomplete, the correctness of the information it something I believe that is needed to be verified"*.

#### **5.2.8 Communication from major earthquake to moment of interviewing**

First, the participants were asked if the manner in which the participants were informed by the involved parties changed right after the earthquake of the 16<sup>th</sup> of August 2012 in comparison to the manner in which the participants were informed up to the moment of interviewing. The majority of group A noted that the communication activities from the involved parties were unchanged since the earthquake in 2012 in relation to the moment of interviewing. These were seven participants, including respondent A14 from Eemsmond:

*“There is really not much what has changed. You got the information from the media back then and that is actually still the fact”.*

In addition, also in Group B seven participants stated that the communication activities have been unchanged. However, the participants of group B seem to evaluate the fact that the communication activities were unchanged as more negative, for example participants B14 from Delfzijl:

*“Is there a difference? Are you getting informed? I believe that you need to look for information yourself. I believe that is still the matter of fact now, you are seeking for information yourself. And via Facebook and Twitter of course, via that medium you get informed very soon. That is the thing with social media nowadays of course. I think that has grown over the years, that has elaborated. And it depends to what you connect of course”.*

Furthermore, six participants of group A stated that the communication activities from the involved parties increased, for example respondent A8 from Slochteren:

*“Well, it became more professional of course. Back then it was handling very fast and now they know better what is going on and they know better what exactly can happen. However, I stay with the fact that I have this feeling that not all cards are shown and that is bothering me”.*

In addition, four participants in group B reported that the communication activities increased since the earthquake of the 16<sup>th</sup> of August 2012. Although the communication activities have increased according to this participants, the participants did not believe that the quality of the communication activities had improved, for example respondent B13 from Loppersum:

*“There is a difference. The NAM is communicating more, in relation to their own appearance. NAM has a Twitter account for example. Have you seen the silly messages on their account? If someone asks for answers, they are not at home. Another example, NAM organizes Regional Information Evenings in cooperation with the involved municipalities. Sometimes I am heavily astonished by what is being told there. Sometimes I learn from it. However, there were moments when I thought: this is not correct. And that is what I tell them at that moment. We also received a leaflet from the Veiligheidsregio with therein ‘what to do in case of an earthquake’. Then I ask: Gee, would it not be handy to give everyone a rubber boat? No, that was not possible. Everyone is trying to communicate more and tries to inform more, but all to a limited extent. The mayor over here, best guy, it enormously trying to do his best, I know that for sure. But he is also in a difficult position of course. However, I still think: take some more responsibility for your residents”.*

Moreover, two participants in group A and three participants in group B noted that the communication activities from the involved parties decreased from the major earthquake of the 16<sup>th</sup> of August 2012 up to the moment of interviewing. For example participant A5 from Eemsmond:

*“The communication is getting less, like it is getting normal. People know what to do right now and they keep an eye on their buildings. So if it is still necessary, I do not know. The earthquakes events become more and more normal perhaps”*

In addition, participant 2b from Loppersum:

*“The communication flows became less active lately, less advertisements and less meetings. Not much has been organized lately”.*

Last, a participant in group B mentioned that the communication in particular has become more strategic since August 2012:

*“The suspicion what I have is that the information is going through a tactical mill right now. Thus, that the information that is generated by the perpetrators of this misery into the region, that there are communication specialists in between to make sure that the information gets filtered with the goal: how can we make sure that the information is good for our own image. That is what I think. [...] For example, the Ommelander Courant had an annex with a complete story about the NAM. I thought, you really need to have some money to pay this. They were very positive about the NAM. It was a kind of an advertiser that the NAM placed itself. A complete section fully written about the NAM, what they do and how good they help us” (B8, Eemsmond).*

### **5.2.9 Evaluation of the communication at the moment of interviewing**

The participants were asked how they reviewed the undertaken communication activities from the involved parties at the moment of interviewing. The majority of group A mentioned that there was no form of communication by the involved parties towards the residents at the moment of interviewing:

*“I do not have the feeling I am getting informed. Or it needs to be done via media. But not personally by an involved party” (A11, Loppersum).*

The majority of group B (12 participants) reviewed the undertaken communication activities by the involved parties at the moment of interviewing as bad examples of communication messages. The reactions differed, the respondents were talking about not being taken serious in the communication activities, about the communication activities being arranged in a strategic manner, that there was a lack of communication during the moment of interviewing and about the low quality of the disclosed information. All these answers are summarized together and coded as ‘bad communication’. For example by this three respondents:

*"In particular I believe that there is getting informed in a strategic manner. I have this feeling that this way or another the NAM and the Ministry of Economic Affairs try to stay in a positive daylight by the rest of the Netherlands and that all the information they are giving has to do with that. That they of course try to keep everyone as a friend in the region. Thus, there are genuine and substantive forms of information that we would like to know, for example: what was the ground acceleration at the surface with the earthquake of Huizinge?"* (B8, Eemsmond).

This is what respondent B10 from Loppersum stated:

*"It is all minimal. For example the Ombudsman. I hear nothing from it, see nothing of it. I do not know what his exactly function is. However, I had expected much more"*

In addition, this is what respondent B12 from Loppersum reported about the communication at the moment of interviewing:

*"I have the feeling they starting to go more and more low profile. The only communication we lately received was from Minister Kamp, at the news. The one time that a journalist interviewed him. Further, you do not receive any information from the NAM anymore. Unless you got Twitter, then there is suddenly a Tweet about a business day or the placement of a school bench, but that is no information".*

Furthermore, three participants of group A and two participants of group B reported that the communication flows were quiet at the moment of interviewing:

*"You actually do not hear anything from the municipality"* (B4, Loppersum).

In addition, two participants of group A and one participant of group B reported that the communication activities have increased:

*"The big difference is that the NAM gives almost weekly an update about what is going on in the free local to-house papers. The municipality as well, by organizing small meetings in the earthquake region"* (B1, Loppersum).

Last, one participant of group A mentioned that the respondent did not view the communication from involved parties as important but rather got informed by neighbors and by other people in the village the respondent is living in (A6, Ten Boer).

