



Framing Dutch livestock production

January 9
2013

MSc-Thesis Ben Pross

Framing Analysis
& Discourse
Analysis







MSc-Thesis
Framing Dutch Livestock Production. Framing analysis & Discourse analysis
30 ECTS
Wageningen UR

Ben Pross

Supervisor: Gerard Breeman



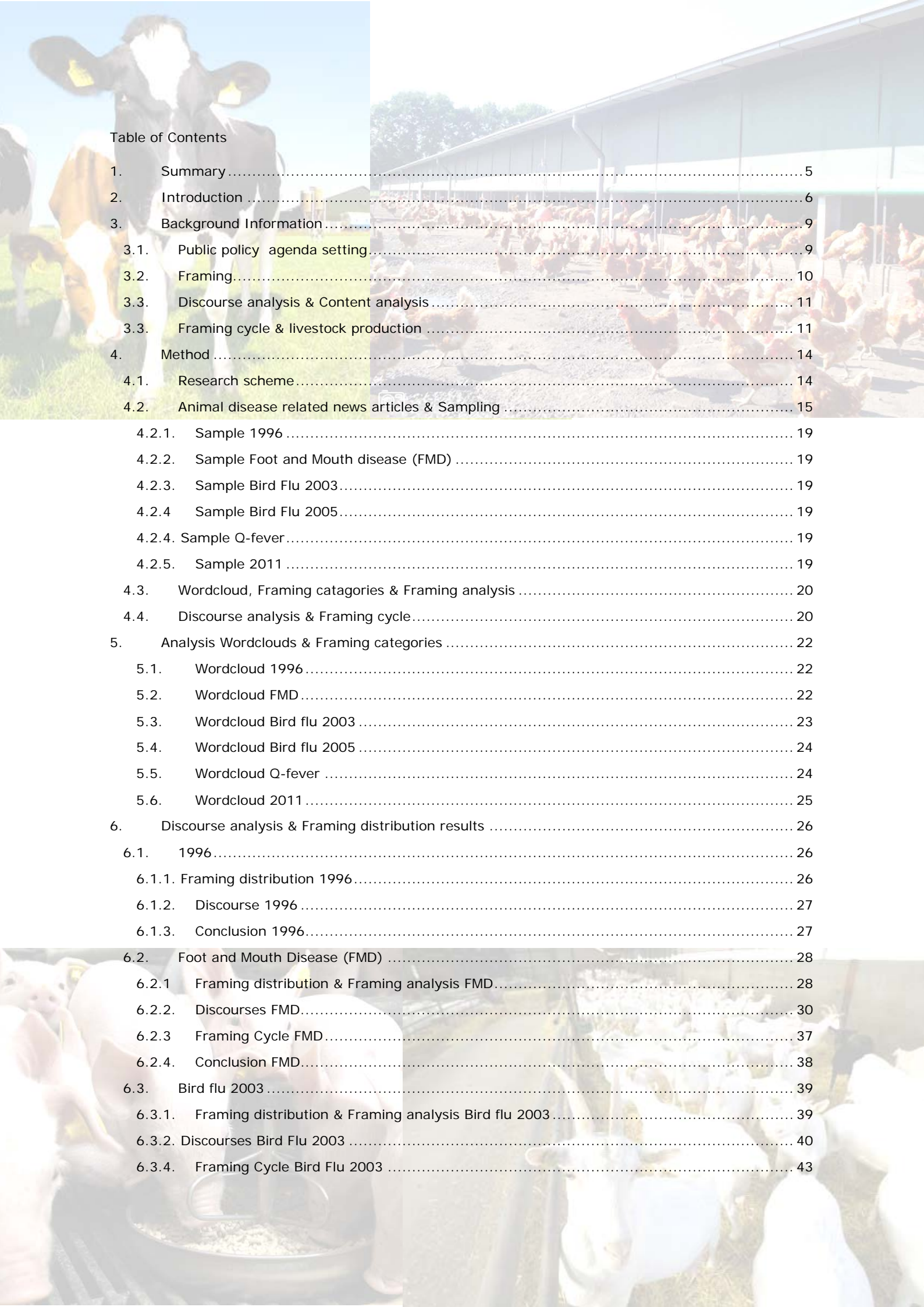


Table of Contents

1.	Summary	5
2.	Introduction	6
3.	Background Information	9
3.1.	Public policy agenda setting	9
3.2.	Framing	10
3.3.	Discourse analysis & Content analysis	11
3.3.	Framing cycle & livestock production	11
4.	Method	14
4.1.	Research scheme	14
4.2.	Animal disease related news articles & Sampling	15
4.2.1.	Sample 1996	19
4.2.2.	Sample Foot and Mouth disease (FMD)	19
4.2.3.	Sample Bird Flu 2003	19
4.2.4.	Sample Bird Flu 2005	19
4.2.4.	Sample Q-fever	19
4.2.5.	Sample 2011	19
4.3.	Wordcloud, Framing categories & Framing analysis	20
4.4.	Discourse analysis & Framing cycle	20
5.	Analysis Wordclouds & Framing categories	22
5.1.	Wordcloud 1996	22
5.2.	Wordcloud FMD	22
5.3.	Wordcloud Bird flu 2003	23
5.4.	Wordcloud Bird flu 2005	24
5.5.	Wordcloud Q-fever	24
5.6.	Wordcloud 2011	25
6.	Discourse analysis & Framing distribution results	26
6.1.	1996	26
6.1.1.	Framing distribution 1996	26
6.1.2.	Discourse 1996	27
6.1.3.	Conclusion 1996	27
6.2.	Foot and Mouth Disease (FMD)	28
6.2.1.	Framing distribution & Framing analysis FMD	28
6.2.2.	Discourses FMD	30
6.2.3.	Framing Cycle FMD	37
6.2.4.	Conclusion FMD	38
6.3.	Bird flu 2003	39
6.3.1.	Framing distribution & Framing analysis Bird flu 2003	39
6.3.2.	Discourses Bird Flu 2003	40
6.3.4.	Framing Cycle Bird Flu 2003	43

6.3.5.	Conclusion Bird Flu 2003	43
6.4	Bird flu 2005	44
6.4.1.	Framing distribution & Framing analysis Bird flu 2005	44
6.4.2.	Discourses Bird Flu 2005	45
6.4.3.	Conclusion Bird-Flu 2005	46
6.5.	Q-fever	47
6.5.1.	Framing distribution & Framing analysis Q-fever	47
6.5.2.	Discourses Q-fever	48
6.5.3.	Framing cycle Q-fever	52
6.5.4.	Conclusion Q-fever	52
6.6.	2011	53
6.6.1.	Framing distribution & Framing analysis 2011	53
6.6.2.	Discourse 2011	54
6.6.3.	Conclusion 2011	55
7.	General Results	56
8.	Conclusion & Discussion	58
8.1.	Framing analysis.....	58
8.2.	Discourse analysis.....	58
8.3	Conclusion	59
8.4	Discussion	59
9.	References	60



1. Summary

Nowadays, newspapers have headlines with terms like “megastal¹”, “varkensflat²” or “veefabriek³”. These terms are published in articles related to Dutch livestock production. Especially the term ‘megastal’ was a topic which was broadly discussed in several newspapers. It seems that the Dutch society has a negative perception about intensive farming in the Netherlands (Pot and Termeer, 2010). On regular basis there are discussions about commercial animal husbandry in the media and in politics.

Pot and Termeer (2010) showed that animal diseases have influenced the societal opinion on Dutch livestock production. However, the report does not include in what way animal diseases influenced the societal opinion on Dutch livestock production. This thesis focuses on the influence of animal diseases on the discussion of the Dutch intensive livestock production sector.

The main question is ‘In what ways are the animal diseases responsible for the discussion of the Dutch intensive livestock producing sector?’.

This question is answered by conducting content analysis and discourse analysis. The news articles of two newspapers were analysed.

The starting point of this thesis was 1996. During this year livestock production was seen as an economic, technical sector. In 1996 the amount of livestock production related news articles were not that different from the articles published in 2011. These numbers are in agreement with the “issue attention cycle” set by Downs (1972). When there are no problems regarding livestock production the number of news articles drop.

In 1996 economy which was majorly important, in 2011 the economic discussion was of decreased importance. Also the interest in policy in news coverage has been decreased. This thesis showed that there are strong indications that animal diseases have influenced the way of societal thinking about livestock production. Livestock production in the Netherlands has been framed over the last decade as a possible threat to public health and not as an economic profitable sector.

¹ De Volkskrant 24-01-2012

² De Telegraaf 23-09-2008

³ De Telegraaf 02-03-2008

2. Introduction

Nowadays, newspapers have headlines with terms like “megastal⁴”, “varkensflat⁵” or “veefabriek⁶”. These terms are published in articles related to Dutch livestock production. Especially the term ‘megastal’ was a topic which was broadly discussed in several newspapers. It seems that the Dutch society has a negative perception about intensive farming in the Netherlands (Pot and Termeer, 2010). On regular basis there are discussions about commercial animal husbandry in the media and in politics.

In recent years several organisations have been founded to start the debate on the current status of the Dutch intensive livestock production sector. An organisation named ‘Wakker Dier’, or in English ‘Animals Awake’, started in 1998. This organisation claims to fight for animal rights. On their website, ‘wakker dier’ states that it is critical to convince the consumer to ‘wake up’ and start asking questions about the production of their food⁷.

‘Wakker dier’ also states that they have achieved many successes. The first of the most recent successes, claimed by the organisation, were that piglets should be sedated when castrated. The second was that ‘cage-eggs’ should not be the base of mayonnaise. Third was that the organisation started a discussion on low prices of meat in supermarkets.⁸ The most recent success of Wakker Dier was the ‘plofkip’ campaign⁹. This campaign focussed on the ban of using fast growing poultry for meat production.

Apart from organisations like ‘wakker dier’ a political party entered the Dutch parliament in 2006. This political-party named ‘De Partij voor de Dieren’, PVDD or ‘Animals Party’, is like no other. It is the only political-party in the world who represent the rights of animals in a parliament. Representation in the parliament had been achieved only four years after the establishment of the party on 28 October 2002¹⁰. De PVDD claims that they have changed the way of thinking in the parliament about animal welfare and the food producing industry in the Netherlands¹¹.

Existence of political parties like Partij voor de Dieren (Party of the Animals) indicates that there is support from society for changes in Dutch animal husbandry. Pot and Termeer (2010) stated that *“The success of ‘De Partij voor de Dieren’ shows that consumers are more aware about sustainable food production. It also shows that consumers have a more critical attitude towards Dutch intensive livestock production.”*¹²

This perception of society has several causes. One of the reasons why animal husbandry is frequently discussed is the dense population of people in the Netherlands (Groot Koerkamp, 2012). Compared to other countries, there is little to no rural area in the Netherlands (Groot Koerkamp, 2012). This means that citizens in the Netherlands live relatively close to animal farms compared to other countries. Initiatives against mega farms generate much acclamation within society and, especially by citizens who live in rural areas with intensive livestock production (Termeer et al., 2009; Verhue et al., 2011). Another reason is media attention about intensive farming in the Netherlands. More attention is paid to negative one-sided stories about intensive farming than

⁴ De Volkskrant 24-01-2012

⁵ De Telegraaf 23-09-2008

⁶ De Telegraaf 02-03-2008

⁷ <http://www.wakkerdier.nl/>

⁸ http://www.wakkerdier.nl/Over_Wakker_Dier/Successen

⁹ http://www.wakkerdier.nl/Over_Wakker_Dier/Successen

¹⁰ <https://www.partijvoordedieren.nl/departij/organisatie>

¹¹ <https://www.partijvoordedieren.nl/departij/successen>

¹² Pot & Termeer, 2010, Op Eieren Lopen?

nuancing positive stories (Pot and Termeer, 2010). Which in itself is not really surprising, though, because positive news is no news.

The report of Pot and Termeer (2010) was made in relation to the a new poultry housing system project, later named the 'Rondeel' project. The 'Rondeel' project was to develop a new way of producing poultry with the acceptance of society, giving a positive view to intensive food production in the Netherlands.

The department of public administration and policy of Wageningen University was requested to give insight in the development of societal support and interest on Dutch intensive livestock production. The report covered the views of several stakeholders (citizens, government, NGO's) in relation to livestock production in the Netherlands between 2003 and 2010.

Pot and Termeer (2010) used several media sources, namely; local and national newspapers, journals and opinion papers. On a scale from much to little attention the following subjects dominated the livestock production-related news coverage according to Pot and Termeer (2010).

- animal diseases, public health and antibiotic use,
- mega farms and agricultural developing areas,
- environmental awareness and sustainability,
- urban farming and knowledge about food, and
- housing systems and animal welfare.

Pot and Termeer (2010) showed that animal diseases have influenced the societal opinion on Dutch livestock production. An example of the news coverage was an article in the newspaper Trouw. In 2008 Trouw stated that the last decade was a decade of misfortune for Dutch farmers. This was a reference to the (zoonotic) diseases which struck the livestock production from 1996¹³. In this year mad cow disease was the first disease related problem in Livestock production. In 1997 the swine flu shocked the Netherlands. During the peak of the disease 'de volkskrant' published that 803 swine farms were cleared of their animals. This meant that from infected farms 700.000 animals, and as prevention 1,1 million pigs were stamped out (Elbers et al., 1999).

After the swine flu several other diseases led to major problems in the sector. Namely, Foot and Mouth disease in 2001, the bird flu in 2003 and 2005 and Q-fever in 2010.

These diseases did not only effect the farmer. The images of dead animals hanging in large grippers are still remembered by many¹⁴. According to Termeer (2010) outbreaks of diseases determine the image of the Dutch intensive livestock producing sector. Termeer (2010) also stated however that animal diseases have an diminishing effect on consumers. This conclusion was also set by an article of the newspaper NRC. The NRC stated that "consumers are down to earth when informed about animal diseases"¹⁵. Which means that consumers are not easily influenced by reports of animal diseases. However, it is clear according to Termeer (2010) that diseases generate a 'peak' in media attention in relation to the Dutch intensive livestock sector.

¹³ Trouw, 19-04-2008

¹⁴ De Telegraaf 2007

¹⁵ NRC-Handelsblad 30-03-2006; TV-gids

Main question

As Pot and Termeer (2010) stated, animal diseases dominate the livestock production related news coverage. However, the report does not include in what way animal diseases influenced the societal opinion on Dutch livestock production. This thesis focusses on the influence of the animal diseases on the discussion of the Dutch intensive livestock production sector. This thesis gives insight in how animal diseases shape societal opinions on livestock production.

The main question derived from the introduction is 'In what ways are the animal diseases responsible for the discussion of the Dutch intensive livestock producing sector?'

3. Background Information

In this section background information of public agenda setting, framing, discourse analysis, content analysis and the framing cycle is explained. In the last part of this section the hypothesis for this thesis is given.

3.1. Public policy agenda setting

Issues and problems are not always under constant attention of society. To keep the interest of society, problems must be exciting and dramatic. Anthony Downs (1972) published the famous 'Up and down with ecology- the "issue attention cycle"', which describes the criteria of exciting problems. When a problem has captured the public attention it will go through the "issue-attention cycle". According to Downs (1972) not all problems are sensitive to the up and down of attention. Problems which go through the "issue attention cycle" contain three specific characteristics. Downs (1972) described these characteristics as follows. "First, the majority of persons in society are not suffering from the problem nearly as much as some minority". In other words, most people are not affected by the problem and therefore there is no continual attention for these problems. Second, Downs states that "the sufferings caused by the problem are generated by social arrangements that provide significant benefits to a majority or a powerful minority in the population". And third, "the problem has no intrinsically exciting qualities". Downs' cycle is constructed out of five phases (Downs, 1972).

1. The pre-problem stage;

"This prevails when some highly undesirable social condition exists but has not yet captured much public attention, even though some experts or interest groups may already be alarmed by it".

2. Alarmed discovery and euphoric enthusiasm

"As a result of some dramatic series of events, the public suddenly becomes both aware of and alarmed about the evils of a particular problem. This alarmed discovery is invariably accompanied by euphoric enthusiasm about society's ability to 'solve this problem' or to do something effective' within a relatively short time".

3. Realizing the cost of significant progress

"The third stage consists of a gradually spreading realization that the cost of 'solving' the problem is very high indeed. Really doing so would not only take a great deal of money but would also require major sacrifices by large groups in the population".

