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# Norwegian poultry farmers' view on animal welfare

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# Preface

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This report is part of the Welfare Quality research project which has been co-financed by the European Commission, within the 6th Framework Programme, contract No. FOOD-CT-2004-506508. The text represents the authors' views and does not necessarily represent a position of the Commission who will not be liable for the use made of such information. More information on the Welfare Quality project can be found on the website: [www.welfarequality.net](http://www.welfarequality.net).

More specifically, this report and the underlying research are conducted as part of the Work Package 3.1 in the Welfare Quality research project, called "Barriers faced by producers". Similar studies of pig producers and cattle producers have been undertaken in five other countries; France, England, Italy, Sweden, and the Netherlands. Major findings from the six studies of poultry producers are summarized in a separate report which is published within the WQ-programme (B.B. Bock and M.M. van Huik: *Poultry farmers and animal welfare. A study of beliefs, attitudes and behaviour of poultry farmers across Europe*. Synthesis report WQ 1.3.3, Deliverable D1.13).

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# 1 Introduction

This report presents the findings of a study of Norwegian poultry (egg and chicken) producers' view on animal welfare. The study has been carried out as a part of the EU-funded research project Welfare Quality: Science and society improving animal welfare. Similar studies have been conducted in Sweden, United Kingdom, France, Italy and the Netherlands. The overall purpose of the study is to gain an understanding of producers' beliefs, views, conceptions and attitudes with regard to farm animal welfare. More specifically, a core objective is to identify potential barriers to the development of animal friendly production, as perceived by the producers. Focus is particularly set on their relation to supply chains and willingness to enter animal welfare schemes. The study is based on qualitative interviews with 61 Norwegian poultry producers in the period from October 2006 to January 2007. The study is explorative in nature. Our results clearly serve as a basis for formulating qualified hypothesis, but it should not necessarily be taken for granted that these hypotheses will be confirmed by upcoming studies of the Norwegian poultry sector.

An important insight from the study is that the producers usually took their own on-farm situation as a point of departure for their reflections on animal welfare. For instance, they typically did not unconditionally state their enthusiasm for animal welfare related regulations and schemes, but rather reflected on whether these measures would function well, and whether it would be financially possible for them to implement the measures in question. Further, our study indicates that there are some interesting variation between the poultry producers' definition of animal welfare and the type of production system they have set up. Organic producers and producers with cage system suggest somewhat different definitions of animal welfare; the cage producers' definition more strongly emphasize a health and production-related definition, while organic producers more often base their definition of animal welfare in nature. However, to the respect that organic producers associate their own production type with specific practices, such as letting the animals outside, with more natural behaviour, both groups might be said to base their definition in their own practices. Moreover, it's worth noting that producers tend to argue and prefer their own production system. However, cage producers seem to be somewhat more critical to their own production system than others, as well as being more uncertain about alternative production systems. They are also overrepresented in the group who think society evaluate their own production system as problematic. Therefore, their perception must not only be seen in context of their own experiences, but also as an integrated element of the dominant discourse in society which is largely critical towards cages as production system.. We also found that cage producers and organic producers have different views upon animal welfare schemes, cage producers being more sceptical, and organic producers more positive. Their view upon schemes may be explained by their current scheme-affiliation, organic producers already being part of a scheme above the basic level, which they associate with better animal welfare. In a Norwegian context, the producers view upon schemes

and differentiation might also be seen as an expression of loyalty to the farmers' co-operations. This is consistent with an observation that co-operatives normally emphasize equal treatment between members.

The structure of the report is as follows: In the remaining of chapter one, we will first give a short introduction to Norwegian poultry production, including a presentation of the basic statistics of this sector. Thereafter, we will briefly present the main public regulations, the animal welfare schemes as well as the animal welfare initiatives which have recently been developed by the Norwegian poultry industry. In chapter two, the research design, sample and methods of the study are presented. The remaining chapters, except from the concluding chapter, present the results of our study. In chapter three and four, the producers' views on Norwegian regulations concerning animal welfare and animal welfare schemes are presented and analysed, particularly emphasizing the producers' compliance with and willingness to implement animal welfare requirements. In chapter three, the producers' view on specific animal welfare issues in the Norwegian poultry sector will also be highlighted. In chapter five, an analysis of the farmers' interpretation of animal welfare is presented. This analysis provides, inter alia, valuable insights into the poultry farmers' definitions of animal welfare. Chapter six looks into the animal welfare situation in the transport and slaughterhouse sectors, as seen from the farmers' points of view. Chapter seven explores the farmers' perception of—and relationship to—other actors that are involved in animal welfare issues; i.e. consumers, animal welfare organizations as well as retailers. In chapter eight, we summarize the analysis and draw the conclusions.

## **1.1 Introduction to Norwegian poultry production**

Poultry production in Norway consists predominantly of two production types: (a) egg production and (b) chicken production. In addition, turkey, goose and duck are raised, but only to a very limited extent. In this study, we have concentrated on egg and chicken farmers. These productions will be briefly presented in the following.

### *Egg production*

In 2005<sup>1</sup>, 2286 farmers were registered as producers with laying hens in Norway.<sup>2</sup> Egg production is scattered all over the country. By international standards, the Norwegian egg farms are small. Approx. 80% of the producers had less than 2500 laying hens (cfr. table 1 below). The Norwegian Concession Act concerning the regulations of poultry and swine production, regulates the number of hens and chicken that are allowed to be produced per farm. This number has been increased somewhat during the last years. In

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<sup>1</sup> All the statistics or numbers, if not specified otherwise, is from 2005, and have been produced from the subsidy production data base.

<sup>2</sup> The Norwegian statistics of registered producers does not differentiate between laying hen producers and producers with parent stocks of slaughter chicken and laying hens. The figure includes the very small producers. In addition, among these, there is a small number of producers who also had chicken (27), and who were raising hens (142).

2003, the concession limit was set to 7500 laying hens per farmer. More hens can be kept only if a special permission is given. The largest egg producers are found in the three major agricultural regions in Norway; i.e. in the east (Austlandet), south-west (Rogaland) and the middle of Norway (Trøndelag).

**Table 1 The frequency distribution of egg producers in Norway**

Number of laying hens	<2500	2500–7500	>=7500
Percentage of laying hens producers (total 2286)	81% (1852)	14% (327)	5% (107)

Statistics produced from the production subsidy data base, 2005.

Up till 1989, Norway had its own systematic national breeding programme (Kolstad 2002: 235). Since then, however, all breeds have been imported. Currently, the dominant breed is Lohmann White, but there are also a few Norwegian producers who have Shaver, Hy-Line White and ISA White. Approximately 95% of the animal breeds are laying white eggs (op.cit p. 243). Breeding of laying hens is organized into different stages. A laying hen has a family line of Parents, Grand Parents and Great Grand Parent Stocks, that are all bred and raised in different stages. The breed of Great Grand Parents Stocks, or of the animal material itself, is carried out internationally by international breeding organizations. Grand Parent Stocks are imported to Norway. Their fertilized eggs are hatched, and the parent stocks are raised by specialized producers. The parents' fertilized eggs are again hatched. Chickens are thereafter sent to producers who raise them up to 16 weeks of age. They are then sold and transported to a regular laying egg producer. The laying hens are slaughtered at approximately 76 weeks of age.

#### *Production systems*

There are currently different production systems for laying hens in Norway. The development and use of production systems have changed historically. The changes have to a large extent been driven by regulatory changes, one of which is the ban on conventional cages from 2012 that was introduced in 2002.

##### *1. Cage-systems*

A. The most common production system in Norway is the conventional cage, also called battery production ("burdrift"). In 2005, 65.5% of the hens were still in conventional cages (Tone Hansen [e-mail]).

B. The first furnished/enriched cages, meaning cages with a nest, a perch of at least 15 cm per hen, and a litter bath, were set up in 1999. In 2005, 14.7 % of the hens were in furnished cages, and 5.8% were in conventional cages that can be furnished (ibid.).

## 2. *Non-cage systems*

A. The most common non-cage system in Norway up to now has been *free-range*, meaning that the animals are walking freely on the same level (floor systems), and that are held indoor. This production system was in fact the most common solution before cages were introduced fully in Norway in the 1960s/70s (Breen 2002:243). In 2005, 8.6% of hens lived in such systems in Norway (ibid.).

B. A relatively new type of non-cage system is the aviare. This system consists of multi-tiered platforms (aviaries) with nests and feeders at different levels. Many of the producers who invest in non-cage systems today choose aviaries. In 2005, 3.9% of the hens in Norway were in aviaries (ibid.)

C. According to the rules set up by the certification body Debio, organic egg production system must be of a non-cage type. Producers are free to choose between free-range and aviaries. The main difference from conventional non-cage production is that the animals are allowed to be outside, they have more space, and they get a different type of feed. There are about 95 organic producers in Norway. 1.5% of the hens are in organic production systems, if producers with less than 1000 hens are excluded (ibid.).

The types of production systems are reflected in three main categories of eggs that are sold in the grocery stores. Eggs from *battery hens* are not labelled in a way that clarifies their production system. Instead, different labels are chosen, some of which reflect the type of feed used, such as “sun eggs” and “polar” eggs. Eggs produced in *non-cage systems* by conventional producers are marketed as “free-range eggs”. It is important to note; however, that the free-range label in Norway is given to production systems where the hens are kept in non-cage systems, but without opportunity to get outside. Free-range is therefore used to refer to conventional non-cage production as opposed to organic. *Organic eggs* are marketed as organic, with the Ø-label (certified by Debio). The organic eggs are normally sold at approximately twice the price of eggs from battery hens. The market for organic eggs is expanding (SLF-report no. 15/2006).

### *Chicken production*

Specialized chicken production for meat consumption is a newer type of production than laying eggs, The first production of chicken in Norway was organized in the 1960s, and has increased rapidly since (Lysaker 2002: 278). In 2005, there were 546 registered producers with chickens for slaughter in Norway. Also the production of chicken for slaughter is spread over most parts of Norway, except the northern part. Also the chicken production is regulated by the Norwegian Concession Act. The current concession limit is 120 000 chickens produced per year. Table 2 below presents the frequency distribution of chicken producers in Norway:

**Table 2 The frequency distribution of chicken producers in Norway**

Number of chicken producers per year	<80 000	80–120 000	>=120 000
Percentage of chicken producers (total 506) <sup>3</sup>	48% (241)	41% (208)	11% (57)

Statistics produced from the production subsidy data base, 2005.

As for laying hen production, the breeding of slaughter chicken in Norway was ended in the beginning of the 1990s. Thereafter, only international breeds are used in Norway. The dominating species today is Ross 308. The breeding of chicken in Norway follows the same procedure as for laying hens. When chickens are one day old, they are sold to the chicken producer, who raises them up until 29–32 days of age. They are slaughtered when having reached approx. 1.1 kg. All chickens are raised free-range on the floor, and are not allowed to go outside. There is practically no organic chicken production in Norway. One producer delivers organic slaughter chicken on his own brand, but in a very limited scale.

For more statistics about the Norwegian poultry sector, including import and export numbers, cf. appendix IV.

*The poultry sector in large: Developments and major issues*

In 2002, the new “Regulations concerning the keeping of poultry” was implemented. The most important change in requirement was the ban on conventional cages from 2012. In 2005, approx. 6 of 10 hens were still in battery systems in Norway. The government is considering to issue a total ban on cages in 2007, although with a longer transition period. For the Norwegian egg production industry, this means that considerable investments have to be made before 2012. From the perspective of the farmer, this leads to high “political uncertainty” and high degree of unpredictability. It will probably also imply that many poultry producers will choose to quit production rather than making the necessary investments on-farm. This situation clearly makes investment decisions on-farm more risky, and thereby also more costly since an unignorable risk premium must be taken into account when planning for the next years.

There has been no outbreak of avian flue in Norway, but the Norwegian Food Safety Authority (Mattilsynet) has nevertheless implemented restriction on private poultry. The major objective of this restriction is that poultry shall not get in touch with, or be exposed to wild birds that might be possible carriers of the avian flue. The majority of the informants in our sample said that the avian flue, at least up to the time of speaking, had had no dramatic effect on the operation of their farms, except for the organic producers who had to keep their animals indoors. However, they reported that they adhered to the instructions from the Norwegian Food Safety Authority, and took the specified precaution seriously (e.g. very strict control of people who enter the hen house etc.).

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<sup>3</sup> This figure includes only chicken producers who sold their chickens in 2005. The figure of 546 includes also producers who were registered as chicken producers on a specific date of counting in 2005. For simplicity reasons, only the first figure was included in the table.



## 1.2 Animal welfare in Norwegian poultry production

### *Regulations*

Public regulations are the most common and important instrument for governing farmers' animal welfare practices in Norway. The first regulation within the poultry sector—Regulations concerning the keeping of laying hens in cages (“Forskrift om hold av verpehøner i bur”)—was introduced in 1982. This regulation specified the minimum size of conventional cages, and that there should be a maximum of 3 hens in each cage. Norway is, through the EEA-agreement, obliged to implement EU-regulations in the area of animal production and welfare. In 2002, the “Regulations concerning the keeping of chickens and turkey” was introduced. The Norwegian regulation implements the Directive 1999/74/EC and the Directive 2002/4/EC for laying-hens. The Norwegian regulation governs today's poultry production, both of laying hens, the raising of laying hens, Grand Parent and Parent Stocks of both laying hens and slaughter chicken, slaughter chicken, and turkey, as opposed to the old regulation which only regulated the keeping of laying hens. When non-cage systems for laying hens were re-introduced in the 90s, the industry itself issued regulations for this type of production. The most important regulation was that of maximum 11 hens per m<sup>2</sup> (Bagley, 2004). Before 1.1.2002, there were no specific regulations for chicken production.

The most important change that was introduced within the new regulations was a ban on new houses with conventional cages from 2003 and that conventional cages were banned from 2012. From that point of time, only furnished cages or non-cage systems are allowed. It seems that many Norwegian producers have now slowly started to invest in new production systems, or have decided to quit production within 2012. The government is also considering a total ban on all types of cages. A decision will probably be made in 2007. Potentially, a ban on furnished cages might be issued, but with a longer period of transition than 2012. All in all, this means that the regulatory conditions are currently uncertain.

Other important animal welfare regulations concerning poultry in Norway are the following:

- Beak trimming, dubbing (removing the comb or parts of the comb), and castration is prohibited (cf. § 9). Beak trimming has been forbidden since 1974, when the current Animal Protection Act was introduced.
- The animals shall be looked after at least twice daily, and more often if necessary (cf. § 16).
- The in-door light shall be adjusted to the animals' natural hour rhythm. The light regime shall after the first days after weaning, follow a 24 hours cycle and include an uninterrupted dark period of at least 8 hours. Broilers shall have an uninterrupted dark period of at least 6 hours, or two uninterrupted periods of at least 4 hours each (cf. § 15).
- Abrasive materials for shortening and blunting claws became mandatory in conventional cages from 2003, and are also mandatory in furnished cages (cf. § 28).

- Capture and other handling of poultry shall be gentle, in such a way that the animals are not inflicted or unnecessarily hurt. Poultry shall not be carried in one leg only (cf. § 19).
- For laying hens in non-cage-systems, there shall be maximum 9 animals per m<sup>2</sup> of usable area, a perch providing at least 15 cm per hen, and a littered area covering at least 1/3 of the floor area. This provision came into force from 2007 (cf. § 25).
- Until 2012, when conventional cages are prohibited, there shall be no more than 3 animals per cage in this type of cages. The floor area shall be at least 700 cm<sup>2</sup> per bird, which confirms the requirement from 1982. The animals shall have access to at least two sites of drinking water (cf. § 28).
- Laying hens in furnished cages shall have at least 850 cm<sup>2</sup> area per animal, of which 675 cm<sup>2</sup> shall be usable. The laying hens shall also have access to a nest, a perch of at least 15 cm per hen, and to a litter bath that stimulates scratching, pecking and dust-bathing (cf. § 29).
- For broilers, the stocking density shall not exceed 34 kg live weight per m<sup>2</sup> (cf. § 35), and they shall have access to litter that stimulate pecking, scratching, and dust-bathing.
- All animal owners—as well as any others who handle animals—shall have sufficient knowledge of the animals’ physical and psychological needs and of the type of production in question (cf. § 5).

In organic production, the Norwegian “Regulations concerning organic production and labelling of organic agricultural products and food” implements the Council Regulation (EEC) No. 2092/01. The most important requirements, from which the organic regulation differs from the conventional regulation, are that the hens shall have access to an outdoor area when weather conditions allow it. If possible, they should be outdoor at least 1/3 of their lives. They must be raised in non-cage systems, maximum 6 hens per m<sup>2</sup>, and 18 cm of perches per hen. For slaughter chicken, the maximum is 21 kg live weight per m<sup>2</sup>, and they must live in minimum 81 days.

*Industry initiatives in the field of animal welfare and animal welfare schemes*

Animal welfare schemes, defined as any scheme that encompasses a module addressing animal welfare standards (cf. Leeuwen and Bock 2005 for definitions of different types of schemes), is not very common in Norwegian agriculture. This is probably related to the fact that animal welfare has traditionally been conceived of as a basic and a common undertaking for all involved parties, and not as an appropriate domain for company-specific differentiation in the market (Borgen and Skarstad, unpublished). Nevertheless, there are a few initiatives relating to poultry production in Norway that fall under the definition of an animal welfare scheme:

(a) The major animal welfare scheme in Norway is *KSL* – Kvalitetssystem i Landbruket (Quality System in Norwegian Agriculture). *KSL* is a quality assurance scheme in the sense that it contains an animal welfare module, but also set focus on other themes than animal welfare, such as food safety, product quality and traceability. Moreover, *KSL* can be characterized as a *basic* quality assurance scheme, because its animal welfare module does not go beyond national legal regulations. This distinguishes *KSL* from top

quality assurance schemes which include animal welfare modules well beyond national regulations. KSL covers all types of agricultural productions, including poultry production. Being a basic quality assurance scheme, the animal welfare requirements of KSL are on level with the requirements set in the Regulation Concerning the Keeping of Poultry and Turkey, and serves largely as an instrument for implementing Norwegian law and regulations. In 2001, the Norwegian poultry industry launched its own Action Plan for Animal welfare, as was also done for other production animals. Many of the initiatives and actions suggested were incorporated into KSL. KSL has been used more actively to incorporate measures of documentation and demands in the poultry sector than for the other production animals. At Prior, the dominant egg company, the producers are deducted 1 NOK per kilogram if they don't participate in KSL, and/or haven't made the improvements that are identified during a KSL-inspection or control conducted by Prior. As a measure of last resort, Prior also has the possibility to exclude them as suppliers. 70 percent of all poultry producers participate within the general animal welfare scheme KSL. 76 percent of all Norwegian poultry is part of a KSL-livestock, reflecting that the largest poultry producers participate more often in KSL than the rest (Groven et al. 2004).

(b) The organic scheme in Norway is called *Debio*. *Debio* is a privately owned agency that controls and certifies organic production in Norway. It works by authority delegated by the Ministry of Agriculture and Food and the related governmental control body called Mattilsynet (the Norwegian Food Safety Authority). In 2005, there were approx. 95 organic poultry producers in Norway (*Debio* statistics). Only two of them produce organic slaughter chicken, and they are both very small. There are only 6 organic egg producers who keep more than 1000 hens. There are a few organic producers who have between 100 and 1000 hens, but most of the 95 organic poultry producers are very small.

(c) Following the categorization of Leeuwen and Bock (2005), top (farm) quality scheme is another type of scheme. A top (farm) quality assurance scheme is a scheme that contains an animal welfare module, but focus on other themes than animal welfare, mostly on food safety, product quality and traceability. The animal welfare standards shall go beyond European or national legislation. To our knowledge, there are two brands or quality assurance schemes that fall under this category within the Norwegian poultry sector. One of them is an initiative from the sales co-operative Prior, that are marketed under the label "Livèche-chicken". These are Ross-chickens that live for 81 days. They are allowed to go outside, and get a special feed. Animal welfare and taste are the two most important attributes that are marketed as quality signals of Livèche-chicken. There is so far only one producer producing under this label. In addition, there is an egg producer who has developed his own brand ("Ek gårdsegg"), using also animal welfare, taste, and freshness as quality attributes. In addition to the type of schemes mentioned above, specific animal welfare schemes focus specifically on animal welfare (*ibid.*). *Ek gårdsegg* emphasize animal welfare, and could probably be

categorized both as a “top quality” scheme and as a “specific animal welfare” scheme. There are also a couple of organic producers who have their own label, among which animal welfare is an important aspect. But we have here classified them as organic, because they use the organic Ø-label, in addition to their own brand name.

## 2 Methods

The purpose of this chapter is to present the research design of the study, as well as the sample, the representativeness of this sample and the status of our results.

### 2.1 Research design and methods for data collection

This study is based on a qualitative, semi-structured research design. The results of the study is based on answers from 61 Norwegian poultry producers to questions specified in an interview guide that was used in all six countries participating in the study<sup>4</sup> (cf. appendix II). Following the explorative, qualitative design of the study, the questions were posed in an open manner, allowing the producers to phrase the issues in their own pace, structure and style. 30 of the interviews were conducted face-to-face, the rest were conducted by telephone. Whereas the face-to-face interviews were carried out in two parts of Norway in the areas around Oslo and Trondheim<sup>5</sup>, the telephone interviews were spread all over Norway, allowing the sample to reflect the fact that poultry, and especially egg production, are spread throughout the entire country.

The producers were contacted by telephone, given information about the project, and asked whether they were willing to participate in the study. The individual producers were selected randomly, in accordance with our sample criteria, from the national production subsidy data base (“produksjonstilskotsregisteret”). This is a data base of all producers in Norway providing information of producers’ name, age, location, gender, types of productions and number of animals. We were granted access to this data base for the purpose of drawing a sample. Only about eleven of the producers we contacted did not want to participate. Some of the producers that denied participation said they were too busy or in the process of exiting production. Others simply did not want to participate. Some of the producers that we contacted had already exited poultry production. Most of the producers were contacted and interviewed during their working day which probably increased their barrier to participation. None of the informants were compensated financially for contributing to the study. However, most of the producers answered positively to our invitation without further need for persuasion. Our overall impression is that the producers willingly participated and that most producers found the questions relevant and generally quite easy to answer. Almost all of the interviews were tape-recorded.<sup>6</sup> The face-to-face interviews lasted on average 85 minutes while the

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<sup>4</sup> However, the interview guides were adapted in order to fit the national contexts.

<sup>5</sup> Some face-to-face interviews were in addition conducted by Siv Karin Paulsen Rye at Norwegian Agricultural Economics Research Institute.