#### **5.2.10 Preference for alternative communication strategies**

In addition, the participants were asked if they preferred to have seen something different in the undertaken communication messages by the involved parties. In group A eight participants and in group B all participants stated that they would have like to see something different in the undertaken communication activities by the involved parties. However, the responses of both groups differed. The participants of group A (8 participants) mentioned really practical things and were not talking about involved emotions in the crisis events. The participants named practical things as a written journal or an online blog, more consistent updates by an objective party, ring all doors in the earthquake region preventive to note if there is damage, the municipality should invite people, ask the residents where they feel need to and some participants were talking about the sensation factor of the earthquake events in the media. For example participant A11 from Loppersum:

*“Yes, I continuously need to look after information myself when I feel the need. It would be nice if there was a digital news letter or something like that, to which you can subscribe to receive the latest news from the Dialogue Table and other developments. You really need to look for it now. [...] The parties should work more together. Work together in information disclosure in an active way. I really do not even care who will be the sender, as long as it is as objective as possible. So maybe the NAM will lapse then. Then it should be the municipality, they are standing closest to the residents”.*

In contrast to the responses of group A, ten participants of group B were talking about more openness, honesty and transparency:

*“Open communication. I do not see it as a problem if it is via the media, as long as it is open and honest. Not underhand. I read in the newspaper yesterday that the NAM is going to debate with the Second Chamber behind closed doors. Behind closed doors? What is that for kind of nonsense, it concerns all of us! This is about our safety! And then there is going to be a debate by the Second Chamber behind closed doors? I cannot believe it. Dirty games are played then” (B9, Appingedam).*

In addition, respondent B7 from Loppersum:

*“Full honest openness. It is happening anyway, it is undeniable. In terms of communication, this can happen open and honest. Not defensive and void of course. Reluctantly they admit that another earthquake has taken place. Yes, of course, that is not deniable. And that it happens due to the gas extraction neither. So they need to come up with the information from themselves immediately”.*

Last, a quote from respondent B8 from Eemsmond:

*“I especially think that transparency is extremely important. What kind of medium the NAM or Ministry of Economic Affairs use does not matter to me. That can happen at all possible manners and it needs to be*

*concentrated onto all layers of the population. You can send me an update via e-mail, that is fine by me, but that may be difficult for elderly people. It concerns me in particular that the NAM passes all information to us about what is going on and what they know in the most neutral and transparent way as possible. I have the strong impression that there is known a lot more than what gets communicated''.*

Last, five respondents of group A thought the information disclosure was just fine:

*"No, I believe this is sufficient. Post, media and internet. What more would you actually like?" (A4, Appingedam).*

### **5.3 Crisis Effects**

#### **5.3.1 Feelings of affectedness**

The majority of group A (ten participants) declared to not feel affected by the earthquakes. However, there were five respondents who declared to feel affected by the earthquakes. The reactions of this respondents differed. The participants mostly worried about the value of their properties and about the hassle concerning the renovation of their livings after an earthquake:

*"I find it regrettable that it happened, but there is nothing you can do to change it. It are negative events for the area, with a possible sale of your home. If you compare your living to a similar living in a not earthquake region, you can tell what the buyer will select and what will happen. So I believe that is a bad thing. Thus, for the future they need to arrange it in such way that the earthquakes need to stop" (A6, Ten Boer).*

Two participants of group A reported to still feel safe, but that the earthquakes keep them busy every now and then:

*"I feel safe here. I don't want to leave the area, I absolutely don't have that feeling. But what I was just saying: it keeps you busy. During the night when you're sitting on the couch and think: what is that kind of noise? Is there an earthquake coming? That is very odd. [...] People do not realize how much impact the earthquakes have. It does not mean that I want to leave, totally not. But it does have impact. Not that it keeps you busy every day, but it keeps you busy" (A10, Bedum).*

On the other hand, all participants of group B stated to feel affected by the earthquake events. In particular, 14 participants declared to feel affected in a negative manner. The participants were talking about emotions such as fear and insecurity. Five responses of participants of group B are quoted here:

*"Damage, but not too much damage. However, lots of emotional damage. And we believe that is more important. More important than a tear in your masonry. That is our least care. The major damage is that we wanted to sell our house, so that my wife could stop working and that we could do fun things together. That is not possible at this moment"* (B3, Loppersum).

The response of participant B5 from Eemsmond:

*"I am willing to explain that. It has to do with my past in former Yugoslavia. I have experienced things over there that got triggered again by the earthquakes right now"*.

Furthermore, participant B6 from Delfzijl:

*"I am not interested in the damage, but it is the mental pressure you are dealing with. That we are affected by that is the worst part. We are affected with the fear in which you continuously live. That there is fear. Something happens again and you start talking about it again"*.

In addition, participant B7 from Loppersum:

*"That is a very broad question. It comes down to being mentally and physically ruined. Your entire existence and possessions gets removed. The unrest you are dealing with. Always being alert, always need to look around when there is noise: it drives you crazy. The recognition is just not there. Besides, you got stolen from your retirement"*.

Last, participant B10 from Delfzijl:

*"I am suffering from it in any possible way. Financially, emotionally and physically. It is very sad"*.

On the other hand, one participant of group B mentioned to feel positively affected, this was the only respondent mentioning a positive effect and was originating from Loppersum:

*"It also has to do with the feeling of being one big family. Especially when you visit meetings. Everyone you meet during this meetings have the same problems as you have. People recognize it from each other and identify: I have this, I have that, I have done this, I have done that. In particular in the beginning when the handling of the damage claims was arranged so dramatically, the communication went like: what can you do better? Those communities were on influence. I believe there are again six or seven vans in the street right now because everyone is busy with reparation and we are starting to make jokes about it towards each other"* (B1).