4. Gradual decline of intense public interest

"As more and more people realize how difficult, and how costly to themselves, a solution to the problem would be, three reactions set in. People get discouraged, other feel positively threatened by thinking about the problem, still other get bored by the issue".

5. The post-problem stage

"In the final stage, an issue that has been replaced at the centre of public concern moves into an prolonged limbo".

This issue attention cycle is connected to livestock production related media attention. Pot and Termeer (2010) stated that livestock production has no intrinsic exciting

qualities. However it contains elements that are easily dramatized. According to Termeer, et al., (2009) this happened during the bird flu and the plans for large farms. The issue attention cycle is therefore applicable to livestock production. Another aspect of Downs (1972) issue attention cycle is also addressed by Nisbet and Hume (2007). Downs (1972) states that when a problem has gone through the cycle, it almost always receives a higher average level of attention when it is again an issue for public attention. This means that when an issue returns to the public agenda the interest of society increases.

The issue attention cycle focuses mainly on the issue itself. The cycle does not include in what ways problems are framed inside the issue. And in what way this framing influences societal opinions on these problems. To deal with the influence of framing on the societal opinion the framing cycle is used (Miller & Riechert, 2000). In the next section framing is described and in section 3.3 the framing cycle is described.

3.2. Framing

Framing is widely used in societal research. Frames shape the mind set of people and provides a way of seeing. Framing is therefore important in the forming of an opinion about different topics, in this case; livestock production. Framing may have important influences in changing public perception about livestock production in the Netherlands.

Because framing is widely used in societal research it has several definitions. Frames are seen by Gamson and Modigliani (1989) as “a central organizing idea or story” that provides meaning to a subject. In this way suggesting what the controversy is about or in other words resembling “the essence of an issue”. Another definition of framing is given by Minsky (1975). Minsky (1975) states that frames are “cognitive representations” of knowledge that are stored in memory and then retrieved and applied to new situations. These situations consist of several stories. Each new story conveys a different view of reality and represents a special way of seeing (Schon and Rein, 1994). According to Schon and Rein (1994), each story selects and names different features and relations that become the “things” of the story. Or, in other words, what the story is about.

Especially in discussions and debates framing can be observed. Therefore, policy debates are interesting for framing research. Miller & Richert (2001) focussed their research on the way framing influences policy debates. Miller & Richert (2001) think of framing as an on-going process by which ideological interpretive mechanisms are derived from competing stakeholder positions. Their interpretation of ‘stakeholders’ are individuals or groups in policymaking processes that “stand to win or lose as a result of a policy decision”. Stakeholders attempt to frame issues that “interact with fundamental human values in ways that affect the relative attractiveness of policy options to the public and policymakers”.

Policy positions are seen by Schon and Rein (1994) as resting on frames. In policy debates contending stakeholders have conflicting frames. However, it may be difficult to check which frame underlies a policy position (Schon and Rein, 1994). Schon and Rein (1994) put forward five reasons for this difficulty. First, frames which are expressed in public by policy makers may not be the same frames which drive policy makers actual actions. This means that policy makers are saying one thing, and doing another. Second, the actual action of policy makers may consist of different policy frames. Third, there are differences between the ideas of a central government and the actions of a lower

government. Fourth, it may be difficult to keep apart conflicts within a frame. Fifth, it may be difficult to see whether shifts of frames are real or potential. In this thesis the last two problems have to be dealt with. The first three problems have no interaction with this study because this study does not focus on policy problems itself.

3.3. Discourse analysis & Content analysis

The two problems which need to be dealt with in this thesis are resolved with discourse analysis and content analysis. Conducting discourse analysis and content analysis deals with two problems of Schon and Rein (1994).

The first problem was that it might be difficult to keep apart conflicts within a frame and conflicts that are within one frame. Discourse analysis deals with this problem. Discourses or 'frame mapping' as Miller & Richert (1989) name it, are sets of terms that "belong together". Discourses are described as systematically-organized sets of statements that give expression about a given area. Discourses organize and give structure to the matter in which a particular topic, object, process is to be talked about (Kress, 1989). Wood and Kroger (2000) state in their book that discourse analysis rejects the possibility of producing one true interpretation of the discourse. Other qualitative ways of analysing assume that there is "an objective world to be known" (Wood and Kroger, 2000). Discourse analysis does not only focus on just the content. Discourse analysis of news articles shows the relationship between frames and the relationship between actors within one frame.

The other problem was that it might be difficult to see whether shifts of frames are real or potential. Content analysis deals with this problem. "Content analysis is quantitative, although it deals with qualitative data". Wood and Kroger argue that content analysis involves the coding of a text into categories, the counting of category occurrences and their statistical analysis. In this thesis wordclouds are a guide to code text, in this case news articles, into categories. These categories are analysed for their frequency of appearance. Quantification of qualitative data might prove an actual prolonged change of frames. So that it can be concluded whether shifts of frames are real or potential.

According to Wood and Kroger (2000) there is a difference in content analysis and discourse analysis. "Discourse analysis involves much more than coding and the assessment of relationships between coding categories". The conception of content of discourse analysis is much broader than in content analysis (Wood and Kroger, 2000). Discourse analysis aims to show the possibility of multiple categorization and the relationships between several categories.

3.3. Framing cycle & livestock production

To investigate in what ways framing influences the societal opinion the framing cycle is used (Miller & Riechert, 2000). In this thesis it will be shown that not just frames go through the framing cycle but especially discourses show resemblance to the framing cycle.

Livestock production in the Netherlands is a broad concept. The issue contains many subjects and frames. Pot and Termeer (2010) stated that there were five different subjects which were important in societal discussions about livestock production in the Netherlands. Animal diseases were the most important of these 5 subjects. According to Schon and Rein (1994) is not a surprising conclusion because "popular culture seems

often to identify the good life with the healthy life and to make progress synonymous with the eradication of diseases". As society advances in health and the absence of diseases, society has a strong affinity with "natural" and suspicion about "artificial". Which means that the 'natural' aspects, like animal diseases, of livestock production provide a more intense discussion. According to Schon and Rein (1994) 'Natural' is related to a Romantic origin and still has a magical appeal. This means that in western culture 'natural' and 'healthy' might be more interesting for society. Frames that put forward the technical discussion of an issue have less "symbolic weight, potency and/or urgency" (Nisbet and Hume, 2007). Which means that technical discussions related to livestock production are not interesting for news coverage.

The subject animal diseases consists of several frames. The frames interact within discourses. It is possible that these frames and discourses reflect the framing cycle set by Miller and Riechert (2000).

The framing cycle consists of five phases (Miller & Riechert, 2000)

- The emergence phase
- The definition phase
- The conflict phase
- The resonance phase
- The equilibrium phase

First is the emergence phase, during this phase journalists report the news, and do not report the issues. Miller & Riechert (2000) state that "because issues are not directly attached to news values, they can lie dormant until they are impelled into the public agenda". Catastrophic events, policy initiatives, activities of celebrities and shifts in the ideological balance of government due to elections drive an issue into the public agenda. Miller & Riechert (2000) state that news content focuses primarily on the mere existence of the event that triggered it. Stakeholders find access to journalists which leads to the definition/conflict phase.

During the definition phase stakeholders begin efforts to frame the issue. Stakeholders attempt to establish a specific point of view as the appropriate frame for the issue. Stakeholders downplay other frames and bring forth their own. Miller & Riechert (2000) state that "the more a particular stakeholder group is quoted in news articles, the more prominently their particular issue definition is represented in news coverage". The different frames oppose each other, which leads to conflict.

Conflict is according to Miller & Riechert (2000) a main driving force for news. Conflict also provides "the drama needed to attract audiences". Conflict enables discussion and indicates passion and importance on a given subject. Most important is that conflict motivates stakeholders to increase their efforts to shape media content. Conflict disappears when the frames of one or another stakeholder groups become ascendant when they resonate with the values and experiences of the public.

The resonance phase starts when frames become ascendant. During this phase one side of an issue gains support and it gains potency to drive out frames of the opposing side. Groups whose side is diminished can find that they must use the resonant frame terminology if only to counter it.

When the resonance phase is completed one frame comes to dominate the debate. This is called the equilibrium of resolution phase. Policy is formed in agreement with the dominant frame. Opponents of the dominant frame remain two choices. These opponents can adapt to the new frame or they withdraw from the policy debate. In this way the dominant frame can so dominate that others have no influence in the media and public discourse. According to Miller & Riechert (2000) events that bring new factual information to the fore can break the equilibrium and place an issue back on the policy agenda. When discourses and frames go through the framing cycle it can be observed which frame or discourse becomes the dominant one.

Hypothesis

As from 1996 animal diseases caused framing discussions towards Dutch intensive livestock production and changed the way of thinking about livestock production in the Netherlands.

4. Method

In this section the method for this thesis is explained. First a research scheme is given. In the other paragraphs the different sections of the research scheme are described.

4.1. Research scheme

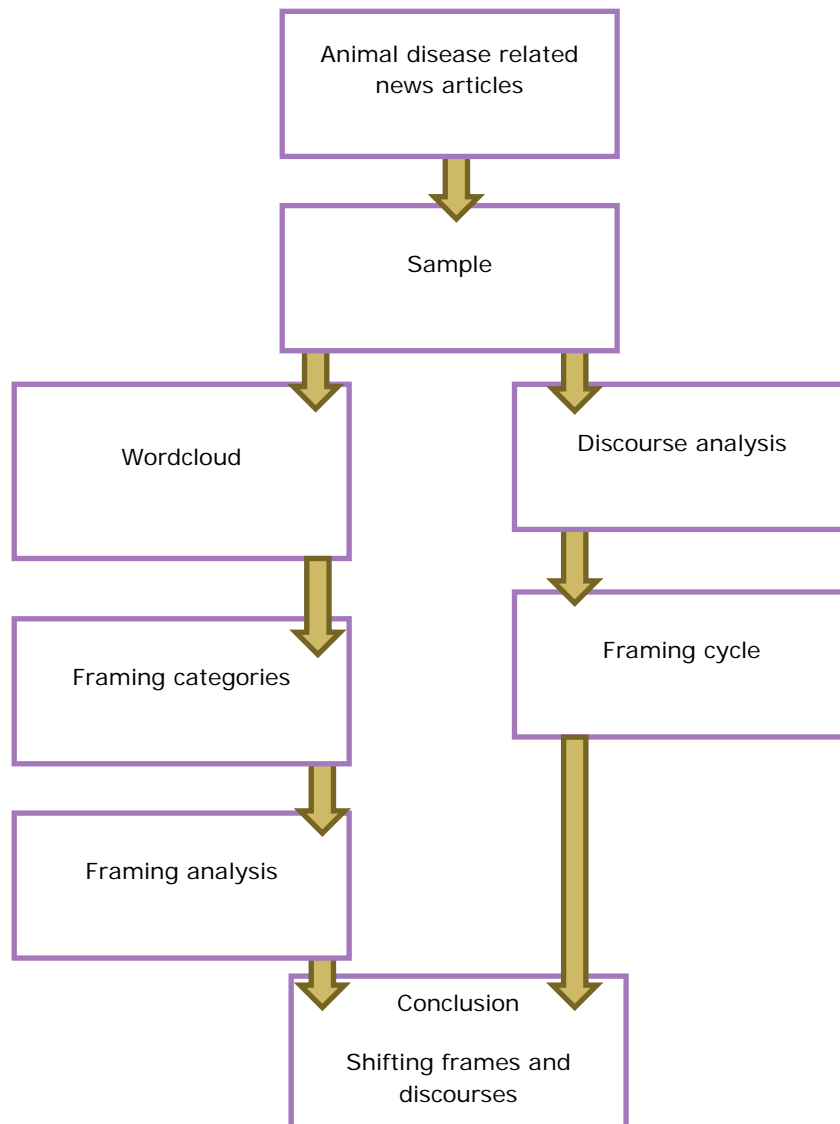


Figure 1. Research scheme

In figure 1. the research scheme is given. This scheme is used for the different animal diseases which affected Dutch livestock production. First animal disease related news articles were searched for. Second, these articles were sampled. After sampling, discourse analysis and framing analysis or 'content analysis' was conducted. Finally a conclusion was drawn. Each step is explained in the following sections. First the left part of the research scheme is explained and second the right side of the scheme.

4.2. Animal disease related news articles & Sampling

In order to construct discourses and framing analysis the articles of two newspapers were analysed. The news articles were found on LexisNexis, an online newspaper database. Two Dutch newspapers used in this thesis were NRC-Handelsblad and de Telegraaf. NRC-Handelsblad was chosen because this newspaper is a right-economic newspaper. De Telegraaf was chosen because of the right-populistic character of this newspaper. Both newspapers are national newspapers.

In figure 3. the timeline of the animal diseases is given. The animal diseases were chosen because during these diseases animals were stamped out. Which means that entire farms were cleared of their animals. The animal diseases analysed were the diseases of the last decade. The swine flu in 1997 has not been analysed. However this disease could have had influence on the way society feels about livestock production.

To analyse the influence of the animal diseases on the societal opinion on livestock production news articles were sampled and analysed. Sampling was done as follows. First the time of the outbreak was determined. Second, the animal disease related key word was determined. In case of foot and mouth disease the keyword was 'MKZ'. This keyword was the search term in lexis nexis. Third, the total number of the keyword related news articles were shown. Finally, every fifth article was selected, starting with the first article, than the fifth, the tenth and so on. All samples go on until a year after the outbreak, or a year after the peak in the news coverage. It also shown in the sampling scheme below (fig. 2). In table 1 and 2 the total number of news articles and the sample can be seen. The sampling was done in the following way.

Apart from the animal diseases samples of 1996 and 2011 were taken. These two samples reflect the time before the diseases and the time after the diseases.

