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**PROTOCOLS AND IMPROVISATION IN  
CRISIS MANAGEMENT: THE CRASH OF  
AFRIQIYAH AIRWAYS FLIGHT 771**

European Public Administration Thesis

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## Summary

In times of crisis, high pressures decisions have to be made, often in complex decision-making structures, which made it difficult for protocolled action to be conducted. Existing research usually focuses on crises situations that are on national or international levels. However one country's crisis might also cause a crisis in another country; and due to the globalization of the world this becomes an increasing issue. These geopolitical aspects of a crisis might affect the adequacy of crisis management. This research therefore focuses on the mechanisms that are at the base of crisis management in settings of geopolitical cooperation. To establish if these mechanisms occur in these situations, this research will closely study the crash of Afriqiyah Airways flight 771 in Tripoli (Libya) on May 12<sup>th</sup> 2010. The research will answer the questions: "To what extent and how did the level of improvisation from protocols, in the case of Afriqiyah Airways flight 771, affect the adequacy of crisis management?" and "How did the geopolitical context of the crash in a weak state, with which the Netherlands did not maintain close diplomatic relations, affect this relation?" The study involves the analysis of official reports, newspaper articles and interviews with key informants.

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## Introduction

In times of crisis, decision-makers are under huge pressure to adequately manage the crisis. As more and more countries are affected by a crisis, more and more countries want to have a say in decision-making on the crisis management. Existing research usually focuses on crises situations that are on national or international levels. However a crisis in one country might also cause a crisis in another country; and due to the globalization of the world this is becoming an increasing issue. These geopolitical aspects of a crisis might affect the adequacy of crisis management.

Graham Allison wrote his book *Essence of decision* (Allison, 1971). He studied the Cuban Missile Crisis and his research had a large impact on political scientists worldwide. His book showed the pressure that lies on decision-makers in times of crisis and the importance to solve a crisis adequately. A small mistake could eventually have very large consequences. Furthermore according to Torenvlied *et al.* (2015) crises are becoming increasingly international because more and more people feel affected by a crisis through media, e.g. meaning-making (Arjen Boin, 2005), and when a crisis occurs in a conflict area, which makes people suspicious of a crisis being created by e.g. terrorism or it being an act of war.

To be able to adequately manage a crisis, certain protocols are required. These protocols are generally created for an “ideal” crisis situation, but almost every crisis is different, if not in reasons than for instance in geographical location (Arjen Boin, 2005). Furthermore Rankin *et al.* (2013) state that in order for crisis management to be successful, actors have to be able to manage unforeseen situations, which requires improvisation. While Torenvlied *et al.* (2015) state that protocols are required for an adequate crisis management; improvisation is required for being able to know when protocols are no longer sufficient and knowledge from existing procedures has to be overthrown (Rankin *et al.*, 2013; Torenvlied *et al.*, 2015). Breaking from the traditional mindset can be of the utmost importance to adequately manage a crisis and without the capability of improvisation, people are not capable of doing this (Crossan,

1998). All of this research shows that improvisation is an important factor in crisis management.

To find out whether or not these mechanisms work in different context, a specific crisis can be investigated; to see if in that specific case the established protocols were enough to adequately manage the crisis, or if to adequately manage the crisis deviation from protocols was required and new ideas were needed. This research will therefore focus on the case of the crisis management of the crash of Afriqiyah Airways Flight 771 in Tripoli (Libya). It was one of the first times that international cooperation for crisis management was required within a weak state.

On May 12<sup>th</sup> 2010 this flight from Johannesburg (South Africa) to Tripoli (Libya) crashed. This specific flight was an Airbus A330-200 capable of transferring 253 passengers, but at the time of the crash the flight consisted of 93 passengers and 11 crewmembers and there was only one survivor, a (at the moment) 9-year old Dutch boy (LCAA, 2013). According to the official investigation report the aircraft crashed about 1200 metres before the runway started and this was due to a pilot error, since they started the landing procedure too early (LCAA, 2013).

This specific case is especially interesting as it provides an opportunity to research how the geopolitical aspects of a crisis might affect the adequacy of crisis management, specifically on when protocols were followed and when improvisation was required and how this affected the adequacy of managing the crisis. This crisis occurred in a country classified as a weak state, rated with the worst possible scores granted by the Freedom House (FreedomHouse, 2010), and rated negatively in the “Governance Matters” dataset from the World Bank (*Governance Matters*, 2015). Ever since Captain Muammar Gadhafi took control of Libya after a military coup in 1969, Libya has been contested for supporting and financing terrorism (Charlton, 2012). Since Libya is classified as a weak state, the reason for investigating a weak state has to be provided. The reason this investigation is so important is that since the end of the Cold War, weak and

failing states have become the most important problem for the international order, since nations that are incapable of exercising responsible sovereignty have a spillover effect to other countries in the areas of terrorism, weapons proliferation and other dangers (Patrick, 2006). The threats of a crisis in one nation can thus have great impact on every day life, not only in the country where this crisis might start, but also in all other countries in the world. The United Nations already declared in 2004 that no matter what threat exists, a threat to one is a threat to all of us and the defences of the United Nations are only as strong as the weakest link (Patrick, 2006). Furthermore not all weak states look alike, since weak states are defined as states that have issues in one or more out of four areas: physical security, legitimate political institutions, economic management and social welfare (Patrick, 2006). Therefore every case might be different and have only limited resemblance to a case in a different weak state. However by creating more knowledge of different situations in different countries, more and more resemblances might occur in the future, when there is a crisis, resulting in more knowledge on which actions result in the proper outcomes. Therefore it is important to research how a nation manages a crisis within its own territory, having caused many crises in other nations (Charlton, 2012).

Following the crash of Afriqiyah Airways Flight 771, the Dutch government responded quickly by sending researchers from the Dutch Safety Board to Libya to assist in the investigation. Their main goal was to bring back home the bodies of the 70 Dutch citizens that lost their lives in the crash.

The investigation that started after the crash was an investigation under leadership of the Libyan Civil Aviation Authority. According to the Montreal Convention, the country in which an incident with an aircraft occurs, is responsible for the investigation on the incident (Montreal, 1999). This convention also stated that the aircraft carrier is responsible, unless they are capable of proving it was not due to their wrong doing or negligence that the incident or crash occurred. The Libyan Civil Aviation Authority was assisted in their investigation by Bureau d'Enquêtes et d'Analyses pour le sécurité de

l'aviation civile (France), National Transportation Safety Board (USA), Federal Aviation Administration (USA), Dutch Security Board (Netherlands), Accident and Incident Investigation Department (South Africa) and the companies Airbus and General Electric (LCAA, 2013). This shows that there was an international collaboration between five different countries, together with two companies, Airbus as being the manufacturer of the plane and General Electric being the manufacturer of the plane's engines.

This research will therefore add to the existing research on crisis management and by potentially providing some new insights on what mechanisms are involved in solving a crisis. Furthermore this research might add to the knowledge of what happens in a specific crisis in specific circumstances, which might be of assistance in a future crisis with similar resemblances. This hopefully increases societal awareness on the importance of adequate crisis management. This study will use as its data a specific crisis and how it has been resolved.

In this thesis, the research will be on the acts and investigation that occurred after the crash of Afriqiyah Airways flight 771. This research will be done by researching the official investigation reports and researching the adequacy of the investigation. Furthermore researching the cooperation between countries and companies involved in the investigation. A specific interest is taken at the protocols that were in place before the crash occurred and whether or not these protocols were adequate to manage the crisis or if these rules and protocols had to be broken in order to adequately manage the crisis. It will therefore be an explanatory study of exploratory research.

This research will therefore focus on two research questions:

Research question 1: To what extent and how did improvisation from protocols in the case of Afriqiyah Airways flight 771 affect the adequacy of crisis management?



Research question 2: How did the geopolitical context of the crash (in a (weak) state with which the Netherlands did not maintain close diplomatic relations), affect this relation?

## Theory

### Conceptualization of adequacy of crisis management

Crisis situations are awful, but they can never be completely prevented. A crisis is a situation that is undesirable and unexpected, never completely similar to previous situations and in which something bad is to befall upon people, organisations, cultures or even the entire world. Something must be done urgently, to make sure that the crisis situation does not become larger (Arjen Boin, 2005). Therefore quick reactions are required. In order to create some sort of quick reaction, guidelines can be used, to provide the best possible response even when information on the situation is still very limited. These responses by crisis management teams can make a difference between the life and death of the people involved in the crisis (A. Boin & 't Hart, 2003). The strategic challenges for dealing with crisis are essentially the same and that is why some preparation on crisis situation is possible, current actors can learn from the past (Arjen Boin, 2005). This is why protocols are created, to ensure coordinated action and ensuring that all the actors involved in crisis management, know their task in managing the crisis at hand.

Even though protocols are in place, they might not be sufficient to adequately manage the crisis situation. Since nations cannot know beforehand which organisations or nations will be involved in crisis management, every country or region has to prepare for themselves. This can create very different action plans, which can make it hard for nations or regions to cooperate with each other when they are both involved in a crisis situation (Robinson, Eller, Gall, & Gerber, 2013). Therefore sometimes improvisation might be required to provide adequate crisis management.

To investigate the adequacy of crisis management, it is best to look at different dimensions of crisis management. Torenvlied *et al.* (2015) created these dimensions in their report “*Evaluatie Nationale Crisis-Beheersingsorganisatie Vlucht MH-17*”. These dimensions are: preparation; recognition of crisis; provision of information; analysing, judging and preparation of decisions; decision-making and steering; and crisis communication (Torenvlied *et al.*, 2015). If we want to test whether or not adequate crisis management has occurred, all of these dimensions have to be satisfied.