### **5.3.2 Influence on thoughts towards earthquakes**

The respondents were asked if the undertaken communication activities by the involved parties have influenced their thoughts and feelings towards the earthquake events. Nine participants of group A declared that they were wondering about the consequences of the earthquakes on longer term, for example respondent A14 from Appingedam:

*"You do think differently. You now see the consequences of the earthquake events and you did not see that before that time. You did not have any feelings about it. Those feelings showed up now. Especially when you hear that people have to leave their home because it is about to collapse. Then you start thinking differently about the earthquakes. Especially when it gets worse. Farms whose entire façade needed to be propped up because they were afraid that it collapses. So, we see the consequences of the earthquakes and then you think: Yeah, well, there is quite something going on".*

Two participants of group A mentioned the value of their houses as reason why their thoughts changed over time:

*"Less easy. You now think: what the hell? The smaller earthquakes from 1.9 to 3.2 actually have an enormous impact on your living environment. And the price of your house at some point. You do have your own house of course. We are not planning to leave, but at some point what would be the value of your house?" (A2, Appingedam).*

In addition, two participants of group A thought differently at the moment of interviewing because of the positive attention for the earthquakes, the participants hoped that this attention will be carried on in the future:

*"No, I do not think different about the earthquake events. However, I do think it is important that there is attention for it and because of the attention I hope that something is getting done. I do not know better than that there are routinely earthquakes. But the Netherlands cannot live without the gas and the same counts for our households, we cook with it, our electricity is made of natural gas, we just cannot live without it. However, maybe less gas needs to be extracted, so it leads to less earthquakes and less soon from each other" (A1, Loppersum).*

Last, three participants of group A and four participants of group B reported that the communication activities did not had any influence on their feelings or thoughts towards the earthquakes, for example respondent B14 from Eemsumd:

*"No. It is about economic interest and the residents of the earthquake region are therein subordinated. That is what I was thinking and what I stay thinking".*

The responses to this question differed between group A and group B. Where the participants of group A mostly worried about the consequences for the longer term, for example the prices of their properties, the participants of group B felt unrest and insecurity. The majority of group B indicated that the knowledge which got available has led to feelings of unrest:

*“Well no, the information is almost always after the event has taken place: where was it? How heavy was it? Where was the epicenter? However, about the future, where it will come and how heavy it will be, that is always open. That is an open question. Thus, basically it is always waiting for the next earthquake” (B2, Loppersum).*

Last, one participant of group B spoke about the attention for the earthquakes what has changed:

*“No, not differently. However, it woke us all up. If there was no publicity it could have go on like this for ten years. Then the houses would be sold, because it would have stayed out of publicity. But that did not happen. It did not changed our point of view. It is more like recognition, like: see?” (B3, Loppersum).*

### **5.3.3 Influence on thoughts towards the involved parties**

To begin with, the respondents were asked if the undertaken communication influenced their thoughts and feelings towards the involved parties: NAM, the involved municipalities, the Province of Groningen and the Ministry of Economic Affairs. In general, the responses of group A were calm and in a general manner the undertaken communication activities of the involved parties had no influence on their feelings and thoughts towards the involved parties. The responses showed that the respondents felt skeptical towards the involved parties, mostly reported that the involved parties needed to show to the residents of the earthquake region that they are trying to do best for them. However, the participants of group B were much more specific about what party had a positive or negative influence on their feelings and thoughts towards the regarding party.

Five participants of group A felt skeptical towards the involved parties:

*“Well, the involved parties like the NAM, Shell and the National Government: I believe that they have to do their utmost best right now and need to show that they are doing something favor in return for the residents of Groningen. I find that extremely important. They have benefited from the natural gas for a very long time. And I know, the gas is for the Netherlands, but if Groningen only receives one percent back of all the revenues I am starting to think by myself: they have to show it now. The Central Government in particular; putting Groningen back on the map” (A1, Loppersum).*

In addition, the positive and-/or negative feelings of the participants towards each involved party was studied. In group A four participants reported that their feelings about the NAM have negatively changed:

*"Yes, I really started to think differently about the NAM. Of course I knew that the NAM was earning lots of money from the natural gas over here. In first instance, after the major earthquake the NAM said very guiltily: 'Yes, this is bad. We need to do something about it'. Thereafter, they produce more gas than what was agreed on because they feel that the gas taps will limit soon. In my perception, they try to get most out of it in a deviously manner. They extracted more gas in 2013 than ever, while we already had that major earthquake. I find that such a strange action. No, I do not have any trust in the NAM"* (A11, Loppersum).

Furthermore, three participants of Group A felt negative towards the Ministry of Economic Affairs:

*"The Ministry has just as much blame, because they benefit from the revenues. The more the NAM extracts, the more revenues for the Ministry. Which they use for completing the public treasury"* (A14, Eemsmond).

There was one respondent by which the feelings towards the municipality changed negatively:

*"I do think that the municipality remained in default"* (A10, Bedum).

In group B ten participants reported that the communication activities led to negative feelings towards the NAM and towards the Ministry of Economic Affairs. This is what respondent B7 from Loppersum is saying about both parties:

*"Yes, much more negative. It is only about financing, they need to have the money and the population is a side issue. It feels like you have been placed at the garbage. In the war they called that: collateral damage. A storage bunker of the enemy get bombed and that half of the residents from the village or city dies does not matter. And that is what we are. We are just collateral damage. If you look at the sums of billions where it is about, what is getting earned from the gas extraction per day of even per hour, that are such giant sums. You cannot sharpen them off against the emotions. They would have kept more than enough money left even if they generously compensated"*.

In addition, this is what respondent B3 from Loppersum reported:

*"No, there are coming more commissions, sub-commissions, reports and report; well, how many reports did Minister Kamp made in meantime? It is just procrastination, procrastination and procrastination. Thus actually their communication is more confirming the distrust you have then the faith you have in it"*.