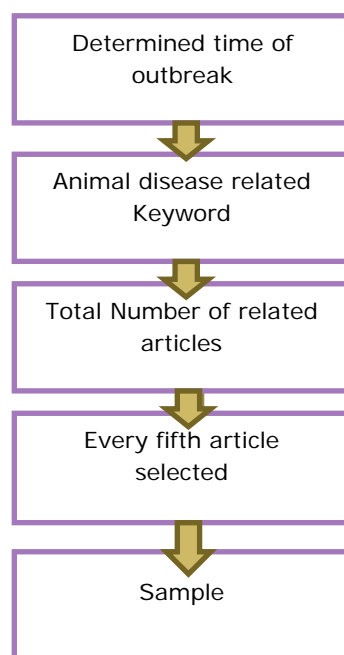


Figure 2. Sampling scheme

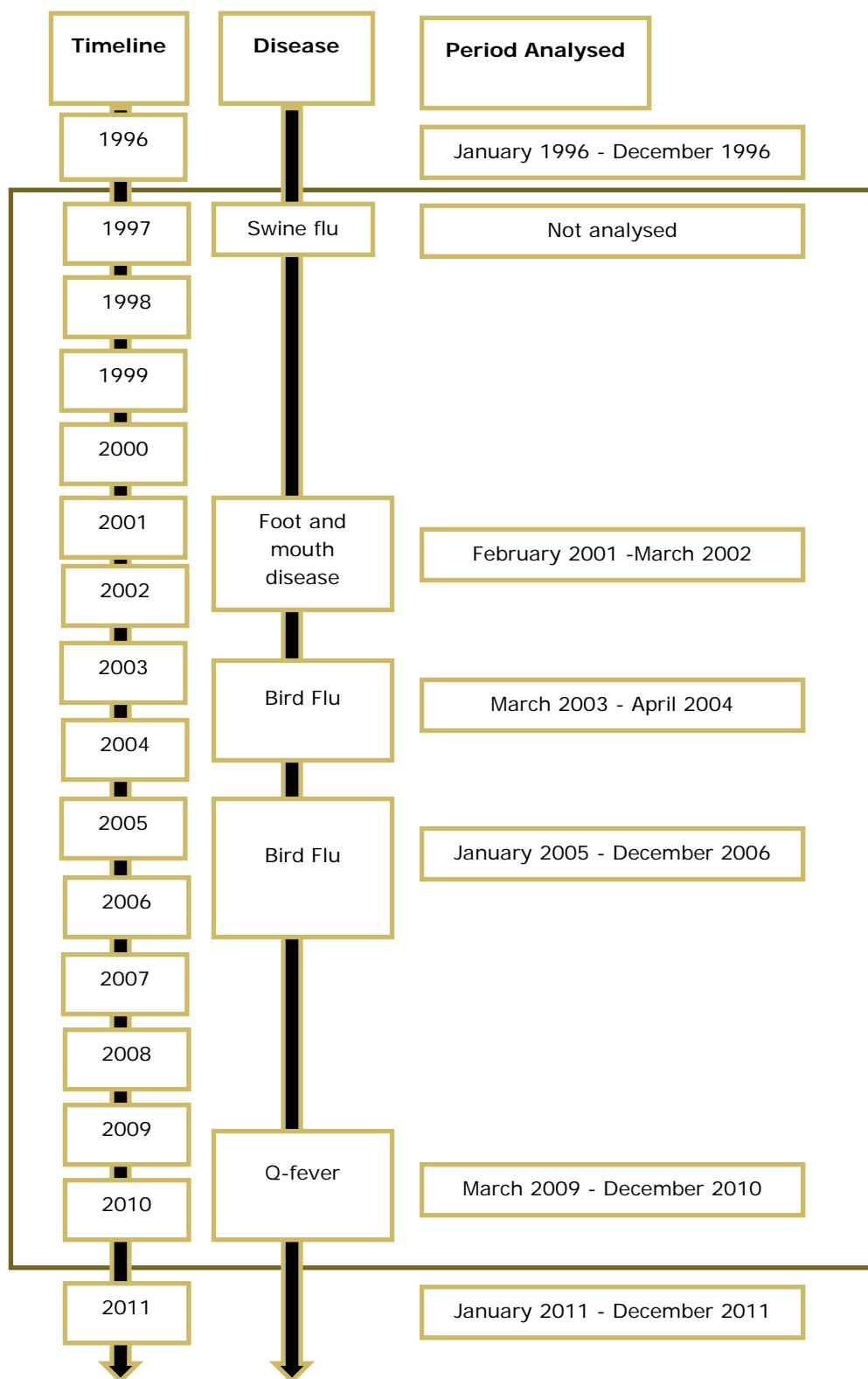


Figure 3. Timeline

Table 1. Articles & Samples NRC-Handelsblad

Months	Timeline					
	1996	FMD 2001	BF 2003	BF 2005	Q-fever 2009	2011
	# Articles					
January	19	0	0	2	0	1
February	5	2	0	6	0	13
March	10	77	56	0	1	7
April	8	141	68	0	1	13
May	4	62	36	1	3	10
June	3	23	32	1	2	9
July	6	32	16	2	1	6
August	5	30	11	27	6	1
September	3	15	4	16	2	9
October	2	12	5	60	1	1
November	2	7	2	30	1	4
December	4	17	5	14	42	5
January	.	11	5	28	19	.
February	.	10	7	62	6	.
March	.	12	11	45	13	.
April	.	.	2	25	8	.
May	.	.	.	10	3	.
June	.	.	.	7	2	.
July	.	.	.	5	1	.
August	.	.	.	19	4	.
September	.	.	.	12	4	.
October	.	.	.	5	1	.
November	.	.	.	5	10	.
December	.	.	.	2	3	.
Total # articles	71	451	260	384	134	79
Sample	21	100	62	93	40	23

Table 2. Articles & Samples Telegraaf

Months	Timeline					
	1996	FMD 2001	BF 2003	BF 2005	Q-fever 2009	2011
	# Articles					
January	.	0	0	2	0	.
February	.	0	0	2	0	.
March	.	66	35	1	0	.
April	.	87	49	0	1	.
May	.	46	11	1	2	.
June	.	15	11	1	2	.
July	.	23	6	2	2	.
August	.	13	3	19	4	.
September	.	11	4	8	0	.
October	.	6	4	49	1	.
November	.	0	2	21	1	.
December	.	13	5	7	26	.
January	.	9	5	27	9	.
February	.	9	11	49	14	.
March	.	15	7	26	7	.
April	.	.	2	16	0	.
May	.	.	.	4	2	.
June	.	.	.	9	5	.
July	.	.	.	5	1	.
August	.	.	.	13	2	.
September	.	.	.	5	1	.
October	.	.	.	0	1	.
November	.	.	.	2	5	.
December	.	.	.	1	1	.
Total # articles	0	313	155	270	87	0
Sample	0	70	40	66	30	0

4.2.1. Sample 1996

The keywords for the 1996 livestock related news articles were 'veehouderij' and 'veeteelt'. These terms were chosen because they are directly related to livestock production. A term like 'landbouw' on the other hand also contains news coverage on other forms of agriculture like plant production. In 1996 a total of 71 livestock production related news articles were published related to livestock production. The Telegraaf newspaper was not yet online available in 1996, therefore only NRC-handelsblad was analysed.

4.2.2. Sample Foot and Mouth disease (FMD)

The keyword for Foot and mouth disease in LexisNexis was MKZ. Every month was sampled separately, starting from January 2000. In total 451 articles were published in NRC-Handelsblad regarding the keyword 'MKZ'. A total sample of 100 articles were analysed. In de Telegraaf a total of 313 FMD-related articles were published. A total sample of 70 articles were analysed. The news coverage on FMD started on February 2001, the sample stopped a year after the outbreak in March 2002.

4.2.3. Sample Bird Flu 2003

The keyword for Bird flu in LexisNexis was in 2003-2004 'Vogelpest' and during 2005-2006 'Vogelgriep'. This difference in keywords was made because in 2005 there was a different type of bird flu which was dangerous for humans. Hence, why the in this case the Dutch word 'griep', flu, is the keyword. During the first outbreak of Bird Flu in 2003 a total number of 260 articles were published in NRC-Handelsblad. A sample of 62 articles were analysed. In 2003, 155 articles were published in de Telegraaf. 40 articles were analysed. The news coverage started in March 2003, and sampling stopped in March 2004.

4.2.4 Sample Bird Flu 2005

During the second outbreak of bird flu in 2005 a number of 384 articles were published in NRC-handelsblad. A sample was taken of 62 articles. In de Telegraaf 270 articles were published. A sample of 66 articles were analysed. The news coverage started on January 2005, however it peaked on October 2005. Therefore sampling was terminated on December 2006.

4.2.4. Sample Q-fever

The keyword for Q-fever was 'q-koorts'. NRC-Handelsblad published 134 articles and 40 articles were analysed. de Telegraaf published 87 Q-fever related news articles. A sample was analysed of 30 articles. The news coverage started on March 2009, the news coverage peaked however on December 2009. Therefore sampling was terminated on December 2010.

4.2.5. Sample 2011

In 2011 the keywords were 'veehouderij' and 'veeteelt' again. These terms were chosen because they are directly related to livestock production. In 2011 a total of 79 articles were published related to livestock production. A sample was analysed of 23 articles. Again no samples were taken from de Telegraaf because without the sample from de Telegraaf it is possible to compare 1996 to 2011.

4.3. Wordcloud, Framing categories & Framing analysis

In this section wordclouds are explained which are guides for the framing categories. These categories and the way of conducting framing analysis are explained in section 5.

A wordcloud is a way of fast and objective graphical presentation of large amounts of text. Wordclouds have not been used in a lot of publications so far. It is therefore a new tool in societal research. A wordcloud is a graphical presentation of the importance of words and terms in a text. Underlying the graph is a table of word frequencies. The higher the frequency of a word, the larger the word will be presented in the graph. These graphs can be used as guides for framing categories. Different words could belong to the same frame. With a wordcloud it becomes relatively easy to distinguish which words belong to what frame category.

Another advantage of a wordcloud is that it can be easily seen what terms are used in a discussion. These terms could be used as new keywords to find new articles related to the problem. These new keywords provide a tool for a deeper understanding of news related problems.

Wordclouds also provide an objective manner of discourse analysis. With a wordcloud it is possible to check the discourses on the content and objectivity. In this way it can be seen whether discourses or terms were missed.

4.4. Discourse analysis & Framing cycle

In this section the way of conducting discourse analysis is described. Discourse analysis is as stated before a way of showing relationships between frames and relationships between actors within one frame. Discourses are systematically-organized sets of statements and frames which give expression and structure to the matter of a subject (Kress, 1989).

In this thesis discourse analysis reflects the relation between frames and statements in a systematically organized way. During and after every disease outbreak there is a framing discussion. These discussions are reflected in discourses. As will be shown these discourses resemble the framing cycle. In the remaining part of this section the method of discourse analysis in this thesis is described.

In this thesis first a sample was taken of livestock disease related news articles. The way of Discourse analysis is shown in a part of such a news article. The article was published in NRC-Handelsblad on March 1, 2003. It was the first article published in relation to the Bird Flu outbreak in 2003. The news article is in Dutch.

"Zes pluimveebedrijven in de Gelderse Vallei zijn mogelijk besmet met aviaire influenza, ofwel klassieke vogelpest, een zeer besmettelijke dierziekte."

In this part of the article, 'contamination' is the overall term. This sentence reflects the way bird flu affects the animals. 'Contamination' also relates to the infection-status of the farms. This word could therefore be seen as the most important term in this sentence.

"Dit heeft het ministerie van Landbouw vannacht gemeld. Het gaat om bedrijven in Scherpenzeel, Renswoude en Barneveld. Nader onderzoek moet uitwijzen of de

verdenking gegrond is. Het ministerie spreekt van een 'ernstige verdenking' op aanwezigheid van de ziekte."

In this part of the article, 'Governmental communication' and 'development' are the overall terms. This part shows the development of the disease, and the way the Dutch government handles the communication related to the disease. It can also be seen as a statement by the Dutch government.

"Uit voorzorg is in de Gelderse Vallei in een gebied van tien kilometer rond de getroffen bedrijven per direct een aantal maatregelen afgekondigd om mogelijke verdere verspreiding te voorkomen. Zo is elke vorm van vervoer van pluimvee, pluimveemest en broed- en consumptie-eieren rondom het getroffen gebied verboden. Ook het verplaatsen van vervoermiddelen die in de pluimveehouderij worden gebruikt, is in dat gebied niet toegestaan."

In this part of the article, 'Prevention' and 'Policy' are overall terms. These terms cover the subject.

In conclusion this section of the Bird Flu article could be seen as a technical article, without a lot of framing. It therefore shows resemblance to the first phase of the framing cycle which is the emergence phase. During this phase news reporters report the news and not the issue. After this article it is expected that the second phase starts which is the definition phase.

5. Analysis Wordclouds & Framing categories

In this section the wordclouds and the framing categories are shown. As stated before these wordclouds are guides for the framing categories. These framing categories are quantified which will be explained in the last part of this section.

5.1. Wordcloud 1996



Figure 4 Wordcloud 1996

The wordcloud (fig. 4) shows that there are several important subjects related to livestock production in 1996. Remarkable are the terms *struisvogel* and *boemerang*. It could be that these terms are excessively used in some articles. In this way some terms may have significant influence on the wordcloud. It also shows that the sample is rather small during 1996. As a consequence of this no terms of this wordcloud is shown in the term frequency table.

5.2. Wordcloud FMD



Figure 5 Wordcloud Foot and Mouth disease

The FMD-wordcloud (fig. 5) shows that the most important terms used in the FMD discussion were Netherlands, Agriculture, FMD, Brinkhorst and Animals. Brinkhorst was the minister of agriculture during the FMD-crisis. These terms reflect different frames. 'Brinkhorst' was the minister of agriculture during the FMD crisis. The minister reflects a policy related frame. Dieren and Landbouw reflect an agricultural frame.

The framing categories and the terms of FMD are shown in table 3.

Table 3. FMD framing categories and terms

Terms	
Agriculture	Policy
Landbouw	Minister
Dieren	

5.3. Wordcloud Bird flu 2003



Figure 6 Wordcloud Bird Flu 2003

This wordcloud (fig 6.) shows that the discussion is very diverse during the outbreak of bird-flu in 2003. Terms like mensen, euro, ministerie and kippen are almost equally large. These terms reflect different frames. The framing categories are shown in table 4.

Table 4. Bird flu 2003 Framing categories and terms

Terms		
Agriculture	Policy	Economy
Dieren	Ministerie	Euro
	Minister	

5.4. Wordcloud Bird flu 2005



Figure 7 Wordcloud Bird Flu 2005

This wordcloud (fig 7.) shows that 'Mensen' is becoming increasingly important in the bird flu discussion. Terms which were used during the outbreak in 2003 have disappeared. The terms minister and euro which were important in 2003 are completely gone. The framing categories are shown in table 5.

Table 5. Bird flu 2005 framing categories and terms

Terms	
Agriculture	Health
Dieren	Mensen
	Virus

5.5. Wordcloud Q-fever



Figure 8 Wordcloud Q-fever

The wordcloud (fig 8.) shows that the most important terms used in the Q-fever crisis were Mensen, Dieren, Koorts Geiten and minister. Important here is that 'Mensen' (humans) is so large, this term is even larger than 'Dieren' (Animals). Another remarkable term is volksgezondheid (Public Health). The framing categories are shown in table 6.

Table 6. Q-fever framing categories and terms

Terms		
Agriculture	Health	Policy
Dieren	Mensen Koorts volksgezondheid	Minister

5.6. Wordcloud 2011



Figure 9 Wordcloud 2011

The wordcloud (fig 9.) shows that the most important terms used in 2011 were 'antibiotica', 'biologische' and landbouw. This shows that public health and 'other' forms of agriculture are important in the discussion regarding livestock production. Antibiotica (antibiotics) could be related to public health.

Table 7. 2011 framing categories and terms

Terms	
Agriculture	Health
Landbouw	Antibiotica
Dierenartsen	
Biologische	

6. Discourse analysis & Framing distribution results

6.1. 1996

In 1996 there were no major animal diseases related to livestock production. BSE or better known as mad cow disease was a problem in the sector. The Netherlands however was not affected by BSE in 1996. In this year problems in caused on human health was unknown. In later years it was discovered that BSE causes Creutzfeldt-Jakob disease.

6.1.1. Framing distribution 1996

Table 8. Term frequency 1996

Terms							
	#		#		#		#
Schade	1	Volks(gezondheid)	1	Minister	5	Intensieve Veehouderij	1
Economie	6	Gezondheid	1	Overheid	1	Landbouw	18
Euro	10	Slachtoffer	2	Beleid	1	Dieren	29
Gulden	19	Mensen	15	politiek	1	bio industrie	1
Geld	12	Ziek	2				
Total Economy	48	Total Health	21	Total Policy	8	Total agriculture	49

Table 8. shows that economy and agriculture are the most important subjects in livestock production news reports. The distribution in percentages is shown in figure 10. Public health and policy are minor subjects related to livestock production. Some remarks can be made in the frame categories. It can be noted that terms like 'intensieve veehouderij' and 'bio-industrie' are not commonly used. Apparently in 1996 these terms were not the most common used terms to describe livestock production in the Netherlands. Furthermore, it can be seen that policy related to livestock production is at the lowest interest in these news articles. So in times of 'peace', policy is not related to livestock production. During these times of absence of animal diseases these numbers show that economy and agriculture are the dominant frames.

Figure 10 Distribution terms in %

6.1.2. Discourse 1996

In 1996, 71 articles were published in NRC-Handelsblad. Remarkable is that most articles are short economic or technical news coverage in relation to livestock production. In opinion papers livestock production is only mentioned sideways. The first article addresses manure problems in relation to modernization of the livestock producing sector. "Modernization leads to viable pig farms. It will also lead to a decline in fosfate emission of 7%"¹⁶. Other articles are in line with the previous statement. The Netherlands supported other countries with their agricultural development. In May 1996 state secretary of economic affairs Van Dok signed an agreement with the minister of agriculture of Croatia.¹⁷

Agriculture is mentioned sideways in several articles. In an article on 'Ecotourism' in foreign countries, forests can be saved from deforestation. "Tourists bring money with them. With this money we can save forests from the livestock producing sector"¹⁸. Another article brings forward a profit making aspect of the sector

6.1.3. Conclusion 1996

The framing distribution and also the discourse analysis shows that the economic and the agricultural frames are the dominant frames. The discussion regarding Dutch livestock production can be seen as a technical and economic debate. The framing cycle is absent. The discourse shows that there is no relation to the cycle.

¹⁶ NRC-Handelsblad 04-01-1996; 'Varkensboer niet binden aan fosfaat-maximum'

¹⁷ NRC-Handelsblad 14-05-1996; Nederland helpt Kroatië bij landbouw

¹⁸ NRC-Handelsblad 09-01-1996; Het dwaaklspeer van de wolf

6.2. Foot and Mouth Disease (FMD)

Foot and mouth disease is considered a serious threat to livestock production. FMD is a viral infection with a rapid transmission over a range of animal species (Backer et al., 2012). An epidemic outbreak leads to severe consequences for animal welfare and the livestock industry.