<sup>6</sup> Three producers did not want to be tape-recorded.

telephone interviews lasted on average 55 minutes. The same interview guide was used for either category of interviews.

## **2.2 Analysis of the interview data**

Our data material consists of 61 semi-structured interviews with an average length of about 70 minutes. Clearly, it's challenging to deal with this large pool of data. In order to get detailed and good interview records, notes were taken during the interviews. The answers were in most cases written directly into a tailor-made word-template. Some of the interviews (approx. 15) have been fully transcribed. With regard to the telephone interviews, we have in most cases been able to follow the pace of the conversation, our notes reflecting the actual wording of the producers. The tape-recordings have served as help for getting exact quotes for the use in this report. During our writing process, the tape recordings have proved to be very useful in order to check out exact formulations and viewpoints. These checks gave us a good reliability test for the whole material, because all the formulations (approx. 100) we checked up against the tape showed that our notes by and large reflected the exact quotations of the producers.

In order to get a quick, reliable and systematic overview of our diverse data material, all answers to the various questions have also been registered in an Excel-sheet. Mostly, our analysis of the material have been question-wise, looking for systematic patterns in the answers provided to the various questions, as well as questions that address the same topic (e.g. regulations). We have also tried to identify any systematic variation in the answers from different types of producers. Here, we have mainly focused on differences in production systems in egg production (cage, furnished cage, non-cage, and organic), and differences between slaughter chicken and laying hens producers.<sup>7</sup> Our analysis is particularly targeted toward the question whether producers who participate in different kinds of animal welfare schemes provide systematically different answers to the various questions. In this respect, we have differentiated between conventional producers, organic producers and top quality producers.<sup>8</sup> We will throughout the report indicate whether different types of producers appear to be overrepresented in their answers to specific questions, as compared to their proportion in the sample. Whether or not the groups are considered as overrepresented or not is based on a comparison of relative scores to different questions. But since no significant differences can be established in a formal statistical sense, our analysis is generally based on our best judgement. It should also be noted that not all producers answered all questions, or answered in a way that made it difficult to assess their specific meaning. The sample of poultry producers who answered the various question may differ from the sample as a whole on specific questions. We don't control for this in our analysis, but assume that the groups who (don't) answer our questions don't systematically differ from the distribution within the

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<sup>7</sup> If there is systematic variation between different types of producers, this will be commented on (cf. chapter 8). However, this does not exclude the possibility that there can be systematic differences that we have not been able to investigate or reveal in our analysis.

<sup>8</sup> However, as we interviewed only two top quality producers, they will seldom be treated as a group.

sample. These methodological challenges should be kept in mind when reading and interpreting the report. In order to explore whether there are systematic differences between groups in their answers to various questions, more tailor-made and/or quantitative research has to be conducted. The merit of our study is to provide a solid basis for developing qualified hypothesis for such research.

### **2.3 Sample**

The sample of 61 poultry producers has been selected according to the following criteria:

- Geographical location of the farm (Eastern, southern, western, middle, and northern part of Norway).
- Size of the farm: operationalized and registered as the number of poultry at the farm (Large vs. small producers).
- Type of production (Egg; slaughter chicken, and hatchery (sitting hen)).
- The poultry farmers' degree of involvement and engagement in animal welfare schemes (conventional, top quality and organic).

Generally, our objective has been to draw a sample that is representative with respect to these four variables. However, in order to be able to conduct systematic analysis of differences among producers, some groups (e.g. organic producers) have been over-represented. The producers' gender and age has also been taken into consideration, although these have not been formal criteria. The variables listed above have been used as stratification criteria in all the six countries that partake in the comparative international study of poultry producers.

#### *Animal welfare schemes*

As mentioned in section 1.3, and as documented in Borgen and Skarstad (unpublished), there are very few animal welfare schemes in Norway. In the poultry sector, there are two main animal welfare schemes; i.e. the general animal welfare scheme (KSL), and the organic scheme (Debio). In addition, there are two producers who produce and market under a top quality scheme.

As mentioned above, 70 percent of all poultry producers participate in the general animal welfare scheme KSL. 76 percent of the poultry are part of a KSL-livestock, reflecting that the largest producer participate more often. Among the largest 1/3 of Norwegian poultry producers, 79 percent participate in KSL (Groven et al. 2004). Hence, producers who do not participate in KSL are likely to be relatively small. Taking into consideration that living up to the animal welfare-standards in KSL essentially means to follow Norwegian regulations, we decided that an extensive search for the few producers who do not participate in KSL would not be worthwhile. In addition, the group of producers who are not participating in KSL has previously been studied by others (Groven et al., op.cit). This study will be referred to later. All of the producers in our study participated in KSL. With regard to participation in animal welfare schemes, our sample consists of 8 organic producers (all of them participating both in Debio-

scheme and KSL-scheme) and 52 conventional KSL-producers. The organic producers are overrepresented as compared to the underlying population. Most of the organic producers are located in the eastern part of the country. In addition, we interviewed two producers who belonged to top quality schemes.

#### *Geographical distribution*

As mentioned earlier, egg production is located in all regions of Norway. However, the production of slaughter chicken is more concentrated to the three main agricultural areas of Norway. The region (county) Rogaland in the south-western part of Norway is the largest region when it comes to the number of egg producers, while Hedmark in the eastern part has the largest number of slaughter chicken producers. These counties lies in the three main areas for agriculture in Norway (Austlandet, Rogaland and Trøndelag), where almost all chicken production is found. Following the structure of the Norwegian poultry production, the distribution is as follows: 17 percent of the producers come from Rogaland, 18 percent come from the western part (Hordaland, Sogn og Fjordane and Møre og Romsdal), 13 percent of the producers come from Trøndelag in the middle part of Norway (Nord-Trøndelag and Sør-Trøndelag), 35 percent of the sample comes from the eastern part of Norway (Oslo/Akershus, Oppland, Hedmark, Østfold, Buskerud, Vestfold), 9 percent of the producers live in northern part (Nordland, Troms, and Finnmark), and 8 percent of the producers come from the southern part of the country (Aust-Agder, Vest-Agder, Telemark). All in all, our sample corresponds relatively well to the geographical distribution of poultry producers in Norway. Our sample consists of 10 producers from Rogaland, 8 producers from the western part of Norway, 11 producers from Trøndelag (mid-Norway), 22 producers from the eastern part, 5 producers from the northern part, and 5 producers from the southern part of Norway.

#### *Type of production*

Another criterion for selecting producers was the *type* of production. As already mentioned, there are two main production types in Norway: Egg production and slaughter chicken production. In order to increase the variation of the sample, we have overrepresented slaughter chicken producers somewhat.

In our sample, there are 41 egg producers and 16 slaughter chicken producers. In addition, we interviewed four producers who had parents stocks for slaughter chicken, because the data base from which we picked the producers did not differentiate between producers with laying hens and producers with Ross hens used for the raising of slaughter chickens. 7 of the organic producers were egg producers, whereas one also produced slaughter chicken. This is in accordance with the distribution of production types in organic production.

#### *Production size*

With respect to production size, we have used the actual number of animals<sup>9</sup> at the farm in question in proportion to an estimated number<sup>10</sup> of what is a large and small producer,

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<sup>9</sup> As registered in the production subsidy data base of 2005.

as an indicator of whether the producer is considered as large or small. For egg producers, a producer was considered small if (s)he had less than 2500 hens and large if (s)he had more than 2500 hens. For slaughter chicken producers, producers with a volume of less than 80 000 slaughter chicken per year is defined as small, and more than 80 000 as large. The frequency distribution of slaughter chicken and egg producers with respect to size was indicated in section 1. We have deliberately overrepresented the largest producers, in order to be able to explore differences among producers, and to set focus on professionally and commercially oriented producers (as opposed to “hobby” producers), who has the largest number of animals in their possession.

With respect to *egg production*, the distribution of the sample is as follows: There are 12 producers with less than 2500 laying hens, 13 producers had between 2500 and 7500 hens, and 16 had 7500 hens or more. 7500 hens represent the concession limit. The largest producers are located in the eastern, middle and south-western part of the country, while the smallest in the western and southern part.

When it comes to chicken production, there are 4 informants who produce less than 80 000 chicken per year, 7 informants produce between 80 000 and 120 000 chicken and 5 produce 120 000 chickens or more per year. The current concession limit is set at a maximum production quantity of 120 000 slaughter chicken per farm per year.

#### *Production system for laying hens*

Discussions about animal welfare for laying hens are to a large extent oriented towards the type of production system, or housing system. Since the data base from which the sample is drawn does not include information about production systems, we didn't use production system as a variable when drawing our sample of egg producers. However, based on the interview information, the sample can be described with regard to type of production system. We have also used ‘type of production system’ as a central variable in the analysis, in order to investigate whether there are systematic differences between producers with different types of production systems. To a large extent, the difference between organic and conventional production also reflects different production systems.

In the sample, there are 24 producers with conventional cages or battery hens and five with furnished cages. One producer had both conventional cages and furnished cages. Since he had most conventional cages, he will be registered as such. Among the producers with non-cage systems, there are both organic and conventional producers. Two conventional producers had aviaries, and three conventional had free-range systems on the floor. These will throughout the report be referred to as conventional non-cage producers. Among the organic producers, five producers had free-range on the floor, while two had aviaries. In the analysis, we will differentiate between organic and conventional producers as indicated above.

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<sup>10</sup> As estimated by The Centre for Poultry Science (Fagsenteret for fjørfe) (personal communication). Since there are many producers that are very small, we didn't use the average as an indicator.



### *Other characteristics of the sample of farmers, farms and animals*

The described selection variables may be considered as “characteristics” of the Norwegian poultry production. These criteria have been chosen due to their expected relevance for animal welfare issue. In addition, it’s interesting to describe the background characteristics of our informants; such as age, education, family situation, gender, level of engagement in poultry organizations, and position within the farm. However, these variables have not served as selection criteria when drawing the sample, which implies that the sample is not necessarily representative when it comes to these individual background factors. Most of the information has been attained during our interviews, except for age and gender which we knew in beforehand.

*Gender and age:* When it comes to age and gender, we have tried to draw a sample including most ages and both genders. In the sample of 61 informants, 11 of the producers interviewed were women and 50 were men. A few times, we talked to both husband and wife. The average age of the producers was 50 years (i.e. s(he) was born in 1957). The youngest producer we interviewed was born in 1980, the oldest was born in 1942.

*Education:* We also asked how many years of education the informants had after the obligatory primary school. Approx. 7 informants reported that they had no formal education beyond primary school. Approx. 40 of the farmers had education at a so-called secondary school-level (senior high-school). Many of them were agronomists. Approx. 12 of the farmers had education from 1–4 years in a college or university, while approx. 2 of the producers had 5–6 years of education from college/university. All together, approx. 37 of the farmers had agricultural educational background. The producers who were not educated in agriculture or had more education, were educated in a wide range of fields, such as economy/trade, electrician, plumber, flower decoration, physiotherapy, teaching, nurse, confectioner, marketing, marine industry, engineering, motor mechanic, carpeting, forestry, history and ethnography, diving, and welding.

*Family status, type of farm:* Norwegian farming is generally characterized as “family agriculture”. There are different definitions of “family farming” (cf. e.g. Jervell 1999). Without adopting a strict definition of the term, family agriculture is often characterized by the fact that a family lives and works on its own farm. The farm is also often inherited (“odel”). Some definitions of family agriculture also refer to income derived from farming. That Norwegian agriculture is a “family agriculture” is also evident by looking at our sample. Almost all of the producers interviewed both own and run their own farm/production. In one instance, there was a producer who owned the production, but had employees who were running the production on a daily basis. We talked to both the owner and runner. In two instances, the children had formally taken over the ownership of the production, but the older generations were still running it. In one case we talked to the parents, in the other with the owner. In all cases we interviewed the

person who was in charge of the production, either alone or together with the spouse. A majority of the farmers had also inherited their farm. Looking at the family structure of the producers interviewed, the average number of children at the farms were 2.8 children among all producers. 53 of the farmers were married, 3 had cohabiters, and 5 were divorced.

*Work situation:* 49 of the farmers reported that they worked full-time on the farm. Sometimes their spouses also worked on the farm. However, poultry production was not a full-time job for all of them. 12 of the producers reported that they also had work, or mainly worked, off the farm. In a few of these instances, the spouse worked full-time or part time on the farm (approx. 5), or they had employees (approx. 2). Many of the producers had part-time help on the farm, a so-called farm-relief worker (“avløser”). Many also had help from other members of the family. A few (approx. 10) had permanent employees.

*Slaughterhouse affiliation:* The slaughterhouses play an important role in the food value chain. In the poultry industry, the nation-wide egg and chicken sales cooperative, Prior, has played an important economic and political role for several years. Prior’s share of the first-hand (råvare) market for eggs was 64 percent in 2004, and for chicken the share was 81 percent (source: [www.landbrukssamvirke.no](http://www.landbrukssamvirke.no)). However, their share was increased from 64 to 76 % in 2005, since Prior bought one of their most important competitor in the consume egg market, Norgården. Norgården was the first company to focus and encourage organic production. Their slogan was “If animal welfare is most important”. Prior has three slaughter houses, all located in the southern and south-western part of the country, and five eggpacking plants. The most important competitors for Prior today are organized in a company called Cardinal Foods, which is owned by a Finnish and a Norwegian company. All the companies, Trønderkylling (holds 6.8%, 2005), Norsk kylling (holds 12.6%, 2005), Arne Magnusson, and Jærkylling are owned by Cardinal Foods. Together they are reported to hold approx. 18 % of the egg market and approx. 35 % of the chicken market in 2006 (personal communication by Managing Director of Cardinal Foods, Torfinn Higdem). Almost all the producers we interviewed were members of the cooperatively owned Prior, except three producers who delivered their eggs to Arne Magnusson. Among the broiler producers, there was also one in the middle part of Norway who delivered the chickens to a private slaughter house. Few marketed their own products, except for the ones referred to earlier. Quite many, however, had some direct sale of eggs or cracked eggs from their farms, but mostly in very small quantities.

*Participation in profession organizations:* We also asked whether the farmers considered themselves as active in organizational (professional) work related to their production. Approx. 30 of the producers defined themselves as active producers, which often meant that they were participating in producers meetings or having positions as elected representatives within farmers’ organizations or cooperatives. The other produ-

cers (approx. 26) did not consider themselves to be active in organizational work, or had been active earlier but no longer.

## 2.4 How to read the report: the possibility for generalizations<sup>11</sup>

The overall purpose of the study is to gain an understanding of producers' beliefs, views, conceptions and attitudes with regard to farm animal welfare. This purpose indicates two aspects: Firstly, that the purpose is to get a deeper understanding of how producers reflect about animal welfare than we would have gained through a quantitative survey with pre-defined categories. The animal welfare field is in many ways a novel topic, in the sense that new knowledge, new regulations and new practices are being established. This has made a qualitative in-depth study desirable. Hence, the research design of the study has been (semi-) qualitative: the questions have been posed in an open manner without pre-coded categories. Our analysis is an attempt to understand and interpret their answers, with a particular focus on any systematic patterns in their answers. On the other hand, however, the number of producers interviewed has been as many as 61 and we have drawn a *sample* that is hopefully representative on multiple selected variables, as presented above. This indicates more of a quantitative research design, which brings us to a second point: The overall purpose also indicates that an objective is to infer something about *producers'* understanding of animal welfare, meaning not only the sample of 61, but Norwegian poultry producers in general. This makes the question of generalization important, and how the report should be read in that respect. A qualitative research design is best at exploring and providing an overview of e.g. the various understandings of animal welfare existing among producers. It's less suitable to indicate how many producers who think and mean the one or the other thing, in other words what understanding that is dominant or the relative distribution of the answers. In short, is it possible to infer something about a larger population of Norwegian poultry producers from a limited sample based on a qualitative research design? We will suggest two ways through which generalizations is possible.

First, whether generalization is possible or not depends on how one interpret patterns of the answers: as (a) accidental coincidences of insulated answers of independent actors, or (b) as established understandings of a group of actors and therefore patterns reflecting something more durable and solid. The French sociologist Daniel Bertaux has developed the term saturation as a principle of generalization of qualitative studies. Bertaux interviewed 15 bakers, but wanted to say something about the life course of the bakery workers. Bertaux asked how it is possible to generalize to the whole population of the bakery from information collected on a small (a few dozen) non-random sample. He suggested the following answer:

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<sup>11</sup> This part is more or less similar to the reflections we made in a report of pig and cattle producers' view on animal welfare. Also, we have generally used more or less the same structure and introductions to the chapters in this report and the cattle report. All of the studies have more or less the same research design, and more or less the same interview guides have been used.

When the interviews bring again and again the same elements of a recognizable pattern, when subsequent interviews with new persons confirm its presence in very life, then the pattern may be considered not merely a fantasy of the researcher (in social-scientific language – mere hypothesis), but a structuring feature of the actual processes, (Bertaux 1982:134).

In other words, Bertaux suggested that it is possible to reach a point of saturation, which is the point when new interviews do not add much new knowledge. For our purpose, this means that conducting interviews with more poultry producers is strictly not necessary if you have reached such a point. Already acquired knowledge is also relevant with respect to the possibility for generalization. Do the results make sense or get strengthened in relation to earlier, relevant empirical findings? If so, the argument for generalization has been considered to be strengthened, as implied by the term analytical generalizations which focus on the interplay between theory and data (cf. Yin 1994). But, there is one crucial question left: Which pattern or conclusions can be generalized? We believe we have developed a rough understanding of the various types of possible answers to the questions we posed. Many of the answers were recurrent. Thereby, we reached more or less a saturation point for the range of answers or types of answers. We would therefore say that it is possible to generalize the different answers or categories of answers to a larger population of poultry producers. Hence, we have good reasons for thinking that the type of answers we got by interviewing the 61 producers, is more or less the same in the larger population of poultry producers. It should also be noted that in the case of organic production, we talked more or less to all of the main producers of organic poultry products in Norway. However, in the cases of diverging opinions among the producers, where e.g. around half of the sample was positive to animal welfare schemes, while the other half was sceptical, we can only provide a description of these two groups, and not, as in quantitative studies say that the ratio is approximately 1:1 in the population as well. However, if there are diverging opinions, we can only generalize the categories of answers to a larger population. We cannot say anything about their relative distribution unless the answers are typical of a specific sub-category of poultry producers. As we shall see in chapter 8, the investigations indicate that there might be some differences among groups of producers. But further investigations are needed in order to be able to possibly consolidate and generalize these differences. When not specified, the producers should be considered as belonging to the same group. However, if a type of answer was clearly dominant in our sample, it is, according to the principles of saturation and analytical generalization, possible to say that this answer is most probably dominant among Norwegian poultry producers as well.

How the study shall be interpreted with regard to the relative distribution of answers is therefore necessary to specify. By choosing a qualitative design, as opposed to a quantitative research design, a richer understanding of the producers' perceptions of animal welfare was attained. The interviews had essentially the form of a conversation which means that our starting point for analysis has been a rich and semi-structured text. How

can this rich material be summarized and contracted? Generally, we will present the study with the use of quotations we find prototypical or representative for a certain position. We will also use the terms “many” (more than approx. 30 producers), “some” (approx. 10–30 producers) and “a few” (less than approx. 10 producers) to indicate how many producers who have answered more or less the same. However, the terms are only an indication because of the complexity and difficulty in summing up the answers. This is also true for our indications in parenthesis throughout the report of how many producers that have answered in a specific manner. These are just indications, and also dependent on what questions we have included in the countings. Also, one should have in mind that the questions were posed in an open manner. When we indicate that for instance four producers claimed that transportation is a big/the biggest animal welfare problem in the sector, this does not mean that other producers necessarily disagree with these producers, as was shown when we asked the producers explicitly about their view on transport. However, it probably indicates that these four are more concerned about the issue than others. However, posing open questions also means that when as many as e.g. 20 producers happen to mention the same problem or answer more or less in the same way, this is quite a large group of producers. It should also be had in mind that not all questions were posed in exactly the same manner or posed to all producers, but all producers answered questions covering the same topics, and some vital questions were posed to more or less all informants.

### **3 Producers’ view on animal welfare regulations**

How do the poultry farmers evaluate Norwegian animal welfare regulations? Do they find the requirements too strict, not strict enough, or are they generally content with the public regulations? And if not, what are they discontent with? How do they regard Norwegian public regulations in relation to the EU-regulations? What is their view upon specific animal welfare issues, such as e.g. the ban on conventional cages, and the need for more space? These questions will be addressed in this chapter which investigates the producers’ view on the animal welfare regulations. In Norway, public regulations, and the quality system KSL, are the most important instruments governing the poultry farmers’ animal welfare practices. More specifically, most of the public regulations which concern the animal welfare on the farm are specified in “Regulation concerning the keeping of poultry”. This was amended in 2002, and many new requirements were introduced (cf. section 1.2). In this context, posing the above-mentioned questions become highly relevant, because they explore the farmers’ knowledge of the regulations, partly their compliance with them, and—not the least—their willingness to accept the coming as well as further animal welfare requirements.<sup>12</sup> Our analysis

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<sup>12</sup> In this respect, the answers to these questions are also relevant to the question regarding farmers’ willingness to participate in animal welfare schemes. We’ll return to this question later.

revealed that the type of production system was the most important issue and area of concern for egg producers. However, the question of producers' willingness to accept animal welfare requirements should not mainly be interpreted as their willingness to improve animals' welfare or not. As we shall see, the producers' attitude to the regulations also depended upon their established practices, economic costs, and what they considered as "good animal welfare".

### **3.1 Producers' evaluation of national public regulations**

In this section, the poultry producers' evaluation of animal welfare regulations in general, as well as their evaluations of specific requirements, will be briefly presented.

*General attitude: Perceived uncertainty with respect to future changes*

In 2002, the new "Regulations concerning the keeping of poultry" was implemented. The most important change in requirement was the ban on conventional cages from 2012. As mentioned earlier, 65.5% of the hens were still in battery systems in 2005. The government will possibly issue a total ban on cages in 2007, although with a longer transition period. In 2002, new and stricter area requirements were implemented for slaughter chicken, in addition to a requirement for dark periods.