Furthermore, the participants of group B mentioned that their thoughts and feelings towards the Province of Groningen and the involved parties have changed. As well in a positive and negative manner. Participants of group A did not mentioned different thoughts or feelings towards the Province of Groningen and involved municipalities. To start, three participants of group B stated that the communication activities had a negative influence on their feelings towards the province of Groningen:

*"The province tried to stay out of the conflict field. They initiated action when there was an earthquake in Ten Boer. Then suddenly it became relevant and earthquakes in the city became more important than in the villages. Well, you cannot express yourself in a more unfortunate way. I have no idea what he exactly meant. But if I am sitting here in fear and fright, that is the same feeling for me as for someone in the city. There may live more persons in the city; we are just as affected as they are. I really find that a wrong comparison" (B7, Loppersum).*

On the other hand, two participants of group B felt positive feelings towards the province of Groningen. This is what respondent B13 from Loppersum said about the Province of Groningen:

*"I guess I started to feel more positive about the Province".*

In addition, three participants of group B reported a negative influence towards the involved municipalities:

*"That does not only count for our mayor, but for all mayors of the area: they do not show all the cards. That is bothering me. That they do not stand up for us, not sufficiently. That is due to politics. There in between. That is an awful position to be in of course" (B13, Loppersum).*

In contrast, two participants reported a positive influence on their feelings and thoughts towards the involved municipalities:

*"I got respect for the mayor. Which I never had. However, what this man did, although I do not fancy him, is amazing. To my opinion, the mayor has grown. He also grew in his role and that is what I like about such a rural municipality, that you can place a man like him there. Because in a larger municipality they would have commissioned an alderman on this topic" (B1, Loppersum).*

To finish, the responses of five participants of group A were labeled as 'otherwise'. From these respondents, there was one positive response from respondent A12 from Loppersum:

*"They also could have said: sorry, but that will cost us too much money, or is it not that bad. However, there is really listened to us and I think they know now that it is serious, so I see that as positive".*

Two other participants were talking about the misuse of the compensations, for example respondent A15 from Slochteren:

*"Everyone is reporting damage, however I think that lots of people are abusing this money from damage claims. That is my opinion. There are farms that were about to collapse 15 years ago already, not because of the earthquakes, but just because of deferred maintenance. People abuse this and I find that very incorrect. I do not*

*want to do that, make abuse of the situation. Thus, everyone is reporting damage over here from what I think: come on!''.*

Last, three participants of group A did not think differently about the involved parties because of the undertaken communication activities. These respondents were short in answering:

*'Well no, actually not'' (A7, Bedum).*

## 6. DISCUSSION OF THE FINDINGS

### 6.1 Discussion

This study attempted to provide an answer to the following research question: 'How do the residents living within the earthquake region in the Province of Groningen evaluated the communication activities by the Nederlandse Aardolie Maatschappij, the involved municipalities, the Province Groningen and the Ministry of Economic Affairs in order to inform them about the crisis events?'.

To begin, the evaluation about the communication activities by the involved parties differed between the both groups that have been interviewed. The participants of the first group (A) perceived the communication activities in general as 'good examples of communication'. Besides, the participants felt in general sufficiently informed by the involved parties. Although the participants viewed the communication activities from the 16<sup>th</sup> of August 2012 up to the moment of interviewing as unchanged and mentioned that there were less to no communication activities at the moment of interviewing. Furthermore, ten out of the 15 participants of group A did not feel affected by the earthquake events. However, the communication messages did influence their thoughts about the earthquakes. Nine out of the 15 participants were wondering what the consequences for the longer term will be. The communication messages did not strongly influence their feelings and thoughts towards the involved parties, five participants of group A indicated to feel more skeptical towards the parties. On the other hand, the participants of group B showed stronger involvement in the crisis events than the participants of group A. To begin with, the participants of group B remembered more undertaken communication activities and reviewed this communication activities more negative than the participants of group A. The evaluated communication activities were labeled by the participants of group B as bad examples of communication. Furthermore, the participants of group B indicated to feel insufficiently informed by the involved parties. As a result, the crisis events had a strong impact on the feelings and thoughts of the participants towards the involved parties. This impact was reported as negative by 14 out of the 15 participants. As follows, all the participants of group B indicated to like to have seen something different in the undertaken communication activities. All participants of group B felt strongly affected by the earthquakes and all believed that the communication messages of the involved parties could have been better. The participants indicated that the information they received caused unrest.

Thus, the residents living within the earthquake region who were not a member of an interest group evaluated the communication messages of the involved parties more positive than the residents of the earthquake region who were a member of an interest group. The participants of group B were added to the study in order to find out if there was a difference in level of crisis involvement. This seems to be the case, the findings of this study implicate that there is a difference in crisis involvement between the both groups of this study. However, there is little existing literature on crisis involvement what gives an explanation about why some stakeholders feel more involved than others. Although there is suggested by McDonald and Härtel (2000) that stakeholder

involvement with a crisis can determine the outcomes of a crisis. Yet little studies have been conducted on this topic (Choi and Lin, 2009).

There are some explanations to describe the difference in the level of crisis involvement between the participants of group A and group B of this study although this explanations are not scientifically proved. Likewise, this higher involvement in the crisis events the stronger the reaction to the crisis event will be. The reason why the participants of group B felt stronger involved in the crisis events may be due to personal characteristics or external factors, summed up as personal circumstances. Personal characteristics can be for example be that persons of group B have more difficulties with the feelings of impotency. External factors can be personal health, financial circumstances and personal history. Personal circumstances were illustrated more often by the participants of group B than group A. For example, participants who wanted to sell their properties after their retirement, or wanted to buy a smaller property now the children have left the house, or wanted to stop working or wanted to move to another place. Many participants of group B bought their properties years ago with the idea to sell it when 'they get older', often the mortgage was already fully paid. However, the value of the properties significantly decreased due to the earthquakes. This may lead to more frustrations regarding to the earthquakes. Next, there was a participant who experienced an extreme unsafe feeling due to the participants' past as a military in former Yugoslavia. The personal circumstances of the participants that were interviewed could have influenced the higher level of involvement within the crisis events. The higher level of crisis involvement could have led to stronger feelings of connectedness with other individuals who are dealing with the crisis. To share feelings, concerns and information. It may be the case that the participants of group B felt more need for identification, the reason why the participants accede the interest groups and this may have strengthen their feelings of solidarity. Furthermore, the most given reason for joining one of the interest groups is 'together you can do more', the participants felt the belonging to assemble.