### **Hypothesis 1: improvisation from protocols**

As already mentioned before, being able to improvise is breaking the traditional mind-set (Crossan, 1998). While protocols are always required to adequately manage a crisis (Torenvlied *et al.*, 2015), improvisation is required to deal with unforeseen problems (Rankin *et al.*, 2013; Torenvlied *et al.*, 2015). It could be that within a crisis management team there is no expertise or knowledge on a certain aspect of the crisis available, when this occurs role improvisation is required. This means that a person or organisation is forced to take up a role for which they are not the best suited person (Rankin *et al.*, 2013). So to adequately manage a crisis both protocols and improvisation might be required. The question then rises to what extent and how does improvisation from protocols affect the adequacy of crisis management? According to Torenvlied *et al.* (2015) protocols should provide a guideline for crisis management, while still leaving space available for improvisation in each unique crisis situation.

Therefore there is an expectation that the mechanism of improvisation is always involved to move from the crash of flight 771, to adequate crisis management. As already mentioned, every crisis is different, and Rankin *et al.* (2013) stated that every crisis management requires at least some improvisation for an adequate management of crises. Therefore there is also an expectation that improvisation is required in managing a crisis adequately in a geopolitical

context, even though every crisis situation is different and might have its own crisis management protocols.

From the previous section Hypothesis 1 can be derived.

**Hypothesis 1:** The higher the amount of improvisation, the higher the possibility of adequate crisis management.

### **Hypothesis 2: influence of a weak state on improvisation**

When looking at the possible geopolitical influence of a “weak state”, first there has to be a definition of “weak state”. To do so, this research uses the Freedom House definition. Freedom House calculates scores for every nation worldwide based on three aspects: Political Rights, Civil Liberties and Freedom Rating, whereas Freedom rating is a combination of political rights and civil liberties. Freedom House rates these three aspects on a scale of 1-7 with 1 being the best possible rating and 7 being the worst possible rating. They define a nation as being a weak state when the scores are all higher than 2. For Libya in 2010 all scores are a 7, therefore being the worst it can be in political rights, civil liberties and freedom (FreedomHouse, 2010). However Freedom House is very limited in its sources to define any state. To have a clearer picture of weak states it is best to also look at the definition created by the World Bank and looking at the scores from the World Bank in order to confirm or deny the Freedom House definition. The World Bank is a source that provides technical and financial assistance to developing countries around the world, focussed on ending poverty worldwide and increasing income growth for the lowest earners in every country. They have created a database called “Governance Matters” in which every country worldwide is scored on six different areas, namely “voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption” (*Governance Matters*, 2015). Every area is individually graded on a scale between -2,5 (weak governance) and 2,5 (strong governance). In 2010, Libya had a negative score in all of these areas, with an average of -1 (*Governance Matters*,

2015). Therefore the indication of Freedom House, being that Libya is a weak state, is confirmed by the World Bank dataset.

Since weak states are defined as states that have issues in one or more out of four areas: physical security, legitimate political institutions, economic management and social welfare (Patrick, 2006), every case in a weak state can be different, due to the states being different from others. These weak states usually have legal sovereignty in these areas, but most of the time they do not have full control (Patrick, 2006). If a country has problems with physical security this means they usually struggle to stay in control of the use of force, borders, territory, ensuring public order and combating crime. When the problem lies within the legitimacy of political institutions, these countries usually have issues with their administration, ensuring that the correct institution has the power they should have, protecting the freedom and basic rights from citizens, holding leadership accountable, providing impartial justice and promoting participation of citizens in politics. In the area of economic management these countries would have issues creating fiscal policies to increase trade, foreign investments and national growth. In the last area of social welfare these countries would have issues providing their citizens with the basic needs (Patrick, 2006). If one or more of these areas would be the case in a country, then it is very questionable whether or not these countries are even capable of adequately managing a crisis.

Therefore there is another expectation that this weak state has a negative influence on the level of improvisation.

From the previous section Hypothesis 2 can be derived.

**Hypothesis 2:** The positive effect of the level of improvisation is weakened in the context of a crisis in a weak state.

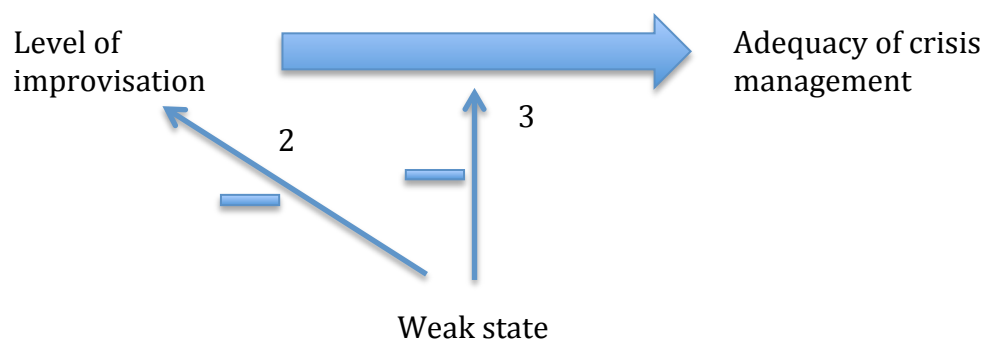
### Hypothesis 3: influence of a weak state on the relationship between improvisation and adequacy of crisis management

There is also an expectation that this weak state not only has a negative influence on the level of improvisation, but also has a negative influence on the relationship between the level of improvisation and adequacy of crisis management. This expectation, together with the expectations of the level of improvisation on adequacy of crisis management and the influence of a weak state on this level of improvisation, creates the third hypothesis.

**Hypothesis 3:** The relationship between improvisation and adequacy of crisis management is negatively affected through a weak state.

### Research model

The final research model will therefore look like a combination of the models presented by hypotheses 2 and 3. The numbers in the model represent the hypotheses, so 1 equals hypothesis 1, 2 equals hypothesis 2 and 3 equals hypothesis 3.



### Research design & methods

To answer the research questions this research will perform an explanatory study of exploratory research. The focus will be one a single case of crisis management. The research will therefore be a case-study, specifically an

“realistic evaluation” (Pawson & Tilley, 1997). A realistic evaluation creates the opportunity for a researcher to observe specific mechanisms in the context of the study (Pawson & Tilley, 1997). More-over it will be a causal-process tracing (Blatter & Haverland, 2014). This is the appropriate way for this research, as this research focuses on whether or not the proposed mechanisms are at work in this specific case and causal-process tracing helps you focus on not only the outcome of the research but also to focus on the mechanisms in the process, by helping you understand theory based mechanisms responsible for the outcome (Blatter & Haverland, 2014).

The research performed will be relatively objective, because whether or not these mechanisms are at work in this single case, it gives no certainty on whether or not these mechanisms are at work in all cases of crisis management. This is only a single case and every crisis situation is different. Furthermore no one involved in this research has been involved in the crisis management and therefore no one has a bias view on the adequacy of the crisis management. This research will look for multiple views on the crisis, to counter possible tunnel-vision for “smoking guns” (Blatter & Haverland, 2014), and there is no fear that this research will be influenced by the opinion of articles, as the purpose of this research is not to make statements on whether or not the actors involved in the crisis did their job accordingly, but merely to look if certain mechanisms occur during the management of this crisis. The researcher will stay in full control, as the research is not studying any persons. The crisis studied in the case study in this research has already occurred a few years ago and this research will therefore be of no influence on the crisis management of this crisis anymore.

This research will be investigating the official reports of the crash investigation. This can be seen as qualitative research, as the official reports are produced by cooperation between international parties involved and they therefore have all the information available to draw any conclusions. The time-period this research focuses on, is from the day of the crash (12 May 2010) until the release of the official report (28 February 2013).

The study will mainly focus on the context created before the crisis occurred (what rules and regulations were in place) and in the mechanisms used during the crisis management (whether or not these mechanisms are involved). Then there is also the case of the outcome, so if all the dimensions, introduced by Torenvlied *et al.*, are involved in the management of the crisis.

These dimensions require some explanation. Preparation means, preparing before a crisis happens on who does what when a crisis occurs (Torenvlied *et al.*, 2015). This can thus make it very clear who is responsible for which aspect of crisis management at times of crisis. Recognition of crisis means, recognising crisis in an early stage to be able to inform or alarm the respective authorities in charge of crisis management (Torenvlied *et al.*, 2015). The third dimension is provision of information. This means collecting and sharing all the required and available information whilst communicating this to all the actors involved within the crisis management (Torenvlied *et al.*, 2015). The next dimension is that of analyses, judgement and preparation of decisions. Its main task is to create an overview of the crisis and the effects it has. This is done by creating scenarios for possible consequences (Torenvlied *et al.*, 2015). Then there is also the dimension of decision-making and steering. This means taking control of the crisis management team and taking decisions on the road to follow during the crisis (Torenvlied *et al.*, 2015). The last dimension is that of crisis communication. This is a pretty clear dimension, namely informing those directly involved or even all of the societies involved (Torenvlied *et al.*, 2015).

The research will test whether or not the dimensions are all adequately used during crisis management, so not to have any of the dimensions restrict using the available protocols or to deviate from protocols.

Furthermore this research will analyse newspaper articles on the crash investigation. This is more quantitative research, as there is no expectation any of the journalists to have access to all the available information during the crisis. However it will be important to see how the journalists report on the

investigation. These reports on the investigation relate closely to the dimension of crisis communication as introduced by Torenvlied *et al.*

In both cases the research will use the original data, so no reproductions, in order to avoid any possible mistakes that were created during a reproduction of an article or official report.

## **Short history of Libya under Gaddafi**

Libya became independent shortly after World War II, in 1951. For a little less than the first two decades, King Idris ruled Libya (Metz, 1989). King Idris was a supporter of Great Britain during World War II, hoping that his support would grant Libya its independence from Italy after the Axis were defeated. Because of his support for the Allied forces during World War II, King Idris created close bonds with Great Britain and the United States of America. He was even awarded the British Order of the Grand Cross of the British Empire. When Idris became the King of Libya in 1951 he used his close bonds to Great Britain and the United States of America to make sure the economy of Libya could prosper from the Libyan oil supplies as well as the Wheelus Air Base used by the United States of America (Metz, 1989). These connections to Western countries were an eyesore for Arab nationalists, who wanted less influence from these Western countries in Libya (Metz, 1989).