For the Norwegian egg production industry, this means that considerable investments have to be made before 2012. It will probably also imply that many poultry producers will choose to quit production rather than making the necessary investments on-farm. A few of the producers we talked to were in this category. Generally, this situation seemed to be reflected in the egg producers' answers to the question about their opinion on the animal welfare regulation. Quite many (approx. 33) revealed a troubled or ambivalent evaluation of the ban on conventional cages. Their most widespread concern was related to the (too) rapid changes in the regulations. This situation clearly makes investment decisions on-farm more risky, and thereby also more costly since a risk premium must be taken into account. For instance, a 51 years old producer (having invested in cage-systems) informed that he really didn't know how to tackle this challenging investment problem. He would be 56 years old in 2012, and considered himself to be too old to make large investments, but also too young to retire: *"It changes so fast. When we built in 1997, we had 7-hen cages, but they were outdated. Then we put in 3-hen cages, those were the newest fad, totally fine things, the most modern and finest there were. But 2 years ago, these became forbidden. [...]. And then there were these furnished cages, and they should be fine, but now someone says that those are not fine anymore. Nobody knows."* (12).

For some informants, this worry sometimes went hand in hand with scepticism and/or uncertainty that the new production systems would be able to improve the welfare for the animals. They were uncertain what production system to choose, and "were sitting on the fence". Their scepticism was essentially rooted in their experience with free-range systems from before the cage-systems were introduced. They referred to

experienced problems in free-range systems with pecking and cannibalism: *“I don’t really understand why. If they had come up with a report or research showing that the hen is much better off in the new furnished cages or in non-cage systems, it would have been fine. [...]. If we had known that it would be good, and that they could guarantee that you should get a better price for the eggs, and the import protection would last, but now we know nothing at all.”* (27). Their uncertainty about what production system to choose, were also linked to the uncertain situation for Norwegian agriculture with respect to international trade, and also to the continuous development and improvements of production systems: *“Now they have speeded up the free-range systems, those are promoted all the time. But from the results, we hear that they are not finished yet. The aviaries, there are new ones coming every year, details that make them functioning better and better”* (24).

Another quite common viewpoint from the informants was that the regulations appeared to be weakly anchored in practical knowledge. Some informants also claimed that the regulations were sometimes too detailed: *“I think that the basis of the regulations is very good, but sometimes there comes very detailed stuff, and you stand there, you read and think: Do they really mean this? It becomes so detailed, that you don’t really know whether you are allowed to enter the house with your left or right foot, but generally it is important that we have regulations for the production”* (33). One producer referred to the increased amount of paper work that was related to animal welfare issues: *“I feel there is more than enough rules, at least not too little. Because one of the problematic areas is that if you are going to follow them, and you should aim at that: the more regulations you make, the more diluted it all becomes. And when you think about your own working day, the more documents you should have, the more time you take away from the producers’ time to do practical work, seeing that that the animals are fine. The most important a producer can do is the time he uses with the animals, to see if they are fine. But if you take focus away from that, and over to theory, a part of the animal welfare will also disappear in the theory as well.”* (35).

But the worry and scepticism among producers shouldn’t be exaggerated. There were just as many informants in our sample who were mainly positive to (approx. 21), or partly positive to the regulatory framework (approx. 32). This viewpoint was most often communicated in general terms: *“Generally, the regulations, the way I experience them, have been based in sensible solutions, where industry and expertise has found solutions”* (25); *“I don’t know, I don’t have anything to put my finger on. I think it is fine”* (23). However, it is natural to assume that the scepticism was largest among cage-producers, who must undergo the largest changes in future. Our study indicated a small overrepresentation of cage-producers among those who were negative to the regulations, and a very small overrepresentation of organic producers of those who were mainly positive to the regulations. Organic producers were among the ones who were most articulated in their appreciation of the regulations: *“I think the organic regulations*

*are fine, they are accurate, it shall be so and so, but they have to be in order to make things work” (28).*

#### *Areas of improvement*

We asked the producers whether they could point to any weaknesses or areas of improvement regarding the public regulations. Sometimes they also pointed to weaknesses when we asked them about the regulations in general. Not all informants had any specific weakness to point to, and their attitude to specific requirements, as presented in the next section, should also be seen in the context of possible improvements of the regulations, as seen from the producers point of view. It should also be kept in mind that the specific weaknesses were sometimes mentioned by one producer only. The following improvements and specific weaknesses were mentioned:

- In organic production there is a requirement for perch for laying hens, more specifically 18 cm. per hen. According to one organic producer, this meant that a lot of perch wasn't used, and that 12–15 cm. would be more than enough.
- Another organic producer meant it was a pity that the organic regulation didn't regulate the transport and slaughtering of poultry.
- One of the requirements issued in 2002, was a demand for abrasive materials for shortening and blunting claws. Abrasive materials became mandatory in conventional cages from 2003 and in furnished cages. A few of the producers claimed that this material didn't function well: *“Take the claw polisher, the most simple and dumbest, first. Up to this date I have never, in my over 25 years of being active and responsible, seen a hen die because of having too long claws. This is some one who is sitting behind the desk, it is really only rubbish. What they should have made rules for instead is the wire in the bottom of the cages. There are more hens who get stuck: when they lay down, they fold together their feet, and they use their knee-joint down in the wire, they get stuck. There are more hens dying of such things than others” (22).*
- One producer who kept parent stock for slaughter chicken, pointed to the difficulties of applying the same regulation and comparing hens intended for egg production (e.g. Lohmann) with hens intended for meat production (e.g. Ross). This producer emphasized the problems related to giving them free access to water, because they then would suffer from stomach distress. He also claimed it was problematic to feed them twice a day because they would then tend to grow unevenly.
- Although not related to animal welfare, a few producers pointed to the “best before”-regulation of eggs, as an example of a regulation applied for the whole EU, which they considered to make little sense in Norway. According to these producers, this regulation is based in problems with salmonella and other climatic conditions. Norwegian poultry production is free of salmonella (EFSA Journal, 2007).
- One producer of slaughter chicken claimed that he could accept regulations, but not the ones that were not sensible. He referred to the demand for UV-filter as an example. This producer had taken tests of the water, and it held good quality. Still, he was forced to install UV-filter.
- In addition, some informants pointed to transport and the control as weak points. We will return to the specifics in the sections reserved for these issues.



*Attitude to specific requirements and animal welfare issues*

By asking the farmers about their attitudes towards specific animal welfare issues, we hoped to gain an understanding of their willingness to implement new measures, as well as their viewpoints about central aspects related to animal welfare. The measures introduced were partly different for slaughter chicken and laying hens producers, as they were most relevant to the specific productions. The questions regarding production system, beak trimming and more space were posed to laying hen producers, while the questions on more space, perch, breeding and litter, were posed to slaughter chicken producers.

*Production systems:* As mentioned previously, type of production system is a central animal welfare issue within egg production, not the least due to the upcoming ban on conventional cages. We therefore asked how the producers evaluated the different types of production systems; conventional cages, furnished cages and/or non-cage systems (floor systems/free-range and aviaries). In our analysis of these answers, we have investigated whether there are systematic differences between how producers evaluate these systems, depending on what production system they have chosen on their own farm. It is also interesting to investigate whether they emphasize different aspects of animal welfare in their evaluation of the production systems, which can be seen as a good indicator of how they define animal welfare and evaluate the welfare of their own poultry.

Among *conventional cage producers*, many informants emphasized the strengths and advantages of their existing cage system. For instance, one or more producers argued that there are few problems with pecking, little illness and that the hygiene is good. Other pro-arguments were that the hens have nice feathers, it is quiet and peaceful, it is surveyable, there is no better alternative, you have the most square centimetres per animal, the production is stable (few risks), the laying percent is good, and it is like living in a flat, as opposed to a house; it is a matter of habit: *“I believe the animals are fine in the cages. I’m not convinced that the free-range systems are better. I think about the humans, we were all out in nature before. Now we live close to each other in the cities, in tiny little apartments, and if you come from the country side you can hardly breathe in those streets. So I think it is a matter of habit, and when you don’t know of anything else, you are satisfied with what you’ve got. I am pretty sure about that”* (23).

Correspondingly, quite many of these informants emphasized the problems and disadvantages when describing non-cage systems (usually they referred to floor systems, sometimes this wasn’t specified): The mortality is high/er, there are problems with pecking and cannibalism, one get floor eggs, the smell is bad due to high level of ammonium, and the eggs get a bad flavour because the hens eat each others dung. Besides, hens are not capable of missing things they are deprived of (like freedom to move around), it was argued. There were, however, some exceptions to this picture. Some producers considered free-range systems to be the best solution at least in a small

scale, but thought that this was not economically feasible. There were also 7–8 cage-producers who were critical or ambivalent about their own cage system. They claimed, among other things, that it was not natural for hens to live in cages. That they were ambivalent or somewhat critical didn't mean that they thought their hens suffered from a poor animal welfare.

Among the cage producers evaluating furnished cages and aviaries, there were mixed opinions. A few were negative to furnished cages, and meant that leading to poorer feathers, the possibility to get stuck, and more pecking since there are more animals in the cages. Other informants meant that they could be good, since the animals would get an opportunity to take a dust bath, and use the perch. A few of the informants were uncertain. Almost no producers with cage-system on farm were negative to aviaries as such, although they could have included aviaries when mentioning the problems with non-cage systems. When referring to the advantages of aviaries, the producers with cage systems mentioned the possibility of finding hiding-places and the possibility to establish hierarchy among animals. However, they were not too sure about this, since the aviare system needs more testing and research.

*Organic production* can either be organized as floor systems or in aviaries; both considered as non-cage systems. In Norway, there exist organic producers of either types, but floor systems being the most common. As we have mentioned above, and will see for other types of producers, also the organic producers tended to consider their own production system as the best solution. Organic aviary producers mentioned the possibility of establishing hierarchy (paralleling trees in nature), fine feathers and the possibility of having more hens per square meters, as some advantages with aviaries. Floor producers seemed to prefer floor systems, but one producer had considered aviaries. There were floor producers who associated aviaries with cages and not as “natural” as floor systems. This indicates a scepticism towards cage-systems that was also prevalent among the organic producers. But there were differences among them. Around half of the informants were very critical and characterized cage-systems as “cruelty to animals”, and “factories”, and one characterized furnished cages as a bypassing of the law. The other half, however, argued that we *need* furnished cage-systems. Not everyone can produce organic products, it was mentioned. Besides, to be able to compete with and prevent competition from Eastern European countries, a cheaper Norwegian alternative is necessary. One informant claimed that furnished cages are not necessarily poorer than aviaries. He told that the critique of cages and celebration of free-range systems when there were problems in free-range systems had been somewhat unfair towards producers with cage systems.

Among the informants with *furnished cages*, the same pattern as for the others were discernible. They tended to prefer furnished cages, although one thought that the conventional cages had been better: the feathers had been finer, and it was quieter. Their attitudes towards free-range systems were mixed. One informant thought that free-range

systems were maybe better for the animals, but that there were more problems with contamination, cannibalism and a less predictable production. Two informants meant that aviaries could be a good solution, while a couple was uncertain, and somewhat sceptical. One was negative to free-range systems, emphasizing the high mortality of free-range animals.

We also interviewed *conventional producers with non-cage-systems*; two with aviaries and one with floor system. All of these favoured aviaries. They seemed to consider aviaries as the free-range system for the future. They emphasized that aviaries were a system that made it possible to establish hierarchy, and was therefore on the “animals’ premises”, and that the room could be used effectively.

The largest problem with their system was the high level of dust. All of them were negative to conventional and furnished cages, among other because of the lack of movement. One of them characterized the transition from cages to aviaries, from being “egg picker” to becoming a herdsman. Why weren’t these producers organic? One of them had explicitly chosen not to produce organically because of problems with contamination, and also the transport distance of feed, which he considered to contradict environmental concerns.

Summing up, producers tended to emphasize the pro-arguments for their own production system, by emphasizing its virtues and/or by emphasizing the disadvantages of other systems. There seems to be a systematic distinction between cage and non-cage producers in their evaluation pro and contra the different production systems. Predominantly, cage-producers seemed to emphasize the advantages of the production system they had selected such as lack of illness, quietness, good hygiene, and stability of the production system. They also emphasized the problems and weaknesses of free-range systems such as pecking. The greater part of the non-cage producers valued the advantages of the free-range system, such as the hens’ ability to move and establish hierarchy in the non-cage systems. They underlined the disadvantages of the cage-system, such as the lack of space for movement. The argumentation seemed to focus on the dimensions *control* vs. *freedom*. But to supplement the picture, we also found both cage producers and non-cage producers who admitted that there are problems with their own production, and thereby seeing a more balanced mixture between freedom and control as preferable. Also, the evaluation of aviaries seemed to cut across the distinction between cage and non-cage producers. Aviaries seemed to be considered as a solution “in-between”. It should also be noted, that organic non-cage and conventional non-cage producers emphasized more or less the same attributes with the various production systems; i.e. the freedom aspect.

*Beak trimming*: Beak trimming has been banned in Norway since 1974, when the current animal welfare act was introduced. However, the practice is well known since it is practiced in many other European countries. We asked the producers whether they

would welcome beak trimming in Norway, in order to prevent problems with pecking in free-range systems. Most of the producers who were posed this question, were negative to beak trimming (approx. 21). The most common argument was that it is unnatural to change the animal in this way, and that you cut off their emotions: *“In principle, I’m not in favour of that. Because then you take away something that the hen have naturally, destroy the beak she is born with. Then you should rather take a look at your stalling system”* (37).

Related arguments was that it is an unethical practice, and you should try to solve the problems in other ways: through breeding, by using hens more appropriate for free-range systems, such as white instead of brown hens, and by good management and better production systems. There were also a few informants who were positive to beak trimming, one of these being organic, one free-range producer and the rest cage producers. But the cage producers didn’t argue strongly for beak trimming, but assumed that it could be needed in free-range systems. There were also producers with cage system who didn’t know of the practice (approx. 2), or only emphasized that it wasn’t needed for hens in cages (approx. 5).

*Space/area requirements:* The question whether poultry should have more space than today, was raised both to slaughter chicken and laying hen producers, so the following reflections and findings refer to the entire sample. It should be noted that the area requirements are different in different productions. It is 700 cm<sup>2</sup> per bird for laying hens in conventional cages, 675 cm<sup>2</sup> of usable area (850 cm<sup>2</sup> total area) for laying hens in furnished cages, maximum 9 animals per m<sup>2</sup> of usable area in conventional free-range systems, 9 animals per m<sup>2</sup> in aviaries, and 6 animals per m<sup>2</sup> in organic production systems. For slaughter chicken, it is 34 kg. live weight per m<sup>2</sup>. Subsequently, the producers had different standards and numbers in mind when answering the question. Most informants (approx. 32) didn’t see any need for more space per hen than there is today. Since they already adhere to different standards, this indicates that their established practice is important in shaping attitudes. As will be made clear later, most evaluated their animals’ welfare as good already. Indications of this were found in their animals’ growth and egg laying percent. These indicators were also reported to be reasons why the hens/chickens are fine with today’s space (approx. 8). Several other reasons referred to by one or more producers were the following: (a) It is an economic question, (b) consumers aren’t willing to pay a higher price, (c) they follow today’s regulations, (d) there is less space for the animals in other countries, (e) better space will lead to more fighting and pecking, (f) you need more heating with more space, and (g) that they hadn’t thought much of it—it had “always” been like that. There were also a couple of chicken producers with furnished cage-system, who indicated that their animals could be well off with less space than today.

There were, however, some producers (approx. 8) who held that it would be desirable with more space than today; five of which being cage producers, two organic and one

broiler producer. There were also some informants who meant that maybe it would be desirable, but unrealistic in economic terms and not strictly necessary since the animals are fine today: *“The more space there is, the better it is in some ways. Do you want more space? You can wish for it, and then you can look at what is feasible. In practise, I don’t have any chances of getting more space. A hen could in theory have a whole ballroom for my sake”* (18). Two organic producers mentioned that his animals had enough space, but not the ones in conventional systems.

*Perch for slaughter chicken:* Perches for slaughter chicken is not made mandatory in neither the organic nor the conventional regulations. It has, however, been suggested as an environmental *improving device* for chicken, and we asked the chicken producers whether they thought perches would be desirable for their animals. Evidently, this wasn’t something that the producers had considered, with the exception of three informants. One of them had thought of it, but been advised not to use it at a meeting arranged by an agricultural extension service. The other two participants, being organic and top quality producers, reported that they had tried it with poor results. The great majority of producers were negative to such a device. Arguments against it was that (a) they sit on the grids, so it is not necessary, (b) they are not like that – they lie down instead, (c) it wouldn’t be practically feasible, (d) they are too heavy and (e) they live too short. There were, however, a couple of producers who had observed the chickens' wish to get up.

*Breeding:* In 2005, the new hybrid Ross 308 replaced the former Ross 208. Ross 308 is today almost totally dominant within Norwegian poultry. A great majority of the chicken producers (approx. 13) were either critical of the breeding, or the new breed Ross 308, although they also saw advantages. Two producers were mainly positive. Then, more specifically, what are the chicken producers concerns regarding the breeding of chicken? Generally, the producers seemed to be more content with the old breed than the new, although some also pointed out that things are also improving. Their concerns were related to problems with mortality, uneven animals, and animal transport: *“We got a new hybrid two years ago, but it doesn’t matter what we want, we are at the mercy of the international companies. We would have liked the hybrid we had before that, even though it was smaller and grew less, but the mortality was lower. But it doesn’t help, because those who produce that race, decides it”* (51). Or as another producer said: *The trend has been good the whole time, except for the last one. Then things went wrong at once. It’s everything: the mortality, growth, it’s very uneven. It is probably a more difficult race, and then it’s probably more difficult from the start. Was 208 better? Yes, but they grow even faster now, but that is no use having a high speed on them, if they don’t manage to keep up. Norway is a developing country when it comes to feed”* (40). In this connection, some producers emphasized that they have no influence on the breeding. Other external factors such as the quality of the feed and the litter, was also pointed to as causing the problems, factors that the producers don’t govern. Today’s cynical society, consumers demanding cheaper food, and the necessity

of earning money were economic aspects that the producers referred to as explanations for this situation. It should, however, be added that, as we shall see later, that although they were somewhat critical to the breeding, most informants regarded their animals' welfare as good. Those who made such positive comments to the breed, referred to fine meat quality, their good health, and the rapid growth: *"Since we have got new hybrids [compared to the old Norwegian hybrids], things have gone one way, both regarding slaughter weight, feed consumption, and mortality. It has improved a lot"* (38). One pointed out that he had never seen the "monster chicken" some people talked about.

*Summing up*; the producers' established practice (what the producers are used to doing), seem to largely influence what they also consider as necessary or good practice. It could of course also be the other way around: they do what they consider to be necessary or good. This indicates generally that changes in practise following the implementation of new technical devices or new regulations, will be met with scepticism. However, this scepticism will probably be less as the practise has changed, and after the investments are made. Changes are closely tied up with changes in the economy, either through investments or new production related challenges. Furthermore, their argumentation in relation to animal welfare measures is interlinked with reflections based on economic realities. Besides, the producers' viewpoints are based in their own experiences, and have in this sense a rational foundation.

### **3.2 Knowledge of animal welfare and animal welfare regulations**

How do the farmers assess their own level of knowledge when it comes to animal welfare? Are the farmers familiar with the regulations? How do they assess their own knowledge about the national legislation? What type of knowledge do they consider relevant in order to be competent in animal welfare issues? From what sources do they gain knowledge? Who informs them about animal welfare issues? What role does the veterinary play in this respect? These are the type of questions that are addressed in this section.

A majority of the producers (approx. 45) evaluated their own knowledge of animal welfare as either "good", "fairly good" or "sufficient". In saying so, quite many producers referred to their long-lasting experience from managing a poultry production. There were only a few producers, all 3-hen cage producers, (approx. 3) who evaluated their knowledge as "insufficient" or "not so good". There were also a few informants who evaluated their knowledge as "normal", "medium", or said that they could always learn more (approx. 6). A majority of producers also evaluated their knowledge of the current animal welfare regulations as being good. A typical response was the following: *"I know them by and large, but not the details. We have to look up in the particular cases, if there is something we want to know"* (56). Only one producer said he didn't know the regulations very well, but whether he actually knew less than others, is uncertain. Our general impression is that the producers were aware of the most important changes in public regulations of poultry production, and the changes of this regulation. This was

also shown by the fact that some informants referred to the regulations as becoming stricter and the fact that they had opinions on the regulations on animal welfare.

Just as interesting, however, is how they evaluated their own knowledge and from what sources they sought new knowledge. What type of knowledge seems to be considered by the producers as most relevant? From where do they gain knowledge? Does the veterinary play a major role in this regard? The most important source of information seems to be the written material, courses, training and counselling that the producers get from the buyer(s) of their produce, which in most cases is Prior. This was the channel of information most often referred to (by approx. 29 producers). In addition, knowledge derived from practical experience (approx. 23), discussion with other producers, either organised (in e.g. Eggringen or Fjørfelaget) or not (approx. 18), and reading of journals, reading of books or participation in the “Poultry school” (Fjørfeskolen) (approx. 19), were the most important sources of information on animal welfare. Organic producers were overrepresented among producers who got their knowledge through journals or in schools, but no particular group was overrepresented among those who referred to practical knowledge. In addition, a few (approx. 3) also mentioned (a) respect for live animals, (b) being an “animal man”, and (c) moral attitudes, as being just as important or relevant to having good animal welfare, than having knowledge of what constitutes good animal welfare: *“When I was a boy, I was never allowed to sit down and play with the chicken. I have always been brought up with the message that they are animals, you shall have respect for them, it’s life—they have feelings. Chicken production is just as natural to me as living on a farm, I’m born and raised with it. So there are things that you don’t think about at all, but take for granted. [...] I can go inside the farmhouse and get a feeling that something is not right. I can smell it, feel a draught, anything that someone else probably wouldn’t reacted to at all”* (49). Generally, the producers seemed to consult and value practical knowledge of production as important sources of information about animal welfare. Knowledge of animal behaviour or their natural behaviour was very seldom referred to.

Only a few informants mentioned the government (The Norwegian food safety authority) and the veterinary as entities they consulted. We asked also explicitly whether the producers considered the veterinary as important in influencing their practices and ideas about animal welfare. The producers’ answers to this question confirmed the impression that the veterinary is not a very central person in giving advice on animal welfare to many producers. A majority of the informants told that the veterinary play a minor or no role in matters concerning animal welfare (approx. 28 producers). But there were also quite many (approx. 18) that consulted the veterinary and/or claimed that the veterinary played a significant role. Some informants reported that the veterinary comes to take contamination tests, but didn’t investigate the animals’ welfare. Some referred to having few problems (with illness and contamination) as the reason why they seldom consulted the veterinary, others to the veterinaries limited training and knowledge of poultry. A few emphasized that they knew more than the

veterinaries, so the counselling were rather from producers to veterinary, rather than the opposite. Their lack of knowledge might be related to the fact that there are few systematic problems with illness in poultry and that if a single hen is sick, the producer seldom medicates it, but instead slaughter it or put it in a special cage dedicated for ill hens. The following quotation exemplifies some of these issues: “*The veterinary who has been here, he hadn’t had much experience with eggs or hens at all. He learns more from us than we from him, I think. [...]. You don’t call for a vet if a hen gets sick. Therefore, they don’t have any experience with hens at all*” (15). The producers who reported that the veterinary plays a role, used them as discussion partners and as counsellors, and told that they would give advice.