Thus, where the communication activities by the involved parties were evaluated as sufficient by one part of the victims as stakeholders that are engaged in the crisis event; the other victims as stakeholders evaluated the communication activities as insufficient. The findings of this study present that the victims of the earthquake events as the stakeholders of the involved parties evaluated the communication activities differently and that one group of this study showed a higher involvement in the crisis events. Although the victims lived in the same place and received the same amount of information via communication activities by the involved parties. The findings of this study shows that victims of a crisis as stakeholders of the involved parties show various levels of crisis involvement.

## **6.2 Limitations**

To start, the first limitation concerns the timeframe of the interviews. The participants of group A and group B have not been interviewed at the same time. The interviews of group A were conducted between April and July 2014, the interviews of group B were conducted between October and November 2014.

The second limitation of this study is about the memories of the participants. The participants were asked if they remembered the earthquake in August 2012. This time frame may influence emotional reactions. With more than thousand earthquakes that happened so far it could be possible that the participants started viewing the earthquakes as normal. However, the results showed that 27 out of the thirty participants remembered the earthquake of the 16<sup>th</sup> of August in 2012.

The third limitation is about the involved parties that were included into this study. It appeared to be that the participants of group B mentioned other parties beside the four involved parties (the NAM, the involved municipalities, the Province of Groningen and the Ministry of Economic Affairs). Participants of group B also mentioned parties such as the *Koninkrijk Nederlands Meteorologisch Instituut* (KNMI) and the *Veiligheidsregio Groningen*. These parties could have been included in the study.

The fourth limitation is about the point of view on the communication activities by the involved parties. This could have been done by asking the opinion of the involved parties about the findings of this study. Furthermore, by including the point of view from the involved parties it would have been possible to study if the findings from this study corresponds with the point of view on the communication activities and strategies by the involved parties.

### **6.3 Practical implications**

This study provides several practical implications from which the involved parties in this crisis events could benefit. The findings of this study correspond with the report of The Safety board, namely that the population of Groningen remained receiving reassuring communication messages and were not sufficiently involved in the events (NOS, 2015b). For this reasons, the population could not create an accurate picture of the situation and were given a *fait accompli*. The Dutch Safety Board is also speaking about a lack of communication that significantly contributed to feelings of 'mistrust' among the population (NOS, 2015b). Mistrust was also often mentioned in this study among the participants of group B. The report of The Safety Board also concluded that the local authorities were insufficiently involved by the NAM and the Ministry of Economic Affairs in the crisis events.

Besides the fact that the findings of this study correspond with the findings of other studies, there are more practical implications found that will be outlined in this section. To start, the residents clearly perceived a lack of transparency in the undertaken communication activities by the involved parties. Second, the participants mostly considered it as the role of the mayor and- or municipality to communicate with the population of the earthquake region. Third, the findings of this study present that the participants of the study perceived the communication activities as 'quiet' sometimes. To illustrate, the participants indicated that the communication activities had a peak after something happened. However, after an event it remained quiet and no communication activities take place. The residents would like to stay updated continuously. Fourth, the findings show how important it is to focus your communication messages to the various stakeholder groups

you are dealing with. To illustrate, four participants of this study spoke about a leaflet from the municipality that contained information about screwing furniture to the walls in case of an earthquake. The participants received this leaflet as childish; as the residents were 'infantile'. Moreover, the residents did not want to know how to screw furniture to the walls, the residents wanted to know about what is being done to protect them for earthquakes in the future. Last, this study provided insights in that not all residents can be viewed as 'one'. It showed that some groups of residents held deeper feelings of involvement in a crisis event than other residents. However, this phenomenon of level of involvement of stakeholders in a crisis event is still largely unexplored. These findings provided the base for practical implications to the involved parties:

Communicate with compassion - As the report of The Safety Board as well concluded, the undertaken activities of the involved party, in particular by the NAM, had a technocratic approach. As Seeger (2006) stated, the victims- and or stakeholders or an organization respond more positive to spokespersons who acknowledge their concerns and demonstrate human compassion. When messages are communicated more genuine, the public has more faith in that the undertaken actions are appropriate. However, some spokespersons prefer to react calm, without expressions of concern. Mostly because the spokespersons fear to be viewed as unprofessional. However, the results show (Seeger, 2006) that this mostly results in being perceived as cold and uncaring by the public.

Create a relationship with the residents - The stakeholders of an organization have the right to know what is going on and what risks it faces and which efforts are being made. The findings of this study present that the participants perceive feelings of mistrust; the feeling that 'not all the cards are shown'. According to Seeger (2006), accepting your stakeholders as a legitimate and equal partner is one of the best practices in the field of crisis communication. It is the responsibility of an organization or authority to share this information (Seeger, 2006). Therefore, a dialogic approach would be the best strategy. However, there are lots of myths about a dialogic approach to crisis communication, as organizations and authorities are scared that the stakeholders will panic if it has accurate information about a crisis (Seeger, 2006). However, this myth has never been supported in the research. On the contrary, a study of Tierney (2003) stated that withholding information from the stakeholders will decrease the probability that the stakeholders will respond appropriately.

Openness and transparency - The involved parties will need to be more open and transparent in their communication activities. When the information about a crisis is not shared with the public by the engaged organization, the public will likely obtain their information via other sources (Seeger, 2006). If this is the case and stakeholders obtain information via other sources the organization loses the ability to manage the crisis message. In addition, it was studied (Seeger, 2006) that organizations that use a honest communication strategy obtain more credibility of the public and of the media, also on longer term.

Consistent messages - Seeger (2006) stated in his article about the ten best practices in crisis communication how important the consistency of messages is in order to create an effective communication strategy. The

findings of this study indicate that there was a strong need among the participants of this study for consistent communication activities. Research among communication breakdowns during a crisis showed that breakdowns and contradictions will lead to confusion, additional uncertainty and it may even enhance harm (Seeger, 2006).

Media and accessibility - Building a relationship with media is important for crisis managers during a crisis (Seeger, 2006). The media can be viewed as an important strategic resource to communicate crises and risks in an open and honest way. In particular among the participants of group A, media was named as most important informer about the crisis events. By cooperating with the media, the involved parties can be more sure that the residents of the region will receive their message.