Foot and mouth disease struck the Netherlands in 2001. From March to June, 26 farms were infected with the disease. These farms were mainly settled in the north of the Veluwe. In total 270.000 animals were cleared from the farms of which 200.000 after vaccination. Within the EU a non-vaccination policy is set to protect the international commercial interests. This means that animals which are vaccinated in relation to foot and mouth disease should be euthanized, because they could not be exported anymore.

6.2.1 Framing distribution & Framing analysis FMD

Table 9. Term frequency Foot and Mouth disease

Terms							
	#		#		#		#
Schade	49	Volks(gezondheid)	5	Minister	326	Intensieve Veehouderij	8
Economie	52	Gezondheid	15	Overheid	30	Landbouw	218
Euro	213	Slachtoffer	6	Beleid	81	Dieren	268
Gulden	77	Mensen	122	politiek	49	bio industrie	6
Geld	61	Ziek	162				
Total Economic	452	Total Health	310	Total Policy	486	Total agriculture	500

Table 9 shows that economy, policy and agriculture are the most important subjects in livestock production news reports. The distribution in percentages is shown in figure 11. Economy is not the most important frame. However, the term Euro is relatively important in the economic frame. This shows that money plays an important role in livestock production and that economic reasons are commonly used in framing debates during the FMD crisis.

It is also shown that public health is a minor subject related to livestock production. In this frame 'slachtoffer' and health itself are minor subjects related to Mensen and Ziek. Some remarks have to be made to the term 'ziek', sick. It could be that this term also reflect the sick animals and not just the people who are infected by the disease. However, it is more common that the word sick is used describing sick people than sick animals. When newspapers describe sick animals, the word 'infected' is used more often.

These numbers show that the FMD policy debate mainly focusses on the minister. Policy of politics itself are only minor subjects in compared to the term 'Minister'. It could be that the minister was held responsible for the outbreak of FMD or that he was the number one character to solve the crisis.

Within the agricultural frame 'Intensieve veehouderij' and 'bio-industrie' are used barely in news articles. So, there these terms are not important at all in the framing discussion.

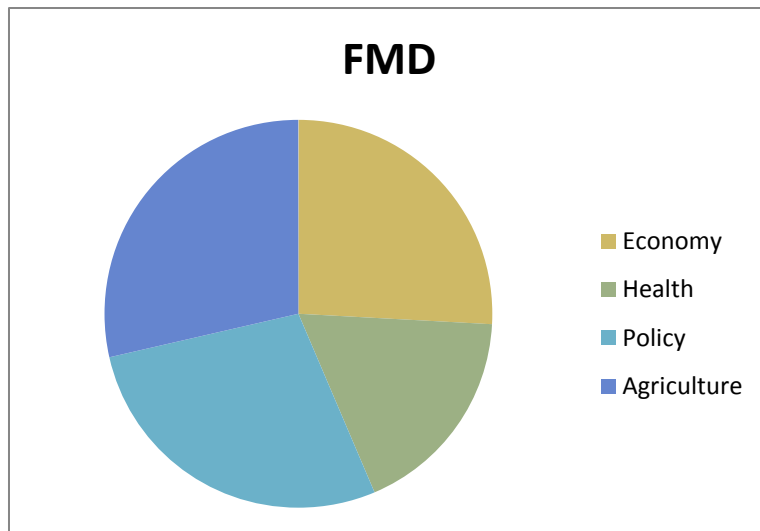


Figure 11. Distribution of terms in %

6.2.2. Discourses FMD

In this section the discourses of foot and mouth disease are described.

Criticism on policy and policy makers discourse

This discourse is about criticism in relation to foot and mouth disease. However, it could also be seen as a 'finger pointing' discourse. Policy and policy making is an important subject in this discourse. This Discourse was observed especially at the beginning of the outbreak.

The dominant discussion in most articles is the question about who is responsible for the outbreak of foot and mouth disease (FMD). Policy making and makers are a key factor in this discourse. Different factors contribute to this, the first is the non-vaccination policy of the European Union. The EU-policy stated that animals cannot be vaccinated against FMD due to the fact that vaccinated animals cannot be exported. A dominant reaction is that "Brussels is mainly focussed on production results, export and cost- and benefit analysis"¹⁹. The Dutch government is affected by the EU-policy. This is shown by the following statement in the NRC, "He (Brinkhorst), is captured between the evil aspects of stamping-out (the mass culling of animals) and the threat of bankruptcy of the Dutch livestock production sector when they lose the label of FMD free"²⁰.

Minister Brinkhorst claimed in the NRC and the Telegraaf that he is "a front runner"²¹ in changing the policy towards vaccination. Brinkhorst discussed the non-vaccination policy during a EU-convention in Sweden. During this convention Brinkhorst claimed that the ethical and social consequences of FMD should be taken into account during an outbreak.

The non-vaccination discussion is related to the way of clearing of animals called 'stamping-out'. The main discussion here is whether stamping-out was necessary. Former minister of agriculture Braks stated in the NRC that animals were vaccinated during the outbreak in 1983. "The disease faced extinction, FMD became a theoretical threat. During these times it was agreed that animals would be stamped-out during a new outbreak"²². Again during this discussion the Dutch government faced the European Union. The NRC named this "the powerlessness of the Dutch government, (...) when it comes to FMD you'll have to be in Brussels"²³. The EU stated that "a quick and rigorous way of clearing animals is the only way to stop FMD"²⁴.

The Dutch government was very much criticized for their FMD related policy. An agricultural spokesman stated that "stamping-out should have been applied earlier to stop the spreading of the disease". Not everyone agrees with this statement. A veterinarian asks "is it allowed to kill healthy animals?"²⁵. The veterinarian also blames the Dutch government for the economic policy of livestock production. According to him the ministry once stated that "it is better to kill an elephant than no export of cheese to Japan for a year".

¹⁹ De Telegraaf 06-2001; OP HET SCHERP VAN DE SNEDE - OPGERUIMD VERDER?

²⁰ NRC-Handelsblad 04-2001; Veeziekten te belangrijk om aan deskundigen over te laten

²¹ NRC-Handelsblad 10-04-2001; Brinkhorst ziet meer steun voor Nederlands beleid ; Frankrijk: BSE-crisis heeft hogere prioriteit

²² NRC-Handelsblad, 23-02-2001; 'Vlees was vroeger ongezonder' ; Oud-minister Gerrit Braks over mond- en klauwzeer

²³ NRC-Handelsblad, 12-04-2001; Het Haagse stilleven

²⁴ De Telegraaf, 04-2001; EU STAAT DE HANDEL IN VLEES EN MELK WEER TOE

²⁵ De Telegraaf, 03-2001;

The criticism also relates to other measures taken by the Dutch government. The NRC stated that “minister Brinkhorst took the right decision by introducing a transport ban on animals”. A consequence of this policy was that according to farmers their farms were crowded with animals. According to the Dutch Farmers Union (LTO) the situation was “severe, pigs are cannibalistic when they are with so many in a small space”²⁶. A spokesman of the Dutch government replied, “pig breeders are free to transport their animals to the slaughterhouse when their farms does not lie in the surveillance zone”²⁷. LTO stated again that “Slaughterhouses do not have sufficient cooling spaces for the slaughtered animals”²⁸. These quotes show that measures are not always broadly based and that change needs time.

Another responsibility of the Dutch government was providing information during the crisis. “Especially during times of crisis is it of extreme importance that the government informs everyone as good as possible”²⁹. The internet was a “revolution”³⁰, “Online, everyone discusses with everyone”³¹. Several articles stated that the government failed to communicate during the FMD-crisis.

Fear rules during times of crisis

In this discourse ‘fear’ in the central theme. Fear relates to many subject, so it could also be described in other discourses. Fear, however, is returning so often that in this part it is seen as an separate discourse.

Fear arises in many forms and in a lot of ways when FMD struck the Netherlands. NRC stated that “Fear cannot be stopped”³². Many people are effected by fear.

Religion plays a role in processing fear. Priest J. Keulers experienced an increase of church visitors in his community, many of his visitors were worried farmers. “Farmers who come to pray, hope that their animals will not be affected by FMD”³³. Visitors of the church also come to the church to get sacred sand. “Sacred sand is a palpable sign of protection”³⁴. The sand was blessed by the priest every Tuesday.

Fear affects hobby farmers, whoe keep production animals as pets. A woman is frightened that her goats will be culled because of FMD. She questions herself; “Do I need to report my sick animals?”. Fear occurs when she thinks about the possible consequences of her report. “Are animals also cleared when they just show small signs of FMD?”³⁵.

But fear does not only affects people alone, it also reaches out to governments also. The Dutch government feared that “the FMD-virus would appear in another region than the triangle of the closed area”³⁶. This fear became stronger when the virus did appear in Friesland which is outside the ‘triangle’. A member of Dutch parliament stated “different agricultural areas in the Netherlands could easily explode (...) the Netherlands is now an

²⁶ NRC-Handelsblad	18-04-2001
²⁷ NRC-Handelsblad	18-04-2001
²⁸ NRC-Handelsblad	18-04-2001
²⁹ NRC-Handelsblad	28-03-2001
³⁰ NRC-Handelsblad	28-03-2001
³¹ NRC-Handelsblad	28-03-2001
³² NRC-Handelsblad	24-03-2001
³³ NRC-Handelsblad,	6-04-2001
³⁴ NRC-Handelsblad,	6-04-2001
³⁵ NRC-Handelsblad	03-2001
³⁶ NRC-Handelsblad	12-03-2001

*complete FMD area*³⁷. Fear does not disappear easily. Two weeks after the infection in Friesland the Dutch government stated that *"The virus is still intangible"*³⁸. The NRC stated that *"the FMD-virus can survive for weeks, even months"*³⁹, with this feeding the fear.

Financial troubles also plays an important role in this fear related discourse. This financial related fear arose near the end of the crisis. Fear mainly focussed on the uncertainty of financial compensation. The uncertainty was present in farmers, but also affected the government. *"Farmers are concerned about handling the end of the FMD-crisis"*⁴⁰. According to Priest Bok *"certainly ten farmers committed suicide during the FMD-crisis"*⁴¹. However, LTO questioned these numbers.

Crisis reform discourse

In this discourse the important subject is 'change'. Changes in policy and the way of livestock production are the central theme here.

On 10th of April 2001 Minister Brinkhorst stated that he heard other ministers of agriculture telling that *"if FMD struck us, the frame of mind would change"*⁴². This small statement shows that a crisis is sometimes needed to change policy and the mind-set of people. This statement was made during a *"school trip"* of the EU-agricultural ministers. It was an informal meeting where it was stated that *"these types of meetings are crucial when changes in policy are needed"*⁴³.

In the Netherlands commission-Wijffels stated that changes were necessary. *"The mainly on profits focussed livestock production sector experienced climaxes with the recent outbreaks of swine flu and FMD"*⁴⁴. *"The current form of the Dutch intensive livestock production need to change. In 2010 there should be no more livestock markets or animal transports over long distances"*⁴⁵ Wijffels continued, *"poultry, pigs and cows should be able to go outside"*⁴⁶. In the same article Brinkhorst reaction was stated. *"This report is hard, clear and inevitable"*⁴⁷ he said. *"This is not a report that can stay on the shelf"*⁴⁸.

The FMD crisis was also a reason for the British government to start three independent investigations in relation to FMD. The British minister of agriculture stated in August 2001 that *"the sector needs to change and should be independent of European subsidies"*⁴⁹. In January 2002 the reports were presented. The commission concluded that change was needed in agricultural policy. This commission named the livestock production sector in Great-Britain *"dysfunctional"*⁵⁰. According to the NRC this report of the British

³⁷ NRC-Handelsblad	12-03-2001
³⁸ NRC-Handelsblad	25-03-2001
³⁹ NRC-Handelsblad	17-05-2001
⁴⁰ NRC-Handelsblad	16-07-2001
⁴¹ NRC-Handelsblad	16-07-2001
⁴² NRC-Handelsblad	10-04-2001
⁴³ NRC-Handelsblad	11-04-2001
⁴⁴ NRC-Handelsblad	10-2001
⁴⁵ De Telegraaf	04-2001
⁴⁶ De Telegraaf	04-2001
⁴⁷ De Telegraaf	04-2001
⁴⁸ De Telegraaf	04-2001
⁴⁹ De Telegraaf	08-2001
⁵⁰ NRC-Handelsblad	29-01-2002

commission corresponded to a *"wide European call for changes in the policy of subsidies for the agricultural sector prior to a EU-expansion to the east"*⁵¹.

De Telegraaf concluded that during the crisis *"the discussion on livestock would not be just an economic discussion"*⁵². However People remained sceptic about the reality of policy change. *"In the Netherlands there is no change, there are now more pigs than before the swine flu"*⁵³.

Civilians are affected and emotionally shocked by the FMD-crisis

In this discourse it is shown that civilians are affected and emotionally shocked by the FMD crisis. Civilians were in many ways affected by the FMD crisis. The first way was by public health, several articles claimed that *"Also people could be infected by FMD. People infected with FMD get symptoms like fever and a raw throat after an incubation period of two to six days"*⁵⁴. Also a Frisian man claimed to be the victim of the FMD-virus. *"In 1938 I was infected by the FMD-virus"*⁵⁵. The 'Voorlichtingsbureau Vlees' reacted in a press statement. *"Humans cannot be infected by the FMD-virus, neither by direct contact with infected animals nor by eating infected meat"*⁵⁶. Despite this statement the distrust remained. *"A lot of people are on their guard and want to trust the production of food, the grow in sales of organic produced food rises"*⁵⁷. However according to De Telegraaf *"83% of the Dutch citizens know that the FMD-virus does not affect humans"*⁵⁸.

The second way of affection was that public events were cancelled. One of the main events that had to be cancelled were the festivities on Queensday, also referred to as the 30th of April. *"Local communities cancelled the festivities because so many visitors can easily spread the disease"*⁵⁹. Also the Queen cancelled her yearly visit to a city. On the 24th of April the Queen cancelled her visit to Hoogeveen. *"It is a shame that she cancelled her visit. I accept her decision, FMD is quite a big thing"*⁶⁰. Also during Easter activities were cancelled. *"The influence of FMD on Easter-tourism is large, (...) we expect a drop of 30% of visitors in the area between Apeldoorn, Deventer and Zwolle"*⁶¹.

The third way of influence is the culling of animals. This might be the most important way of affection. Words are emotionally charged and also image plays an important role in the clearing of animals. These animals were referred to as *"my friends"*⁶². A key factor in the affection is the image of the people who come to clear the animals. The image of the RVV (National inspection for livestock and meat), who are responsible for the clearing of animals, was set in several articles. *"He reports three hours later, in two tight blue disposable overalls over each, a blue tight cap and new factory boots"*⁶³. The more extreme comparisons are striking. *"The long massgraves for hunred of thousands sheeps brought the horrible killings of the German Nazi's back in memory. Executors of these horrors always appeal to the government"*⁶⁴. Also in Great-Britain the image of the

⁵¹ NRC-Handelsblad 29-01-2002

⁵² De Telegraaf 03-2001

⁵³ NRC-Handelsblad 10-2001

⁵⁴ NRC-Handelsblad 14-03-2001

⁵⁵ De Telegraaf 03-2001

⁵⁶ NRC-Handelsblad 30-03-2001

⁵⁷ NRC-Handelsblad 16-07-2001

⁵⁸ De Telegraaf 04-2001

⁵⁹ NRC-Handelsblad 04-04-2001

⁶⁰ NRC-Handelsblad 24-04-2001

⁶¹ NRC-Handelsblad 14-04-2001

⁶² NRC-Handelsblad 24-03-2001

⁶³ NRC-Handelsblad 24-03-2001

⁶⁴ De Telegraaf 06-2001

'clearers' is remarkable. *"Five days after her mother was shot to stop the spreading of the disease she was found. Numb and forgotten"*⁶⁵. Acceptation of stamping out is therefore an important aspect of discussion.

Civilians feel connected to the farmer

In this discourse it is shown that citizens stood behind the farmer during the FMD crisis. The discourse shows that this connection between these groups are a positive relation.