During the 1960's Idris's health started to deteriorate. He had problems with getting a male heir to his throne. So when he was in a terrible condition in 1969 he decided to name his nephew as the heir to his throne. His nephew was supposed to ascend to his throne on September 2<sup>nd</sup> 1969, while King Idris was in a foreign country for his medical treatment. To stop this ascension and to change the Libyan leadership, a group of military leaders led by Colonel Muammar Gaddafi, performed a coup (Metz, 1989).



Ever since the coup in 1969 Muammar Gaddafi has been in charge of Libya. One of the first actions he enforced after he got in power was to nationalise all of the nations oil supplies. Furthermore he continuously adopted anti-Western policies (Metz, 1989). In the beginning of the 1980's his regime became implicated with terrorist activities, causing the United States of America to impose sanctions in 1981 (Charlton, 2012). The relations between Libya and the USA only got worse, leading to a bombardment from the USA on Libya in 1986. After these bombings their relation became even worse, leading to the terrorist attack on a US airline above Lockerbie (Scotland) in 1988 (Charlton, 2012). After an investigation the Scottish police issued arrest warrants against two Libyans. Libya would not expedite these two citizens, leading to even more sanctions against Libya from the United Nations. This caused an economic and diplomatic isolation from other countries. There were no diplomatic relations with any Western country until 1999, when Gaddafi tried to reconnect the diplomatic relations, by expediting the two Libyans that were suspects in the Lockerbie attack. This was the first step in reconciling diplomatic relations with western nations. In response to this action the United Nations suspended parts of their sanctions and diplomatic relations and trade agreements were started being restored. The final step was to abandon all chemical weapons and close all chemical weapon factories. The first restored diplomatic relations with Western nations were in 2003 with the European Union and with the United States of America. In 2008 the United Kingdom followed, followed by other Western nations.

In 2009, the convicted prisoner for the Lockerbie bombing was transferred to Libya as part of a prisoner exchange treaty between the United Kingdom and Libya. On his arrival in Libya, Gaddafi publicly praised him for his role in the Lockerbie bombing. This was the start of deteriorating relations with Western countries. When Gaddafi found out that the Canadian government planned to publicly criticize this action he invoked a visa ban on all Canadians trying to enter Libya. In the beginning of 2010, Libya was in a conflict with Switzerland on the arrest of one of Gaddafi's sons, resulting in Swiss import bans and eventually in a ban for visas for all citizens from Schengen Area countries

during two months. Furthermore in 2011 Gaddafi condemned the Tunisian revolution, resulting in riots in Libya, which were harshly suppressed by Gaddafi's military using lethal force. This action was condemned by Western nations, resulting in ending the diplomatic relations that were still being intensified.

## **Dutch relations with Libya**

Up until 1974 the Netherlands did not have an embassy in Libya. Back then the embassy was located in Cairo, where it provided its services from the Dutch embassy in Egypt. In 1974 a temporary Ambassador was selected to work from Tripoli. From 1980 onwards a permanent representative was selected. When the United Nations, because of its role in the Lockerbie bombing in 1988, sanctioned Libya, all diplomatic relations were abandoned. Therefore the Netherlands also recalled their ambassador and his staff from the Tripoli embassy. There were no relations between the Netherlands and Libya until its abandonment of its chemical weapon program in 2003, when the European Union decided to start constructing relations with Libya. Then in 2008 the Netherlands followed other Western nations in reinstalling an Ambassador in Libya. During the Libyan Civil War in 2011, all embassy personnel was again recalled and was reinstated in Tripoli in 2013. Since the circumstances in Libya did not really improve after the Civil War, in 2014 it was decided to suspend all activities from Tripoli again.

Even though there have been periods in which a Dutch diplomatic mission was active in Libya, there has never been a bilateral agreement signed between the Netherlands and Libya, nor has there been a bilateral agreement between the European Union and Libya. This means that there is no commitment between Libya and the Netherlands or Libya and the EU. So there is no agreement signed by the European Union that directs the Netherlands to obey their agreement. This means that there is no direct or indirect agreement between the Netherlands and Libya. However, having mutually recognised embassies does

not require a bilateral agreement, as all it requires is for both countries to have ratified and agreed on the agreement created by the Vienna Convention on Diplomatic relations. The Netherlands ratified this convention in 1984, while Libya only ratified this convention in 2008. Therefore only starting 2008, any Libyan diplomatic mission is protected by this treaty.

Currently the Netherlands is trying to support Libya in areas where it has been involved in for multiple years. The economic support is very limited due to the circumstances in Libya. The Dutch are committed to support Libya as soon as the situation in Libya becomes more stable and safer, knowing that in rebuilding Libya lay multiple opportunities for Dutch companies to create projects. However currently the Netherlands does not provide any financial aid towards Libya or any of its institutions. The only financial aid available to Libya comes from the European Neighbourhood Policy, however this aid is provided by the European Union and not directly by the Netherlands.

This overview of the relations between the Netherlands and Libya shows that there has never been a long and steady cooperation between these two countries, preventing the possibility to create strong bonds of trust. Furthermore Gaddafi's actions have also proven to be difficult to predict, therefore making him no reliable partner in the relationship. Thus this relationship has always been very limited and fragile.

## **Geopolitical context of this crisis**

Both Freedom House and the World Bank define Libya as a weak state. It can be a host for several dangers to Western nations and all countries worldwide and thus be a threat to the every day life of all humans. These dangers are considered the following: terrorism, weapons proliferation, organised crime, diseases, energy insecurity and regional instability. They have in common that they originate primarily in foreign countries or regions, but can become a threat to every human (Patrick, 2006). Political analysts try to analyse which weak

state might be a subject for one or more of these dangers, in order to allocate the limited resources available to combat these dangers and assist these states (Patrick, 2006). This is however very difficult due to the lack of control within weak states to keep an overview of everything that happens within its borders. This makes it hard to allocate assists to a specific country or region and might result in late responses in times of crisis.

The University of Michigan collected data from terrorist attacks between 1991 and 2001 and this data shows that most terrorists are inhabitants of countries with low income, authoritarian rule and areas of conflict (Patrick, 2006). The reasons are that weak states appeal to terrorists because it provides them with the benefits of a safe haven, conflict experience, training grounds, indoctrination opportunities, availability of weapons, financial resources and plenty of potential recruits due to the lack of income for a large part of the inhabitants (Patrick, 2006). Even though not all terrorist organisations have an international orientation, e.g. FARC, most terrorist organisations do. Most of these organisations have their base of operations in weak states that have limited functionality, since these are easily corruptible, but still have easy access to financial resources and have the infrastructure of global economies e.g. communication technology (Patrick, 2006). This is also the case in Libya.

Libya has financed terrorism in the past and has harboured terrorists in its territory, as the convicted Libyan citizen for the Lockerbie-bombing has proven, as well as the bombing on the German discotheque in Berlin in 1986; this is also shown by Charlton (2012). Therefore terrorism is a threat proven to have a connection to Libya.

Weak states often have a large role in the illegal arms trade. They can be the country of origin, the country of destination, or just a country that is used to pass through while transporting the illegal arms (Patrick, 2006). Some of these states have multiple weapon depots that are not well secured, making them attractive targets for terrorist organisations or rebels. Furthermore these weapons are usually easily purchased on the black markets due to corrupt

officials, making them easy to export (Patrick, 2006). When the access to illegal weapons is not difficult to achieve, it becomes hard for nations to keep the peace and to assist developing other nations that are struggling (Patrick, 2006).

The equipment for the bombing in Berlin in 1986 was originated from Libya. The CIA intercepted a message minutes after the bombing where it was said “the operation had been successful and could not be traced to Libya” (Charlton, 2012). This created a link to Libya, making the threat of a large role in the illegal arms trade very clear.

These states are also often the base of operations for criminal organisations, whether these are involved in drugs, weapons, human trafficking or other criminal offences. These organisations are attracted to areas with little effectiveness of the rule of law (Patrick, 2006). They reduce the strength of a weak state even further, by manipulating the corruption to their own benefit (Patrick, 2006). This is exactly the reason that weak states are among the countries listed as the worst offenders in human trafficking (Patrick, 2006).

There are a lot a refugees coming from the Central Mediterranean Route, moving from Africa to Europe through Libya and Italy (Frontex, 2016). While it is very hard to recognise the difference between refugees and human trafficking, it cannot be excluded that a part of this refugee flow, however big that part may be, are subjects to human trafficking. Therefore criminal organisations are highly likely to be settled in Libya.

Weak states usually invest little in health care, whether it is developing the current health care system, or to combat possible outbreaks of diseases. Therefore they lack the ability to detect and contain outbreaks of diseases, making these diseases easily transferable to other regions or countries (Patrick, 2006). Furthermore most of these states have health care systems that can be easily overwhelmed when an outbreak of a disease occurs, making it a threat to all humans by possible infection or even the costs required to combat such a disease after the outbreak (Patrick, 2006). Therefore when a weak state is trying

to combat a disease, it might require so much manpower that other areas with possible dangers are again undermined (Patrick, 2006).

Health care in Libya has been relatively strong. In 1985 there was already 1 doctor for every 673 citizens, and the amount of doctors has risen strongly between 1970 and 1985 (Metz, 1989). Furthermore Libyan health care has been able to eradicate malaria and make progress in combating several other diseases (Metz, 1989). However Libya is a very large country consisting for a large part of desert, which makes it hard to control for every disease that might start out of the general populated areas. Therefore the health care system might still become overwhelmed in case of a dangerous outbreak and Libya has to be recognised as a danger for possible outbreaks even though the system itself might be very strong.