### **3.3 Norwegian regulations in a European context**

Norway is not a member of the European Union. However, due to the Veterinary Agreement that was negotiated in 1999 as part of the more general EEA-agreement (European Economic Area), Norway has to implement the animal welfare legislation of EU (Veggeland 2002:56). But, since the EU-regulations are minimum directives only, the national regulations may be stricter and cover more areas than the EU-legislation. This is the case for poultry, as the Norwegian regulation not only encompass laying hens, but also chicken, and parent stocks. For organic production, Norway must implement the organic regulation in EU since these are not minimum requirements, but issued in form of a Directive.

We asked the poultry producers whether they considered the legislation in Norway to be fair compared to the legislation in EU-countries. This question was posed openly, as most of the other question. When answering this question, most producers had firstly an opinion of whether Norway *actually has* stricter legislation than EU today. Secondly, our informants reflected on whether Norway *should* have stricter legislation than the EU, the same legislation or less strict. Looking into the first issue, a majority (approx. 24) believed this to be true; i.e. that Norway has stricter regulation than the EU. However, some informants (approx. 12) assumed the legislation to be more or less the same. Generally, they meant that Norway liked to be “best in class”, and was very good at “following EU-directives”. For the informants who argued that Norway should have the same legislation as the EU, this was an annoying policy. The producers were split in two halves on the issue of whether Norway should enforce stricter legislation than the EU. Different reasons were given both for and against. Those who were in favour of a stricter policy in Norway (approx. 16), argued as follows: (a) The legislation should be stricter because it ensure a good welfare today, and since these producers meant that the legislation is stricter today, this implied that Norway should also enforce a stricter policy. (b) The other type of argument was related to strategies for securing a good reputation, and ultimately the survival of Norwegian agriculture. As one producer stated: “When we are bragging of ”good Norwegian”, it is clear that in order to justify and defend husbandry in Norway, one must be in front, ahead of other countries,



otherwise we will not manage to compete [...]. *You need something to show to the consumers and government*" (8). Animal welfare was considered as a possible competitive advantage: since Norway cannot compete on volume and quantities, we must bet on quality, it was argued. Or as one said: *"We can afford it"*, acknowledging that maintaining a higher welfare is related to higher costs. (c) A third type of argument mentioned by a few (approx. 4) referred first and foremost to the good animal health situation in Norway, being free of e.g. salmonella, and the importance of maintaining this situation. There were also a group of producers (approx. 6) who told that for their sake, the regulations could be stricter, but only under certain conditions: If they got a higher price so the producers don't have to carry all the costs, if the consumer had been willing to pay more, and as long as there are barriers for import.

The producers (approx. 22), who argued for the same legislation in Norway and the EU, related this argument to the following aspects: (a) First and foremost it was related to the importance of operating under similar legislation, and thereby, more similar economic conditions of competition. One producer phrased it like this: *"Those who shall produce in Norway, shall also live, and in order to do that, I think it is fair that they can operate under similar conditions as the rest of Europe. As long as the consumers and not the least politicians compare the prices across countries. We are distinct in that the feed, has a totally different price in other countries, with much less tax to the state, and then they demand that we shall sell eggs at the same price"* (23). Other arguments in favour of accommodated legislation were (b) lack of trust in consumers' willingness to pay, (c) the importance of not isolating oneself, (d) other (southern) countries ignore the legislation, and (e) the danger that the production might be removed to Eastern-European countries with less strict rules.

### **3.4 Control of animal welfare**

In Norway, the Food Safety Authority—a governmental body—is responsible for carrying out animal welfare inspection and control. In addition, the basic assurance scheme KSL carries out controls in which animal welfare is one of several components. These controls are carried out on a regular basis, but if the inspection rate is kept at the current level, each farm will only be visited once every eight year (personal communication, KSL-secretariat). The organic producers are controlled once per year by Debio; i.e. the organic certification body. Most producers reported that they had been controlled by one or more of these agencies, and at least one control per year in total. In addition to the formal control agencies, some producers emphasized the control carried out by Prior, the poultry sales co-operative. All farmers who deliver products to Prior are obliged to have an arrangement with a veterinary. He is scheduled to conduct annual inspections on-farm. One slaughter chicken producer claimed that the registration made by Prior functioned as a control device. If you have dirty animals, this is registered. Also, the egg pickers have a responsibility to observe the animal welfare situation.

In order to gain knowledge of the control practise on-farm, we also raised a question to some of the producers of *what* the inspectors had controlled, and *how* they had carried out the control (cf. also Borgen and Skarstad, 2007, which gives a brief overview of control agencies in Norwegian agriculture). Most informants answered quite generally to this question, telling that the controllers "looked at the stock" or "check everything". The specific control aspects that were referred to, but which might have been done somewhat randomly, can be listed as control of salmonella, of clean/unclean zone, ventilation, litter, feeding, disinfection, and cold storage. Clearly, control of aspects directly related to food safety constituted an important part of the specific requirements referred to by the producers.

How do the producers *evaluate* the current control practice? Is it tough and serious? Do they have suggestions for improvements? A majority of the producers (approx. 34) evaluated the control as being satisfactory, or good, and did not have, or couldn't think of, any suggestions for improvements. From their own experience, producers referred to the controllers as providing comments and tip, as generally being knowledgeable and pleasant. The control was perceived of as serious. You were expected to correct failures, but were allowed some time to do so. The relationship between controller and producers seemed not to be very tense. One producer mentioned that he got good professional guidance from the veterinary, which was better than a "you shall!" attitude.

Although generally satisfied with the control, there was a group of producers who had suggestions for improvements (approx. 15), and there were some informants who mainly emphasized the problematic aspects of the control (approx. 5). The comments of these two groups can be summarized as follows: (a) A few (approx. 5) complained about controllers' lack of knowledge of hens and/or the specific production in question. The following comments explains this clearly: "*Now the controllers are universal. I had hoped that the inspector who came here were knowledgeable about poultry, so that the KSL-controllers could specialize in the different productions. Now they control everything? Horses, cows, potatoes, carrots and all there are* " (56).

(b) More practical knowledge of the production, for instance control of persons who had been producers themselves, was suggested, in addition to more specialized skills: "*They are pretty able those who are out inspecting, even though it varies how well they know the different productions. Not all inspectors are professionals in hens. It would have been an advantage if they had 3–4 years experience from a hen house. Maybe it is 'wrong' to say so, but if I or someone who operates a production had travelled around, we could have done just as well, because we know what to look for and where. We know the problem areas.*" (36). (c) Another issue of criticism was the *effectiveness* of the control. ESA has complained about the effectiveness of the control carried out by the Food Safety Authority. (e) A few mentioned the veterinaries are too 'butterfingered' because they are afraid to loose costumers; and (f) an area of concern was related to other practicalities of how the control is carried out: The importance of non-arrogant

controllers, it would be better with more unexpected controls; more frequent controls, less pedantic controls, controls that don't overlap, and that the response categories of KSL should be easier to understand, and therefore more valid.

## 4 Animal welfare schemes

There are mainly two animal welfare schemes in use within Norwegian poultry production. The greater majority of the poultry producers participate in the basic quality assurance scheme KSL. All producers in our sample participated in KSL. In addition, organic producers are members of the organic scheme Debio. In our sample, there were 8 organic producers. Furthermore, we talked to single producers who market their products under top quality labels. However, the differences between the producers regarding participation in schemes in Norway, reflect by and large the difference between conventional and organic producers. These types of productions are governed and enforced by different regulations. When it comes to animal welfare issues, participating in KSL means essentially to follow the Norwegian public regulations. The organic production is regulated by the EU-regulation for organic production, which is specified in a Norwegian guide ("veileder"). However, to participate in a scheme has further ramifications for the involved farmers; such as quality assurance, control, and documentation of practice. We asked the producers about their experience with the quality assurance schemes, their motivation for participating in schemes, how they gained knowledge of them. We also asked whether they would consider entering a future specific animal welfare scheme, or if they would object to a development towards more schemes, since this would imply more market differentiation in the area of animal welfare. What did they think about using animal welfare as a differentiation factor?

### 4.1 Participation in current schemes

This section presents the producers' experience with their current scheme-affiliation.

#### *Motivation for participation*

Why do the producers participate in KSL? The poultry producers split in two halves in answering this question. One half of the producers emphasized negative reasons for participating (approx. 24), the other half stated positive reasons (approx. 22). A few informants mentioned both positive and negative reasons (approx. 4). By negative reasons we mean either two of the following: They participate because (a) they feel they have to, or that they are expected to (approx. 23), and/or (c) due to the economic incentives (or rather deduction) you get if you don't participate (approx. 14): "*I have too, if you don't, you will not get any grant*"(8). Later, we asked whether they thought farmer today could produce "outside" quality schemes. It seemed to be a widespread opinion among a great majority of the farmers that you have to participate in quality schemes, because of economic reasons and/or because their consignee require it: "*No, in reality you are con tricked, because you have these increments, and the consignees*

*can refuse to take your products, and that will be a consequence if there is surplus in the market*” (29). Still, there were just as many producers who emphasized the positive aspects of KSL as the motivation for participating. They told they participated (a) because KSL was conceived of as a helpful tool to improve their production; (b) because it provided a quality standard that secured that they could follow and know that they live up to the regulations and standard expected, i.o.w as quality assurance. (c) In addition, KSL functions as a control and documentation device vis-à-vis society and consumers. (d) A few informants emphasized their own safety, HSE, as most important.

What about the organic producers: why do they participate in Debio? Why have they decided to become organic producers? What was their initial motivation? The producers had different reasons for why they had become organic. Some of those we talked to were the first to start organic egg production in Norway a little more than 10 years ago, and all had different stories to tell. Better animal welfare—that the animal shall be able to go outside and not be in cages—was the most frequent motivation for becoming organic, mentioned explicitly by around half of the organic producers, sometimes in combination with better taste of the products or a sympathy to the organic philosophy: *“The two main reasons was that I was interested in organic production, and that I saw that the hen was better off”* (13). A couple of the producers emphasized economic reasons for why they decided to become organic: one had wanted to be a full-time farmer, and the other had seen the market potential of organic eggs. One had been first and foremost motivated to become organic by a wish to not use plant spray, while another had become organic somewhat accidentally because of the need for more organic eggs in the market.

The top quality producers we talked to differed in some respects. One of them had been asked to produce under a label in order to produce an animal with better taste for the restaurant market. The other had taken the initiative to develop the scheme him/herself, being highly motivated by improved animal welfare and improved taste of the product.

#### *Pros and cons of being a scheme-member*

More producers (approx. 22) emphasized mainly the positive aspects of KSL than solely the negative aspects (approx. 11) when being asked what they considered to be the advantages and disadvantages of KSL. Some informants (approx. 13) recognized both advantages and disadvantages. Among those informants being mainly positive, non-cage and organic producers seemed to be slightly overrepresented. Among those being mainly negative, cage producers and broiler producers seemed to be slightly overrepresented.

Many of the producers who emphasized the advantages of KSL did not specify in more detail what they referred to, but expressed a generally positive attitude to KSL. Those who did specify this, mentioned the role of KSL as an useful instrument for farmers, rather than its role of documenting the quality level vis-à-vis a market/consumers,

although this was also mentioned by a few (approx. 2). The advantage most frequently referred to (of approx. 14) was the overview and system that KSL provided. One gets an improved control of one's production, and gets a documentation of the production process, which can be helpful later. Another related aspect mentioned (approx. 5) is that participation makes you more alert and focused on the things you should do: *"It is fine, really, because you get things to think about, such as the fire alarm, that everything work, little things that you would easily forget when you've had the houses for a while. It is a reminder, and it makes you more alert"* (41). A couple of producers claimed that KSL could be more strict in order to function better as a strategic tool towards consumers. Other advantages of KSL mentioned were the benefits of more controls, the better price you get by participating, and that it provides you with useful information.

The most problematic side of KSL for the producers related to the way it influenced their daily work, and the required paper work. "Too much paper", was the most frequent objection to KSL (approx. 11). Another objection was that the whole system costs too much, the registrations you have to make are too comprehensive or too detailed or solely based on a "desk analysis" (approx. 6). For some producers, the extensive registrations were associated with a wider critique of bureaucratisation of society, in which things are fine if your papers are fine. They questioned whether KSL has a real effect upon production. The system was also characterised by a few as a "big brother"-system who is more concerned about your papers, than about what you've actually done. One organic producer linked this tendency to a poorer animal welfare: *"Then there is a frustration that takes away a lot of the joy of operating the farm, and that is paper and paper and paper and paper. We take away from people the responsibility in doing things in a good way. This is how society works, we need paper regulations for almost everything. [...]. To me, it is very traumatic because it takes away the time and joy you have together with the animals and with the production. That you are all the time going to do quality assurance by moving paper is simply humbug. [...]. You employ a lot of people, but you do damage to the animal welfare in a wide sense"* (44). When we asked the producers if they could suggest areas of improvements or how their scheme could change, this brought some of the same answers that they had mentioned as disadvantages of KSL. The most frequent possibility for improvement was a simpler system, with fewer and less unnecessary registrations, and a form with questions that were simpler to understand (approx. 12). A few comments were related to the control. About three producers wanted more controls, either unannounced ("surprise") controls or self-revisions. One producer pointed out that there are too many overlapping control. Another remarked that the controllers are not competent enough. An organic producer holds that the two schemes, Debio and KSL, could be coordinated better. Too high costs, following the implementation of requirements, were referred to as a drawback of the KSL-system. Some of the producers (approx. 7) couldn't think of any specific suggestions.

## 4.2 Future scheme participation

Schemes are not a common and widespread way of organizing animal welfare requirements in Norway, although there are a few examples in the poultry sector. One could, however, see these examples as indicators of a coming trend, in a future where specific animal welfare schemes are developed, and animal welfare becomes an area of differentiation among producers in order to benefit from higher price in the market. Therefore, we asked whether the poultry producers would consider entering a more tailor-made animal welfare scheme. What did they think of a development towards more animal welfare schemes? What would make them enter such schemes? Do they think that an animal welfare brand would have appeal in the market?

### *Attitude to establishing and entering animal welfare schemes*

In order to ask questions about animal welfare schemes, we had to briefly introduce the producers to the issue. Animal welfare scheme is a term with few references in Norwegian agriculture. Norwegian producers are used to refer to the public regulations which encompass all producers. Most of them deliver their eggs or chickens to the large farmers' sales co-operative Prior. We asked them whether they would consider entering a quality scheme with requirements above legislation, which would imply that producers would operate with different animal welfare standards being part of different schemes. Entering such a scheme would probably imply a higher payment to the producer. We also introduced the theme by saying that this was a more common way of organizing the production in other countries. However, as the issue is quite complex, not the least due to its unfamiliarity for Norwegian producers, we cannot ignore the possibility that some producers didn't fully grasp the question. Some informants did not at all answer it, but most of them seemed to have a well-developed opinion on this issue.

A majority of the producers who answered these questions were generally sceptical to entering a future animal welfare scheme, and sceptical to a future which implied increased differentiation in this area. Quite many of the producers were sceptical to entering an animal welfare scheme (approx. 24), as opposed to the group of producers who would consider it (approx. 16). More informants (approx 30) were opposed to the idea of animal welfare schemes than in favour of it (approx. 19). Among the producers who were sceptical to schemes, conventional cage-producers seemed to be over-represented. Correspondingly, organic producers were overrepresented among those who were positive to such schemes. Without overinterpreting this indication, this could maybe be explained by the fact that organic producers are already part of a scheme (Debio) that establishes "a logic of differentiation". We shall see the same difference when it comes to evaluation of the market potential of such schemes.

The producers' objections to such schemes appeared to be more related to the fact that they didn't consider animal welfare schemes as desirable, than to their own financial and practical situation that might make it difficult for them to enter. Their answers were

in other words a reflection on whether animal welfare schemes are an interesting and desirable way of organizing animal welfare requirements. The following citations illustrate some of the reasons why the producers weren't interested in entering an animal welfare scheme, and/or were sceptical to such schemes:

*"It is not interesting. Ugh no. It is fine as it is.[...]. If you had received big deductions from not following up. What should we do better? Shall I claim that my animals are better off than my neighbours' animals? That reason would have been a bit painful, that you should have to differentiate between you not taking care of the animals as well as I am. If there is a general demand for space, and all do that, that is fine"* (5).

*"I mean that this shouldn't be necessary. If you have animals, the standards should be as they should be: either you are allowed to produce food from animals, or you shouldn't be allowed. In relation to the consumers, I doubt that the majority cares"* (49).

*"I will warn against that, of the market consequences of that. What conditions do the animals have that are having this brand? Does that mean that they are suffering? All should produce in accordance with the existing demands, and if there should be requirements above that, those should be related to tastefulness, tenderness, things that are related to the product, and not to the animal welfare"* (37).

These quotations illustrate a number of issues that were mentioned by several farmers: First, the animal welfare is good today, so there is no need for animal welfare schemes, and few possibilities for improvement. Second, all animals should be fine. Animal welfare schemes would imply that some animals would be poorer off; and that some producers would not produce as well. It is better that you have one high standard for all, ensured through public regulations. Other reasons were the following: (a) Selling a product for a higher price to the consumer would be cheating, or open up for cheating, and the consumers would become confused. (b) The market is not large enough for such products, also since the Norwegian market is too small. (c) You create a "false" need that people don't have since such schemes can be seen as product of our prosperity, but the other products at a lower price can be just as good. (d) It would imply practical difficulties, such as more control. (e) Those who produce well will always do that, but schemes could imply that those who are not so good, get poorer, in other words that the minimum or "ground" standard would become lower. (f) One feared that schemes would be used to force down the prices to the producers.

There were also some producers who endorsed such schemes, although not necessarily specifying the reasons why. The most common reason why the producers would be willing to enter animal welfare schemes was based on economic reasons, as formulated by one producer: *"After 2012, I would like to redo the cages and have less hens, and sell all the eggs myself, and benefit from that, instead of investing and working for a low margin for others. Then you can take a higher price"* (5). One of the producers who

were most in favour of such a system, claimed it would imply that (s)he got more paid for the things that (s)he already did extra: “Absolutely. Branding is very good. I think that Debio could have ranked the different producers, some are good, some are less good, on a scale, and this scale could have been reflected in branding, and resulted in premium price [...]. *You would need a ranking and a scale, and you would get a total score*” (13). A few informants claimed that branding would be better for the consumer, and was therefore in favour of the idea. One pointed to the fact that it would be "good branding" for the producers too. Another argued that finding niches would be the only way to survive.

There were also a few who were somewhat ambivalent about the schemes. They all told they might enter, but gave different reasons for being sceptical: (a) It could imply more bureaucracy, (b) the costs would be high, and one was unsure what more he could do, (c) One pointed out that maybe it was better for the animals, but he was unsure if he wanted more competition among producers.

Regardless of whether the producers were sceptical to schemes or not, we raised the question of what would motivate them to enter a scheme, if such a scheme existed. The dominant answer was, as indicated in the first quotation above by informant 5, that a premium price or economic reward or punishment (price deduction) would be necessary or motivate them to enter. As we referred to above, this was one of the reasons why some producers were interested in joining a scheme. But also the extra challenge it would provide; such as improved animal welfare, better documentation and improved marketing value were referred to as motivational factors: “If one was paid for the extra hours that is used, that would have been a motivation, that you knew that the animal welfare was the best, and you could show that to the consumers. I think that would have been a motivation” (20).

#### *Would an animal welfare brand sell?*

To the extent that producers don't believe an animal welfare brand would sell, this might also affect their willingness to enter schemes and their attitude to the development of schemes. Among the producers, there were a few more (approx. 22) who believed that an animal welfare brand would not have appeal at the market, than the ones who believed it would have (approx. 17). There was also a group of producers (approx. 12) who believed that it could be a niche product and sell to some segments of the market but not to the greater majority of consumers. There seemed to be a systematic differences among the producers, as conventional cage producers were overrepresented in the group of sceptical producers, and underrepresented among those who believed in such schemes, while organic producers were clearly overrepresented in the group who believed in this, and opposite, underrepresented among the sceptical producers. This is perhaps not surprising, since the producers in this sense tended to argue or believe in their own preferred strategy. For slaughter chicken producers we didn't see a clear trend, but they were somewhat underrepresented in the group of



optimistic producers. Among the producers who were sceptical to the sales potential of an animal welfare brand, a portion (approx 7) referred to the situation that organic eggs have failed in the market. The most common reason was their lack of belief in the consumer as willing to pay the extra price: *“No, the price is all there is to it. It shows when they get to the store. They don’t pay more than they have to”* (39). People are most concerned about the price, was a recurrent phrase (approx. 12). A couple pointed to the fact that standard or “ordinary” goods are fine, so that brands signalling something else shouldn’t be necessary. The producers who believed in the potential of an animal welfare brand, had the following arguments for their belief: a) People are (more and more) concerned about animal welfare; (b) people today have lots of money, (c) schemes are a trend; (d) chicken is so popular so it will sell anyhow; (e) there are more and more problems with contamination etc in Europe, so evidently schemes will come; (f) there is an expansion in the market for organic products, and finally, (g) it all depends on how you market the products. This was pointed to by an organic producer: *“It is only about marketing. Today they [the farmers co-operatives] don’t dare to market organic products, because 95–98% is conventional producers.[...] They don’t want to say that organic producers are better than conventional; that implies an “A-product” or “B-product”, says the farmers. [...]. But conventional products are not “B-products”, they are produced from their conditions, but still they are scared stiff that their products are conceived of as a “B-merchandise”. And then, there is the principle of “just who do you think you are” (“Janteloven” in Norwegian). But if we had had some small niche slaughter houses that could have marketed organic products properly, they would have sold. It is a question of design and marketing. We must come into the right stores, the right markets. We are so loaded with money in this country that we hardly know what to buy”* (14). There were also a few producers who were ambivalent or didn’t have an opinion on whether an animal welfare brand would sell or not (approx. 8).