*"Action-group 'Civilians support Farmer and Animal' are fed up with the negative statements about livestock production"*⁶⁶. This statement shows that citizens stood behind the farmer during the FMD crisis. Not just this action group is evidence that during the crisis civilians supported farmers, as it also was shown in many other ways. A master chef who won a catering price of 5.000 guilders stated *"I want to donate fl2.500 to an organic farmer in the Frisian town Anjum who was a victim of the FMD crisis"*⁶⁷. In the community of Olst-Wijhe a monument was revealed, during this meeting *"some retailers were present who supported the farmers financially with a number of 60.000 euro"*⁶⁸. In some churches money was collected to support the farmers. This was however, according to the farmers *"Not a great success, there was not a lot lying on the platter"*⁶⁹. The most interesting example of this discourse was a fundraising event on television. The goal of the event was *"a moral support for the victims, the event was therefore a great success"*⁷⁰.

There was however some criticism on the farmer, and on the sector. *"Farmers with dairy cattle tell beautiful stories about their love for the animals, but when a cow falls back in milk production they will sell the cow immediately"*.⁷¹

Livestock production is too complicated

In this discourse the central theme is that livestock production is said to be too complicated. According to several action groups and citizens livestock production in the Netherlands has changed for the worse.

The Dutch livestock production sector has changed over time. It used to be *"organic, small and extensive"*⁷². People tend to prefer the 'old' way of producing livestock. *"That something was wrong with the intensive way of producing animals has been clear for some time now. Action group 'Wakker Dier' who were campaigning against the sick ways of bio-industry are set in newspapers every day"*⁷³. Elly von Jessen of the 'Dierenbescherming' stated *"When do you see a chicken or pig outside?"*⁷⁴ De Telegraaf agreed with this statement *"Everyone who ever set foot in the modern, intensive livestock producing systems knows that the image of scavenging animals only is found in an Anton Pieck drawing"*⁷⁵.

⁶⁵ NRC-Handelsblad	26-04-2001
⁶⁶ De Telegraaf	08-2001
⁶⁷ De Telegraaf	09-2001
⁶⁸ De Telegraaf	03-2002
⁶⁹ NRC-Handelsblad	17-04-2001
⁷⁰ De Telegraaf	04-2001
⁷¹ NCR-Handelseblad	17-04-2001
⁷² NRC-Handelsblad	03-2001
⁷³ NRC-Handelsblad	04-04-2001
⁷⁴ De Telegraaf	04-2001
⁷⁵ De telegraaf	05-2001

This reflects the way animal production in the Netherlands but also to the way FMD was handled. Former minister of agriculture Gerrit Braks stated *"who keeps livestock, takes a risk with animal diseases"*⁷⁶.

Financial losses dominate the evaluation

In this discourse it is shown that the financial losses are most important in the evaluation of the FMD crisis. This discourse has some connections to other discourses. However, in this discourse the financial problems related to the FMD-crises are the central theme.

In March 2002 *"FMD was stopped, but the price we had to pay was high"*⁷⁷. The economic losses were severe in tourism, companies, banks and the agricultural sector. All were struck by the FMD-crisis. *"The FMD-crisis is not a crisis of the agricultural sector alone"*⁷⁸. This statement was made by prof. dr. A.J. van Noordwijk in April 2001. He also stated that the discussion about reforming the agricultural sector had to be initiated during the crisis. Reforming was an opportunity as stated in the discourse 'crisis makes reforming possible'. The evaluation however was mainly focussed on the financial losses. The economic evaluation consisted of three parts.

First it focused on the financial losses of the farmer. The losses of the farmer were early during the crisis addressed. Farmers needed a *"Financial compensation to deal with the crowded farms"*⁷⁹. The discussion continued when farmers needed compensation for the stamped out animals. The *"negotiations"*⁸⁰ on a purchase arrangement were held between farmers, the Dutch government and the European Union. At the end of the crisis the discussion was heated up with the introduction of fines by the Dutch government. The first article addressing these fines was published in June 2001. Minister Brinkhorst fined farmers whose cattle were cleared, but not registered. These cattle officially never existed⁸¹. Members of parliament heard rumors of excessive fines⁸². *"Farmers were fined for administrative mistakes"*. In August 2001 the problem of the fines still existed. A Farmer stated *"for which crime does someone has to pay 106.000 guilders?"*

Second, the evaluation dealt with the profit of companies. *"Animal feed producer Provimi experienced a decrease in profit. The profit dropped from 8,4 million euro to 5,6 million euro"*⁸³. Nutreco experienced on the other hand the FMD-crisis no negative impact⁸⁴. The discussion however remained the same. Businesses were either making money or losing money from the FMD-crisis. The losses of the tourism industry consisted the final part of the evaluation in the media.

During the overall discussion of financing the victims of the FMD-crisis NRC-handelsblad questioned *"Why does the government takes no initiative in changing the policy to prevent another crisis? Livestock production is too dependent on export"*⁸⁵ This was a clear statement that economics and financial losses dominated the evaluation.

⁷⁶ NRC-Handelsblad 23-02-2001

⁷⁷ De Telegraaf 03-2002

⁷⁸ NRC-Handelsblad 6-04-2001

⁷⁹ NRC-Handelsblad 18-04-2001

⁸⁰ NRC-Handelsblad 23-04-2001

⁸¹ NRC-Handelsblad 22-06-2001

⁸² NRC-Handelsblad 13-07-2001

⁸³ NRC-Handelsblad 11-09-2001

⁸⁴ NRC-Handelsblad 05-03-2002

⁸⁵ NRC-Handelsblad 15-08-2001

FMD means war

*"Millions of people were butchered because of totalitarian government regulations like 'ordnung must sein' and 'befehl ist befehl'"*⁸⁶.

A crisis brings back memories from war, and terms of war are used when a crisis strikes. Remarkable are the references of the FMD-crisis to the second world war. As stated before some articles refer to the Nazi practises during the holocaust⁸⁷. Especially the mass graves in England brought back the memories of the German Nazis.

There are however not only direct citations to war. When FMD first appeared in the Netherlands it was stated *"times of war had begun"*⁸⁸. The ministry of agriculture is referred to as *"the post of command in these times of war"*⁸⁹.

⁸⁶ De Telegraaf 06-2001 OP HET SCHERP VAN DE SNEDE - OPPERUIMD VERDER?
⁸⁷ De Telegraaf 06-2001; OP HET SCHERP VAN DE SNEDE - OPPERUIMD VERDER?
⁸⁸ NRC-Handelsblad 21-03-2001
⁸⁹ NRC-Handelsblad 03-2001; De overheid laat het digitale wapen onbenut

6.2.3 Framing Cycle FMD

The FMD-crisis discourses resemble the framing cycle set by Miller & Riechert (2000). The framing cycle consists of five phases. First is the emergence phase, during this face journalists report the news, and do not report the issues. This means that framing starts when journalists start to report the issues. Miller & Riechert (2000) state that “because issues are not directly attached to news values, they can lie dormant until they are impelled into the public agenda”. This is the case with the FMD-crisis discourses.

The second phase is the De Definition/Conflict phase. Miller & Riechert (2000) stated than once events drive an issue into the public agenda, stakeholders begin to frame them.

“A stakeholder’s primary goal here is to establish a specific point of view as the appropriate frame for the issue. This is done by highlighting certain aspects of the issue and downplaying others. Stakeholders seek to articulate their positions to accommodate journalistic norms and to win support, competing for news media attention” (Miller & Riechert, 2000)

This comes forth out of the discourse ‘criticism on policy and policy makers discourse’ which starts immediately after the start of the crisis. Different stakeholders point to each other. The Dutch government, nor the EU takes responsibility. If a mistake is made farmers say that the Dutch government failed, but the government stated that the responsibility lies with the EU. Miller & Riechert (2000) stated that conflict among competing stakeholders is a main driving force for news. This could be an explanation why the discourse ‘criticism on policy and policy makers discourse’ is the most important or most dominant discourse during the outbreak and evaluation. However, all discourses remain active during this phase.

The third phase of the framing cycle is the resonance phase. Miller & Riechert (2000) stated that the frames of one or another stakeholder groups become ascendant when they resonate with the values and experiences of the public. The discourse which becomes ascendant is ‘financial losses dominate the evaluation’. Thereby it is remarkable that civilians stood behind the farmers during the crisis as shown in the discourse ‘civilians feel connected to the farmer’. It could be concluded that the farmers were seen as victims and not as the cause of the crisis. The status of the Dutch intensive livestock production therefore is only in a minor way at stake. The discourse ‘crisis makes reforming possible’ can be observed during the crisis itself. It almost disappears however when the evaluation of the crisis begins.

The fourth and final phase of the framing cycle is the Equilibrium of Resolution Phase. This phase occurs when the resonance process is complete. Miller & Riechert (2000) stated,

“In this situation proponents of the losing frame see no opportunities to win converts under their old frame. In this case, they can either adjust their rhetoric to the new frame or concede and withdraw from the policy debate.”

This statement could explain why the FMD-crisis discussion was an economic, financial debate with little critic on the Dutch intensive livestock production sector.

6.2.4. Conclusion FMD

The discourse analysis shows that the criticism discourse and the financial discourse are the most important. In these discourses the connection can be observed between policy and economy. Many of the policy debates are about economy and financial damage. The discussion regarding Dutch livestock production can be seen as a technical and economic debate, same as it was in 1996.

The framing analysis shows a somewhat different image. Economy is the third frame out of four. Framing analysis shows that policy and agriculture were the most important frames. In the policy frame the most remarkable term was 'Brinkhorst'. Brinkhorst was the minister of agriculture during the FMD-crisis. This shows that during the crisis the minister was the subject of discussion.

The low number of frequencies of the economic frame could be explained by the discourse analysis. The financial discourse shows that the economic frame starts and dominates the evaluation of the crisis.

It is shown in the discourses that citizens were supporting the farmers, not blaming them for the crisis. It was the government, the EU and their policy instruments who were the subject of discussion.

6.3. Bird flu 2003

Bird flu, which official name is Avian influenza, is caused by a virus. Different strains caused the outbreak of bird flu in 2003 and 2005. In 2003 the Netherlands was struck by a bird flu virus which was not transferable from animals to humans.

6.3.1. Framing distribution & Framing analysis Bird flu 2003

Table 10. Term frequency Bird Flu 2003

Terms							
	#		#		#		#
Schade	19	Volks(gezondheid)	16	Minister	190	Intensieve Veehouderij	9
Economie	15	Gezondheid	22	Overheid	44	Landbouw	97
Euro	171	Slachtoffer	3	Beleid	18	Dieren	254
Gulden	3	Mensen	101	politiek	46	bio industrie	18
Geld	64	Ziek	111				
Total Economic	272	Total Health	253	Total Policy	298	Total agriculture	378

Table 10 shows that the discussion regarding bird flu in 2003 was a very diverse discussion. Economy, policy and human health are almost equally important. The shift from economic to a public health frame can be observed in these numbers. The distribution in percentages is shown in figure 12. Euro is in the economic frame the most commonly used term. Damage (schade) on the other hand not very important. This means that money is not connected to the direct damage by the bird flu. In the health frame 'people' and 'sick' are the most important terms. This could show that the health of people is threatened by the bird flu. In the policy frame, minister is again the top term. Probably for the same reasons as it was the most commonly used term during the FMD-crisis which was; either the minister is held responsible for the outbreak or he is the number one character to solve the crisis. In agricultural frame 'animals' is the most important term. However, it should be noted that the term 'bio-industry' is used more often compared to the animal diseases before.

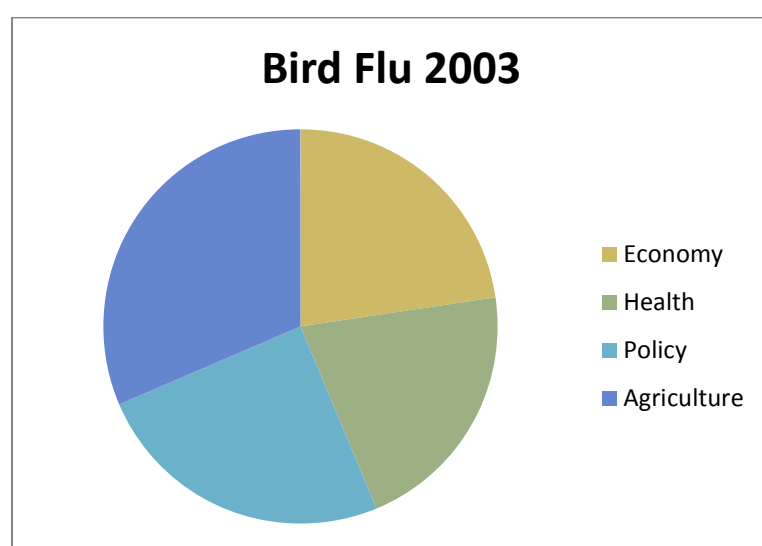


Figure 12. Distribution of terms in %

6.3.2. Discourses Bird Flu 2003

Who is responsible?

This discourse is about responsibility in relation to The bird flu in 2003 and 2005. It could also be seen as a 'finger pointing' discourse. Policy and policy making is an important subject in this discourse.

First there was the outbreak of swine flu, a few years later foot and mouth disease and, at the beginning of 2003, bird flu had a major outbreak in the Netherlands⁹⁰. Everyone pointed at each other after the bird flu was determined in the Netherlands. One of the most important person of responsibility was the minister of agriculture Piet Veerman. A spokesman of LTO stated that *"the Dutch government does not have the outbreak under control"*⁹¹. Groups and organizations faced each other on how to deal with the outbreak. Farmers and LTO stated that Veerman should act faster and harder. The ring in which the animals are culled should be much wider so that the possibility of the spread of the disease became less likely. On the other hand, hobby farmers claimed that their animals should survive. And even though these animals are within the borders of the infected farm, these hobby chickens *"live in small numbers, they are not a serious threat"*, they should not be culled.

Besides the responsibility of the Dutch government and minister of agriculture Piet Veerman, the animal husbandry sector itself was held responsible for the outbreak of bird flu. *"The ease of which the problems are related to government irritates me"*⁹² is a statement made by a critical citizen in the NRC. However, this citizen does not stand alone. The Dutch association of hobby farmers asked why they should follow the same set of rules as the intensive animal husbandry sector must comply to. According to veterinarian Willem Schaftenaar Dutch citizens incorrectly think that the mass culling of animals is inevitable⁹³. Schaftenaar further stated that the intensive animal husbandry sector works together with the national parliament. Together they protect the way of *"industrial"* animal production in the Netherlands⁹⁴.

Minister Veerman stated that not only the government or the animal production sector could be hold responsible for the way of animal production. *"Also chicken farmers are just a wheel in the mechanism"*.⁹⁵ The consumer is also responsible for the way of production. *"Together we maintain the system"*. A pig farmer agrees with the view of the minister, however he also holds the supermarkets responsible. In de Telegraaf he stated that *"supermarkets have too much power, meat became an advertising product"*⁹⁶. *"In this way consumers become more focussed on prices"*⁹⁷ LTO reacted. According to this organization consumers should focus on animal welfare, environment and food safety.

⁹⁰ NRC-Handelsblad 14-06-2003; De bewegingsvrijheid van een varken. Nieuwe veeteelt

⁹¹ NRC-Handelsblad 25-03-2003; Nieuwe gevallen van vogelpest

⁹² NRC-Handelsblad 10-03-2003; Moderne Vogelpest

⁹³ NRC-Handelsblad 28-04-2003; Bio-industrie moet een antwoord zoeken op de vogelgriep

⁹⁴ NRC-Handelsblad 28-04-2003; Bio-industrie moet een antwoord zoeken op de vogelgriep

⁹⁵ NRC-Handelsblad 23-05-2003; Toekomst van de kip, gevaccineerd scharrelen

⁹⁶ De Telegraaf 02-10-2003; Veerman recht tegenover zijn mensen

⁹⁷ De Telegraaf 08-03-2004; Vleesveehouderij somber na prijsstap Albert Heijn

What is the future of intensive farming?

This discourse is related to the responsibility discourse, because the stakeholders mentioned above are also responsible for the future of intensive farming in the Netherlands.