Identify emotions of the participants in the earthquake region - According to Jin and Pang (2010) identifying the different emotions that are experienced by the stakeholders is important for more effective crisis communication. Jin and Pang (2010) believed that this is crucial for organizations in order to better understand the emotionally segmented stakeholders and that it will be effective to tailor the crisis responses strategies to the segmented stakeholders. This may have a positive influence on the crisis relations.

In sum, it is recommended to the involved parties: NAM, the involved municipalities, the Province of Groningen and the Ministry of Economic Affairs to cooperate together. Cooperation is extremely important for the effectiveness of the crisis communication and it will enhance the credibility of the involved parties. It would be useful to give the responsibility of the communication messages towards the residents of the earthquake region to the involved municipalities. As the residents of the region view it as the task of the municipality to inform their residents. It is recommended to send out the crisis communication from one source and the given information should be supported by all involved parties. In addition, it is recommended to create a dialogic approach with the residents. Furthermore, the communication messages should be transparent and honest. Besides it will need to show compassion.

Second, the involved parties should work together in strengthen their relationships with the media. Furthermore, the involved parties can make use of the stealing thunder theory. This is a proactive crisis timing strategy and this is the definition: "When an organization steals thunder, it breaks the news about its own crisis before the crisis is discovered by the media or other interested parties" (p. 425, Arpan and Roskos-Ewoldsen, 2005). The study showed that the stealing thunder theory leads to more positive reactions of stakeholders than when the crisis is disclosed via media or other interested parties. Furthermore, the involved parties should cooperate in creating a better understanding of the involved emotions of the residents of the earthquake area. This can be done by organizing small meetings in each municipality. For example by organizing small meetings with ten residents at the time. Of course multiple meetings within each municipality will need to take place. Organize this meetings in each municipality and repeat this meetings two times a year. It is thereby important to let the residents believe that they are seen as equal partners in the crisis events.

Last, it is suggested to create a 'crisis communication board'. In this team one person of each municipality can be represented as well as one or multiple employee(s) of the Province of Groningen, the NAM and the Ministry of Economic Affairs. Together it will be their job to communicate to the residents of the earthquake region, in a way that they stand close to the residents.

#### **6.4 Scientific relevance and future research**

The findings of this study emphasize four important topics in the scientific field of crisis communication. First, this study emphasizes the importance of research into crisis emotion. The findings of this study present that crisis can lead to different emotional reactions of stakeholders. However, research on crisis and emotions has been limited. Moreover, the existing studies on crisis emotion mainly focus on anger and sympathy (McDonald et al., 2010). This findings of this study are corresponding to the statement of McDonald et al. (2010) that there is a strong need to explore a variety of crisis emotions. There is in particular a strong need to explore the impact of crisis emotions on attitude to the company and upon stakeholders behaviors and this is therefore strongly recommended for future research.

Second, the findings of this study highlight the importance of transparency in communication messages. There is little known about the role of transparency in crisis communication theories. The existing literature mainly focuses on the role of transparency in communication messages in crises in the financial world, i.e. banks. From a communication science point of view it would be valuable if the role of transparency will be further examined, this is recommended for future research.

Third, the findings of this study provide insights in corrective actions as a crisis response strategy. Research found that the primary SCCT crisis response strategies form three groups based upon perceptions of accepting responsibility for a crisis: (1) denial, (2) diminish and (3) rebuild (Coombs, 2007b). Corrective actions are usually a part of the rebuild strategy. In this specific crisis response strategy the organization offers material or symbolic aid to the victims of the crisis. These material offers and symbolic aid are also referred to as corrective actions. This strategy is build upon Benoit (1997) image restoration strategy. When using a corrective action, the company promises to correct the problem and shows willingness to help the victims and to take actions to prevent the crisis from happening again in the future. This strategy is most used when a intentional crisis (Coombs, 2007b) occurred, when a organization knowingly placed people at risk and therefore has strong attributions of crisis responsibility. The residents of the earthquake region in the province of Groningen are entitled to submit a damage claim. Although this form of corrective actions is part of the rebuild strategy and the organization thereby promises to correct the problems, the participants of this study, in particular of group B, were still not positive about the organization's actions. However limited literature is found on the evaluation of stakeholders to corrective actions. A study of Coombs and Holladay (2008) stated that corrective actions are as effective as an apology in shaping stakeholders' perception of the organization. For the reason that it shows that the organization is taking responsibility and thereby focus on the victims' needs. It would be interesting for

future research to conduct research into how victims of a crisis event evaluate the corrective actions of an organization or authority.

Last, most studies into crisis communication focus on matching the crisis response strategy with the crisis type. The Situational Crisis Communication Theory (SCCT) predominates the field of scientific research into crisis communication and mainly focuses on attribution, responsibility and crisis history which leads to the choice of an diminish, rebuild or denial strategy. The findings of this study implicate the need for exploring the reasons why some stakeholders feel deeper involved into a crisis event than other stakeholders. As Jin (2009) stated that the individuals' perception of a crisis involves their own interpretation of the crisis. The level of involvement of stakeholders in a crisis event is still largely unexplored (McDonald and Härtel, 2010; Choi and Lin, 2009). This study indicates that stakeholder involvement also determines the outcomes of a crisis and crisis involvement of stakeholders is therefore recommended for future research.

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## Appendix I: Coding Scheme