## **5 Poultry farmers’ understanding of animal welfare**

What is animal welfare, according to the farmers? How do they know when an animal is fine or not? How do they evaluate the animal welfare situation of their own animals and in their production in general? How do they describe their relationship to their animals, which can be as many as several thousand at the same time? In this chapter, such questions will be addressed, organized in three sections. Answering these questions is important in order to understand how the farmers reflect upon the issue of animal welfare, which again is important in a number of other respects; i.e. to understand their willingness to implement new measures, to understand their animal welfare practices as well as their motivations.

## 5.1 Definition of animal welfare

*Producers' definition of animal welfare:*

The first question we posed to the farmers on animal welfare was if they could present a definition of the term animal welfare. What does animal welfare mean to the producers? Different answers were given, but they were all more or less centred on one or more issues that we here have classified and named as follows:

- “Animal welfare is when the animals is fine”
- “Animal welfare is when certain actions are undertaken, and a certain environment is in place”
- “Animal welfare is when the animals produce”
- “Animal welfare is when there is no contamination, illness and the hygiene is good”
- “Animal welfare is when a certain relationship between farmer and animal is established”
- “Animal is when the animal is able to express its nature (natural behaviour, instincts, fulfil its natural needs, on the animals' premises) ”
- “Animal welfare is when the animals are safe (from threats from other animals) ”
- “Animal welfare is a state which cannot be fully fulfilled because of restricting factors”.

Let us look into these different issues, and see what they mean more specifically, and subsequently whether they can be systematically linked to certain types of productions or farmers. That the animals are fine and thrive, or that they are as fine as possible in the time period they live, were mentioned by quite many (approx. 23) producers as an initial response to how they defined animal welfare: “*The first that pops into my mind is that the animals are fine*” (10). The content of this definition was in other words not very specific, but it indicates that animal welfare is a situation that can be summed up as being in a specific state, that often was specified by referring to one of the other issues.

One such specification, and an issue in its own right, was to define animal welfare through the specific actions that has to be undertaken in order to provide a specific environment. More specifically, we are here talking about a series of aspects that were often referred to together (approx. 19): (a) to provide enough and good and clean food and water, (b) to have good ventilation/good air, (c) good litter, (d) right temperature, (e) dry environment, (f) light, (g) good buildings, and (h) enough space: “Good animal welfare is that the hens shall have access to food and water and the right temperature, humidity and everything. So that they will thrive, and then they will give good results too” (15).

The final part of this quotation brings us to another aspect that was linked to animal welfare, namely the animals' ability to produce. Some producers (approx. 17) associated animal welfare with good production, either through conceiving of good production as an indicator of good animal welfare, or by emphasizing that if the poultry is fine, they will produce, or negatively stated; if they are not fine, they will not produce. Specific production parameters mentioned were laying percentage and growth: “*As long as an*

*animal is productive, it is not in pain. If they don't produce what they are supposed to, something is wrong somewhere*" (8). In this instance, good animal welfare leading to good production, was linked to illness. However, it was not frequently specified in more detail what they meant by "animal welfare" when this was linked to production.

Illness, hygiene and contamination did, however, come up as relevant issues in a few (approx. 6) of the producers' definition of animal welfare. Keeping the houses clean, in order to prevent tick and illness was mentioned as important to the animals' welfare: *"The best you can do for a hen, is to avoid tick"* (5). Maybe the relatively limited emphasis on this issue reflects that there are few problems with illness and contamination in Norwegian poultry production? However, we shall see in the next section that illness was considered to be an important dimension of animal welfare, when the producers were asked explicitly about this.

What the producer can do for the animals are in other words to take care of them, to have good routines, inspect them, and to nurse them. These aspects were also mentioned as important by some producers (approx. 13). A couple of producers emphasized the responsibility of keeping animals. Some producers emphasized the importance of having respect for live animals, and one phrased it like this:

*"If you have a fairly good relationship to animals, you don't have to be particularly fond of animals to have hens, [...], you will see if the animals are fine or not"* (3).

Some of the producers linked animal welfare to a state of "nature" or "origin" (approx. 16). These defined animal welfare as the animals' ability to express their natural behaviour, to fulfil their natural needs, to let them live naturally, or take into account the animals' premises. This was sometimes linked to specific actions such as to activate them, to provide them with the ability to move, outdoor access, adjusted feed, and to provide them devices such as perch, nest, and dust bath: *"That the animals can unfold their needs, natural instincts, that they don't have to stand on wire and try to dust bath on a wire, that is not fine; that they are able to perch and be outside; you can see that the hens have a really good time when they are out"* (48).

There were, however, a few producers (approx. 5) who, partly in opposition to production systems who emphasize social contact and movement, defined animal welfare as the animals' ability to be safe, safe from pecking, and stronger individuals (artsfrender): *"It's surely not so exciting to sit in a cage, but in a 3-hen cage you are at least safe. When you walk freely in a room, you have 5000 hens in one floor. And if a hen pecks so there is blood, and then hundreds of others are coming after and tear your guts out of you in a short time, about an hour: that is animal misuse. I think that is really ugly. If I had been a hen, I would have preferred to sit in a cage and be safe, and known that no one could have reached me. If a hen has been sitting in a cage her whole life, she doesn't know of anything else. But if you have been outside and pecked, and than is being put in a cage, I would have considered that as animal misuse, because then you*

*have had knowledge of something else*” (12). Also, not to be in pain and suffer, was emphasized as important to animals’ welfare.

*Finally*, there were some producers (approx. 11) who in their definition of animal welfare, emphasized that an animal’s welfare will always be restricted by economic or production-related conditions. For instance, achieving a state of natural behaviour is never possible: *“If one should say it a bit unrealistic, it is according to “the animals’ premises”, but that is maybe a bit difficult in an industrialised agriculture. So the solution is to adjust the system so you can ensure the animals’ welfare, but at the same time provide a good way to produce technically for the producer.* (50).

Some producers were also asked whether they could specify what they meant by good and bad animal welfare, in order to gain some further specific knowledge into the issue. In these instances, the producers referred again to the importance of (a) providing a certain environment and (b) to fulfil some basic needs (such as food and water, climate, temperature, litter and nest), (c) to care for them (good management), and (d) the importance of being free of illness and contamination (such as salmonella, ticks, and keep clean/unclean zones separated). Additional points that came up were related to the importance of short transport, proper destruction procedures, adhering to the regulations, and a social life. In relation to poor welfare, lack of management was brought up as a fundamental factor.

Do the producers systematically differ in their definitions of animal welfare? It is difficult to say without a more detailed study. It should be kept in mind that many aspects were only mentioned by a few producers, which makes systematic analysis more uncertain. Nonetheless, there are some indications of differences among the producers. Organic producers, and possibly free-range producers, were overrepresented in the group of producers who defined animal welfare through the animals’ natural behaviour or instincts. Generally, the producers, if referring to specific actions or environment, referred to the environment or measures considered as unique for their production system, e.g chicken producers emphasizing the importance of the litter, organic producers and free-range producers emphasizing the animals’ abilities to move, furnished cage producers emphasized the dust bath etc. However, cage producers were overrepresented among the producers pointing to feed, climate, water, humidity etc. Similarly, they were overrepresented in the group emphasizing illness and hygiene, and in the group that defined animal welfare through good production. But they were also overrepresented in the group who emphasized the dilemmas or contradictions between animal welfare and economy.

Table 3 below indicates that there are some systematic differences with respect to production system. The table represents an interpretation of the findings, and the plus (+) indicates that the group in question is systematically overrepresented. It represents our subjective interpretation in the sense that significant overrepresentation cannot be

determined in a more formal, statistical sense. Also, how large the overrepresentation is in terms of percentages, depends on how many farmers have referred to a certain aspect. Underrepresentations are not included.

**Table 3 Various definitions of animal welfare, contingent on production system**

	Cage	Furnished cage	Non-cage conventional	Organic	Slaughter chicken
AW= to be fine					
AW= good production	+				
AW= good feed, climate, temperature etc.	+				
AW = care-taking, management					
AW= illness, hygiene	+				
AW = natural needs			(+)	+	
AW = in conflict with economy	+				

Maybe this quotation could illustrate some of these differences: *“For battery hens, water, feed, and temperature are the variables, to phrase it like this. This is the way it is, one must realise that a battery hen is a battery hen. There is not so much to do if you compare it with for instance a cow”* (18).

The table might illustrate that animal welfare definitions to a large extent reflect the production in question, and the relevant practices and focus that are built into the different technologies. As we saw above, there seems to be some aspects that seem to be prototypic for some production systems. The producers tended to emphasize what you consider to be the defintory or unique aspects and strenghts of their production system. For instance, organic and non-cage producers emphasized the animals' natural needs which were linked to their ability to move, be outside, and be in activity.

*What features are considered as most important for animal welfare?*

According to the producers, what are the most important features to ensure good animal welfare? In addition to posing multiple open-ended questions, we also addressed one closed-ended question about their definition of animal welfare. Here, the farmers were asked to select the three aspects they considered to be most important to ensure animal welfare, from a list of 8 measures or freedoms (cf. table below). We also asked them to rank between these three (in most important, second most important, third most important). The quantitative results are as indicated in table 4 below:

**Table 4 Informants' ranking of various aspects according to importance for animal welfare**

Freedoms	Most important	Second most important	Third most important	Total
1. Lack of hunger/thirst	50	5	2	57
2. Lack of damage	-	9	10	19
3. Lack of illness	-	24	9	33
4. Lack of pain	4	5	12	21
5. Natural social behaviour	2	7	4	13
6. Natural behaviour (play etc.)	1	2	4	7
7. Human–animal relations	-	1	7	8
8. Lack of fear and stress	3	6	11	20
Missing/other	1 didn't want to rank.	1 didn't want to rank + 1 social behaviour and other natural behaviour	1 didn't want to rank + 1 combined illness/damage/pain	

The results are not statistically significant and cannot be generalized in a formal, statistical sense. Nonetheless, they can give an indication of underlying, systematic patterns. The clearest pattern seems to be related to the first aspect; lack of hunger/thirst. This is clearly the aspect that the producers found as most important. 57 producers put lack of hunger/thirst as one of their top three, and 50 of them ranked it on top.

If comparing the total score for all aspects, “lack of illness” comes as a second, “lack of pain, fear and stress and damage” has almost the same totals, while “natural social behaviour”, “natural behaviour” and interestingly, “human–animal relationship” got lowest score. This indicates that a good human–animal relationship is not considered as most important for the animals’ welfare. The fact that the producers describe their relationship to their animals as not very personal, as we shall see later, might throw some light upon this. It might indicate that aspects related to the body are considered as more fundamental than the more “mental” aspects. Lack of thirst and hunger was described as basic, and as a prerequisite for the fulfilment of the other aspects. Producers saw these aspects as interrelated.

However, the total scores may disguise that different types of producers may rank the aspects differently, and if so, the total scores are influenced by how many producers of each category we have interviewed. Hence, *who* are the producers who put lack of pain, natural social behaviour and lack of fear and stress on top? Are there certain types of producers who are overrepresented in the totals for the various aspects? Our analysis above predicts that non-cage producers, such as organic, should be overrepresented in their evaluation of natural social behaviour and natural behaviour. This seems indeed to be the case. Among the producers who included natural social behaviour in their top 3,

there were 7 organic producers, or 50%. This represents a clear overrepresentation. Similarly, the organic producers were clearly overrepresented among the ones who referred to other natural behaviour among their top three. Among conventional non-cage producers, there were one who had natural social behaviour and one who had other natural behaviour on their list. It is interesting to note, that among the 20 producers who had either of these on their list, there were only 3 cage producers, two of them having furnished cages.

What about the other aspects? From the above analysis, one would expect cage producers to be overrepresented in the group referring to lack of illness as important. Cage producers were slightly overrepresented, and the organic slightly underrepresented. Looking into the human–animal relationship, there were 2 organic, 4 cage, 1 chicken and 1 with parent stock who included this in their top three. Among the producers who referred to lack of fear and stress, organic producers were slightly overrepresented, and cage producers slightly underrepresented. For lack of pain, we didn't see any clear trend, and for lack of damage, cage-producers were clearly overrepresented, while slaughter chicken and organic producers were clearly underrepresented.

*Summing up*, good animal welfare was assessed by the producers as an outcome of many interrelated factors. The analysis of this question suggests that physical needs were considered as more fundamental than social needs. However, the “mentality” of the animals, as shown in the farmers' emphasis on pain and stress, were also acknowledged as important. There seems also to be some differences among the producers in their answers, the clearest difference being for natural social and other behaviour, which organic producers seem to emphasize more strongly, and for lack of damage where cage-producers were overrepresented. Due to the limitations of the methodology in this study, these findings should not be considered as final, but as a starting hypothesis for further research into the issue.

#### *Indicators of animal welfare*

More precisely, how do the producers know *when* the animals' welfare is good or bad? In other words, what indicators of a good or bad animal welfare do they use? The indicators most frequently referred to was *production-based indicators* (approx. 28). Here, cage-producers seemed to be somewhat overrepresented, and slaughter chicken producers and organic somewhat underrepresented. Laying-hen producers used the laying time percent as an indicator of animal welfare, broiler producers used growth, and hatching egg producers used the hatching percentage: “*That is a bit difficult to say, but I believe that when the production is on top, when they perform at their maximum, I believe they are fine also. I participate in the egg inspection programme, so I can see all the time compared to the average how you are doing*” (20).

Another type of indicator in use was the *animals' behaviour* or activity. Whether they are active, alert, have a normal behaviour, calm, don't peck on each other, are "movable" (as referred to by a broiler producer), or have a "proud attitude" (as told by an organic laying hen producer), were all indicators of good welfare, according to some producers (approx. 19), among which cage producers were underrepresented. This makes sense as the hen can show a wider range of behaviour in non-cage systems. A fairly common indicator among broiler producers (approx. 6) were how the animals spread within the room: "*I can see it on the density, if they are spread over the whole floor. If it is too warm they seek to the walls or gather around the wall or pillars, and if it is too cold, they gather in a big bunch in the middle on the floor. If they are fine, they are spread over the whole room. And you can hear it, the noise. They tell if something is wrong*" (54). Quite many producers (approx. 14) mentioned explicitly the sound, or the cackling, as an indicator: "*It is a very good sound in the hen house, that is a good indicator, when you come in in the morning and hear the good cackling, that must be a good signal, because you hear quickly if there is something wrong, either with the feed or water*" (36).

Another animal-based indicator used (approx. 14), was the *animals' appearance*. Producers with furnished cages were overrepresented in pointing to this. Laying hen producers referred to the feathers of the hens, and one of them, to the colour of their comb, as indicators. A hatching egg producer told he observed the colour of their comb and feet. Broiler producers referred to footpads, feathers and deformities: "*You can observe it on the chickens at once when they are coming. When I have gotten them on the first day, I can almost tell whether it is going to be a bad or good hatch. You see it on their behaviour. The first days they stay in small clusters, and you see if there are many ugly ones, many with deformities. There are differences between the animals. You observe that pretty fast*" (40).

The uptake of feed and water (approx. 12), mortality rate (approx. 11), and environmental factors (approx. 8) were also used by the producers. Of those who mentioned mortality rate, there was an overrepresentation of producers with cage-system, while furnished cage producers were overrepresented among those referring to the uptake of feed and water. Litter, smell, ventilation, hygiene, space and daylight were used as indicators of a good environment, leading to good animal welfare: "*A good environment, i.e. how it is inside the room, if there is a good environment, then they are fine*" (42). In addition, one broiler producer mentioned that (s)he could use his/her own body as an indicator of the animals' state. When the animals' came, they walked through the room, naked, to put themselves in the position of the chicken—then they could easier feel if there were draught, bad air etc.

Many of the producers didn't use only one type of indicator to observe the status of their animals. A couple referred explicitly to this being based on a general impression. But it was most often shown in that the producers referred to several of the indicators



mentioned. Sometimes, the producers also told that knowing the animals' welfare status, was based in long time experience: *"I have been doing this for 10 years, and I can stand out in the yard and tell whether they are bad. It is the sound, smell, such things, and their behaviour when you get in"* (59).

#### *Animal welfare in relation to other goals*

What is a good farmer, according to the producers? Is taking good care of animals included in the definition of a good farmer? Or do the farmers emphasize other activities and goals? At the beginning of the interview—before we talked about animal welfare—we asked the farmer what they define as a good farmer.

Our study reveals that being a good farmer can mean a multitude of things. As a few (approx. 3) of the producers emphasized, you need to be skilled and competent in a number of areas: *"He has to be versatile (multiskilled and flexible) today at least. It is an advantage if he is both a craftsman, economist and business leader"* (7). And as another producers pointed out, it isn't easy to tell anymore. The demands have changed. This fact was reflected in quite many of the producers' answers. Quite many mentioned also that to be a good farmer is to have some specific qualities or abilities (approx. 25): You need to be interested in what you are doing, to like what you are doing, and be eager to learn more. Related to that, you need to "keep pace with the times", and be updated, for instance on the regulations (approx. 2). You need to be knowable at what you are doing, and positive to changes. A few farmers emphasized also other characteristics: you must be hard-working and look upon farming as a lifestyle.

Another characteristic of a good farmer was by quite many producers associated with having a good economy (approx. 23). To get good production results, to have a good overview and control of the economy—to be a "business leader"—and to be able to survive or keep alive based on the farm income: *"There are many ways to be good. The most important is the economy"* (5).

As we have seen, quite many producers associate care-taking of the animals with taking care of the economy, or providing good production results. Taking care of the animals, was also considered by quite many producers, as an important part of being a good farmer (approx. 18). One mentioned that knowing the animals' psychology was important. Sometimes this was extended to taking care of the farm land, the houses, and the farm as a whole. To use the resources you have, and manage the farm for future generations, was part of some producers' definition of being a good farmer (approx. 13): *"A good farmer thinks about both the animals and the soil, and is also able to get a good production of what he is doing"* (20). Or as another producer said: *"That is a farmer who is interested in his work, and like to take care of animals and the soil, and is eager to take care of all this, and bring it on to the next generation in a better shape than when he took over. Those are some of my values"* (37). One producer meant that being a good farmer was one who produces fine (quality) goods for society.

The interplay of several goals and aspects were confirmed at the end of the interview when we asked the farmers to rank the relative importance of five factors for their farm; i.e. animal health, animal welfare, economy, environment and food safety. The results, which are presented in the table below, show that the farmers find all these aspects important. They typically substantiated their answers by emphasizing how these aspects are interrelated: Good animal welfare and health will lead to good economy. The *importance* of all these aspects reflects in itself a clear pattern. This pattern does not preclude the fact that there are different practices and strategies, as well as different opinions on how to achieve these “goals” or “issues”.

**Table 5 The perceived importance of animal welfare as compared to other factors**

	Very important	Important	Neither	Unimportant	Not important at all
Animal health	87% (52)	13% (8)	0	0	0
Animal welfare	80% (48)	17% (10)	3% (2)	0	0
Economy	55% (33)	45% (27)	0	0	0
Environment	40% (24)	53% (32)	5% (3)	0	2% (1)
Food safety	83% (50)	15% (9)	2% (1)	0	0

1 missing, total = 60 producers.

Table 5 shows that animal health, animal welfare and food safety are the aspects that the producers evaluate as most important. Economy and environment are also valued as important, but to a lesser degree, if the distinction between very important and important reflects their attitude. This has some support in the producers’ reasons for ranking as they did. Typically, our informants claimed that economy should not be emphasized at the cost of the animals’ health or welfare. One chicken producer put it this way: *“The economy is very important too, but for my sake, I think that if you have a good enough economy to live by, I would find it almost more important that it is nice to go to the animals. So you can sacrifice some of the profit, if that makes it nicer to be with the animals. But you shall be able to live from it”* (10). To put economy first would be to “exploit them” (rovdrift). The answers seem to reflect that economy is not conceived of as such an “ethical” goal. Why environment wasn’t rated as high as the other factors is unclear, but it seemed to be considered as more “external” to the production. It should be kept in mind that not all egg producers had possession of farm land. The producer who ranked environment as not important at all, did so because he didn’t consider pollution and environmental factors to be a problem in his production. Then, producers might have interpreted the task differently, and had different strategies.

## **5.2 The practicing of animal welfare**

The farmers’ definition of animal welfare informs us about the farmers’ *norms* regarding what is perceived as good for the animals. The farmers’ evaluation of their actual practice, what they have done to improve welfare, what animal welfare problems they have, as well as the welfare status in Norway, informs about the *practising* of animal welfare. The latter is the theme here.

### *The producers' animal welfare practice*

A great majority of the producers (approx. 49), regardless of production type, evaluated the welfare of their own animals as good. Several reasons were given for their assessment, many of which coincided or referred to the indicators they used for evaluating their welfare. One reason is production results (approx 7): *“They are very fine. It can be read from the production records and the results, so I can see that they are fine. [...] I see where you want, but when they produce almost perfectly, as they do, and the death rate is minimal and all that, I feel that they are fairly fine”* (36). A few informants (approx. 7) pointed to the low mortality rate, that they followed the regulations (approx. 2), or that they had few problems (approx. 5). A couple of producers with furnished cage systems, referred to their hens' ability to nest, perch and dust bath as positive. And there were also a few producers, who referred to the positive feedback they had got either from the slaughter house or others. One quite new producer said: *“Yes, the chickens are free-range and we have built a new house, finished four months ago, so in this respect it should be optimal with regard to ventilation, heating, feeding and everything, so yes. We are satisfied with the results, because they say that they don't grow well enough if there are problem in the house or the indoor climate is poor. So in that way you get a feedback when the growth is well”* (41).

But there were also one producer who didn't get the support he had wanted. This was a cage producer, who had discussed his view—that good laying indicated good welfare—with his veterinary. But the veterinary wasn't sure that this was a good indicator, so the producer didn't feel he got the support he wanted. He was one of the few producers who seemed somewhat ambivalent about their own type of production. There were also a few other producers with cage system who qualified their evaluation by pointing to the type of production they were running: *“Given the conditions that battery hens have, they are fine”* (18). There were also a few producers (approx. 4) who pointed out mainly negative aspects when evaluating their animals' welfare. A couple of broiler producers referred to problems with the litter and the new hybrid. One organic producer told he wasn't sure how the dust affected his animals. In addition, there was a producer with cage system, who turned out to be the only producer who admitted that he didn't believe his animals were fine: *“No, if I shall be honest, I don't think that they are fine, the way the hens are living. They have a short and hectic life, and they are being pushed very hard, I feel. But if you are going to produce eggs to the (low) prices you get, there is no other way of doing it. That is the way society has become? Yes, that is the case. You don't do this for fun”* (45).