The increasing use of energy worldwide, makes countries worldwide much more reliant on energy. With the instability in key producer countries, the global energy market is endangered, due to the unpredictability of the costs and the possibility of the interruption of supplies (Patrick, 2006). Energy stability is so important, because 60% of all global oil reserves are located in countries that face instability issues. Furthermore a large part of the global oil and gas supply transfers through regions facing instability and choke points that are vulnerable (Patrick, 2006). Crises in any of the key suppliers have already resulted to increases in the costs of energy supplies (Patrick, 2006). With the rising dependence on energy supplies, the importance for containing crises within weak states also becomes more important.

Libya is a member of the OPEC nations, a group of the largest oil producing countries in the world, making it an important worldwide supplier and thus important for the world's economy that there is stability in its energy production and exportation.

History has shown that developing countries in conflict can have transnational consequences. Violence can easily spillover from one country to its

neighbours due to the bad border control in weak states (Patrick, 2006). When the violence increases other issues also transfer across borders, these can be refugees, political instability or economic issues. The risk of these spillover issues is even greater when neighbouring countries possess similar characteristics, which eventually might result in an entire unstable region (Patrick, 2006). Furthermore unstable regions encourage violence in unstable countries (Patrick, 2006), this might result in a vicious circle encouraging violence. These countries or regions are therefore at an increased risk of military intervention by Western countries (Patrick, 2006), in order to stabilize the situation and reducing the risk for the Western countries to have this violence transfer to their country. Furthermore these states are therefore under close scrutiny of the United Nations, so that any UN peacekeeping force can be deployed as soon as possible. This is so important since the costs of rebuilding a weak state after it has totally collapsed are around \$82 billion, while the annual foreign aid budget of the World Bank is only \$79 billion; so one totally collapsed state would already eradicate any further aid for other nations for a full year (Patrick, 2006).

Libya and its neighbours have suffered from these spillover effects, with the latest being the Arab Spring. This began in Tunisia and Algeria, two of Libya's neighbours, and the violence then spilled over to other neighbouring countries of Libya, namely Egypt and Sudan, before eventually also reaching Libya itself. This was the start of the Libyan Civil War and eventually was the reason Gaddafi's regime ended. This shows how dangerous violence in developing countries can actually be, making it another important reason to contain any possible crises.

## **Case description**

On May 11<sup>th</sup> 2010 the Airbus A330-202 from Afriqiyah Airways Flight 771, registered as 5A-ONG, took off from O.R Tambo International Airport in Johannesburg (South Africa) at 19.45 Universal Time Coordinated (UTC) to Tripoli International Airport (Libya). On board were 93 passengers and 11

crewmembers. The flight crew consisted of a Captain, co-pilot and a relief co-pilot. The flight was expected to land at Tripoli at 3:59 AM UTC. The plane left Johannesburg Airport with 50.000 Kg's of fuel. The Airbus entered into service at September 15<sup>th</sup> 2009. It had flown 2175 hours for a total of 572 cycles.

The plane never made it to the runway of Tripoli International Airport as it crashed at 4:01 AM UTC. The crash occurred at approximately 1200 metres from one of the runways of Tripoli International Airport. The wreckage of the aircraft was spread on an area of about 800 metres long and 90 metres wide and it was a little south of the direct approach route towards the airfield. Table 1 provides a short overview of the final stages of flight 771.

**Table 1: flight 771 final stages**

3:41 AM UTC	The flight crew informed Afriqiyah flight watch of the expected arrival at Tripoli International Airport at 4:05 AM UTC.
3:58 AM UTC	The flight crew contacted the Tripoli International Airport Tower in their approach to land.
3:59 AM UTC	The Tripoli International Airport Tower informed the flight crew to continue their approach and report when the runway was in sight.
4:00 AM UTC	The flight crew informed Air Traffic Control that they would report when the runway was in sight.
4:00 AM UTC	The flight crew received an auto-generated message that the aircraft was flying too low to the ground, at which point the Captain and the co-pilot both decided to go around for a new approach.
4:01 AM UTC	The aircraft was nosing down.
4:01 AM UTC	The aircraft impacted with the ground near Tripoli International Airport (N 32 39.696, E 013 06.878) at 262 ft. AMSL with 260 knots ground speed and a vertical speed of 4400ft./min.

The aircraft was destroyed due to direct impact with the ground and the post crash fire. There were 103 people killed with only 1 survivor. Furthermore several electricity poles, a step down transformer, a shelter, a house and some



trees received damage. Inspection of the wreckage also showed the aircraft still had its landing gear retracted. Furthermore there was no evidence that there was a fire in the plane before the impact.

Image 1: landing path and altitude overview

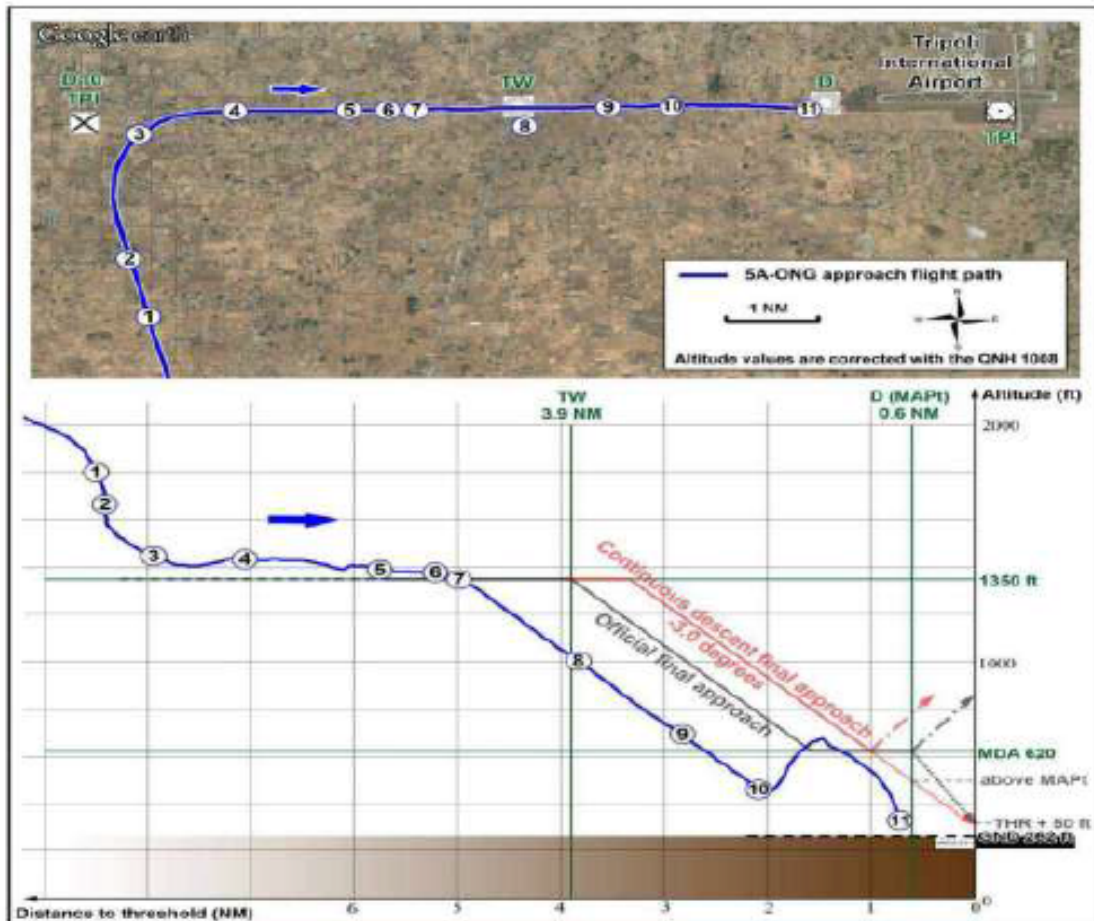


Image 2: wreckage location compared to the airport



### Immediate Libyan crisis response (12/5/2010 - 13/5/2010)

Within 10 minutes of the crash the fire brigade of the airport was at the crash site and informed the flight control of Tripoli International Airport of the locations of the post crash fires so that more fire brigades could be directed to locations with fire. After 30 minutes of the crash, Afriqiyah Airways gave a press-statement in which they told that flight 771 had crashed during landing and that they currently have no information on casualties or survivors, but that there were a total of 104 people on board of the plane at the time of the crash. Furthermore they stated that authorities had already started to conduct search and rescue missions. Only minutes later Airbus responded to the press-statement by releasing their own press-statement, stating that an Airbus A330-200 operated by Afriqiyah Airways was involved in an accident near Tripoli. Airbus also stated that in accordance of International Civil Aviation Organisation (ICAO) Annex 13 international convention, Airbus will provide full technical assistance to the Authorities responsible for the investigation into the accident and it will do so through the Bureau d'Enquete et d'Analyse (BEA).

After 3 hours had passed the Libyan state television showed footage of the crash site, showing the widespread crash site and the on-going search and rescue mission with workers all wearing surgical masks and gloves. Furthermore the footage showed personal items being recovered and part of the tail wing of the airplane with the logo of Afriqiyah Airways and the number 9.9.99, which refers to the founding date of Afriqiyah Airways. Shortly after the footage was shown on Libyan television there was a press conference by the Libyan Minister of Transportation Zaidan, stated that so far 96 bodies have been recovered and that one survivor has been found, a Dutch boy. There was another press conference in the afternoon, again by Zaidan, in which he stated that the black boxes have been recovered and in which he rejected the possibility of a terrorist attack.

The next day the first press release provided a list of victim nationalities: 70 Dutch, 13 South-Africans, 13 Libyans (including the 11 staff members), 2 Belgium's, 2 Austrians, 1 German, 1 Briton, 1 French and 1 Zimbabwean. Later

on, Libyan television showed images of the Dutch survivor and a statement was released by the head of the paediatric unit of the Libyan hospital that the boy is in a stable condition after multiple surgeries on his legs.