There are different opinions or frames about the future of intensive animal husbandry in the Netherlands. Veerman started the discussion about the future of Dutch intensive farming during several debates. Farmers, nature and animal protectors were present during these debates. According to Veerman, Dutch husbandry systems faced several dilemmas. *"The consumer wants more animal welfare but they do not want to pay the price. The farmer needs to meet strict environmental policy, and on top of that they need to compete with an open world market with countries where these issues are not a problem"*.⁹⁸

In May 2004 the Dutch association for the protection of animals (De Dierenbescherming) published a report which held their vision of the future of farming in the Netherlands. The organization wrote the report in reaction to the bird flu outbreak. Their vision was that *"in 2030 the number of chickens held in the Netherlands should be halved. All animals should be vaccinated against bird flu and other highly contagious diseases and that half of them should live in farms with free range access"*⁹⁹.

Somewhat in line with the vision of de Dierenbescherming was a research done by the Animal Science group of Wageningen University. Sjerck Spoelstra led a research on new animal husbandry systems. According to Spoelstra *"the social acceptance of traditional intensive animal husbandry is disappearing. Now and in the future animal welfare and environmental problems become increasingly important"*¹⁰⁰.

Spoelstra concluded however that a rapid change regarding livestock production in the Netherlands is not achieved rapidly. *"Changes in agriculture are slow. A farmer cannot change his stable within a day. The investment costs too much. A farmer can afford a new one when the old stable is written off. This new stable should also last for quite some time"*¹⁰¹.

Livestock production is war

Iconic is an article published in the NRC in November 2003 about the 'silent war' fought between animal rights activists and farmers.¹⁰² NRC stated that the further radicalization of animal rights activism was catalysed by the government. *"To maintain the intensive livestock production sector millions of animals are killed when an new animal disease (foot and mouth disease, bird- and swine flu) has an outbreak"*¹⁰³.

Historian Bernd Timmerman, former assistant director of the animal protection association predicted that someone would die during the livestock production related war. He thought that *"because of the absence of relationships between legal and illegal*

⁹⁸ De Telegraaf 02-10-2003; Veerman recht tegenover zijn mensen

⁹⁹ NRC-Handelsblad 23-05-2003; Toekomst van de kip, gevaccineerd scharrelen

¹⁰⁰ NRC-Handelsblad 14-06-2003; De bewegingsvrijheid van een varker, nieuwe veeteelt

¹⁰¹ NRC-Handelsblad 14-06-2003; De bewegingsvrijheid van een varker, nieuwe veeteelt

¹⁰² NRC-Handelsblad 29-11-2003; Het is oorlog; de radicalisering van de dierenbeschermers

¹⁰³ NRC-Handelsblad 29-11-2003; Het is oorlog; de radicalisering van de dierenbeschermers

*organisations the radicles became isolated*¹⁰⁴. Timmerman also stated that *"isolation and the growth in animal cruelty creates a dangerous mixture with these people"*¹⁰⁵.

Terms of war are also used by hobby farmers who are emotionally involved during the bird-flu outbreak. A hobby farmer whose animals were culled claimed that society could have foreseen the *"chickens-holocaust"*¹⁰⁶.

Financial consequences of crisis

There was already a financial crisis on Dutch farms, but after the bird flu the worst had still to come¹⁰⁷. According to the LTO the farmer could only reclaim their market when they start to produce at very low prices. *"Producers from other countries now fill up the gap the Dutch farmers leave behind"*.¹⁰⁸ Economist Huirne predicted that the costs of aftermath of the food and mouth disease crisis were five of six times higher than the costs of the actual crisis itself. However Huirne knew that he *"could not provide enough numbers to sustain the prediction"*¹⁰⁹. Also companies were influenced financially. Nutreco lost their export market. The production of chicken meat is an important activity of the company.¹¹⁰

The discussion of the financial consequences mainly focusses on who should pay for the damage. According to the NRC there are three sources out of which the damage could be compensated. *"The direct costs of prevention- which are also the costs for the stamping out and the value of culled animals- are for 50% compensated by EU-founds"*.¹¹¹ The other 50% is provided by the 'animal health found' which consist of 11.4 million euro for the poultry producing sector and by the ministry of agriculture.¹¹²

The discussion focusses mainly on the 11.4 million euro provided by the poultry producing sector. Wageningen University published a report named *"Pluimvee en bestmettelijke ziektes"*¹¹³. The researchers concluded that financial compensation of diseases like bird-flu should not be provided by society. *"Poultry farmers should be privately insured so that society is not involved in financial compensation"*¹¹⁴. The NRC relates the poultry sector to football. *"The football farmers should pay for the use of police, the chicken farmers should pay for the consequences of their actions"*¹¹⁵. According to the NRC the costs of the bird flu were 400 million paid by the tax payer¹¹⁶.

¹⁰⁴ NRC-Handelsblad 29-11-2003; Het is oorlog; de radicalisering van de dierenbeschermers

¹⁰⁵ NRC-Handelsblad 29-11-2003; Het is oorlog; de radicalisering van de dierenbeschermers

¹⁰⁶ NRC-Handelsblad 17-05-2003; Huisvuilkippen

¹⁰⁷ NRC-Handelsblad 19-04-2003; De varkenscyclus van de dierenproductie; Voor de boer is de nasleep nog erger dan de crisis zelf

¹⁰⁸ NRC-Handelsblad 19-04-2003; De varkenscyclus van de dierenproductie; Voor de boer is de nasleep nog erger dan de crisis zelf

¹⁰⁹ NRC-Handelsblad 19-04-2003; De varkenscyclus van de dierenproductie; Voor de boer is de nasleep nog erger dan de crisis zelf

¹¹⁰ NRC-Handelsblad 10-03-2003; Moderne Vogelpest

¹¹¹ NRC-Handelsblad 05-03-2003; Meer bedrijven met vogelpest

¹¹² NRC-Handelsblad 05-03-2003; Meer bedrijven met vogelpest

¹¹³ NRC-Handelsblad 05-06-2003; Rapport: Kwaliteit vlees en ei omhoog

¹¹⁴ NRC-Handelsblad 05-06-2003; Rapport: Kwaliteit vlees en ei omhoog

¹¹⁵ NRC-Handelsblad 10-03-2003; Moderne Vogelpest

¹¹⁶ NRC-Handelsblad 10-03-2003; Moderne Vogelpest

6.3.4. Framing Cycle Bird Flu 2003

The Framing Cycle

The emergency phase of bird-flu starts in March 2003. The bird flu news coverage starts with an objective article about the outbreak of bird flu.

"Six poultry farms in the 'Gelderse Vallei' may be infected by aviary influenza, or bird flu, a highly inflectional animal disease. Poultry farms in Scherpenzeel, Renswoude and Barneveld are infected. Further investigation is needed. The ministry states that there are 'serious suspicions' on the poultry farms".¹¹⁷

The emergency phase is a short phase during the bird-flu in 2003. In the same month the second phase of the framing cycle begins.

The definition phase is characterized by the discourse 'Who is responsible'. The definition phase is identical to the conflict phase during the bird flu in 2003. In the discourse 'Who is responsible' everyone points at each other in relation to responsibility. During the outbreak, hobby farmers attempt to frame the livestock production sector as dangerous for their 'hobby' animals.

The resonance phase starts in 2003 when the articles about hobby farmers remain the most important subjects in the newspaper. However, the discussion remains very diverse as can be seen in the wordcloud.

6.3.5. Conclusion Bird Flu 2003

During the outbreak in 2003 hobby farmers defended their animals and there was societal discussion about intensive farming in the Netherlands. This shows that there are economic, policy and public health subjects are equally discussed during the bird flu outbreak. In April 2003 'hobby' farmers were instructed that their animals needed to be culled.¹¹⁸ These measures led to resistance and started the discussion on the future of animal husbandry. "Hobby farmers defended their animals firmly"¹¹⁹. The association of hobby farmers started a lawsuit against the Dutch government.¹²⁰ Action groups worked together in a network to save the 'hobby' animals. "The Ark was a national network of hiding addresses for chickens, ducks, geese and other poultry who were threatened to be killed"¹²¹.

¹¹⁷ NRC-Handelsblad 01-03-2003; Klassieke vogelpest vermoed bij pluimvee

¹¹⁸ NRC-Handelsblad 04-04-2003; Vogelgriep nu ook in Limburg

¹¹⁹ NRC-Handelsblad 15-05-2003; Bij ruiming van hobbydieren zijn handboeien paraat

¹²⁰ NRC-Handelsblad 15-05-2003; Bij ruiming van hobbydieren zijn handboeien paraat

¹²¹ De Telegraaf 18-06-2003; Pluimvee actiegroep opgerold

6.4 Bird flu 2005

The cause of the epidemic in 2005 was the H5N1 virus that primarily affects birds (Upadhyay et al., 2008). However, this virus can also affect other species like pigs and humans. In 2005 the H5N1 strain of the bird flu virus spread very fast across the globe (Upadhyay et al., 2008).

6.4.1. Framing distribution & Framing analysis Bird flu 2005

Table 11. Term frequency Bird Flu 2005

Terms							
	#		#		#		#
Schade	22	Volks(gezondheid)	18	Minister	149	Intensieve Veehouderij	3
Economie	22	Gezondheid	97	Overheid	46	Landbouw	74
Euro	165	Slachtoffer	44	Beleid	20	Dieren	202
Gulden	0	Mensen	265	politiek	23	bio industrie	1
Geld	47	Ziek	234				
Total Economic	256	Total Health	658	Total Policy	238	Total agriculture	280

Table 11 shows that public health is the most important subject in the bird flu 2005 discussion. The distribution in percentages is shown in figure 13. In this figure it is obvious that public health dominates the news coverage regarding livestock production in the Netherlands.

The discourse analysis shows that there is a shift in framing during the bird flu of 2003 and 2005. The economic and policy frame changes into an health debate.

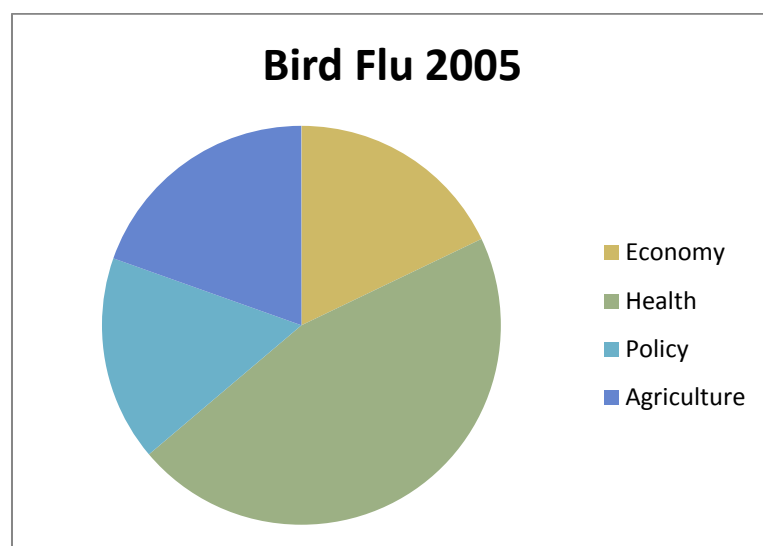


Figure 13. Distribution of terms in %

6.4.2. Discourses Bird Flu 2005

The main subject discussed in 2005 and 2006 was human health. Tamiflu is a cure against the complications of the bird-flu¹²². The places where the cure was stored was kept secret due to fear of assaults. This fear was funded according to British virologist John Oxford. "The question is not 'if' there will be a pandemic outbreak of bird flu, but 'when'".¹²³ This fear however only infected the Netherlands in a small way. Fear remained in the countries where people were dying due to the bird flu. A butcher in Turkey claimed that he knew everything about fear. "I used to sell 100 kilo of chicken meat every day, but I do not touch it anymore now bird flu is here. You never know"¹²⁴.

Dutch consumers are somewhat affected however. Dutch consumers became increasingly vegetarian in fear of animal diseases according to de Telegraaf. "There is always something going on in the meat industry. People do not trust meat anymore and try to find alternatives"¹²⁵. The European food safety agency responded to the growing uncertainty and nervous reactions that "with our chicken meat and our eggs is nothing wrong"¹²⁶. The Dutch Vegetarian Union (NVB) stated that "people do not have to worry about diseases when they eat meat replacements. Now it is bird flu, but there have been problems with mad cow disease and foot and mouth disease"¹²⁷.

¹²² NRC-Handelsblad 12-11-2005; Roche redt de mensheid van de griep

¹²³ NRC-Handelsblad 12-11-2005; Roche redt de mensheid van de griep

¹²⁴ NRC-Handelsblad 20-01-2006; Turken roken liever een sigaretje dan dat ze kip eten

¹²⁵ De Telegraaf 16-03-2006; Vlees vaker uit menu uit angst voor dierziektes

¹²⁶ De Telegraaf 27-10-2005; Fransen besmet met vogelgriep

¹²⁷ De Telegraaf 16-03-2006; Vlees vaker uit menu uit angst voor dierziektes

6.4.3. Conclusion Bird-Flu 2005

The difference between the outbreak of bird flu in 2003 and 2005 is that the outbreak of 2003 directly struck the Netherlands. In 2005 and 2006 the fear of an epidemic flu and human health was important. In 2003 the stamping-out of animals was a major discussion. In 2005 there was almost no discussion about the current status or the future of Dutch animal husbandry. The criticism of citizens rises when their privately owned animals or their health is at stake.

There was no outbreak in the Netherlands in 2005. In 2005 the problems remained in foreign countries. In the Netherlands it was no major crisis, therefore, in the discourses no framing cycle was observed. In several countries in Asia animals were stamped out and humans died because of the bird flu. In the southern regions of Vietnam, in Cambodia and Thailand more than 70% of the people who were infected with bird flu died.¹²⁸ The discussion in 2005 and 2006 therefore focussed more on human health and the threat of a pandemic outbreak of bird flu. In Dutch newspapers there was attention to the stamping out of animals in other countries, mainly in Asia.¹²⁹¹³⁰ However no comments were given to these measures.

In short, during the Bird-Flu crisis the shift was made from an economic, animal health frame to a public health frame. However, the livestock producing sector is not directly connected to public health during the outbreak of bird-flu.

¹²⁸ NRC-Handelsblad 19-05-2005; Griepexperts waarschuwen voor vogelgriep

¹²⁹ NRC-Handelsblad 19-05-2005; Griepexperts waarschuwen voor vogelgriep

¹³⁰ NRC-Handelsblad 21-09-2012; Vrees voor vogelgriep in Jakarta

6.5. Q-fever

Q-fever is a zoonotic disease, which means that is this disease is transferable from animals to humans. The disease is caused by the bacteria *Coccobacillus Coxiella burnetii* (The Dutch Q fever Consensus Group, 2012). The animal reservoir consists of goats, sheeps and cattle. These animals are the most common source of human infections (The Dutch Q fever Consensus Group, 2012). After primary infection, humans can develop chronic Q fever. Estimations make that between 1 and 5% of patients develop chronic Q fever. Chronic Q fever can lead to considerable morbidity and an mortality up to 60% (The Dutch Q fever Consensus Group, 2012). Q-fever became a major problem in the Netherlands in 2009. In total 2,357 human cases of Q-fever were notified in 2009 (van den Hoek, et al.)

6.5.1. Framing distribution & Framing analysis Q-fever

Table 12. Term frequency Q-fever

Terms							
	#		#		#		#
Schade	17	Volks(gezondheid)	78	Minister	181	Intensieve Veehouderij	16
Economie	5	Gezondheid	38	Overheid	45	Landbouw	82
Euro	47	Slachtoffer	13	Beleid	23	Dieren	138
Gulden	0	Mensen	167	politiek	14	bio industrie	0
Geld	22	Ziek	211				
Total Economic	91	Total Health	507	Total Policy	263	Total agriculture	236

Table 12 shows that the economic frame was small during the Q-fever crisis. Euro, which is the largest terms in the economic frame, is compared to the largest terms in the other frames not important at all.

Public health is the most important subject in the Q-fever discussion. The term 'sick' is the most common used term compared to the other terms in all framing categories. On top of that, total health is as important if the policy, agricultural and economic frame together. The distribution in percentages is shown in figure 14.