Regardless of how the producers evaluated their animals' welfare, we raised a question of what they considered to be the biggest animal welfare related problem or challenge. Quite many (approx. 17) repeated their answer that their animals' welfare was good, and they didn't have any problems. A few (approx. 7) answered that they could have problems related to a specific turn of animals. It seemed to be relatively common to get a poor turn now and then, which they related to problems at the hatchery, and/or from

the breeder. But also quite many reported about some more general challenges or problems. Among half of the broiler producers (approx. 7) said there were problems with the litter, the litter becoming moist, and you would get a crustaceous film on top of it after some time, which ultimately can lead to leg problems. This was partly related to the quality of the feed, which a few producers (approx. 3) thought of as the biggest problem. An interesting point in this regard, raised by one free-range producer, is: Who is responsible for the animals' welfare?: *"We have a huge problem that we are not in control of ourselves, and that in most cases is not included when it comes to laws and regulations on animal welfare: The problems that the animals are exposed to due to the food they are eating, which is not good enough. The grain feed suppliers, and that is true for all of them, are too focused on cheap quality. Sometimes they bring food that is so poor that it causes animal suffering, and causes us worries and economic losses. It is a great problem that they are not being held responsible by law and regulations concerning animal welfare. [...]. If we want the animals to be free-range, there is demand for much more stable and proper food than if we keep them in cages"* (56).

What other problems were mentioned by our informants? Approx. 3 producers, two of them having hens in free-range systems, complained about dust as being a challenge. A couple of organic producers referred to problems with toe pecking, one producer referred to old furnishing which leads to wear and tear on the feathers, a couple referred to problems with ventilation, and one said that the hens get liver problems at the end of their lives. One broiler producer raised question about the picking of broilers. Another informant told that some of his hens died of heart attack, or could get stuck in the furnishing. Problems with ticks and campylobacter were mentioned by a few producers (approx.3). A couple of informants mentioned the higher demands for efficiency as challenging, and identified the retailers and consumers as the problem: *"There is a limit to for how fast we can get the chicken through the mill. Why can't we let them have a day extra? We push and push, but is it necessary? People want to discuss animal welfare, they don't wish to see the connection between animals and food. We have a contract with Prior who governs a lot"* (9).

What do the producers do in general to ensure their animals' welfare? The answer to this question was generally given with reference to their daily routines and practices. For most producers, this implied to provide the animals with water, making sure the nipples provided clean and enough water, making sure they eat well, look after the functioning of the ventilation and light programmes. As one cage producer phrased it: *"To see to it that everything is fine; i.e. feed, water, ventilation, humidity. That is basically the most important"* (38). In addition, to get a good litter, keep the room clean and free from contamination, to get rid of dead hens and dung, to use the tresher, and following the rules, were mentioned: *"It is like I say that you must simply follow the demands that are issued. I mean that the animal welfare functions in the way that they issue regulations, and we have to relate to them. Sometimes it shows that it must be adjusted somewhat along the way, but on the whole they surely have an intention with*

it” (50). A few informants had built new hen houses. But since the practices of different types of producers also vary, the organic producers and the top quality producers referred to other practices and efforts when referring to what they did to ensure the welfare of their animals. They emphasized measures such as keeping the animals outside, to socialize them, to provide a varied feed, to activate them, and to provide them with vitamins and grits.

Some of the producers (approx. 16) were asked if they produced above the minimum requirements of the law, and what other things they could do for their animals. In order to say something more generally about these issues, they are, however, in need of more investigation. A few informants told that they did more than required, a few that they did what they had to. A few informants left the impression that they didn't follow the regulations exactly, but rather "more or less", as exemplified by this quotation made by a broiler producer: *“There are a few regulations that says something about so and so many animals per square meter and such things, but there is some plus and minus. The regulations set a low limit [for the number of animals allowed]. In this house there is room for a greater number. [...]. But there exist a limit and it's no use to provoke that limit to a great degree, If it becomes too dense, that is not good, so it's fine enough. The limit is maybe set theoretically [...], but they are going to fit to all houses, houses that are being criticised for being too poor. The regulations don't distinguish between different producers”* (51). Possible improvements mentioned by producers were (a) to build new houses, (b) to use more time with the animals, (c) to work with the dust problem, (d) to clean better, to provide a different type of ventilation that would circulate the air better, (e) to get a more stable animal material, (f) to keep oneself professionally updated, (g) to possibly change production system from cages to free-range, and (h) to work politically to prevent slaughter houses from being closed down. Some of these measures are costly, some demand mental efforts from the farmers, some measures are technically challenging, problems that are difficult to solve within the framework the producers operate, and some measures seem to be more or less beyond the farmers' influence. Hence, one can imagine that there exist several types of barriers that the producers meet in order to improve the welfare of their animals.

#### *The animal welfare status in Norway*

A majority of the producers evaluated the animal welfare status in Norway as being good (approx. 22) or as being generally good, but with some challenges and problems (approx. 22). There seemed to be no particular groups of producers who were systematically ("always") satisfied, ambivalent or critical to the production. However, organic producers were somewhat overrepresented among the critical producers and underrepresented among those who were mainly positive. Also, different groups had to some extent different concerns. The group of producers, who hold that the animal welfare status in the poultry industry in Norway is good, referred to their observation that there are few problems in Norwegian poultry. Some (approx. 9) claimed that the welfare status was better than in other European countries, and therefore as being good.

The fact that Norwegian poultry production is free of salmonella was used as another argument. Smaller farms, the good control and strict regulations, a lot of new houses and good results, were other arguments made by a few informants.

A few more producers seemed to be critical to broiler production than to egg production; many of these being egg producers themselves. Their concern was with the rapid growth of the chickens, and/or problems with transport and litter: *“You can say that egg production today is a pretty extreme production, with tough exploitation, but it is even worse for chickens. They have a schedule they follow [...]. Egg production is good compared to that [chicken production]”* (58). There were also chicken producers who raised concerns about their own production, as we shall substantiate below. Those informants who were critical to the egg production, pointed mainly to cages and little space, as being the problematic issues.

What is perceived of as the biggest animal welfare related problem by the poultry producers in our sample? The most frequent problems referred to, regardless of production type, were the litter in broiler production and the feed (approx. 10). Broiler producers told again of problems with moist litter, which was sometimes being led back to the quality of the feed: *“The biggest problem is the moist litter. Why is that a problem? That is the feed”* (40). But also a couple of free-range egg producers and hatching egg producers considered the feed as the biggest challenge. The breeding of the animal material, and the increased economic pressure, partly coming from consumers who want a low-price chicken, was by other producers (approx. 7) considered as the biggest challenge: *“It is the economy that governs a lot of the development of animals. When they do the breeding, it is not easy to bring along all the abilities. What do you think about? I think about the leg health and everything, the chickens become heavier and heavier, but these are things they are probably aware of”* (46). Other problems mentioned were the transport (approx. 4), and the use of cages (approx. 5). One organic producer pointed to the lack of natural behaviour in conventional egg production. Although not directly related to animal welfare, a couple complained about the pace of changes in regulations that they were exposed to. A few others claimed it was a pity that the hens couldn't be used for food. The importance of providing legal and economic conditions allowing for producers to work full time on the farm, was mentioned by two slaughter chicken producers who were critical to having broiler production as a hobby-based production only.

### **5.3 Farmers' relationships to their animals**

How do the informants describe their relationship to their animals? Is it conceived of as a personal or professional relationship? Are there big differences between the animals with respect to such issues? Do animals have feelings, according to the producers' judgement?

“Not personal”, or “not having a relationship to them”, were the most frequent characterisation of the informants' relationship to their animals (approx. 33), sometimes in combination with other answers (approx. 7). The major cause, was reported to be the large number of animals: *“It is impossible to relate to 7500 hens”* (29). Quite often the relationship to hens was compared to their relationship with other animals, such as sheep and cows: *“You don't get a close and personal relationship to 2000 hens, as you would have got if you had 12 dairy cows in the stall”* (18). A couple of informants emphasized that they had only a relationship to their animals as a group. Some others mentioned the short time period on-farm, and their small size as causing their impersonal relationship to their poultry. One said: *“..there is almost nothing to say about the relationship to laying hens, for they only sit there”* (50). One informant told he was not “an animal person”. Therefore he had chosen to have hens instead of other domestic animals. There was no particular group who described their relationship as impersonal. This is also true for the other answers, indicating that the producers' relationship to their animals seems not to be described differently by various types of producers.

On the other hand, not all producers reported to have an impersonal relationship to their poultry. Some expressed that they had a good relationship to their hens, without being very specific about how, or that they liked to be with hens, talked to them, and was very interested in the production (approx. 21). *“It is so nice to be in the houses with that Lohmann, it is pleasant”* (24). A feeling of responsibility for their well-being, was also used to characterise their relationship (approx. 9). And there was also a few informants who reported to have a close and quite personal relationship to the hens, among those were both organic producers and producers with cage systems (approx. 5): *“The girls always come first”* (6). *We talked to some producers who had had egg production for decades, and who seemed to be what we may call “hen people”. One of these characterized their relationship to hens as the following: “We can almost say that you and I have a relationship to hens that someone who is not having hens, will not understand much of”* (24).

The different relationships between producers and hens were also revealed when we asked the producers whether they experienced any differences between their animals. While there were producers who experienced individual differences between each and every hen, among these being both organic and cage producers, there were others who didn't experience any differences between the hens. However, there were quite many who emphasized the differences between the turns, many of these being broiler producers. But there were also a few informants (mainly producers with cage system) who didn't experience any differences between them. A few producers also mentioned the differences between animals belonging to different races, and between white and brown hens.

The producers' relationship to the animals is also expressed through the way they evaluated the animals and their abilities. We asked the producers whether they believed their animals, hens or chickens, have feelings. Regardless of what the producers answered, this seemed to be an issue that didn't have a "ready-made" answer. One producer said that he believed they had feelings, but admitted that this wasn't something (s)he usually thought of. It seemed that most producers hadn't given the issue much thought, which indicates that such a reflection is not an inherent or important part of operating a poultry production. When answering, they reflected often from their own experiences, and referred to a lesser degree to an established knowledge. This being said, most of the producers said yes, as an initial response to the question of whether they believed that poultry have feelings (approx. 33). A few told that they didn't believe so (approx. 9). Sometimes their specific reflection did not distinguish them from the others, but they chose to answer no instead of yes because they interpreted the term "feeling" differently. A few said that they didn't know what to say (approx. 11), but if they were asked whether they believe the poultry could feel pain, most responded yes. This initial response was however the summing up of a reflection they made. Many of the producers' response was related to their belief that the animals can feel pain (approx. 33), which they had experienced through the screams if the animals were hurt. This quotation illustrates this point, as well as how quite many of the other informants reflected: *"Yes, absolutely sure. Yes, they do feel pain. There is no doubt about that. If a hen has twisted her claws down in the wire, and something they get their wings out, it has happened, their wing got stuck, and they won't get it out. Than you have to take them with gloves, very carefully, and if you are careless, then the hen will scream"* (32).

But also quite many reflected on other abilities of the animal, such as to feel stress and fear, their reactions to human behaviour, e.g. to other persons than themselves, as well as the animals' ability to be trained. A couple of informants emphasized that the animals are not so different from humans, and have a wide range of feelings, such as expressed by an aviary producer: *"They do. There is no doubt about that. And it is not only that they feel pain or not, but that they have an emotional life. When you have a battery hen, you don't have a relationship to that animal. Then they are a crowd who stand inside your installation. Then you are an egg-picker. Here, we are animal managers, and have to follow the animals on their premises. And then you have to observe the animals and be with them in good and evil, and then you get to know them in a different way. And then you experience that they have an emotional life too. They are afraid, happy, worried, joyful, and sad. All of the elements we got, do the hens also have"* (47). It should be mentioned, however, that this producer was an exception.



## 6 Animal welfare off the farm

### 6.1 Transport

Many producers had worries regarding the transport of hens and chickens. Half of the producers were mainly critical to the transport, while the others were mainly positive, although many of these also had some concerns. Most of the concerns addressed the length of the transport, transport during cold days, and temperature fluctuations during winter time (approx. 26). This was mostly considered a problem for broilers, especially from the middle part of the country. Here, the poultry has to be transported down south over mountains to be slaughtered, after the co-operative closed down the slaughter house in this region. The producers related this discussion to the new hybrid, Ross 308, and to problems with litter and moist. Such factors had lead to a higher mortality rate than normal.

Another concern regarding transport and slaughtering, although not directly related to animal welfare, was the new practise of gassing hens inside containers. This method has become more common throughout the last years. This is due to the fact that hens are conceived of as an item of expenditure, and have a negative value. This holds true both for the producers, who have to pay to get rid of their hens, and to the slaughter house, who don't sell the hens. Therefore, hens are increasingly being used for other purposes than food, which was a worry for many of the producers. They considered this to be an ethical problem: *"I'm worried that the day is approaching when we will get a gas container on the farm [...]. If we go back 20 years in time, I got 7–8 NOK (Norwegian Kroner) for them. Now I pay 2.5 NOK per hen to get her slaughtered. And now it's only a matter of time before they come and I must carry the animals to the container where they gas them, drive them for burning and then grinding. Why do you worry? It jars. I don't slaughter them myself, but I did in Africa when I lived there, it was a way of getting food. We are talking about perfectly fine food here, and it jars when you are destroying food in this way. But Ola Nordmann wants the chicken as a filet or as chicken wings, and hen stew is not assessed as good enough food"* (22). There were, however, a few producers who meant that gas containers would probably be better for the animals, as they wouldn't have to be transported. A couple of informants mentioned mobile slaughter houses as an option. The issue exemplifies that animal welfare and other objectives may clash. How the producers got their hens slaughtered varied somewhat; Some sent them to slaughtering, some had used containers, while a few did it themselves, or let some one else do it manually. One organic producer reported: *"There was a problem at first slaughter, dear me, I didn't have the heart to pack down my hens and send them to Elverum. For the first, I have to pay a lot of money for it. But secondly, I thought it was worse to crate them, and send them off, because they have given me 25 kg of eggs each. So I checked it out with the authorities, and I was allowed to crate them here, take them out on a wheelbarrow and cut their head off, and dig them down. I think that is actually the best for the animals (28)".* Another area of concern

was related to the picking of animals. Earlier, the producers used to put them directly in small boxes inside the house, whereas they now must carry them outside. This implies a longer distance of carrying, and also more work for the producers. According to a few producers, this implied a poorer welfare. Picking of animals was also more generally considered as a critical point by a few producers.

Among those who were mainly positive to the transportation, this standpoint was supported by referring to good transport boxes with enough space, low mortality, the birds being gently treated, better cars, and the chicken thresher as having improved the picking process.

## 6.2 Abattoir

In general, the producers were less critical to the slaughtering process than to the transport. Most of the producers (approx. 32) assumed that the slaughtering was carried out in a good and proper manner. They referred to the control procedures, the large and recent investments made to make the slaughter houses into modern installations. A few referred to a change of method—from hanging the animals up on strings to gassing them—as having improved the conditions. Generally, their opinion seemed often to be more based on a general trust and assumption than detailed knowledge of the practise in the slaughter houses: *“What you know is that Prior is a serious company that does things properly, and than there is a controlling veterinary who is observing the whole time. After slaughtering you get a report from the veterinary who has been in control, and who keeps a statistics over how many animals that are being discarded for different reasons”* (37). The lack of knowledge—some of the producers mentioned that they hadn’t been at the slaughter house—also lead some producers (approx. 15) to refrain from giving their opinion on the issue. Further, the critique of slaughtering was not very detailed or harsh. A few producers emphasized that slaughtering never would become popular entertainment, while others had heard of mistakes and unfortunate episodes, but neither of these issues were developed into a general critique. Probably their answers also reflected that slaughtering process is not considered as their business. This was clearly stated by one producer: *“No, I don’t know about this and it doesn’t interest me either. When the animals leave the farm, my job is done. Then the next chain partner must take responsibility for their job. So I don’t use much time and resources on that”* (56). A couple of producers, however, referred again to the fact that hens are treated as waste rather than food as a big problem for the poultry industry.

Do the producers think it is sad to send their animals off to the slaughter house? Reflecting from how they described their relationship with the hens, one would expect that producers would not have any problems with that. This expectation was confirmed. Most of the producers didn’t find it sad to send the animals off to slaughtering (approx. 38). They described it as natural, as something they were used to. Other reasons were that the animals are too many, and that as a farmer, you make money on them which implies a different relationship. A few informants described it as a good day because the

animals at this point are old and tired: “*Sending them is almost relieving and good. They have done their job, and the hens are tired. It is animal welfare. The hen has become tired*” (1). Soon they would get new hens.

But there were also some informants (approx. 16) who found it sad to send them off to slaughtering. Among these, cage producers were clearly overrepresented, and broiler producers were underrepresented. Different reasons were mentioned by different producers: *They didn’t like it: “I must tell you as I say to others: it is not something you like, but it is as if I stand beside myself, because it is something I have to, and what you have to do, it is incredible how you can readjust when you have to, in all things in life, so also in this case”* (23). They found it sad because the poultry had provided them with their income. A couple described going into the hen house again as going into a mortuary, a couple emphasized the relationship they developed to them by having them over a year, Another found it sad because they were sent off to the most tiring and worst journey of their life. There were also a few who were somewhat ambivalent, stating both pros and cons of letting them go off for slaughtering (approx. 4).

## **7 Market and consumer relations with animal welfare**

How do the producers think that society at large and the consumers in particular evaluate their production? How could other actors support the farmers to produce in a more animal friendly way? How do the producers perceive the retailers’ and the animal welfare organizations’ role? An animal welfare friendly product and society is produced in interaction with several actors. What is the relationship between them, and is there a basis for cooperation?

### **7.1 Farmer – consumer/society**

The producers seemed to be split with respect to their interpretation of society’s evaluation of poultry production. While some informants chose to emphasize some aspects leading to a conclusion that people are positive to poultry production, others emphasized other aspects leading to a negative conclusion. Still, there were more producers who pointed to critical/negative societal viewpoints (approx. 36) than there were producers who pointed to a positive image (approx. 27). There were quite few producers (approx. 11) who mainly saw the relationship as being harmonic. The others pointed either to a critical aspect in addition, or to two other viewpoints that were recurring: (a) That people have little knowledge of agriculture and poultry production, and (b) that people don’t take an interest in it, or are not very concerned about it. Among the producers who saw the relationship as mainly harmonic; producers with cage systems and organic producers were somewhat underrepresented, while they were somewhat overrepresented in the group who considered people to mainly have a critical view upon poultry production.

Let us take a look at how the producers argued more specifically. The producers who emphasized the positive image of the sector pointed out that Norwegian poultry production is considered as safe, clean, with good hygiene, and (therefore) people prefer Norwegian products: *“I have discussed this, I’m a lot out in the field and I talk to people, and we have talked about this, they know I have a farm, and my impression is that they are generally content, and believe that things are fine in Norway, that they get clean and good food. They want it on today’s level, and they are willing to pay what it costs, I believe that holds generally true”* (15). The increased sale of chicken was taken as an indication of its positive image. A couple of informants pointed to the fact that most people have a realistic and down-to-earth view upon the production. The strict control and regulations were pointed to by another producer. One free-range producer claimed that it was considered as an ethical production.

While the positive image was closely related to the hygienic factors and was argued for in general terms, the negative aspects mentioned were related to the animal welfare aspects of the production, and especially of cage production. People’s dissent of cage production, and the small space cages provide for the hens, was the negative aspect mentioned most frequently (approx. 19). But a few producers also mentioned that broiler production, the growth rate and problems derived from that as something that has been met with criticism. A more general comment was that poultry production was considered as an impersonal factory production with lots of animals. Transport was also pointed to as a focus area. Animal welfare organization and media’s role in putting focus on the negative aspects were sometimes pointed to. The following quotations exemplified many of the critical aspects mentioned: *“If you ask a consumer on the street what agricultural products they are most sceptical to, I believe that poultry production would get a high score on that list. It is related to the fact that they are small animals, and there are necessarily many of them. And in the people’s hearts, one is against large-scale production, and large animal flocks who become impersonal”* (11).

Quite many producers were concerned about people’s ignorance of, and lack of knowledge about poultry production. This comes to the forefront in the form of an unrealistic, somewhat romantic image of "15 happy hens on the courtyard". This further reflects that many people become more and more distanced from the country life. A couple of informants mentioned that the marketing of free-range eggs was in fact spreading false information, because it is not specified what "free-range" means more specifically. Another conclusion drawn by some informants was that people are not very concerned about production, and that they care mostly about the price of the products.

When we asked how the producers believed that consumers evaluate the animal welfare in the poultry sector, the same types of answers came up. There were producers who thought that people are mostly interested in the price level on foodstuffs. In general, people have little knowledge about animal welfare, was the recurrent concern.

We also asked whether the producers had got any response on their own production from neighbours, friends, producers or others. Some informants (approx.8) confirmed that they had got negative opinions. Most of them were cage producers who had got feedback on their production system. However, most of the producers (approx. 25) had got positive response, often related to the taste of their eggs.

Our next question was what the producers thought could be done to meet the increased focus on animal welfare in society. What are the producers' and producer organizations' responsibilities in this regard, according to the producers? A recurrent reply from the producers was that they should do their best, be alert, and follow the regulations and demands that are coming, in order to handle a growing interest for animal welfare: *"We must follow up as good as we can, the demands that are coming, and do things as right as possible [...], so that we help and try to arrange things properly within the conditions we operate within"* (36). This was the measure and responsibility most frequently mentioned by producers to answer the above questions (approx. 24 informants). To provide more information about the productions and information about how well the animals are doing, were also mentioned by some (approx. 14). Related to this, an organic egg producer claimed that branding of products was necessary. A few suggested more controls, and the importance of public regulations, and to provide support to the farmers: *"How we operate, should be regulated by the government, otherwise things will be run after economic principles. That shouldn't be the case, but one has to be paid for what one is doing, so it has become forced"* (19). The significance of pride, knowledge and an ethical attitude among farmers were also mentioned. Then, who are the responsible actors; i.e. the actors that must take leadership here? According to our informants, the farmers themselves must take that responsibility. A few informants also emphasized the role of the farmers' co-operatives. The co-operatives function as a barrier towards the retailer chain's onesided focus upon low prices, and to represent the producers' view in animal welfare matters. It was emphasized by a few producers that a lot of these things are done already. One should be careful about interpreting their answers as an indication that the informants necessarily believe that more should be done, or that what is done is not good enough.