### **Immediate Dutch crisis response (12/5/2010 – 13/5/2010)**

Shortly after the statement by Afriqiyah Airways on the crash of Afriqiyah Airways flight 771, the Royal Dutch Tourism Board stated that 61 Dutch citizens were killed in the crash. A little later the Dutch Prime Minister Balkenende released a statement that he is shocked that so many Dutch citizens were killed in the crash. Later in the afternoon the Dutch Prime Minister released another statement in which he confirmed the survival of a Dutch boy.

Early the next day a plane leaves from Schiphol to Tripoli, on board a Dutch delegation of the Ministry of Foreign Affairs, six researchers of the national forensic research team, two researchers of the Dutch Safety Board and the presumed aunt and uncle of the Dutch survivor. They arrived later that same day. In the afternoon the Dutch Ministry of Foreign Affairs released a statement that all family members of Dutch victims were informed, however no full list of names is released, while the media identified the Dutch boy as the nine-year-old Ruben van Assouw from Tilburg and reported that he is conscious and has met his aunt and uncle.

### **Dutch crisis response in the first week (14/5/2010 – 18/5/2010)**

On Friday the media started to speculate on possible causes of the crash, however the Dutch Airspace expert Benno Baksteen stated: “in order to provide any certainty on causes, first the black boxes have to be examined and this could take longer than a year”. He also stated that it is highly unlikely that there was an explosion on board as “according to the wreckage it is likely the plane hit the ground with a high speed forward” and the plane flew at a too low altitude to land properly. The Dutch Safety Board agreed with his explanation on the crash, as they stated that “the plane shove on the ground with a high forward speed, causing the plane to break in smaller pieces”.

On Saturday the Dutch survivor returned home with his aunt and uncle on a special transport, under supervision of the Libyan medical team that operated on him.

### **Dutch crisis response in the first year (19/5/2010 - 11/5/2011)**

On June 15<sup>th</sup> the identification and repatriation of the Dutch victims was completed, two weeks later a memorial event for all family members of Dutch victims was organised in The Hague.

On February 25<sup>th</sup>, family members of the Dutch victims express their concerns in the media on the investigation due to the unrest in Libya in the start of the Arab spring. This unrest eventually led to the closure of the Dutch embassy in Tripoli and the return of the Dutch Ambassador to the Netherlands on April 21<sup>st</sup>.

On May 9<sup>th</sup> it was stated that nearly all personal belongings of the victims had been returned to family members.

### **Dutch crisis response in the second year (12/5/2011 – 11/5/2012)**

After one year had passed since the crash of Afriqiyah Airways flight 771, there still was no public information available on the possible causes of the crash. Therefore the Dutch Foreign Affairs Minister Rosenthal stated: “the Dutch government is examining the possibility of involving the International Civil Aviation Organisation in the investigation”. He also stated that the Libyan Authorities are obligated by ICAO regulations to publish some report of the process of the investigation within one year of the crash, but no one has heard from the Libyan Authorities on the investigation since the outbreak of the Civil War. The statement from Minister Rosenthal was rejected by the ICAO, 1,5 months later on June 29<sup>th</sup>. The ICAO stated that they have no legal power to intervene in the investigation and they will not be involved unless the Libyan

Authorities request for assistance or inform the ICAO that they have stopped the investigation into the crash.

On November 14<sup>th</sup>, after president Muammar Gaddafi was expelled, the interim Prime Minister of Libya released a statement that the investigation has the highest priority and that they expected to require at least another six months to complete the investigation. In response to this statement, Dutch Foreign Affairs Minister Rosenthal stated that the Libyans take the investigation very seriously and have stated that they have nothing to hide, therefore the Libyans planned to release the full details of the crash as soon as it would be available.

On April 11<sup>th</sup> Minister Rosenthal was summoned, by an attorney of family members of the victims, to make sure the investigation continued as in the recent five months no new details were made available.

#### **Dutch crisis response in the last year (12/5/2012 – 28/2/2013)**

In the beginning of the third year since the crash, an interview with an attorney of family members of the victims provided information on the reimbursement of the family members, which was almost completed.

On November 8<sup>th</sup> the investigation was finished and the Dutch Safety Board gave its feedback on the confidential report of the investigation, however they did not yet publish any information on the crash.

No further information was made available during the final year of the investigation into the crash of Afriqiyah Airways flight 771, until the publication of the official report on February 28<sup>th</sup>. The main conclusion of the investigation is that the crash occurred due to human error, mainly errors from the flight crew, but also the flight tower and Afriqiyah are mentioned as responsible for the accident. The report also confirms earlier expectations and statements about it not being a terrorist attack, nor were there any explosives on board of the plane, nor were there any technical problems with the plane.

## Data analysis

The conclusions of the research will be based on the consent with the involved dimensions. So there will be a check on how the dimensions involved in the research are compliant to the dimensions introduced by Torenvlied *et al* (2015). Furthermore it will research how the protocols in place were dealt with, and whether or not improvisation was required to adequately solve the crisis. With the weak state in control due to the Treaty of Montreal, was collaboration possible, and if so, to what extent were the other actors involved. Finally this research will look if the tension between protocols and improvisation can be improved. For the part of protocols and improvisation, there is the possibility to check which protocols were active before the crisis and how many of these protocols were insufficient to adequately manage the crisis. While for the part of the geopolitical context it is possible to look at the possible rejection of improvisation or at the decision-making process being made harder due to the requirement of an agreement by someone further upwards in the hierarchy.

### Possible improvisation in each dimension

In order to analyse improvisation from protocols, a list of protocols is required. This research was unable to obtain the protocols used by Libya in the investigation of the crash of Afriqiyah Airways flight 771, due to no response from Libyan authorities to the request of acquiring the protocols. In order to still being able to investigate the use of protocols, the research has shifted its focus to protocols from the ICAO and the protocols used by the Dutch investigator, the Dutch Safety Board, found in the “Nationaal Handboek Crisisbesluitvorming”. The full list containing all protocols used for the analysis of improvisation from protocols can be found in Annex C.

From the six dimensions introduced by Torenvlied *et al.* (2015), “preparation” and “recognition of crisis” are expected to require no improvisation and are conform the available protocols. This is due to a single form of preparation that can be available for all types of crisis and no type of crisis is expected that has not occurred before in the world, therefore all types of



crises are already named before and can be prepared for. The other four dimensions introduced by Torenvlied *et al.* (2015): “provision of information”; “analyses, judgement and preparation of decisions”; “decision-making and steering”; and “crisis communication”, might all require improvisation. Since every crisis can be different, for all of these last four dimensions decisions might be taken to deviate from the existing protocols, as it may be believed that a protocol will not be sufficient for adequate crisis management.

### Preparation

When looking at the protocols provided by the ICAO, these provide a clear structure on who is responsible for which aspect of the crisis investigation. ICAO Annex 13 article 5.1 states that the State of Occurrence is responsible for starting the investigation into the circumstances of the accident, while ICAO Annex 13 article 5.4 provides us with the information that the State of Occurrence is in charge of the investigation. Furthermore ICAO Annex 13 article 5.18 tells us that the states of Registry, Operator, Design and Manufacture are all entitled to appoint a representative to assist in the investigation. Also ICAO Annex 13 article 5.23 states that any state, which on request assists the state in charge of the investigation, is entitled to appoint a representative to assist in the investigation. Finally if any state has a special interest in the accident due to virtue, injuries or fatalities it may request to assist in parts of the investigation and this is provided by ICAO Annex 13 article 5.27.

In the case of the crash of Afriqiyah Airways flight 771 on May 12<sup>th</sup> 2010, Libya is the State of Occurrence (the crash occurred near Tripoli on Libyan territory), the State of Registry (the plane was registered in Libya) and the State of Operator (Afriqiyah Airways is a Libyan aircraft carrier). This means that Libya is responsible to start the investigation and is in charge of the investigation. France is both the State of Design and the State of the Manufacture, since France is the state having jurisdiction on the organisation responsible for the design of the aircraft (Airbus) and the state having jurisdiction on the organisation responsible for the final assembly of the aircraft (Airbus). Finally

the United States of America is also the State of Design, as General Electric is an American company responsible for the design of the engines. These three are entitled to appoint an investigator. The two other countries that took part in the investigation are South Africa and The Netherlands. South Africa had an interest in the investigation as the flight departed from Johannesburg (South Africa) and there were 13 South African casualties. The Netherlands had an interest in the investigation due to the 70 Dutch casualties. Therefore these two countries are allowed to assist in part of the investigation and will be closely informed by the investigators from Libya, France and the United States of America.

The Netherlands also has their own protocols on who is responsible in case of a crisis abroad. The protocol “Nationaal Handboek Crisisbesluitvorming artikel X.1” states that the Dutch Minister of Foreign Affairs is responsible for the Dutch reaction to a crisis in a foreign country.

### **Recognition of crisis**

When it comes to recognition of crisis, there is no specific Libyan protocol available, it could be assumed that these protocols exist, especially since the official report of the investigation provides the information that the Tower of Tripoli International Airport alarmed the fire brigade immediately after the crash of flight 771; and within 10 minutes the fire brigade was at the site of the crash and was able to provide information to other authorities, but assumptions are not enough to confirm the existence of protocols.

### **Provision of information**

For the provision of information the protocols available are those provided by ICAO. The ICAO Annex 13 article 5.27 provides South Africa and The Netherlands access to all relevant factual information during the investigation. Also there is an ICAO recommendation in ICAO Annex 13 article 6.6, which insists on releasing the Final Report within twelve months of the crash, or at least releasing an interim-report after one year and again after every other year until the Final Report is finished. However this is a recommendation and



therefore not legally binding, so Libya was allowed not to publish any information.

There is also a Dutch protocol on provision of information. The “Nationaal Handboek Crisisbesluitvorming artikel X. 2” states that in case more than ten Dutch citizens are involved in a foreign country, the Foreign Ministry has to inform the National Crisis Centre. However using the available information for this research it cannot be confirmed if this has occurred.