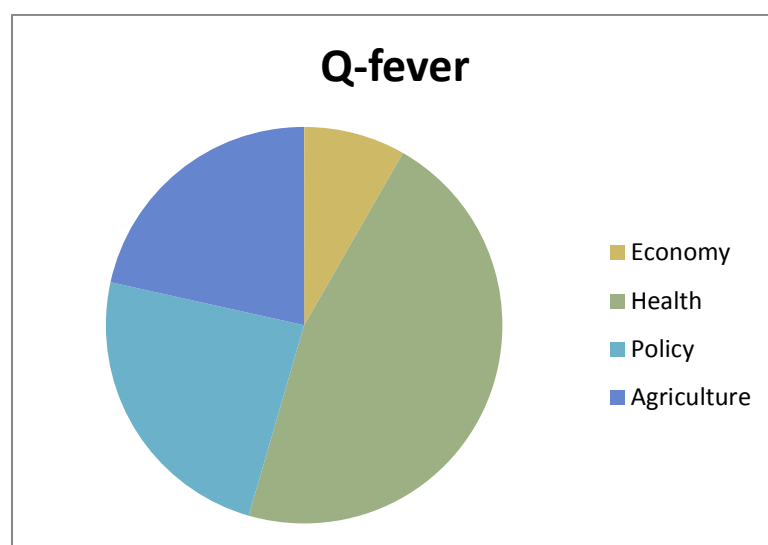


Figure 14. Distribution of terms in %

6.5.2. Discourses Q-fever

In this section the discourses of Q-fever are described. The discourses describe human health, the future of Dutch farming, financial problems and whether the farmer was seen a victim or not.

Dutch animal husbandry is a threat for human health

Human health is the most important subject of discussion in relation to Q-fever. *"People with Q-fever go to their doctor with fever and respiratory symptoms. Twenty-five percent of these infected people face severe symptoms like pneumonia. An individual might die. Ten percent of the q-fever infected patients remain struggling with the symptoms for several months. One percent remains sick his entire life"*¹³¹.

The number of infections grew hard as from 2007. De Telegraaf; *"In 2007 there were just twenty cases per year. In 2008 there were already a 1000 and in 2009 the number of infections grew to 2300"*.¹³² In September 2009 the NRC-Handelsblad stated the Dutch animal husbandry sector is a threat for human health¹³³. In the summer of 2009 scientists succeeded in isolating the bacteria which causes Q-fever¹³⁴. However it was uncertain how q-fever infected people, and why it was only a problem in the Netherlands. A certainty was that the risk of a human infection grew when people lived closer to a sheep or goat farm.¹³⁵

According to de Telegraaf 55 of the 400 goat farms were infected with Q-fever. In total these 400 farms had 220.000 goats.¹³⁶ Mayor Willy Doorn of the town of Landerd stated that *"when farmers have a lot of goats it is evident that Q-fever will struck sooner or later"*¹³⁷. According to Jim van Steenberghe, who works as a doctor at the RIVM (Rijksinstituut voor Volksgezondheid en Milieu) concluded that outbreaks of Q-fever were concentrated around goat farms in 2007 and 2008. He claimed that *"of course the risk of infections is higher when you live next to a goat farm"*¹³⁸.

NRC-Handelsblad also stated that sheep and goats are the most important source of human infections. *"People are infected with Q-fever by breathing air with fine dust contaminated with Q-fever bacteria. The bacteria is excreted when sheep and goats give birth. Straw and manure from the stables is deposited on the land. In this way the bacteria gets airborne"*.¹³⁹ In the same article Peter Weber, doctor and microbiologist of the Jeroen Bosch Hospital in Den Bosch, emphasized that Q-fever is not a mild disease which never leads to death.

¹³¹ NRC-Handelsblad 05-02-2009; Gevaarlijke Geiten; reconstructie q-koorts

¹³² De Telegraaf 21-01-2010; Roep om onderzoek bestrijding Q-koorts; 'Tweespalt tussen ministers vertraagt effectieve aanpak'. Onrust burgers niet weg.

¹³³ NRC-Handelsblad 02-09-2009; Op welk bedrijf Q-koorts heerst, blijft geheim; Q-koorst. Enorme omvang van Nederlandse veehouderij is belasting voor volksgezondheid

¹³⁴ NRC-Handelsblad 17-12-2009; Kleinschalig is ook riskant, katten kunnen ook ziek worden

¹³⁵ De Telegraaf 03-10-2009;

¹³⁶ De Telegraaf 10-12-2009; Ruiming drachtige geiten; Zware maatregel tegen verspreiding Q-koorst. RIVM is tevreden

¹³⁷ NRC-Handelsblad 05-02-2009; Gevaarlijke Geiten; reconstructie q-koorts

¹³⁸ NRC-Handelsblad 02-09-2009; Op welk bedrijf Q-koorts heerst, blijft geheim; Q-koorst. Enorme omvang van Nederlandse veehouderij is belasting voor volksgezondheid

¹³⁹ NRC-Handelsblad 26-06-2009; Nederland ligt aan kop in epidemie Q-koorts

Livestock production is more important than human health

In this discourse the discussion was about protecting the farmers and that the government had internal conflicts between the ministry of Agriculture and the ministry of public health.

The government protected the farmers, keeping their addresses safe for publication¹⁴⁰. The government was criticized for the protection of the addresses of the farmers. Van Gerven, a member of parliament, stated that it appeared to be that economic interests are more important than public health.¹⁴¹

In November 2010, when the crisis was drawing to a close, commission Van Dijk published a report on the policy measures regarding Q-fever. NRC-Handelsblad concluded that there were a lot of opportunities to stop the spreading of Q-fever. *"The advisors of minister Klink (Public Health) have made, lacking veterinary knowledge, misjudgements. This ministry could not provide convincing evidence that goats were the source of human infection. The advisors were not taken seriously by the ministry of agriculture, protectors of the interests of farmers"*.¹⁴²

The minister of agriculture reacted to the criticism on the 'apathic' government intervention regarding Q-fever. The minister stated that the ministries of Agriculture and Public health worked together in a decisive way. *"We had to find sources and causes first. After this determination we could decide which measurements were effective and proportional. We did not want to work in a careless manner"*.¹⁴³ The minister expected that the number of infected people would drop after the measures were taken. To the statement of the importance of livestock production in relation to public health the minister reacted; *"I am responsible for the farmers, but public health is priority"*.¹⁴⁴

Also the CDA, a political party, struggled with the question of priority during the campaign of city council elections. Q-fever was a delicate subject during the campaign. NRC-handelsblad predicted that choosing for the grass-root supporting farmers was a choice against the citizens who were infected by Q-fever. According to Maarten Leseman of the LTO, the CDA needs to make choices regarding agriculture and sustainability. The CDA leader in the city council of Helmond stated that *"Helmond is a city, public health is here our priority. In Helmond we are not a political farmers party"*.¹⁴⁵ These quotes show that there was a conflict in politics between livestock production and human health.

The future of farming in the Netherlands

NRC-Handelsblad concluded in January 2010 that during ten years of misfortune no changes had been made regarding livestock production. *"The dominant ways of development in agriculture have crossed the line of acceptance of society. A reaction on the Q-fever crisis? No, this was a reaction to the FMD-crisis in 2001"*.¹⁴⁶

¹⁴⁰ NRC-Handelsblad 02-09-2009; Op welk bedrijf Q-koorts heerst, blijf geheim

¹⁴¹ De Telegraaf 11-12-2009; Waarschuwingborden bij besmette bedrijven; Ministerie nu voorstander van openbaren locaties. 'Economische belangen belangrijker dan volksgezondheid'

¹⁴² NRC-Handelsblad 22-10-2009; Van geiten kon je niet ziek worden

¹⁴³ NRC-Handelsblad 05-02-2009; Gevaarlijke Geiten; reconstructie q-koorts

¹⁴⁴ NRC-Handelsblad 05-02-2009; Gevaarlijke Geiten; reconstructie q-koorts

¹⁴⁵ NRC-Handelsblad 01-03-2010; CDA kan lokale Henk wel aan; Campagne in Helmond mikt in raadsverkeizingen op het gevoel

¹⁴⁶ NRC-Handelsblad 02-01-2010; Ongezond vleesbeleid is deel van de grote crisis; Opklaringen

The statement was a quote out of the report of Herman Wijffels which was written in reaction to the FMD-crisis. *"It had it all; the immensity, the minimum space required for animals, animals who never see daylight, the smell, environmental problems, transport problems, swine flu, FMD"*¹⁴⁷. This article shows that there was a feeling that nothing has been done with the problems regarding livestock production. It is stated that nothing happened after the problems with foot and mouth disease.

In the same article Coutinho, chairman of RIVM, went further with the discussion. *"We do not hear about problems with farms in time, whether something is going on with zoonotic diseases"*. Coutinho thinks that a political discussion should start on the future of farming in the Netherlands.

The Q-fever crisis identified that animal diseases can infect human populations according to NRC-Handelsblad. *"Q-fever showed that large concentrations of animals in a crowded country like the Netherlands are dangerous for public health"*. Hendrik Hoeksema of the labour party in the city of Oss questioned whether *"we should accept diseases as a consequence of intensive animal husbandry in the Netherlands"*.¹⁴⁸

In the article several organisations (health institutions, environment protectors) claim a building stop in the intensive animal husbandry sector. Van den Dungen of the Liberal party predicted the consequences of the building stop. *"Large farms will move to eastern Europe. 'Boerenbond' shops and maybe even the Rabobank will dissapear from villages"*.

Also university professors stated that there had been no progression in livestock production in the Netherlands. One hundred professors published the pamphlet 'stop the Livestock-industry'. According to these professors large-scaled livestock production causes damage to public health and the environment. They also claimed that the sector became a shameful industry. *"The Netherlands is the country with highest animal population density, therefore we should lead the way of change"*¹⁴⁹. The minister of agriculture reacted to the pamphlet. *"A wrong image on scale-increase is created by the professors in the pamphlet. It is suggested that the government only focusses on producing at a low cost prices. Not a word however on the progress on subjects like the environment and animal welfare"*.¹⁵⁰ According to the minister and the professors all the stakeholders in the production chain have their responsibility in changing the future of Dutch animal husbandry.

Financial discourse

The financial discourse is not the most distinctive discourse regarding the publications on the Q-fever crisis. However it is still a discussion in the newspapers. Especially the LTO (the Dutch farmers union) was focussed on the financial settlement of the Q-fever crisis. According to de Telegraaf the costs of the Q-fever crisis were 48 million euro. Including the cost of culling and the vaccination of the remaining animals.¹⁵¹

¹⁴⁷ NRC-Handelsblad 02-01-2010; Ongezonder vleesbeleid is deel van de grote crisis; Opklaringen

¹⁴⁸ NRC-Handelsblad 18-03-2010; Noord-Brabant bezint zich op megastallen; Q-koorts aanleiding voor debat Provinciale Staten over gezondheidsrisico's van grootschalige veeteelt

¹⁴⁹ NRC-Handelsblad 07-05-2010; We zijn al heel eind op weg; minister reageert op pamflet tegen de veeindustrie

¹⁵⁰ NRC-Handelsblad 07-05-2010; We zijn al heel eind op weg; minister reageert op pamflet tegen de veeindustrie

¹⁵¹ De Telegraaf 22-09-2010; Compensatie Q-koorts

The focus of financial losses were on the individual farmer. According to the LTO the average costs for an individual farmer was 160.000 euro. Farmers whose animals had not been culled suffered financial losses due to a breeding ban.¹⁵²

Is the farmer a victim

In this discourse there is a discussion on the responsibility of the farmer. The question asked here is whether the farmer is a victim of the Q-fever crisis. Individual stories of farmers indicate that the farmer itself is seen as a victim of the crisis. A farmer states that *"I fed each goat with a bottle on this farm"*. The farmer questioned the governmental policy on stamping out. *"We have 250 young, vaccinated goats which are pregnant. These animals cannot be infected and are still euthanized. That is out of any proportion, as if they want to set an example"*. The farmer concludes with a clear statement; *"We are the victim"*.¹⁵³

Another farmer stated that if scientists could not prove that goats and sheep are guilty for spreading Q-fever *"veterinarians are not accepted on my property"*. This farmer asks whether it is fair to blame one sector, when it is not sure whether it is really their fault. However, until all goats of farms in the Netherlands are vaccinated, there were constrictions on breeding and transport. The farmer reaction; *"I know I let my colleagues down, but I want to help them by broadening the discussion. When we receive a fair price for our products scale increase would not be necessary"*.¹⁵⁴ With this statement the farmer is blaming the government and the consumer for not paying enough for the product. However, the minister of agriculture summoned the farmers to *"take their responsibility"*. The minister reacted to the news that only 37 of the 426 farms had completed the vaccination programme.¹⁵⁵

¹⁵² NRC-Handelsblad 05-02-2010; LTO: Vergoed schade Q-koorts

¹⁵³ NRC-Handelsblad 19-12-2009; 'Voor ons bedrijf is het einde oefening'; Maandag begint het doden van veertigduizend drachtige geiten op besmette boerderijen

¹⁵⁴ De Telegraaf 23-06-2010; 'Blijf van mijn geiten af'; Veehouder verzet zich tot laatste snik tegen Q-koortsprik. 'Ik weet dat ik collega's dupeer'

¹⁵⁵ De Telegraaf 12-05-2010; Vaccinatie Q-koorts loopt in de soep

6.5.3. Framing cycle Q-fever

The framing cycle starts with the emergency phase. During this phase the news is reported. The news is not yet framed so that there is an objective way of reporting. This is shown during the Q-fever crisis. The first news article is published in NRC-Handelsblad on March 28, 2009. It is a short message which contains only the facts and not the 'issues'.

During the first months of Q-fever the emergency phase remains the dominant phase. In March and April only news is reported on vaccination and spreading of the disease, but still no framing is taking place.

The second phase named the definition phase starts around May and June 2009. Human health becomes the most important subject of discussion. The main discourse here is that livestock production is a possible threat to public health. The definition phase changes rapidly into the conflict phase. Several discourses start to rise when the Q-fever crisis is at its peak in December 2009. However, the discussion still mainly focusses on the possible health threat of the livestock producing sector. During this discussion the discourse emerges whether livestock production is more important than human health.

The Resonance phase is shown by this quote; *"The agricultural sector could not resist anymore, the problem had become too large"*¹⁵⁶. The quote shows that the livestock is a thread for public health discourse had become ascendant. Discourses like the financial discourse or other discourses not related to public health disappeared.

The final phase of the framing cycle, the resolution phase, can be observed at the end of the Q-fever crisis. Public health remains the most important subject. The discourse which remained is that livestock production is the reason for the infections of humans with Q-fever. At the end of the crisis this quote is made. *"How many victims do the intensive kept animals still need to make?"*¹⁵⁷

6.5.4. Conclusion Q-fever

The distribution of framing is almost equal to the distribution of frames during the bird flu of 2005. However it is shown that the economic frame has decreased in importance. Therefore the Q-fever discussion can be seen as a discussion focused on public health and in minor ways on policy and agriculture. The discourses show the same picture, human health is top priority in livestock production related discussions.

It could be concluded that livestock production is seen as a threat and therefore dangerous for citizens. The status of the Dutch intensive livestock production sector is now at stake.

¹⁵⁶ NRC-Handelsblad 22-10-2010; Van geiten kon je niet ziek worden

¹⁵⁷ NRC-Handelsblad 27-11-2010; Hoeveel Q-koorts doden vóór we wakker worden?

6.6. 2011

In 2011 there were no major animal diseases related to livestock production. The problems with Q-fever were over and during this year there were no major culling of animals.

6.6.1. Framing distribution & Framing analysis 2011

Table 13. Term frequency 2011

Terms							
	#		#		#		#
Schade	8	Volks(gezondheid)	5	Minister	14	Intensieve Veehouderij	9
Economie	3	Gezondheid	10	Overheid	13	Landbouw	54
Euro	20	Slachtoffer	2	Beleid	4	Dieren	93
Gulden	1	Mensen	30	politiek	6	bio industrie	0
Geld	17	Ziek	26				
Total Economic	49	Total Health	73	Total Policy	37	Total agriculture	156

Table 13 shows that agriculture is the most important subject in 2011. The distribution in percentages is shown in figure 15. Also in this figure it is clear that agriculture is the most important subject. In the table it can be seen that the term 'bio-industrie' was not used at all in 2011. However, the term 'Intensieve Veehouderij' is used quite often compared to other terms in the other frames. Therefore, 'Intensieve Veehouderij' can be seen as a quite regular used term regarding livestock production.