The farmers were also asked to reflect on how society could help them to produce animal friendly. The importance of securing a good economy for the farmers, was the argument that in different shape and figures, were most frequently emphasized: *"What is at the bottom line of all such things is economy, neither more nor less. We run a business similar to the ones who sell food or cars. We don't live by air and love. We must have money in order for things to be interesting, and if we have a descent (sound) economy, we can invest more money into animal welfare"* (36). Often it was not stated how a good economy should be achieved or secured, but some informants pointed to the consumers' willingness to pay, and higher prices, as important in this regard: *"This is totally off, but if you want 100 percent welfare, it all depends upon price and money. Nothing else. The consumer is willing to pay 200 NOK per kilo for the chicken. I could*

*have produced in totally different ways. There are so many factors that play a role here. I need to earn enough money to sustain a living, the retailers who sell this need to make money, Prior needs to, the transporter, the feed producer and the grain producers need to make money on it. All things are pretty complicated and intervoven”* (49). But as this producer also emphasized, there is a range of interrelated actors that contribute to today’s system, so quick solutions are not ready at hand. More or less directly related to economy, is the government’s role as a regulator. Some informants asked for more stable regulatory conditions, less frequent and unexpected changes, as the most important factor that would help them to produce more animal friendly. Direct subsidies for improved animal welfare, was also mentioned, but to a lesser degree. The importance of having a “balanced view” and to base regulations in practical knowledge and realism, were also underlined. A few informants also referred to the role of government in issuing regulations, to follow up with controls, and be responsible, as important factors. A few others emphasized the importance of not issuing more regulations, and keeping the regulations on level with other European countries, as most important.

There were also a few informants who pointed to role of retailer chains, such as this producer: “It is all about branding. That the consumer can choose, and then you must have price differentiation, making quality costly. And we must force the retailers to market it too, so that they not only choose to campaign their cheapest goods” (13). One informant claimed that it should be easier to access the market for organic and small-scale products. In the following, we shall see how the producers generally viewed the role of retailer chains in animal welfare issues.

## **7.2 Farmer – retailers**

“Power, profit and price pressure”, are three keywords that describe most of the producers’ analysis of the retailer chains and their role in the food value chain. According to many of the producers, the retailers’ have a lot of power and make use of their power through putting pressure on the prices of the products (approx. 10). This indicates that the retailers are mostly concerned with prices (approx. 18). Ultimately, this may affect the animal welfare, was the direct or indirect argument that was made: *“The retailers who buy the goods, have an enormous power, more than they think. If they say that the animals should be so and so, and it is all related to price, and the costs has to be taken from somewhere, so in the end it may affect the animal welfare. But people don’t think about that”* (3). A related point emphasized by a few broiler producers were that the retailers set the size of the chicken, because they want to sell the chicken on sale for NOK “29.90”. The retailers’ power with regard to what range of goods they decide to sell, was also pointed to. A couple of informants pointed to examples of higher vertical integration in the food chain as a possibility: *“They put a pressure on us and our customers (varemottakere). Price pressure? Yes, among other. They would want to get rid of the concession acts in Norway, so they could have*

*established large poultry farms themselves [...]. Then there is one link less in the value chain, and they would earn more money. Then the wealthy retailers would become even wealthier”* (5). A related point made by some producers, as exemplified here, are their wish for a high profit (approx. 18). Generally, the producers had therefore a negative evaluation of the retailer chains, and were sceptical about a development that grants them more power. One characterised them as a “major threat”. But there were also a few producers (approx. 6) who presented a more positive image of the retailer chains, or distinguished between different types of retailers, whereas some others emphasized quality. This was partly based on positive experience. One organic producer claimed that the retailer chains were not the “worst wolf”: *“The retailers are more positive than the farmers' co-operatives are. They are owned by the farmers, who are professional producers being part of the board, and they are not so keen on organic or free-range and the like. They mean that the products we got are best and fine, and we continue the way things are. So the biggest bottleneck for organic production in Norway I consider to be the sales co-operatives Tine, Prior and Gilde”* (48).

### **7.3 Farmer – animal welfare activists/organizations**

How do the farmers view animal welfare organizations and/or activists? Most of the producers (approx. 36) saw a role for these organizations, or accepted them, but relatively few producers (approx. 9) were mainly positive. So what role did they ascribe to the animal welfare organizations and animal welfare activists? As mentioned, those activists who work to influence the regulations were accepted by some, even applauded by a few. One producer thought that they ought to play a greater role, and missed a stronger focus on cages from animal welfare organizations. Their role as watchdog and setting focus on these issues, were also acknowledged by a few. The phrase “good that they are there”, was repeated. Among the few informants who were predominantly positive to animal welfare organizations, organic producers seemed to be overrepresented.

However, many (approx. 43) were strongly opposed to activists who commonly were referred to as “extremists” or “extremist tendencies”, which means e.g. letting minks or other fur-bearing animals out of their cages. Some producers (approx. 19) were also mainly negative to animal welfare organizations. In this sense, they often distinguished between more moderate organizations using acceptable means to achieve their goals, and those who they condemned because of their extreme actions and means. Other criticisms of animal welfare organizations were that they “lacked knowledge” and were “too fanatic”. A few producers pointed not only to their fanatic attitude or extremist measures, but to the fact that they have a different approach to animal welfare, indicating that producers and animal welfare organizations also have different “goals”. Their lack of willingness to listen to practical experience and limited knowledge about farming were also mentioned by some informants. Three producers pointed to the tendency of these animal welfare organizations to use sentimentality as a measure, and to ascribe human attributes to animals: *“It is good to have animal welfare organizations,*

*but sometimes they become too extreme. Things get steadily more 'americanised' and fixated on the extremes. They ascribe the animals with too much intelligens. The underlying reason why they issued a ban on cages in Sweden, was the author Astrid Lindgren who meant that it was bad that the hens sat there, and she had a lot of power in the media" (5).*

Activists shouldn't be steering alone; one shouldn't forget the "totality"; there must be an international focus, not only a focus on this theme in Norway; one shouldn't ascribe intelligence to hens that they don't have; and regulations should be followed with economic compensations: *"The last 10 years, things have happened that they earlier used 50 years to change. So it is clear that society put a more emphasis on animal welfare. The agriculture isn't a closed industry branch anymore. We are dependent on selling our goods. This has made it easier to issue regulations. Earlier we governed a lot more ourselves, together with those who sell our products. Today it is the government who rules, that has been a big change. What do you think about that? It is fine enough. The problem is that it hasn't been followed up with economic compensations or excess price, because it all has a cost" (50).*

## **8 Conclusion**

In this concluding chapter, the major findings of our study of Norwegian poultry producers are summarized. The overall purpose of this study has been to develop an improved understanding of the Norwegian' poultry producers' reflections and attitudes with respect to farm animal welfare. Due to the limitations of the methodology in this study, our findings should not unconditionally be generalized to the entire Norwegian poultry sector (cf. section 2.4). The study is explorative in nature. Our results clearly serve as a basis for formulating qualified hypotheses, but it shouldn't be taken for granted that these hypotheses will be confirmed by other studies of the sector. More specifically, we asked the poultry producers to elaborate on the following major questions: What do they conceive of as good animal welfare? What motivates them to ensure a good welfare on their farms? How do they evaluate the public regulation of animal welfare? What do they think about animal welfare schemes? We will briefly summarize the answers to some of the major questions. In the first section (8.1), the general picture is summarized in form of overall results from the study. In the subsequent section (8.2), we elaborate on the variation in beliefs and attitudes with respect to production system.

### **8.1 Overall results from the study**

At the outset, it's worth noting that most producers experienced that there has been an increased focus on animal welfare in society throughout the last decade, and that they endorsed this development.



Then, what motivates the producers to ensure a good welfare? Why do they think animal welfare is important? Summing up their response, good animal welfare is important for the producers for three reasons:

- Because the animals shall be fine and not suffer. The farmers feel morally responsible for taking care of their animals.
- Because maintaining a good animal welfare is important for the farmers' own sake, both mentally and economically. They feel bad and don't thrive if the animals are not well. Good animal welfare leads to a good economy and good production.
- Because keeping a good animal welfare is important in order to maintain consumers' trust, to ensure the quality of the goods, and to be able to document good welfare.

Next, how do the poultry producers in our study more specifically define animal welfare? In sum, good animal welfare seemed to be assessed as an outcome and interplay of many interrelated factors. We identified the following conceptions of animal welfare:

- "Animal welfare is when the animals is fine"
- "Animal welfare is when certain actions are undertaken, and a certain environment is in place"
- "Animal welfare is when the animals produce"
- "Animal welfare is when there is no contamination, illness and the hygiene is good"
- "Animal welfare is when a certain relationship between farmer and animal is established"
- "Animal is when the animal is able to express its nature (natural behaviour, instincts, fulfil its natural needs, on the animals' premises) "
- "Animal welfare is when the animals are safe (from threats from other animals) "
- "Animal welfare is a state which cannot be fully fulfilled because of restricting factors".

The physical needs of the animals were conceived of as somewhat more fundamental than their social needs. But the "mentality" of the animals, as shown in the farmers' emphasis on pain and stress, were also acknowledged as important. Generally, the producers, if referring to specific actions or environment, referred to the environment or measures considered as unique for their production system, e.g chicken producers emphasizing the importance of the litter, organic producers and free-range producers emphasizing the animals' abilities to move, furnished cage producers emphasized the dust bath etc.

Furthermore, how do the poultry producers evaluate the public regulation of animal welfare? As seen from the perspective of the egg producers, the by far most important and consequential regulation is the ban on conventional cages from 2012. For the Norwegian egg production industry, this means that considerable investments have to be made before 2012. It will probably also imply that many poultry producers will choose to exit production rather than making the necessary investments on-farm. Generally, this situation seemed to be reflected in the egg producers' answers to the question about their opinion on the animal welfare regulation. Quite many revealed a

troubled or ambivalent evaluation of the ban on conventional cages. Their most widespread concern was related to the (too) rapid changes in the regulations. For some informants, this worry went hand in hand with some scepticism that the new production systems would be able to improve the welfare for the animals. They were therefore uncertain what production system to choose, and “were sitting on the fence”. Their scepticism was partly rooted in their experience with free-range systems from before the cage-systems were introduced. They referred to problems in free-range systems with pecking and cannibalism. Another concern was that the public regulations often appeared to be weakly anchored in practical knowledge. Some informants also claimed that the regulations were sometimes too detailed. But there were also producers who were mainly or partly positive to the regulatory framework.

Another observation is that producers seemed to underline the pro-arguments for their own production system, by emphasizing its virtues and/or by emphasizing the disadvantages of other systems. There seems to be a systematic distinction between cage and non-cage producers in their evaluation pro and contra the different production systems. Predominantly, cage-producers seemed to emphasize the advantages of the production system they had selected; such as lack of illness, quietness, good hygiene, and stability of their production system. They also emphasized the problems and weaknesses of free-range systems such as pecking. The greater part of the non-cage producers valued the advantages of the free-range system, such as the hens’ ability to move and establish hierarchy in the non-cage systems. They underlined the disadvantages of the cage-system, such as the lack of space for movement. The argumentation seemed to focus on the dimensions *control* vs. *freedom*. But to supplement the picture, we also found both cage producers and non-cage producers who admitted that there are problems with their own production, and thereby seeing a more balanced mixture between freedom and control as preferable. Also, the evaluation of aviaries seemed to cut across the distinction between cage and non-cage producers. Aviaries seemed to be considered as a solution “in-between”. It should also be noted, that organic and conventional non-cage producers emphasized more or less the same attributes with the various production systems; i.e. the freedom aspect.

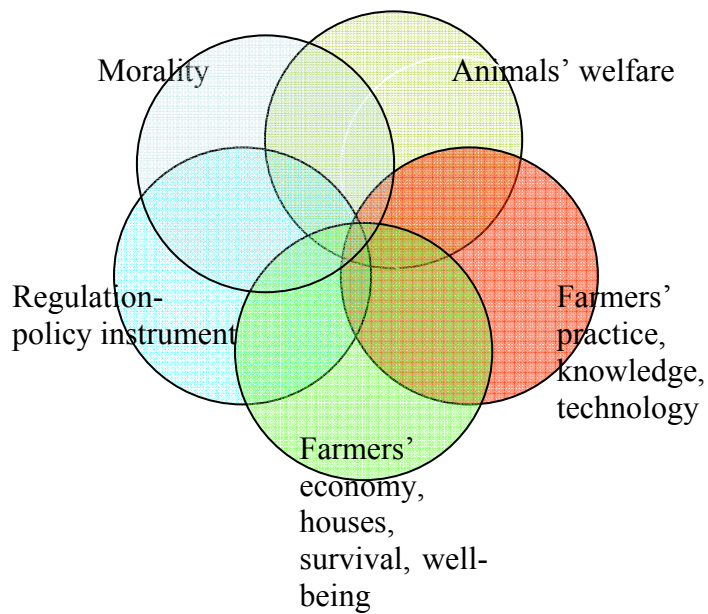
A majority of the producers evaluated their own knowledge of animal welfare as either “good”, “fairly good” or “sufficient”. In saying so, quite many producers referred to their long-lasting experience from managing a poultry production.

Many poultry producers seemed to be sceptical to entering a future animal welfare scheme, and sceptical to a future which implied increased differentiation in this area. More informants were opposed to the idea of animal welfare schemes than in favour of it. Among the producers who were sceptical to schemes, conventional cage-producers seemed to be overrepresented. Correspondingly, organic producers were overrepresented among those who were positive to such schemes. Without overinterpreting this indication, this could maybe be explained by the fact that organic producers are already

part of a scheme (Debio) that establishes and promotes “a logic of differentiation”. The producers’ objections to animal welfare schemes appeared to be more related to the fact that they didn’t consider animal welfare schemes as desirable, than to their own financial and practical situation that might make it difficult for them to enter. Their answers were in other words a reflection on whether animal welfare schemes are an interesting and desirable way of organizing animal welfare requirements.

In general, our interviews confirm the picture from our similar studies of Norwegian pig and cattle producers (Skarstad and Borgen, 2007a; Skarstad and Borgen, 2007b), that multiple factors must be included in an understanding of the poultry producers’ attitudes towards animal welfare. A wide range of elements affects, and are being affected by, farmers’ attitude towards animal welfare. Hence, there is no simple solution to the problems of animals’ welfare, and not one single barrier that must be exceeded in order to improve the animals’ welfare. The pivotal point in our study is what the poultry producers consider as a “good enough” animal welfare, given—among other factors—their existing insights about the theme and their financial constraints.

To be more specific, then, what factors should be included in order to develop a good understanding of the poultry farmers’ relation to animal welfare? To a large extent, this study confirms the pattern that emerged in our recent studies of pig producers and cattle producers. The most influential factors can be summarized in the following broad categories: (a) The farmers’ economy, survival, well-being; (b) Their practice, knowledge, technology; (c) Their perception of the regulatory framework; (d) Their morality (i.e. their interpretation of what it means to be a proper farmer); and (e) Animals’ welfare. These elements seem to condition and form the farmers’ attitude, understanding and practice when it comes to animal welfare. The elements are partly contingent on each other, and not mutually exclusive. Moreover, these factors may be considered as the “ontological space” in which the farmers’ understanding and enacting of animal welfare practices are conditioned and shaped.



*Figure 1: Elements shaping the farmers' understanding, attitude and practice with regard to animal welfare.*

An important lesson from our three studies, is that, when asked about their opinion on the animal welfare regulations, as well as whether they believed the regulations would ensure a good animal welfare, the producers usually took their own on-farm situation as a point of departure for their answer. Hence, their attitude should be considered as contextual in the sense that they typically did not unconditionally state their enthusiasm for the regulations, but rather reflected on whether implementing the measure would function well, and whether it would be possible for them financially to implement the measures in question.

## **8.2 Systematic differences between the poultry producers**

As mentioned in chapter two, we have tried to identify systematic variations in the answers from different types of producers. We have throughout the chapters paid particular attention to groups of producers that have been overrepresented in their response to selected questions.<sup>13</sup>

When we have reported that a particular group is "overrepresented", this means that the group of e.g cage producers has been relatively larger than what would be expected if taking into account the ratio between types of production systems in the sample.

Since we have not applied operationalized definitions, the classification is based on our interpretation of the producers' answers.<sup>14</sup> Nonetheless, it would still be interesting to

<sup>13</sup> We haven't analyzed all the questions for systematic differences among producers, but have selected questions that investigates the producers' attitudes to various measures, as well as questions which can say something about their different definitions and approach to animal welfare. Less attention is paid to questions that reveals their experiences with e.g. being a scheme-member, or facts-questions which asks for information on e.g how many times they have been controlled.

<sup>14</sup> In other words, we haven't set any formal definition or developed word-lists in order for a producer or an answer to be classified in certain category, or is named in a certain way. One could have imagined that in order to have a professional relationship to the animals, the use of words such as professional, distance, etc. has to be used

see, through summing up these overrepresentations, if it is possible to observe any systematic patterns in the material between various kinds of producers. If these patterns make sense, or are possible to explain, these differences would be candidates for further study. This is emphasized by putting a question mark behind. There were also other differences among the producers related to their different practices, e.g. what they did to ensure a better animal welfare, what they considered as major challenges etc. The table below indicates possible differences in attitudes to the “same issues” among producers. Our comparison has focused most on the differences between conventional cage and organic producers, since the other groups of producers were so small, that it was difficult to judge whether they were overrepresented or underrepresented; and also because organic and conventional cage producers seemed to be the ones “sticking out”. Broiler producers did not. Table 6 sums up the overrepresentations we have reported throughout the chapters:

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by the producer. However, our interpretation of the answers is based on what they tell us, or the semantic meaning of their answers. However, often our classifications are triggered by the use of words such as professional etc. Furthermore, they are usually classified as having a natural definition if words such as “natural, needs, the animals’ premises” are used. A personal relationship is often triggered by the use of words such as “personal, talk, fond of etc”.

Table 6: Variations in beliefs and attitudes with respect to production type and production system (hypothesis and questions based on our study)

	<b>Conventional cage producers</b>	<b>Furnished cage producers</b>	<b>Conventional non-cage producers</b>	<b>Organic producers</b>	<b>Chicken producers</b>
<b>Regulations</b>	More negative to the existing regulations?			More positive to the existing regulations?	
<b>Production system</b>	Prefer cage production	Prefer furnished cage or cage production	Prefer aviaries and are sceptical to cage production	Prefer organic production and is sceptical to cage-production	
	Are more often ambivalent about their own production system? And are open to aviaries?				
<b>Knowledge</b>				Get more often information from theoretical sources?	
<b>Schemes</b>	More negative to scheme-participation? <ul style="list-style-type: none"> <li>- Overrepresented among those emphasizing negative aspects of KSL</li> <li>- Overrepresented among those negative to specific animal welfare schemes/differentiation</li> <li>- Overrepresented among those who don't think that animal welfare brands will sell.</li> </ul>		More positive to scheme-participation <ul style="list-style-type: none"> <li>- Overrepresented among those emphasizing positive aspects of KSL, and had positive reasons for entering Debio.</li> </ul>	More positive to scheme-participation? <ul style="list-style-type: none"> <li>- Overrepresented among those emphasizing positive aspects of KSL, and had positive reasons for entering Debio.</li> <li>- Overrepresented among those positive to animal welfare schemes/differentiation</li> <li>- Overrepresented among those who think animal welfare brands might sell.</li> </ul>	More negative to scheme-participation <ul style="list-style-type: none"> <li>- overrepresented among those emphasizing negative aspects of KSL.</li> </ul>
<b>Definition of animal welfare</b>	A more production- and health definition of animal welfare? <ul style="list-style-type: none"> <li>- Emphasize more often the relation to good production.</li> <li>- Put more often emphasis on illness, environmental conditions and damage.</li> <li>- Use more often production-related indicators of animal welfare</li> </ul>		A more natural based definition of animal welfare?	A more natural-based definition of animal welfare?	
<b>Human-animal relations</b>	Find it more often sad to send their animals' off to slaughter?				Find it less often sad to send their animals' for slaughter?
<b>Society's view upon poultry production</b>	Find peoples' view upon poultry production as being problematic?			Find peoples' view upon poultry production as being problematic?	
<b>The role of animal welfare organizations</b>				Value more highly the role of animal welfare organizations?	

With all the qualifications indicated above in mind, table 6 indicates some interesting relations. We believe the following hypothesis can be deduced from the table:

- 1) Cage and organic producers have a different definition of animal welfare, cage producers more strongly emphasizing a health and production-related definition, while organic producers more often base their definition of animal welfare in nature. However, to the respect that organic producers associate their own production type with specific practices, such as letting the animals outside, with more natural behaviour, both groups might be said to base their definition in their own practices.
- 2) Producers tend to argue for and prefer their own production system. However, cage producers seem to be more often critical to their own production system than others, as

well as being more uncertain about alternative production systems. They are also overrepresented in the group who sees society's view upon their own production system as being problematic. Their perception of their own production system must therefore not only be seen in context of their own experiences, but also in the dominant discourse in society being critical of cages, and the future ban on conventional cages.

3) Cage producers and organic producers have different views upon animal welfare schemes, cage producers being more sceptical, and organic producers more positive. Their view upon schemes may be explained by their current scheme-affiliation, organic producers already being part of a scheme above the basic level, which they associate with better animal welfare. In a Norwegian context, the producers view upon schemes and differentiation could also be seen in context of a loyalty to the farmers' co-operations.

4) The farmer–animal relationship is an interesting aspect. The following hypothesis is based on the finding that there was no particular group who described their relationship as impersonal; and that was also true for the other description of relationships, indicating that the producers' relationship to their animals seems not to be described differently by different types of producers. Also, cage producers were overrepresented among those who found it sad to send them off to slaughter. A hypothesis could be that there is no significant difference in the farmer–animal relationship between producers with different production systems. In the cattle study, a hypothesis was that a professional relationship to the animals could be linked to loose housing. Cage producers seemed to be overrepresented among producers who didn't see much difference between the hens, while free-range producers seemed to be able to see such differences more often. But a hypothesis based on our study, is that this doesn't mean that organic or free-range producers necessarily has a closer or more personal relationship to their animals. The farmer–animal relationship is in need of more investigation.

5) Summing up, the type of stalling system used, and the established practices of the producers, to a large extent influence the attitudes, or at least go together with specific definitions, attitudes and approaches to animal welfare. There seems to be interesting co-relations between the type of production, and definition of animal welfare.