### **Analyses, judgement and preparation of decisions**

For this dimension, some protocols are again provided by ICAO regulations. The first protocol is ICAO Annex 13 article 5.7, which states that the state in charge of the investigation shall arrange for the reading out of the flight recorders as soon as possible. On May 12<sup>th</sup> the Libyan Minister of Transportation Zaidan stated that the black boxes (containing the flight recorders) were recovered, however there is no information on when the reading out of the flight recorders started, the only thing known is that according to Benno Baksteen’s statement on May 14<sup>th</sup>, the reading out of flight recorders can take longer than a year.

The second protocol is that of ICAO Annex 13 article 5.9. It states that the state in charge of the investigation is responsible for the autopsy of all casualties from an accident or incident. This is verified as the Libyan government hired Trimega Laboratories on June 2<sup>nd</sup>, to conduct the DNA-analysis from all of the victims.

### **Decision-making and steering**

For this dimension no protocols are provided by ICAO regulations. With no protocols available, role improvisation might occur as a necessary means to achieve adequate crisis management (Rankin *et al.*, 2013). However a characteristic for Libyan’s authoritarian regime is that Muammar Gaddafi is able to require all of his subordinates to forward all of their ideas to him and make

the final decision on his own (Purcell, 1973). Therefore it is highly likely that role improvisation will have no effect on adequate crisis management, as most ideas for decisions will be referred to Gaddafi himself and he will make the choice on what will happen.

The Dutch regulations provide a protocol “Nationaal Handboek Crisisbesluitvorming artikel X. 3”. This states that the Dutch Foreign Ministry is responsible for the decision-making when it comes to a crisis in a foreign country. However in this specific case the Netherlands has no decision-making legitimacy, as they are only informed on the investigation and therefore have no control over decisions made by Libya, France and the United States of America.

### **Crisis communication**

There is a protocol, ICAO Annex 13 article 5.12, which restricts Libya from making certain information publicly available at least until the final report is completed. This can be verified using the newspaper articles, since the only official information, that is made publicly available by Libyan Authorities, are the list of nationalities of the casualties and the statement that a terrorist attack is rejected. However there are clear communications by the Dutch Authorities towards the public. There are five different Dutch sources that made information publicly available, even though according to the “Nationaal Handboek Crisisbesluitvorming artikel X.1” the Dutch Minister of Foreign Affairs is responsible for the response. On May 12<sup>th</sup> 2010 the Royal Dutch Tourism Board released a statement concerning the amount of Dutch casualties. On the same day the Dutch Prime Minister Balkenende confirmed the survival of a Dutch boy. The next day the Dutch Ministry of Foreign Affairs stated that they had informed all of the family members of Dutch victims. Then on May 14<sup>th</sup> 2010 the Dutch Safety Board stated that the plane shoved on the ground with a high speed forward, causing the plane to break into smaller pieces. Finally a year later on May 13<sup>th</sup> 2011 the Dutch Foreign Minister Rosenthal stated to be looking at the possibility to include the ICAO in the investigation.

### **Hypothesis 1: Improvisation from protocols**

The first hypothesis states that the level of improvisation has a positive effect on adequacy of crisis management. This improvisation will thus occur when there are no protocols available, or when there is a deviation from existing protocols. When looking at every dimension introduced by Torenvlied *et al.* (2015), ICAO regulations and Dutch regulations provide protocols for almost every dimension. For “recognition of crisis” and “decision-making and steering” there were no ICAO protocols available, while there were no Dutch protocols available for “recognition of crisis” and “analyses, judgement and preparation of decisions”. With the absence of protocols in these dimensions, improvisation is required to achieve an adequate crisis management. Furthermore since every crisis is different (Arjen Boin, 2005) these protocols might require different improvisation every time and protocols that are adherent in one crisis might require improvisation in a different situation. Therefore hypothesis 1: “the higher the amount of improvisation, the higher the possibility of adequate crisis management” can be confirmed.

### **Hypothesis 2: Improvisation affected by a weak state**

The second hypothesis states that the level of improvisation on adequacy is weakened in the context of a crisis in a weak state. This would imply that in a weak state, less improvisation would be possible to achieve adequate crisis management. Thus that improvisation is hindered by either fully complying with existing protocols or by other circumstances that affect the level of improvisation. As discussed in the analysis of the dimension of decision-making and steering, when there are no protocols available role improvisation might occur (Rankin *et al.*, 2013). However in this specific case role improvisation is hindered, as Muammar Gaddafi is able to make all Libyan Authorities forward their ideas to him, so that he can decide on what will happen (Purcell, 1973). With the hindering of improvisation, hypothesis 2: “the positive effect of the level of improvisation is weakened in the context of a crisis in a weak state” is confirmed.

### **Hypothesis 3: the effect of a weak state on the relationship between improvisation and adequacy of crisis management**

Hypothesis 3 states that a weak state might have a negative effect on the relationship between the level of improvisation and adequacy of crisis management. This implies that the relationship between improvisation and adequacy of crisis management is weakened when it occurs in a weak state. With the confirmation that hypothesis 1: “the higher the amount of improvisation, the higher the possibility of adequate crisis management” exists, the only part that has to be investigated to reject or confirm hypothesis 3 is this relationship in a weak state.

One year after the crash occurred there was a statement by a former Libyan military officer who fled from Libya, that the Libyan Authorities are trying to shift the blame for the accident on one of the pilots, while according to him it was an accumulation of human errors. With the release of the Final report his statement on the causes being an accumulation of human errors was confirmed, this is strange as it took another twenty-one months before this report was finished.

Furthermore half a year later the interim-Premier of Libya stated that the investigation has the highest priority for the Libyan Authorities and that they needed at least another six months. It is strange that they would require at least two years, and eventually another nine months, to complete the final report, as ICAO assumes the investigation usually takes no longer than one year. In this case it took almost three times longer than the ICAO assumption. This might be explained by all of the problems that Libya faced during the investigation period, with the outbreak of the Civil War. This limited the investigators in their research as the fight for power made it difficult for them to continue their investigation and achieve adequate crisis management. In the beginning improvisation was limited due to Gaddafi being able to make all the final decisions, while during the Civil War improvisation might have been even harder as Gaddafi had a lot of issues to focus on and his attention might have been less on the investigation. When no decision could have been made, it is possible that

no improvisation could occur and thus the investigation was hindered. However this is all speculation and there is no real evidence that hypothesis 3: “the relationship between improvisation and adequacy of crisis management is negatively affected through a weak state” is valid, and therefore it cannot be confirmed.

## **Conclusion and discussion**

The present study explored the relationship between weak states and improvisation from protocols in an attempt to achieve adequate crisis management. It does so, using a case study of the crash of Afriqiyah Airways flight 771 on May 12<sup>th</sup> 2010.

This final chapter will answer the research questions “to what extent and how did improvisation from protocols in the case of Afriqiyah Airways flight 771 affect the adequacy of crisis management?” and “how did the geopolitical context of the crash (in a (weak) state with which the Netherlands did not maintain close diplomatic relations), affect this relation?” while using the answers provided by the tested hypotheses. The chapter will end with possible recommendations for future research.

## **Conclusions**

In the beginning of this research it was presumed that a higher level of improvisation from protocols would result in a higher possibility of adequate crisis management. By testing the first hypothesis in this specific case, the hypothesis was confirmed. In this case there were protocols available for most parts of the crisis management, however for some of the dimensions of crisis management, introduced by Torenvlied *et al.* (2015), these protocols were missing. This provided the opportunity for improvisation in order to achieve an adequate crisis management. Without improvisation these dimensions would not have been able to be fulfilled according to satisfaction and no adequate crisis management would have been possible. This means that without improvisation

from protocols, there would not have been an adequate crisis management in the case of Afriqiyah Airways flight 771. Furthermore with the absence of protocols in the dimensions crisis management would not have been able. If the investigators would be adherent to protocols in every dimension, the investigation would not have been finished. With the absence of protocols in the dimension of recognition of crisis and no improvisation, it would have been possible that the extent of the crisis would not have been recognized. Therefore the assistance of crisis management teams could have been too late at the crash site to find the nine-year old survivor and provide the necessary health care.

Furthermore it was presumed in this research that a weak state would weaken the level of improvisation from protocols and that it would negatively affect the relationship between the level of improvisation from protocols and adequacy of crisis management. By testing hypothesis 2 and hypothesis 3, this research found that indeed the level of improvisation from protocols is weakened in the case of a crisis in a weak state. However with the rejection of hypothesis 3, this research also found no proof that a weak state negatively affects the relationship between the level of improvisation from protocols and adequacy of crisis management. As Libya hindered the improvisation during the investigation, they weakened the possibility of improvisation and thereby lowered the level of improvisation from protocols in this specific case. There is plenty of speculation on why Libya hindered the possibility of improvisation, but it is highly likely that this occurred trying to achieve an adequate crisis management, by trying to adhere to protocols as much as possible and thereby trying to prevent any spillover effects of the crisis. As for the Dutch impact on this investigation it can be said to be little. With no established lines of communication it was very hard to stay informed on the on-going investigation, as is shown by comments in the media by the Dutch Foreign Minister Rosenthal.

### **Future research possibilities**

The results of this research might not be generally applicable to all crises nor might it be applicable to all crises in weak states, however a realistic

evaluation was the only possibility for an in depth case study as provided by this research. To achieve research results that might be easier to generalize for all crises, multiple cases would have to have been studied in depth, which was impossible for a single researcher to achieve within the time-period of this study with the current resources available. However, with the in depth analysis of underlying mechanisms of crisis management, this study has made a contribution to the large number of studies of crisis management in general. This researcher has confidence that the results of this research will contribute to the existing knowledge on underlying mechanisms of crisis management.

For future studies it might be relevant to test the differences of limitations on the level of improvisation from protocols in different types of countries. Furthermore it might be relevant to compare the Dutch response in this specific crisis to Dutch responses in other crises and study the possible differences between time-periods and between different types of crises.