| Constructen                 | Codes                              | Subcodes                       |
|-----------------------------|------------------------------------|--------------------------------|
| <b>A_Crisis_Attribution</b> | A1_verantw_aardbevingen            | A1a_Nam                        |
|                             |                                    | A1b_Overheid                   |
|                             |                                    | A1c_Nam_en_Overheid            |
|                             |                                    | A1d_Geen_mening                |
|                             | A2_verantw_gevolgen                | A2a_NAM                        |
|                             |                                    | A2b_Overheid                   |
|                             |                                    | A2c_Nam_en_Overheid            |
|                             |                                    | A2d_Geen_mening                |
|                             | <b>B_Crisis_Comm_and_Responses</b> | B1a_Herinnering_Aardb16aug_Ja  |
|                             |                                    | B1b_Herinnering_Aardb16aug_Nee |
|                             | B2_Herinnering_Comm_Mid            | B2a_Herinnering_Comm_Mid_Ja    |
|                             |                                    | B2b_Herinnering_Comm_Mid_Nee   |
|                             | B3_Communicatie_Middel             | B3a_Brief                      |
|                             |                                    | B3a1_Goed_voorbeeld            |
|                             |                                    | B3a2_Slecht_voorbeeld          |
|                             |                                    | B3b_Media_aandacht             |
|                             |                                    | B3b1_RTV_Noord                 |
|                             |                                    | B3b2_Overige_media             |
|                             |                                    | B3c_Bijeenkomsten              |
|                             |                                    | B3c1_Goed_voorbeeld            |
|                             |                                    | B3c2_Slecht_voorbeeld          |
|                             |                                    | B3d_Informatiepunt             |
|                             |                                    | B3d1_Goed_voorbeeld            |
|                             |                                    | B3d2_Slecht_voorbeeld          |
|                             | B4_Comm_Vb_Invloed_ged_Partijen    | B4a_Vb_Geen_invloed            |
|                             |                                    | B4b_Vb_Wel_invloed             |
|                             |                                    | B4c_Anders                     |
|                             | B5_Verantw_comm_inwoners           | B5a_Gemeente_Overheid          |
|                             |                                    | B5b_NAM                        |
|                             |                                    | B5c_Beiden                     |
|                             |                                    | B5d_Anders                     |
|                             | B6_Voldoende_geinf                 | B6a_Voldoende_geinf            |
|                             |                                    | B6b_Onvoldoende_geinf          |
|                             |                                    | B6c_Anders                     |
|                             | B7_Moment_Onv_geinf                | B7a_Zelf_opzoek                |
|                             |                                    | B7b_Actiegroep                 |
|                             |                                    | B7c_Anders                     |
|                             | B8_Verg_Comm_16aug_Nu              | B8a_Comm_toegenomen            |
|                             |                                    | B8b_Comm_afgenomen             |
|                             |                                    | B8c_Comm_onveranderd           |
|                             |                                    | B8d_Strategisch                |
|                             | B9_Comm_heden                      | B9a_Comm_rustig                |
|                             |                                    | B9b_Geen_comm                  |
|                             |                                    | B9c_Meer_communicatie          |
|                             |                                    | B9d_Comm_slecht                |
|                             |                                    | B9e_Anders                     |
|                             | B10_Alternatieve_wijze             | B10a_Nee                       |
|                             |                                    | B10b_Ja                        |
|                             |                                    | B10c_Anders                    |
| <b>C_Crisis_Effects</b>     | C1_Mate_van_getroffen              | C1a_Getroffen                  |
|                             |                                    | C1b_Niet_getroffen             |
|                             | C2_Invloed_gedachten_aardb         | C2a_Geen_invloed               |
|                             |                                    | C2b_Aandacht                   |
|                             |                                    | C2c_Waarde_huis                |
|                             |                                    | C2d_Gevolgen_lange_termijn     |
|                             |                                    | C2e_Kennisongerust             |

|                               |                        |
|-------------------------------|------------------------|
| C3_Invloed_gedachten_partijen | C3a_Sceptisch          |
|                               | C3b_Geen_invloed       |
|                               | C3c_Positief_gemeente  |
|                               | C3d_Positief_provincie |
|                               | C3e_Positief_NAM       |
|                               | C3f_Negatief_NAM       |
|                               | C3g_Negatief_EZ        |
|                               | C3h_Negatief_provincie |
|                               | C3i_Negatief_gemeente  |
|                               | C3j_Anders             |

# UNIVERSITEIT TWENTE.

## Hulp gevraagd voor mijn afstudeeronderzoek!

Beste inwoner van de provincie Groningen,

Voor mijn studie Communicatiewetenschap aan de Universiteit Twente ben ik op zoek naar personen woonachtig in het aardbevingsgebied in Groningen die bereid zijn om mee te werken aan een onderzoek over de communicatie rondom de bevingen.

Het gaat om het afnemen van interviews, zo'n interview duurt maximaal 60 minuten en het kan –indien gewenst - afgenomen worden bij de geïnterviewde thuis. De focus van het interview ligt op de communicatie van alle betrokken partijen rondom de aardbevingen. Met betrokken partijen worden bedoeld: de Nederlandse Aardolie Maatschappij, Provincie Groningen, de betrokken gemeenten en het Ministerie van Economische Zaken. Het onderzoek wordt onafhankelijk uitgevoerd, dus niet in opdracht van een externe partij. Daarnaast zullen uw naam en gegevens vanzelfsprekend volstrekt anoniem blijven. De interviews zijn onderdeel van mijn afstudeerscriptie. Ik hoop over enkele maanden af te studeren op dit onderwerp, daarvoor moet ik 30 interviews afnemen.

Bent u geïnteresseerd om deel te nemen aan mijn onderzoek? Neem dan alstublieft contact op met mij via: maritxxxxxxxxx@gmail.com of 06 xx xx xx xx.

Alvast hartelijk dank!

Met vriendelijke groet,  
Marit van Bruggen

## Appendix III: Interview Guide

### Interview Guide

#### Persoonlijke gegevens

Respondentnummer: .....  
Datum: .....  
Leeftijd: .....  
Geslacht: .....  
Opleidingsniveau: .....  
Woonachtig in gemeente: .....  
Aantal jaren woonachtig in deze gem.: .....

#### Introductie

Beste inwoner van Groningen,

Bedankt dat u wilt meewerken aan mijn onderzoek. Voor mijn studie Communicatiewetenschap aan de Universiteit Twente voer ik onderzoek uit naar hoe de inwoners van het aardbevingsgebied in Groningen de communicatie van alle betrokken partijen rondom de aardbevingen evalueren. Met betrokken partijen worden in dit onderzoek bedoeld: de Nederlandse Aardolie Maatschappij, de betrokken gemeenten, het Ministerie van Economische Zaken en de Provincie Groningen.