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# Appendix 1

**Summary table – Poultry producers**

Questions/aspects	Answers
Evaluation of national public regulations	Quite many claimed that the regulations are problematic. Major problems: (1) High degree of unpredictability (particularly related to ban on cages) (2) Law makers' lack of practical knowledge about farming. But also quite many reported that they evaluated the public regulation as predominantly reasonable and OK.
Knowledge of national public regulations	The greater majority evaluated their knowledge of animal welfare and the national animal welfare regulations as good.
Areas of improvement in the national regulations	Should be more predictable.
EU vs. Norway	The majority believed that animal welfare legislation is stricter in Norway than in the EU. Approx. the same proportion evaluated this positively (i.e. that Norwegian rules should be stricter than EU).
Motivation for scheme-participation	In the sample, 8 (13%) participated in the organic scheme, 51 (84%) were member of the basic assurance scheme KSL, 2 (3%) were members of Top Quality Scheme. Approx. 4 organic producers referred to better animal welfare as main reason for entering organic schemes. Economic incentives were also mentioned. The KSL-producers participate not first and foremost due to their enthusiasm for the scheme as such, but because they are expected to participate by their abattoirs, and/or because financial incentives "force" them to do so.
Pros and cons of being a scheme-member	Major advantages mentioned were: increased information and overview, quality control, increased motivation to improve operations at own farm. Major disadvantages were: Extra "paper work", increased bureaucratization.
Motivation for implementing stricter requirements/development towards more schemes	The sample is divided. A large share was not interested. Major arguments: "it's fine as it is", "avoid unequal treatment of animals". Another share was interested. Major argument: "potentially extra income".
Definition of animal welfare	Their definition of animal welfare was multi-dimensional, including the following elements: <ul style="list-style-type: none"> <li>- "Animal welfare is when the animals is fine";</li> <li>- "Animal welfare is when certain actions are undertaken, and a certain environment is in place".</li> <li>- "Animal welfare is when the animals produce"</li> <li>- "Animal welfare is when there is no contamination, illness and the hygiene is good"</li> <li>- "Animal welfare is when a certain relationship between farmer and animal is established".</li> <li>- "Animal is when the animal is able to express its nature (natural behaviour, instincts, fulfil its natural needs, on the animals' premises)".</li> <li>- "Animal welfare is when the animals are safe (from threats from other animals)".</li> <li>- "Animal welfare is a state which cannot be fully fulfilled because of restricting factors".</li> </ul>
Indicators of animal welfare	Four major indicators in use: <ul style="list-style-type: none"> <li>- Production/productivity-related</li> <li>- Activity-related</li> <li>- Related to animals' appearance</li> <li>- Related to animals immediate environment (cleanliness, light etc.)</li> </ul>
Producers' animal welfare practice	The greater majority evaluated their own animals' welfare as good.

	Major indication: "Can be read off in terms of good productivity".
The animal welfare status in Norway	A great share considered the welfare status in Norway as generally good. Another share generally positive to welfare status, but underlined the challenges related to cages.
Farmer–animal relationship	A large portion reported "no" or "unpersonal" relationship Major reasons: "too many animals", "they stay at the farm at a short time only". Some reported a "good relation" to their poultry.
Transport	Evaluated as problematic by approx. half of the producers ("too cold temp", "too long distance"). Less than half thought the transport is fine, without significant problems.
Abattoir	More than half assumed that animal welfare situation at abattoir was fine. A few was more sceptical, and the rest was unsure.
Consumers/society	Assume that consumers lack knowledge about farming. Not very interested in animal welfare. Predominantly interested in product prices.
Retailers	Assumed to be generally uninterested in animal welfare issues. Might be sensitive and react to potential demands from customers on animal-friendly products. Retailers are not expected to be proactive when it comes to animal welfare. They are in position to pressure the prices on farmers' products.
Animal welfare activists/organizations	Acknowledge that activists have a role to play as "watch-dogs". But some of them use far unacceptable and too extreme measures.
Animal welfare focus	Almost all experienced an increased focus on animal welfare.
Why is animal welfare important?	The following reasons were most commonly referred to: <ul style="list-style-type: none"> <li>- "Good animal welfare is good farm economy" (animals become productive).</li> <li>- A moral responsibility to secure good animal welfare</li> <li>- Good for farmers' own conscience</li> <li>- Animals have a right to good welfare</li> <li>- Leads to good product quality, and good reputation towards customers</li> </ul>

# Appendix II

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## Interview guide

### GENERALLY

- *What type of production do you have?*
- *The farmers' position (owner, manager, both)*
- *How many hectares of agricultural land do you have?*
- *How many animals do you have? (Number of hens, number of chickens produced per year?).*
- *What slaughterhouse are you affiliated with?*
- *Do you have any direct sales? Any contract production?*
- *IF EGG PRODUCER: What type of production system do you have? (conventional cage, furnished cage, free-range floor, free-range aviaries, organic).*
- *Have there been any major changes in the farming in the last years? How many years have you been running the farm? Background information.*
- *Do you consider yourself an active farmer in organizational work?*
- *REMEMBER NOT TO MENTION ANIMAL WELFARE: What do you consider to be a good farmer?*

### DEFINITION OF ANIMAL WELFARE

- *How would you define animal welfare?*
- *What is good animal welfare?*
- *What is poor animal welfare?*
- *How would you judge the welfare of your animals, also in relation to other farms in the country?*
- *How do you know their state (indicators)?*
- *What do you consider to be the largest animal welfare problem in your own production?*
- *How do you evaluate the animal welfare in Norwegian poultry production in general?*
- *What do you consider to be the largest animal welfare problem in Norwegian poultry production?*
- *What have you done to ensure/improve your animals' welfare?*
- *Do you practice above the legal requirements/"minimum"?*
- *What more can you do? Do you have any specific plans for improvements? What are the barriers for improving animal welfare?*
- *How would you describe your relationship with your animals?*
- *Is there a difference between the animals you have?*
- *Would you say that the animals have feelings?*

- *Is animal welfare an issue you have been taken an interest in and have discussed with others? E.g. has it been a topic of discussion in your family?*

## **PUBLIC REGULATIONS**

- *How do you evaluate the national animal welfare regulations?*

- *Do the regulations ensure a good (enough) animal welfare?*

- *Should they be stricter, less strict or as today?*

- *What are the areas of improvements/are there any weaknesses?*

- *Are the national regulations fair in compare to regulations in other countries? Is it sensible that Norway should follow the same regulations as in the EU?*

## **ANIMAL WELFARE SCHEMES**

- *Do you participate in any animal welfare schemes (Debio, KSL, others)*

- *How did you learn about the scheme?*

- *Why do you participate in the scheme? What was your originally your motivation?*

- *What are the pros and cons of being a member?*

- *Should the scheme be improved, and what could that be done?*

- *Would you be interested in entering a "tougher" scheme (e.g. organic scheme)?*

- *What would motivate you to implement stricter requirements for animal welfare?*

- *Is a higher price of your products decisive for your willingness to engage more in animal welfare practices/become a scheme-member?*

- *Are you positive to an increased differentiation into animal welfare brands?*

- *Do you believe an animal welfare brand would sell?*

- *Is it possible for farmers to stay out of animal welfare schemes/quality schemes today? Why/why not?*

- *Does participation in the scheme affect you and the farm management? In what way? (in relation to: Generally, freedom to run the way they want, work load, production costs, transaction costs, marketing opportunities).*

*If you are not a scheme-member:*

- *Do you know about the animal welfare schemes?*

- *Have you ever been a member? If yes: Why and when do you quit? If no: Why not?*

- *Are you interested in becoming a member? Why/why not?*

- *Is a higher price of your products decisive for your willingness to engage more in animal welfare practices/become a scheme-member?*

## **SPECIFIC ANIMAL WELFARE REQUIREMENTS/MEASURES**

**A. Have you implemented the measures? B. Are they desirable? C. Are they feasible?**

### *FOR EGG PRODUCERS*

- *Different types of production systems: Cages, furnished cages, aviaries, free-range-floor, aviaries?*
- *Should beak trimming be allowed?*
- *Should there be more space per animal?*

### *FOR CHICKEN PRODUCERS*

- *Should there be more space per animal?*
- *Should there be a different breeding?*
- *Would perches be desirable?*

#### **CONTROL SYSTEM**

- *How often has your farm been inspected?*
- *What did the inspectors do?*
- *Is/was the control serious/tough?*
- *What are strengths and weaknesses of the control system? What would be improved?*

#### **KNOWLEDGE AND COUNSELLING**

- *How do you assess your knowledge on animal welfare?*
- *Do you know the actual animal welfare regulations in Norway and in the EU? Do you e.g. know future changes?*
- *Who informs you and advise you on animal welfare issues? With whom do you discuss animal welfare questions?*
- *To what extent do the veterinary influence your ideas and behaviour regarding animal welfare matters on the farm?*

#### **TRANSPORT AND ABATTOIR**

- *What is good animal welfare during transport?*
- *How do you evaluate the transport today?*
- *What could be improved and how?*
- *What is good animal welfare at the abattoir?*
- *How do you evaluate the animal welfare at the abattoirs today?*
- *What would be improved?*
- *Do you find it sad to send the animals for slaughter?*

#### **SOCIETY, MARKET AND CONSUMERS**

- *How do you think that poultry production is perceived by "society"?*
- *How do you think people perceive your production? (Neighbours, friends, other farmers etc.).*
- *How do you think that the consumers assess the animal welfare in the poultry sector?*
- *What do they want in your opinion?*
- *What is the role of the retailers?*
- *What is your opinion of animal welfare activists/organizations?*

#### **FUTURE, SUMMING UP**

- *Do you experience that there is an increased focus on animal welfare? What do you think about that?*
- *Why do you find a good animal welfare important for your own animals?*
- *Should the poultry sector between concerned about animal welfare? Why/why not?*

- *What should farmers and the farmers' organizations do to anticipate this increasing concern for animal welfare?*

- *How could consumers, government and others support farmers to produce more animal friendly?*

- *Has the avian flue affected your view upon animal welfare, or how the industry should handle animal welfare issues?*

- *Could you indicate how important the following matters are for your farm?*

*Animal health*

5 Very important 4 Important 3 Neutral 2 Unimportant 1 Very unimportant

*Animal welfare*

5 Very important 4 Important 3 Neutral 2 Unimportant 1 Very unimportant

*Economy*

5 Very important 4 Important 3 Neutral 2 Unimportant 1 Very unimportant

*Environment*

5 Very important 4 Important 3 Neutral 2 Unimportant 1 Very unimportant

*Food safety*

5 Very important 4 Important 3 Neutral 2 Unimportant 1 Very unimportant

*Why do you rank the matters this way?*

- **Which features are, according to you, the most important for animal welfare?**

(Indicate your top three: 1 = important, 3= less important)

- Lack of thirst and hunger
- Absence of injuries
- Absence of diseases
- Absence of pain
- The animals can express normal/natural social behaviour
- The animals can express normal natural other behaviour (e.g. play)
- Good human–animal interaction
- Lack of fear and stress
- Other things

*Why do you rank the features like this?*

- *Do you want to add anything or do you have any questions?*

## **BIOGRAPHICAL DATA**

- *Age*

- *Education beyond ground level*

- *None*
- *Senior high school/secondary?*
- *College/University, less than 3–4 years – bachelor level*
- *College/University, more than 3–4 years – master level*

- *Do you have agricultural education? If not, what type?*

- *Marital status: Married, co-habiter, single*

- *Number of children?*

- *Is the farmer full-time or part-time employed at the farm?*

- *Is the farmer interested in receiving information about the results?*

## Appendix III: Statistics of Norwegian poultry sector

Table A: Farm size Norwegian laying hen farms in 2004

	<2500	2500–7500	>7500	Total
Number of farms	1852	327	107	2285 (*)

Source: Production subsidy data base, 2005. (\*) The Norwegian statistics of registered producers does not differentiate between laying hen producers and producers with parent stocks of slaughter chicken and laying hens. The figure includes the very small producers, who are not operating for commercial purposes. In addition, among these, there is a small number of producers who also had chicken (27), and who were raising hens (142).

Table B: Number of farms and average number of hens per farm in different production systems in 2004.

	Cage system (Not enriched)	Enrichable cage systems (Innredbare bur)	Enriched cages (Innredde bur)	Aviary	Floor-system (not aviary)	Organic	Total
Number of farms	670	46	84	16	55	9	880 (*)
Average number of hens per farm	2985	3908	5429	7562	4820	5022	

Source: Memo from Fagsenteret for fjørfe, dated March 13th 2007. Fjørfe # 11/2005, p. 26.

(\*) The very small producers who are not running for commercial purposes are excluded.

Table C: Egg balance 2005 (in million kg)

Production	51
Import eggs and egg products	0.7
Export eggs and egg products	1.8
Available for consumption	49.9
Available per capita (Kg)	10.8 kg
Self-sufficiency	Approx. 100%

Source: Total Accounts for Norwegian agriculture (Totalkalkylen for jordbruket) by The Budget Committee for Norwegian Agriculture (Budsjettneimnda for jordbruket), NILF 2005.

Table D: Farm size Norwegian broiler farms in 2005

	<80.000	80.000–120.000	>120.000	Total
Number of farms	241	208	57	506

Source: Production subsidy data base, 2005..

Table E: Poultry meat balance 2005 (in 1.000 tonnes)

Gross domestic production	47 (a)
Live import	0
Live export	0
Production from slaughter	47
Import meat and meat products	0
Export meat and meat products	0.5
Available for consumption	47
Available per capita (kg)	10.6
Self-sufficiency	Approx. 100

Source: (a) Totalkalkylen, table 3.33. Exact number: 47 350 ton.



# Appendix IV: Comparison between producers of pig, cattle and poultry in the views on animal welfare.<sup>15</sup>

TOPICS	SAMPLE OF PIG PRODUCERS	SAMPLE OF CATTLE PRODUCERS	SAMPLE OF POULTRY PRODUCERS
Evaluation of national regulations	<p>Majority believe regulations ensure a good animal welfare if being properly adhered to.</p> <p>Minority think regulations are too strict.</p>	<p>Most farmers found regulations to be reasonable.</p> <p>Some ambivalence towards changes related to animal welfare regulation, due to great financial investments. Most changes are costly, and the farmers don't necessarily believe changes will improve animal welfare.</p>	<p>Approx. half evaluated the public regulation as predominantly reasonable and acceptable.</p> <p>The other half claimed regulations are problematic. Major problems: (1) High degree of unpredictability (particularly related to ban on cages) (2) Law makers' lack of practical knowledge about poultry farming.</p>
Farmers' knowledge of animal welfare and the national animal regulations	The greater majority evaluated their knowledge of animal welfare and animal welfare regulations as good	The greater majority evaluated their knowledge of animal welfare and animal welfare regulations as good	The greater majority evaluated their knowledge of animal welfare and animal welfare regulations as good
<p>Motivation for participating in schemes.</p> <p>Pros and cons of being a scheme member</p>	<p>KSL-producers participate not first and foremost due to their enthusiasm for the scheme as such, but because they are expected to participate by their abattoirs, and/or because financial incentives "force" them to do so.</p> <p>Major pros: Higher price received.</p> <p>Major cons: too much bureaucracy and too much paper work. Other problems: Rigid, unnecessary requirements, lack of effective sanctioning system.</p>	<p>KSL-producers participate not first and foremost due to their enthusiasm for the scheme as such, but because they are expected to participate by their abattoirs, and/or because financial incentives "force" them to do so.</p> <p>Major pros: increased information and overview, quality control, increased motivation, extra payment.</p> <p>Major cons: Extra work, don't see the point with it, increased bureaucratization, too little and poorly coordinated control.</p>	<p>KSL-producers participate not first and foremost due to their enthusiasm for the scheme as such, but because they are expected to participate by their abattoirs, and/or because financial incentives "force" them to do so.</p> <p>Half of the organic producers referred to better animal welfare as main reason for entering organic schemes.</p> <p>Major pros: increased information and overview, quality control, increased motivation to improve operations at own farm.</p> <p>Major cons: Extra "paper work", increased bureaucratization.</p>
<p>Motivation for implementing stricter requirements/development towards more schemes</p> <p>View on a development towards animal welfare schemes</p>	<p>Most producers sceptical towards such a development. Schemes seem to break with an established norm of equality because it creates an A-group and B-group of producers/goods. Important that <i>all</i> animals are treated well.</p> <p>A minority welcomed schemes and/or was positive to entering them. Major motivation: higher payment.</p>	<p>Would consider if not too much work, and if premium price sufficiently high. Motivation for entering schemes mentioned were better payment, better welfare for the animals, pride in their work, and increased motivation. Those who opposed, argued as follows: Public regulations are strict enough, might lead to more bureaucracy; consumers think only about prices; branding is negative; schemes will lead to an A-standard and B-standard for animal welfare.</p>	<p>The sample is divided. A large share was not interested. Major arguments: "it's fine as it is", "avoid unequal treatment of animals". Another share was interested. Major argument: "potentially extra income".</p>

<sup>15</sup> It should be noted that the comparison is done thematically, and not question-wise. The specific questions that were posed to the producers may have varied to some degree.

TOPICS	SAMPLE OF PIG PRODUCERS	SAMPLE OF CATTLE PRODUCERS	SAMPLE OF POULTRY PRODUCERS
Understanding of animal welfare	<p>Four components of their understanding.</p> <p>1) Suitable environment. Environmentally-based or resource-based</p> <p>2) Good care-taking. Practice-based.</p> <p>3) Good health and enough food and water. Bodily-based.</p> <p>3) Good animal welfare leads to good production. Economically based.</p> <p>Indicators of animal welfare: Not posed.</p>	<p>Referred to specific farming practices, as well as technical measures important to ensure animal welfare.</p> <p>Indicators of animal welfare are of two kinds: (a) They were partly animal-based, either by being related to morphological traits, the animals' behaviour, or to their production capacity, or (b) Based in farmers' practices or the environment of the animals. Peaceful animals, healthy, clean and shiny animals with good appetite were specific indicators often referred to.</p>	<p>Major aspects mentioned:</p> <p>-“Animal welfare is when the animals are fine”;</p> <p>-“Animal welfare is when certain actions are undertaken, and a certain environment is in place”.</p> <p>-“Animal welfare is when the animals produce”</p> <p>-“Animal welfare is when there is no contamination, illness and the hygiene is good”</p> <p>-“Animal welfare is when a certain relationship between farmer and animal is established”.</p> <p>-“Animal is when the animal is able to express its nature (natural behaviour, instincts, fulfil its natural needs, on the animals' premises)”.</p> <p>-“Animal welfare is when the animals are safe (from threats from other animals)”.</p> <p>Indicators of animal welfare:</p> <ul style="list-style-type: none"> <li>- Production/productivity-related</li> <li>- Activity-related</li> <li>- Related to animals' appearance</li> <li>- Related to animals immediate environment (cleanliness, light etc.)</li> </ul>
The animal welfare situation in Norway	According to most of the farmers the welfare situation is good on the whole, and also for their own animals	Most producers considered the welfare status in Norway as good on the whole, also for their own animals. The general problem most often referred to were the drive for efficiency, the poor economy and the shortage of time.	A major share considered the welfare status in Norway as generally good, also for their own animals. Another share generally positive to welfare status, but pointed to the challenges related to cages etc.
Relationship between farmer and animal	Different relationship to different animals. Distinctions were made between sows and fattening pigs, and sometimes between sows and cows/horses/pets. Most considered the relationship as good. Some reported a close relationship, others emphasize that their relationship is work-based	Most farmers characterized their relationship to the animals as good. Only a few characterized their relationship as professional. Around half of the producers name their animals, mostly the cows. Almost all believe animals have feelings, although their definitions of feelings varied.	Approx. half reported “no” or “unpersonal” relationship (“too many”, “stay at the farm at a short time only”). Many reported “good relation”.
Transport	Most farmers considered the animal welfare situation as good during transport. A minority was ambivalent. Most found the welfare situation during transport as the drivers' responsibility.	Most farmers found the transport of their animals to be good. They were content with the work of the driver. They experience that the transport cars are clean and fine. The aspect of greatest concern was the increased distances and time for transport due to fewer slaughterhouses.	Evaluated as problematic by many . Reasons: too cold temp, too long distance. Less than half thought the transport is fine, without significant problems.
Slaughter house	Most farmers believed that the welfare situation is good in the slaughter houses. A minority was ambivalent.	The producers were not very knowledgeable about the animal welfare situation at the slaughterhouse. Many reported that they did not know whether the animal welfare situation was good, nor could they suggest any area of improvement. However, most producers said they believed that the animal welfare situation is good at the slaughterhouse.	A large part assumed that animal welfare situation at abattoir was fine. A minority was more sceptical.

TOPICS	SAMPLE OF PIG PRODUCERS	SAMPLE OF CATTLE PRODUCERS	SAMPLE OF POULTRY PRODUCERS
Consumers	<p>Many held that consumers have limited and biased knowledge, partly due to media focusing solely on negative welfare aspects.</p> <p>Some held that consumers are concerned about animal welfare only when they read about animals' suffering in media, and ignore AW-issues when buying food. However, almost just as many said they believed that consumers are indeed concerned about animal welfare.</p> <p>Some reported they believed that consumers trust Norwegian pig production industry. No one reported the opposite.</p> <p>The farmers were split in their opinion on whether they thought an animal welfare brand would sell or not.</p>	<p>Most producers thought that the public generally trust and have a good impression of the cattle sector.</p> <p>In order to meet higher demands and interest in animal welfare, the producers mentioned the following points: maintain a good animal welfare, to follow the regulations and to be open and inform about the production, for example through having "open farms".</p> <p>Society can help the farmers to produce animal friendly by providing good economic conditions, either through buying Norwegian and pay the price it costs, or through increased governmental support. Moral support was also mentioned.</p>	<p>Assume that consumers lack knowledge about farming. Not very interested in animal welfare.</p> <p>Predominantly interested in product prices. Acknowledge that many consumers are sceptical of cage-production.</p>
Retailer chains	<p>Most farmers portrayed the retailer chains as either profit-maximizing (only caring about profit, not about animal welfare), or powerful.</p>	<p>The producers' relationship to the retailer chains can be described as distanced and as partly sceptical, partly distrusting. According to the producers, retailers only care about making money.</p>	<p>Assumed to be generally uninterested in animal welfare issues. Might be sensitive and react to potential demands from customers on animal-friendly products. Retailers are not expected to be proactive when it comes to animal welfare.</p>
Animal welfare organizations	<p>Most farmers were negative to animal welfare organizations, referring partly to their methods, and partly to their lack of knowledge or other aspects which indicates that there might be differences in the two groups' approach to animal welfare. Quite many referred to actions towards the fur industry when referring to the animal welfare organizations.</p>	<p>Quite many were mainly negative to the organizations, mainly pointing to their lack of knowledge and extreme methods by e.g. letting mink out. However, there were just as many farmers who did see the animal welfare organizations' role in society as a watchdog and as agenda setter, and which partly agreed with them in some instances, but which also reacted to their methods.</p>	<p>Quite many acknowledge that serious (not extreme) activists have a role to play as "watch-dogs". A large share was mainly negative to activists.</p>