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## Annex A other sources

### Official documents:

- International Civil Aviation Organisation Annex 13
- Nationaal Handboek Crisisbesluitvorming (2009)

### Media sources:

#### Government websites:

- Dutch government: <https://www.rijksoverheid.nl/>
- European Union: <http://www.europarl.europa.eu/>

#### News media:

- Africa News
- Algemeen Dagblad
- Algemeen Nederlands Persbureau
- BBC
- BreakingNews Ireland
- Carleton Place
- CBS
- De Telegraaf
- DefenceWeb
- Het Parool
- PR Newswire
- Nederlands Dagblad
- NRC Next
- Reformatorisch Dagblad
- The Herald Sun
- The New York Times
- The Observer
- The Tripoli Post

## **Annex B news media timeline**

### **May 12<sup>th</sup> 2010:**

- Press-statement by Afriqiyah Airways, in which they stated that flight 771 from Johannesburg to Tripoli crash during landing to the airport and that at this point they have no information available yet on casualties or survivors, while authorities are still conducting search and rescue missions, but that there were a total of 93 passengers and 11 crewmembers on board of the plane at the time of the crash.

- Statement by Airbus, in which they mention that an Airbus A330-200 operated by Afriqiyah Airways, was involved in an accident earlier today, nearby Tripoli. Furthermore they state that in accordance of ICAO Annex 13 international convention, Airbus will provide full technical assistance to the Authorities responsible for the investigation into the accident and it will do so through the Bureau d'Enquete et d'Analyse (BEA).

- Libyan state television shows footage of the crash site. In this footage it is notable that there is a large field in which the rubble of the plane is widespread. Furthermore it shows that police and rescue workers are at work at the crash site, all wearing surgical masks and gloves. They are carrying away bodies and search for small personal items, such as wallets and mobile phones. Furthermore the footage also shows a large part of the planes tail. On it, it shows the colours of the logo of Afriqiyah Airways and the number "9.9.99", which refers to the date Afriqiyah Airways was founded.

- Press-statement by the Royal Dutch Tourism Board that states that 61 Dutch citizens were killed in the crash.

- Press-statement by the Dutch Prime Minister Balkenende in which he states that he is shocked that there are so many Dutch citizens were killed in the crash.

- Statement by the Libyan Minister of Transportation Zaidan, he states that so far 96 bodies have been recovered from the wreckage and that so far only one survivor has been found, a Dutch boy.

- Statement by the Dutch Prime Minister Balkenende, confirming that a Dutch boy has survived the crash.

- NASA displays a map that shows that the clouds of volcanic ashes from Iceland, have reached Libya. However Britain's meteorological office rejects the map of NASA, by displaying its own map that shows that the clouds were not near Tripoli at the time of the crash.

- Statement by the European air traffic management agency that the volcanic ashes are unlikely to have affected air traffic in Libya as the clouds were moving away of the African coast and at the time were more than 3200 kilometres to the west of Libya.

- Statement by Daniel Hoeltgen, spokesmen of the European Aviation Safety Agency, in which he states that Afriqiyah Airways has had 10 recent safety inspections at various European airports, no safety problems were found. Furthermore he states that French investigators of Airbus and of the BEA are already on their way to the crash site.

- First information is provided on the crash, it is stated that the planes crashed while on its decent to land on Tripoli International Airport's main east-west runway, towards the east.

- The Libyan Minister of Transportation Zaidan stated that the black boxes of the plane have been recovered; furthermore he denied the possibility of a terrorist attack.

- First journalist reports are found in which it is stated that according to international airport guides, Tripoli's main runway does not have a precision

approach system to guide planes while landing, but that it has two other less sophisticated systems that are still used a lot throughout the world.

### **May 13<sup>th</sup> 2010**

- List of victim's nationalities is released: 70 Dutch, 13 South-Africans, 13 Libyans (including the 11 staff members), 2 Belgium's, 2 Austrians, 1 German, 1 Briton, 1 French and 1 Zimbabwean.

- Dutch delegation of the Ministry of Foreign Affairs arrives in Tripoli, together with the aunt and uncle of the Dutch boy. Together with them also travelled six researchers of the national forensic research team (Landelijk Team Forensische Opsporing) and two researchers of the Dutch Safety Board (DSB).

- The Dutch Ministry of Foreign Affairs releases a statement that all family members of the Dutch victims that were on board of Afriqiyah Airways Flight 771 from Johannesburg to Tripoli are informed. No full list of names of Dutch victims is released; only family members are informed on their own family's victims.

- Afriqiyah Airways arranges for a free trip to Tripoli for family members of the victims of the crash of Flight 771.

- A memorial is organised for family members of the Dutch victims. The Dutch Prime Minister Balkenende, as well as Ministers Rouvoet and Verhagen, are attending this memorial ceremony.

- Libyan national television released images of the Dutch boy that survived the crash; it also showed that the boy was still in surgery.

- The head of the paediatric unit of the Libyan hospital, Hameeda al-Saheli, released a statement that the boy is in a stable condition after multiple surgeries on his legs.

- The Dutch boy is identified by the media, as the 9-year old Ruben van Assouw from Tilburg. He is conscious and has already met with his aunt and uncle.

**May 14<sup>th</sup> 2010:**

- Speculation about the possible causes of the plane crash has begun. Dutch Airspace expert Benno Baksteen has stated that “experts first have to examine the black boxes before any certainty on possible causes can be given, this could potentially take longer than a year”.

- According to Benno Baksteen it is highly unlikely that there has been an explosion on board of the plane before the crash, he stated “that according to the wreckage it is likely the plane hit the ground with a high speed forward”.

- The Dutch Safety Board agrees with Benno Baksteen’s explanation of the crash, they stated “the plane shoved on the ground with a high forward speed, causing the plane to break in smaller pieces”.

- According to Benno Baksteen the plane has been flying at an altitude that was too low to properly land at the designated runway. Since the designated runway has lesser tools to assist the plane in landing, planes are more vulnerable for weather conditions.

- According to Evert van Zwol from the Dutch Association of Commercial Pilots, the age of a plane doesn’t really matter on flight performance; the only difference is that older planes require more maintenance.

**May 15<sup>th</sup> 2010:**

- The Dutch boy that survived the plane crash has returned home with a medical team escorting him, together with his aunt and uncle.

- Before flying back home the aunt and uncle of the Dutch survivor explained him everything that has happened to his family members.

**May 16<sup>th</sup> 2010:**

- Research showed the statistics of airplane crashes in Africa. Even though only 2% of all global air traffic originates or designates Africa, it is responsible for 26% of all global aircraft crashes in 2009. 111 carriers from 13 African countries are blacklisted by Europe and banned from their airspace. In 2009 the accidents within Africa are almost ten times higher than the average worldwide rate.

**June 2<sup>nd</sup> 2010:**

- The Libyan government has instructed Trimega Laboratories to conduct the DNA analysis in an attempt to identify all of the victims in the crash. DNA samples have been transported to Manchester (UK) under close supervision.

**June 15<sup>th</sup> 2010:**

- The identification and repatriation of the Dutch victims has been completed.

**June 16<sup>th</sup> 2010:**

- Disoriented pilots are believed to have caused the crash by ignoring basic safety procedures. According to the Herald Sun, Airbus believes that the pilots were out of sync with the airplane's controls and ended up flying it into the ground.

**June 30<sup>th</sup> 2010:**

- Memorial event for all family members of Dutch victims in The Hague.

**February 25<sup>th</sup> 2011:**

- The unrest within several Arab nations has passed over to Libya. Family members of the victims are concerned it will affect the investigation.

**April 21<sup>st</sup> 2011:**

- Statement by the Dutch Ministry of Foreign Affairs that the Dutch Embassy in Tripoli has been closed and the Dutch Ambassador has returned to the Netherlands.

**May 9<sup>th</sup> 2011:**

- Statement by the aunt of the Dutch survivor that his recovery is going well and he is ahead of his recovery schedule, according to her, as well as Dutch physicians, the reason his recovery is going so well is the Libyan hospital treatment. Their operation on his legs enhanced his recovery.

- The aunt of the Dutch survivor told the press that she and her husband planned a visit to Tripoli with Ruben in February, however due to the unstable situation in Libya at this time, it would not be safe. According to the aunt, Ruben would very much like to see the crash site in order to fully understand every thing that has happened.

- The aunt also told the press that her nephew would not be attending any public meetings in order to give him a save childhood.

- Nearly all personal belongings of the victims have been handed over to family members.

**May 13<sup>th</sup> 2011:**

- The slow investigation process is frustrating family members of the Dutch victims. There has been speculation on causes for a year now and still no official report has been published by the Libyan Authorities on the investigation.

- According to the Dutch Foreign Affairs Minister Rosenthal, the Dutch government is examining the possibility of involving the International Civil Aviation Organisation in the investigation.

- Rosenthal has stated that the Libyan Authorities are obligated by ICAO regulations to publish some report of the process of the investigation within one year of the crash, however ever since the outbreak of civil war in Libya, no one has heard from the Libyan Authorities on the investigation. According to ICAO regulations, Libya can now approach ICAO with the request to help in the investigation, but ICAO can also decide themselves to take over control of the



investigation. Furthermore other partners involved in the investigation are now allowed to publish their own investigation results without Libyan approval.

- According to the former Libyan officer Air Safety Naser Amer, who fled from Libya, the Libyan officials involved in the investigation of the crash, are trying to shift the blame on one of the pilots who flew the airplane. According to them he suffered a heart attack during the flight, while according to Naser Amer there is no proof for such a theory and that the crisis was caused by an accumulation of human errors.

**June 29<sup>th</sup> 2011:**

- According to a speaker of the ICAO, the statement by Dutch Foreign Affairs Minister Rosenthal on the obligation to report within one year is false. The ICAO speaker told the press that ICAO has no legal power to intervene in a investigation in a sovereign nation and that as long as the Libyan Authorities do not request for assistance or do not tell ICAO that they have stopped their investigation, ICAO will not be involved in the investigation.