Ik heb hiervoor een aantal interviewvragen opgesteld en ik zal de opbouw van het interview toelichten. Het eerste gedeelte bestaat uit een aantal algemene vragen. Voor het tweede gedeelte wil ik u vragen om terug te gaan naar 16 augustus 2012; het moment waarop de grootste aardbeving tot nu toe plaatsvond. Tot slot bestaat het interview uit een aantal vragen over de situatie op dit moment. U bent tijdens het interview vrij om in te brengen wat u wilt.

Het onderzoek wordt onafhankelijk uitgevoerd. Dit wil zeggen dat het niet uitgevoerd wordt in opdracht van een externe partij. Daarnaast zal het interview worden opgenomen. Door het interview op te nemen kan ik later belangrijke gegevens terugluisteren. Ook moet ik het interview uitschrijven. Niemand anders behalve ikzelf en eventueel mijn begeleiders vanuit de Universiteit Twente zullen dit terugluisteren. In de uitgeschreven interviews worden alle namen weggehaald. Vanzelfsprekend blijven uw gegevens volledig anoniem.

Voordat we aan het interview beginnen heb ik nog één belangrijke opmerking: met communicatie worden schadeafhandelingen in dit geval **niet** bedoeld. De focus ligt op hoe u als inwoner van het gebied geïnformeerd bent over het feit dat er aardbevingen plaatsvinden in uw leefgebied en wat hier aan gedaan wordt.

Tot slot wil ik u graag vragen of u het toestemmingsverklaringformulier wilt tekenen. Hierbij tekent u voor het feit dat u geheel vrijwillig instemt met deelname aan het onderzoek en dat u voldoende bent ingelicht over het aard van het onderzoek.

## Richtlijnen voor het interview

### *I. Algemeen*

1. Hebben de aardbevingen geleid tot schade aan uw huis of andere bezittingen?
2. Hebben de aardbevingen invloed op hoe u zich voelt?
3. Wie is er volgens u verantwoordelijk voor de aardbevingen in Groningen?
4. Wie is er volgens u verantwoordelijk voor de gevolgen van de aardbevingen in Groningen?

### *II. Communicatieactiviteiten*

#### **a. Vanaf 16 augustus 2012**

5. Kunt u zich de aardbeving van 16 Augustus 2012 herinneren? Kunt u daar kort iets over vertellen? *Dit was de heftigste aardbeving tot nu toe, met een score van 3.6 op de schaal van Richter.*
6. Kunt u zich herinneren dat u kort na deze aardbeving geïnformeerd bent over de aardbevingen door één van de betrokken partijen en kunt u dit toelichten met behulp van een voorbeeld? [Indien de respondent geen voorbeeld weet te noemen, vragen naar een recenter voorbeeld. Onderstaande vragen stellen als het antwoord niet wordt gegeven bij vr. 5 en 6.]
  - Kunt u dit voorbeeld uitgebreid beschrijven?
  - Is dit volgens u een goed of een slecht voorbeeld van communicatie?
  - Wie was de bron van deze informatie?
  - Had u de informatie liever op een andere manier willen krijgen?
  - Wat voor invloed had dit voorbeeld op uw gevoelens en gedachten ten opzichte van de aardbevingen?
  - Wat voor invloed had dit voorbeeld op uw gevoelens en gedachten ten opzichte van de betrokken partijen?
  - Wie is er volgens u verantwoordelijk voor de communicatie naar de inwoners toe?
  - In hoe verre vindt u dat u als inwoners voldoende bent geïnformeerd door de betrokken partijen over de aardbevingen?
  - Wat deed (of doet) u op het moment waarop u het gevoel had dat u niet voldoende werd geïnformeerd over wat er precies gaande was?
7. Kunt u nog een voorbeeld noemen van een moment waarop u werd geïnformeerd die plaatsvond na het zojuist genoemde voorbeeld?  
(alle vragen met '→' herhalen wanneer nieuwe voorbeelden genoemd worden)

#### **b. Heden**

8. Hoe zou u de manier omschrijven waarop u nu wordt geïnformeerd door de betrokken partijen in vergelijking met hoe u geïnformeerd werd na afloop van de grote aardbeving op 16 augustus 2012?
9. Wat vindt u van de wijze waarop u op dit moment geïnformeerd wordt over de aardbevingen?
10. Waarom is de manier waarop u geïnformeerd wordt veranderd volgens u (of juist niet)?
11. Is er iets wat u graag anders had gezien in de manier waarop u geïnformeerd wordt?
12. Hoe hebben de aardbevingen u als inwoner van het bevinggebied getroffen?
13. Heeft de mate waarin u geïnformeerd bent door de betrokken partijen er voor gezorgd dat u anders bent gaan denken over de aardbevingen?
14. Heeft de mate waarin u geïnformeerd bent door de betrokken partijen er voor gezorgd dat u anders bent gaan denken over de betrokken partijen?

# UNIVERSITEIT TWENTE.

## Toestemming- en verklaringformulier (*informed consent*)

Titel onderzoek: Communicatie rondom de aardbevingen in Groningen  
Verantwoordelijke onderzoeker: Marit van Bruggen

### In te vullen door de deelnemer:

Ik verklaar op een voor mij duidelijke wijze te zijn ingelicht over de aard, methode en doel van het onderzoek. Ik weet dat de gegevens en resultaten van het onderzoek alleen anoniem en vertrouwelijk aan derden bekend gemaakt zullen worden. Mijn vragen zijn naar tevredenheid beantwoord.

Ik begrijp dat de audio van het interview uitsluitend voor analyse zal worden gebruikt.

Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud me daarbij het recht voor om op elk moment zonder opgaaf van redenen mijn deelname aan dit onderzoek te beëindigen.

Naam deelnemer: .....

Datum: .... /.... /2014      Handtekening deelnemer: .....

### In te vullen door de uitvoerende onderzoeker:

Ik heb een mondelinge en schriftelijke toelichting gegeven op het onderzoek. Ik zal resterende vragen over het onderzoek naar vermogen beantwoorden. De deelnemer zal van een eventuele voortijdige beëindiging van deelname aan dit onderzoek geen nadelige gevolgen ondervinden.

Naam onderzoeker: Marit van Bruggen

Datum: .... /.... /2014      Handtekening onderzoeker: .....