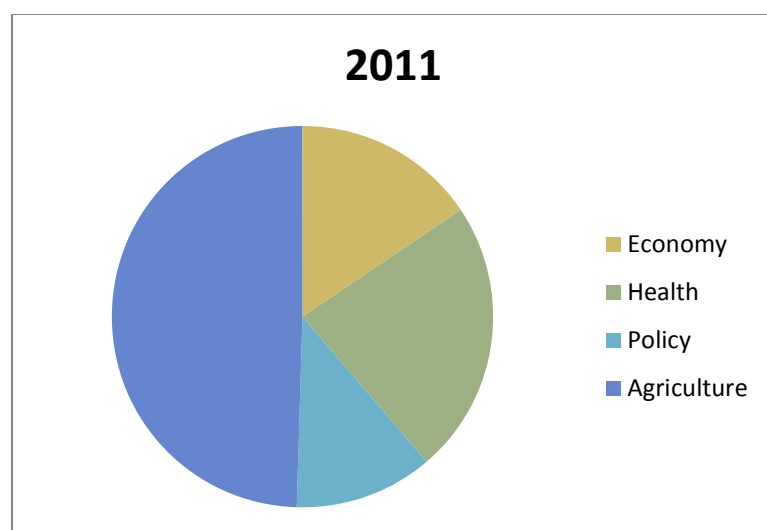


Figure 15. Distribution of terms in %

6.6.2. Discourse 2011

In 2011, a total of 79 articles were published in NRC-handelsblad. In 2011 no major animal disease appeared in the Netherlands. Nevertheless, human health was the top priority in the articles. Public health was related to the use of antibiotics in livestock production in the Netherlands. At the beginning of 2011 NRC headed *“a new indication that chickens are a threat for human health”*¹⁵⁸. In the article, livestock production, is a direct cause of human health problems. *“Patients who are suffering from a severe urinary or a bloodstream infection cannot be cured by antibiotics because of a bacteria named ESBL. This bacteria is genetic identical to the antibiotic resistant bacteria found in chickens”*. According to NRC-Handelsblad *“this points out that chickens are the reason why patients are infected with the bacteria”*.

Another article in 2011 also addresses the problems with antibiotics. This article connects the economic status of the livestock production sector to human health and the power of publicity. *“Preventive antibiotics are used in livestock production to make just a little bit of profit. Never in Europe so much antibiotics are used in livestock production as in the Netherlands. The sector distributed resistant bacteria have among society. Veterinarians who have supplemented farmers with antibiotics have changed their attitude due to negative publicity”*¹⁵⁹.

Interesting is the discussion on the problems with the EHEC-bacteria. *“In May 2011, the emerging aggregative EHEC strain caused a large outbreak with in northern Germany. Contaminated sprouted seeds were suspected to be the vehicles of transmission”* (Tzschoppe et al., 2012). According to the NRC the outbreak of the EHEC-bacteria was considered a plant related bacteria.¹⁶⁰ However in the same article livestock production is blamed for the outbreak. *“Somewhere the animal production chain the bacteria jumped to the plant production chain”*. *“The increasing antibiotic use in livestock production creates new bacteria which can jump to vegetables”*.

Another important subject of discussion is the future of livestock production in the Netherlands. The term ‘megastal’ is frequently used in several articles. A ‘megastal’ is not considered a form of sustainable farming.¹⁶¹ NRC-Handelsblad states *“there should be more distance between houses and farms”*.¹⁶² However not only the intensive livestock production sector is criticized. Also organic farming is discussed. This discussion however is not related to human health but to biodiversity.¹⁶³ In the article organic farming opposes ‘conventional’ or intensive farming. According to Rudy Rabbinge, professor at Wageningen University, *“livestock production is standing far away from the agriculture of 30 years ago”*.

In august 2011 commission van Doorn presented a report. *“Food production needs to be more sustainable, livestock production should be ‘antibiotic-healthy’ and ‘animal-friendly intensive’”*. Because the Netherlands according to van Doorn is *“not good in controlling and maintaining, so that the market stakeholders should facilitate these steps. Without*

¹⁵⁸ NRC-Handelsblad 19-02-2011; Nieuwe aanwijzing: Kip risico voor gezondheid

¹⁵⁹ NRC-Handelsblad 09-04-2011; Het antibioticasyndicaat

¹⁶⁰ NRC-Handelsblad 16-07-2011; Telers trekken ten strijde tegen sluipmoordenaar in kiemzaad

¹⁶¹ NRC-Handelsblad 01-03-2011; Twee, blz 2.

¹⁶² NRC-Handelsblad 01-03-2011; Twee, blz 2.

¹⁶³ NRC-Handelsblad 14-05-2011; De natuur heeft niets aan biologische boeren

government interference"¹⁶⁴. This means that all stakeholders in the chain of livestock production are needed to change the way of livestock production in the Netherlands.

6.6.3. Conclusion 2011

The framing distribution shows that the agricultural frame is the most important frame regarding livestock production. However, the discourse analysis shows that human health is the most important subject in livestock production related news articles. It could be that the technical terms of the agricultural frame were used describing public health related problems. The framing cycle is absent. The discourse shows that there is no relation to the cycle.

¹⁶⁴ NRC-Handelsblad 14-09-2011; Brieven

7. General Results

In this section the general results of the framing analysis are shown. The word clouds showed the major terms related to the discussion during the diseases. In these tables and figure the shift of frames is shown.

Table 14. Total frames

Frames	Timeline					
	1996	FMD	Bird Flu 2003	Bird Flu 2005	Q-fever	2011
Economy	48	452	272	256	91	49
Health	21	310	253	658	507	73
Policy	8	486	298	238	263	37
Agriculture	49	500	378	280	236	156
Total	126	1748	1201	1432	1097	315

Table 15. Frames in %

Frames in %	Timeline					
	1996	FMD	Bird Flu 2003	Bird Flu 2005	Q-fever	2011
Economy	38.10	25.86	22.65	17.88	8.30	15.56
Health	16.67	10.76	21.07	45.95	46.22	23.17
Policy	6.35	27.80	24.81	16.62	23.97	11.75
Agriculture	38.89	35.58	31.47	19.55	21.51	49.52
Total	100	100	100	100	100	100

In table 14 the total use of the four frames are shown. It can be seen that the discussion was the most intense during the Foot and mouth disease. In table 15 the percentages of the total framing are shown. The changes in frames is graphically shown in figure 16. The figure shows that health dominated the framing discussion during the Bird flu 2005 and the Q-fever crisis. Remarkable is decline of the economic frame. In 1996 this was the dominant frame, in 2011 it was almost the lowest frame reported about in news coverage.

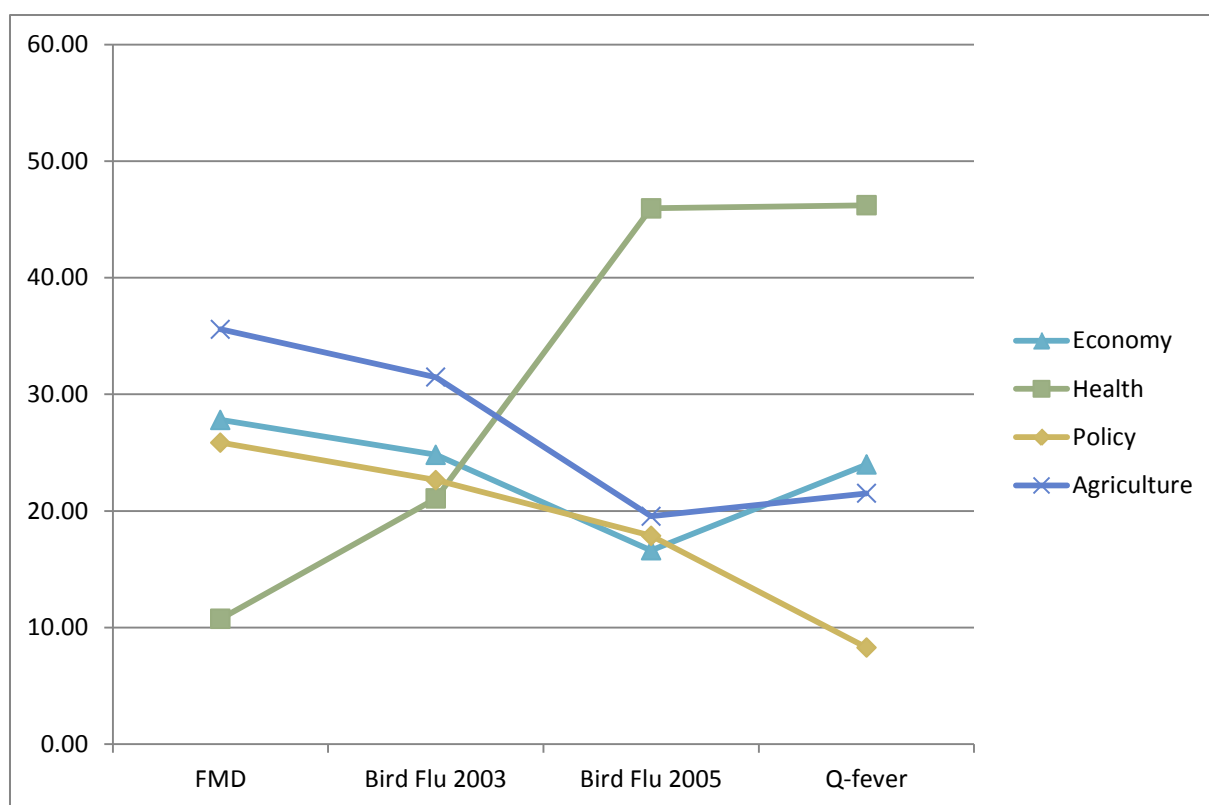


Figure 16. Shift of frames in %

8. Conclusion & Discussion

The main question for this thesis was 'In what ways are the animal diseases responsible for the discussion of the Dutch intensive livestock producing sector?'. To answer this question media analysis has been conducted in two newspapers, namely NRC-Handelsblad and Telegraaf. These news reports are framed. Two ways of analyses have been conducted. First a framing analyses or 'content analyses' was conducted.

8.1. Framing analysis

This analysis showed that there were four different frames in the livestock producing debate.

1. Economic Discussion
2. Health Discussion
3. Policy Discussion
4. Agricultural Discussion

1. Economic discussion

The economic frame was the top priority during foot and mouth disease and bird flu in 2003. The economic term used during these times was Euro. Other terms in this frame are not important.

2. Health discussion

Public health was a major subject during the zoonotic diseases. The rise of the health frame starts in bird flu 2003 and peaks bird flu 2005. During Q-fever public health remained an important subject. It shifted places with the economic frame. The terms humans and sick are the most important terms in the health frame in all diseases.

3. Policy Discussion

During all diseases the discussion about policy making is an important subject. Especially the term 'minister' is hugely important. It could be that this minister is held responsible for the outbreak of the disease or that the minister is the number one character to solve the problems.

4. Agricultural discussion

Animals and agriculture are the important terms in this discussion. In all diseases and in the time before and after diseases the news coverage uses these terms the most. Terms like 'bio-industrie' (bio-industry) or 'Intensieve Veehouderij' (Intensive livestock production) are not commonly used in agricultural discussions. This means that it is modest discussion without a great deal of framing.

8.2. Discourse analysis

Different frames were seen in several discourses. The framing cycles shows that one discourse becomes dominant at the end of the discussion. During the FMD-crisis the dominant discussion is that 'financial losses dominate the evaluation'. Which means that during this disease the economic discussion is the dominant one. Several other discourses were shown during this disease. However, these discourses did not dominate the discussion and therefore, did not have as much impact as the economic discussion.

Same trend is seen in the other diseases. The difference is that other discourses become dominant. Discourses, whether they are strong in language (livestock is war) or emotionally charged, become ascendant when people are directly involved.

Remarkable is that after every disease a commission is started. The reports of these commissions are not used in any way. Especially during Q-fever news articles relate back to the report of commission Wijffels. It could be that change is slowly achieved in livestock production. When society is directly involved however, like during bird flu 2005 and the Q-fever, the critic on livestock production sector intensifies.

8.3 Conclusion

Returning to the main question of this thesis 'In What ways are the animal diseases responsible for the discussion of the Dutch intensive livestock producing sector?'. The animal diseases changed the way the discussion is held in the Netherlands. Before the major diseases and, before the "*decade of misfortune*" for farmers, the discussion was a technical economic discussion. The attitude of society in relation to livestock production changed overtime. Especially the zoonotic (diseases transmittable from animals to humans) diseases played an important role in the decline of the economic discussion and the rise of the public health frame. Remarkable here is that livestock production is interesting for society when people are directly involved. The discussion intensifies when humans suffer from the diseases or when privately owned animals are culled.

The starting point of this thesis was 1996. During this year livestock production was seen as an economic, technical sector. In 1996 the amount of livestock production related news articles were not that different from the articles published in 2011. These numbers are in agreement with the "issue attention cycle" set by Downs (1972). When there are no problems regarding livestock production the number of news articles drop. However a shift could be observed in relation to 1996. In 1996 economy which was majorly important, in 2011 the economic discussion is of decreased importance. Also the interest in policy in news coverage has been decreased. These thesis showed that there are strong indications that animal diseases have influenced the way of societal thinking about livestock production. Livestock production in the Netherlands has been framed over the last decade as a possible threat to public health and not as an economic profitable sector.

8.4 Discussion

Some remarks have to be made regarding this thesis. It could be discussed whether the samples of 1996 and 2011 are large enough. One article has a relatively large influence on the quantification. However, it was sampled the same as the diseases.

Swine flu has not been analysed, in this thesis it is assumed that the discourses and frames are equal to 1996 and FMD. This thesis was mainly focused on the last decade of livestock production.

There should also be some remarks made about the future of discourse and framing analysis. It could be questioned to what extend newspapers have influence on society in these digital times. Especially the influence of internet and social media are not included in this thesis. Further research is needed to give conclusions about the influence of internet.

9. References

Downs A. 1972. Up and down with ecology: the "issue attention cycle". *The environment as Problem*.

Elbers A.R.W., Stegeman A., Moser H., Ekker H. M., Smak J.A., Pluimers F.H. 1999. The classical swine fever epidemic 1997-1998 in the Netherlands: descriptive edpidemiology. *Preventive Veterinary Medicine*, volume 42.

Gamson W.A., Modigliani A. 1989. Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach. *American Journal of Sociology*, volume 95.

Groot Koerkamp, P. W. G. 2012. Personal communication.

Hoek van der. W, Dijkstra F, Schimmer B, Schneeberger PM, Vellema P, Wijkmans C, ter Schegget R, Hackert V, van Duynhoven Y. Q fever in the Netherlands: an update on the epidemiology and control measures. *Euro Surveill*. 2010

Kress G. 1989. Critical Discourse Analysis. *Annual Review of Applied Linguistics*. Volume 11

Miller M.M., Riechert B.P. 2000. The empirical approuch to media framing. Chapter 5, *The spiral of opportunity and frame resonance: Mapping the issue cycle in news and public discourse*.

Pot, W. D., and C. J. A. M. Termeer. 2010. Op eieren lopen? De grillige dynamiek van de maatschappelijke aandacht voor innovatieve veehouderijsystemen in kaart gebracht, Wageningen University, Wageningen.

Schön D.A., Rein M. 1994. Frame Reflection: Toward the Resolution of Intractable Policy Controversies. Chapter 2: *Policy Controversies as Frame Conflicts*.

Termeer, C. J. A. M., M. van Lieshout, G. E. Breeman, and W. D. Pot. 2009. Politieke besluitvorming over het Landbouwontwikkelingsgebied Witveldweg in de Gemeente Horst aan de Maas. Wageningen Universiteit, Leerstoelgroep Bestuurskunde, Wageningen.

The Dutch Q fever Consensus Group. 2012. Chronic Q-fever: Review of the literature and proposal of new diagnostic criteria. *Journal of infection*. Volume 64.

Tzschoppe, M., Martin A., Beutin L. 2012. A rapid procedure for the detection and isolation of enterohaemorrhagic *Escherichia coli* (EHEC) serogroup O26, O103, O111, O118, O121, O145 and O157 strains and the aggregative EHEC O104: H4 strain from ready-to-eat vegetables. *International journal of food microbiology*. Volume 152.

Upadhyay R. K., Kumari N., Rao V. S. H. 2008. Modeling the spread of bird flu and predicting outbreak diversity. *Nonlinear Analysis: Real World Applications*.

Verhue, D., V. Vieira, B. Koenen, and R. Kalmthout. 2011. Opmvattingen over megastallen; Een onderzoek naar het maatschappelijk draagvlak voor megastallen en de opvattingen hierover.

Wood L.A., Kroger R.O. 2000. Doing discourse analysis. *Method for studying action in talk and text*.