**August 21<sup>st</sup> 2011:**

- President Muammar Gadhafi has been expelled from Libya.

**November 14<sup>th</sup> 2011:**

- Statement by interim-premier of Libya, that the investigation into the crash of Afriqiyah Airways Flight 771 has the highest priority. They expect at least another six months before the investigation is complete.

- Statement by Dutch Foreign Affairs Minister Rosenthal, that the Libyans take the investigation very seriously and that they have stated that they have nothing to hide and plan to give full details of the crash as soon as it is made available.

**April 11<sup>th</sup> 2012:**

- According to an attorney of some family members of the victims, the investigation into the crash of Afriqiyah Airways flight 771 has stopped and the

causes of the crash might never become clear. He summoned Minister Rosenthal to ensure the continuation of the investigation.

**April 12<sup>th</sup> 2012:**

- Reimbursement with most family members of the victims has been completed.

**November 8<sup>th</sup> 2012:**

- The investigation into the crash of Afriqiyah Airways flight 771 has been completed. The Dutch Safety Board gave its feedback on the confidential report of the investigation.

**January 29<sup>th</sup> 2013:**

- Some experts claim to know what caused the crash of flight 771 during the landing procedure. According to Harry Horlings from Avioconsult (a person who also investigated the Faro-crisis), flight 771 was tracking the wrong radio beacon for the landing. All flights landing on runway 9 of Tripoli International Airport have to use radio beacons to adjust flight height. Mr Horlings stated that he believes the pilots failed to change the radio beacon to the required radio beacons for landing; instead the flight crew used a beacon that is positioned close to the airport. He believes that the wreckage of the flight showed that the plane was heading in a straight direction towards this beacon and that the pilots therefore missed the runway.

**February 28<sup>th</sup> 2013:**

- The official report of the investigation on the crash of Afriqiyah Airways Flight 771 from Johannesburg to Tripoli is published.

- The main conclusion of the investigation is that the crash occurred due to human error, mainly errors from the flight crew, but also the flight tower and Afriqiyah are mentioned as responsible for the accident.

- The flight crew did not have a combined plan for the landing procedure.

- During the landing, safety warnings were ignored and the autopilot was disabled.
  
- During the final seconds before the crash both pilots were panicking and did not communicate their actions with each other. This caused in the end both pilots to fly the plane, but since both were unaware of the other flying, opposing movements were being made.
  
- The same flight crew had similar issues on a previous landing on Tripoli International Airport at April 28<sup>th</sup> 2010, however this was not investigated by the aircraft carrier Afriqiyah Airways.
  
- There is a high certainty that the flight performance of the pilots was affected by fatigue, however the extent of the impact on performance cannot be measured.
  
- While trying a go around in the final seconds, the flight crew had no visual on the ground due to the low hanging fog. This made them disoriented and thus unaware of the planes altitude or position compared to the runway.
  
- The flight crew was not warned by the Air Traffic Controllers about the low hanging fog, when the crew contacted the ATC, they were notified on clear sight for 6 km's and did not receive any updates on fog from the ATC.
  
- The flight crew had inadequate training on what to do in emergency situations.
  
- The report also confirms earlier expectations and statements about it not being a terrorist attack, nor were there any explosives on board of the plane, nor were there any technical problems with the plane.

## **Annex C protocols for investigation**

### **1) ICAO Annex 13 article 5.1:**

“The State of Occurrence shall institute an investigation into the circumstances of the accident and be responsible for the conduct of the investigation, but it may delegate the whole or any part of the conducting of such investigation to another State by mutual arrangement and consent. In any event the State of Occurrence shall use every means to facilitate the investigation.”

### **2) ICAO Annex 13 article 5.4:**

“The accident investigation authority shall have independence in the conduct of the investigation and have unrestricted authority over its conduct, consistent with the provisions of this Annex. The investigation shall include:

- a) The gathering, recording and analysis of all available information on that accident or incident;
- b) If appropriate, the issuance of safety recommendations;
- c) If possible, the determination of the causes; and
- d) The completion of the final report.

When possible, the scene of the accident shall be visited, the wreckage examined and statements taken from witnesses.”

### **3) ICAO Annex 13 article 5.7:**

“Effective use shall be made of flight recorders in the investigation of an accident or an incident. The State conducting the investigation shall arrange for the read-out of the flight recorders without delay.”

### **4) ICAO Annex 13 article 5.9:**

“The State conducting the investigation into a fatal accident shall arrange for complete autopsy examination of fatally injured flight crew and, subject to the particular circumstances, of fatally injured passengers and cabin attendants, by a pathologist, preferably experienced in accident investigation. These examinations shall be expeditious and complete.”

### **5) ICAO Annex 13 article 5.12:**

“The State conducting the investigation of an accident or incident shall not make the following records available for purposes other than accident or incident investigation, unless the appropriate authority for the administration of justice in that State determines that their disclosure outweighs the adverse domestic and international impact such action may have on that or any future investigations:

- a) All statements taken from persons by the investigation authorities in the course of their investigation;
- b) All communications between persons having been involved in the operation of the aircraft;
- c) Medical or private information regarding persons involved in the accident or incident;
- d) Cockpit voice recordings and transcripts from such recordings; and
- e) Opinions expressed in the analysis of information, including flight recorder information.

These records shall be included in the final report or its appendices only when pertinent.”

**6) ICAO Annex 13 article 5.18:**

“The State of Registry, the State of the Operator, the State of Design and the State of Manufacture shall each be entitled to appoint an accredited representative to participate in the investigation.”

**7) ICAO Annex 13 article 5.23:**

“Any State which on request provides information, facilities or experts to the State conducting the investigation shall be entitled to appoint an accredited representative to participate in the investigation.”

**8) ICAO Annex 13 article 5.27:**

“A State which has a special interest in an accident by virtue of fatalities or serious injuries to its citizens shall, upon making a request to do so, be permitted by the State conducting the investigation to appoint an expert who shall be entitled to:

- a) Visit the scene of the accident;
- b) Have access to the relevant factual information;
- c) Participate in the identification of the victims;
- d) Assist in questioning surviving passengers who are citizens of the expert's State; and
- e) Receive a copy of the Final Report."

**9) ICAO Annex 13 article 6.6 recommendation:**

"The State conducting the investigation should release the Final Report in the shortest possible time and, if possible, within twelve months of the date of the occurrence. If the report cannot be released within twelve months, the State conducting the investigation should release an interim report on each anniversary of the occurrence, detailing the progress of the investigation and any safety issues raised."

**10) Nationaal Handboek Crisisbesluitvorming artikel X. 1:**

Crises in het buitenland kunnen een effect hebben op Nederland, bijvoorbeeld in de vorm van een dreiging, problemen met de openbare orde maar ook maatschappelijke betrokkenheid bij grote aantallen slachtoffers. Hierbij moet onderscheid worden gemaakt tussen de in Nederland te treffen maatregelen - verantwoordelijkheid van BZK en andere ministeries voor specifieke sectorale maatregelen - en de Nederlandse respons op de crisis in het buitenland waarvoor de minister van Buitenlandse Zaken (BZ) verantwoordelijk is.

**11) Nationaal Handboek Crisisbesluitvorming artikel X. 2:**

Daar waar mogelijk Nederlanders getroffen zijn door een ramp, ongeval of crisis, is het ministerie van BZ (met haar vertegenwoordigingen in het buitenland) het verantwoordelijke ministerie voor de afhandeling van de daaruit volgende consulaire werkzaamheden. Indien het een ramp, ongeval of crisis betreft met een grote omvang, waarbij veel Nederlanders zijn betrokken, informeert het ministerie van BZ het NCC, die op haar beurt alle betrokken ministeries informeert. Dit met het oog op de te bieden hulp aan naar Nederland teruggekeerde getroffen en mogelijke reacties in Nederland als gevolg van de

gebeurtenissen. Het criterium voor de omvang ligt hierbij op meer dan 10 Nederlandse getroffenen.

**12) Nationaal Handboek Crisisbesluitvorming artikel X. 3:**

De beleidsverantwoordelijkheid voor internationale humanitaire bijstand in het buitenland (leiding, coördinatie en communicatie) ligt bij het ministerie van BZ. Onder internationale humanitaire bijstand wordt verstaan alle civiele en militaire bijstand voor civiele doeleinden tijdens de acute fase bij rampen en levensreddende handelingen bij crises in het buitenland. Het ministerie van BZ beslist of en welke hulp zal worden geboden – financiële middelen, experts en/of materieel. Waar interdepartementale coördinatie nodig is, wordt tijdig overleg gevoerd met het NCC, de betrokken ministeries, de betreffende ambassades, de autoriteiten van het getroffen land en betrokken internationale organisaties. Bij een positief besluit kan het ministerie van BZ hulpverzoeken uitzetten bij andere vakministeries. Het vakministerie beoordeelt de beschikbaarheid en operationele haalbaarheid van de inzet van hun expertise (mens en materieel). Indien het gaat om mogelijke inzet van brandweer, politie, ambulances en andere betrokken geneeskundige hulpverlening, alsmede de krijgsmacht kan BZ via het NCC een verzoek uitzetten bij het LOCC dat op basis hiervan inventariseert of binnen Nederland de gevraagde hulp beschikbaar is. Mens en materieel worden alleen dan aangeboden indien de eigen Nederlandse behoefte niet in het gedrang komt.

**13) Nationaal Handboek Crisisbesluitvorming artikel XI. 1:**

Al tijdens de respons op een crisis begint de nafase inclusief een belangrijk element daarvan, namelijk de nazorg. Dit gebeurt bij voorbeeld door het registreren van slachtoffers en direct betrokkenen, waar de nazorg zich op zal richten. De overgang van de acute fase naar de na(zorg)fase zal geleidelijk verlopen. Ook voor dit aspect bouwt het crisisbeheersingsbeleid voort op het instrumentarium dat voor rampenbestrijding beschikbaar is en vastgelegd in de Handboek Voorbereiding Rampenbestrijding.