

Designing animal welfare policies and monitoring progress

LJ Keeling^{*†}, V Immink[‡], C Hubbard[§], G Garrod[§], SA Edwards[§] and P Ingenbleek[‡]

[†] Department of Animal Environment and Health, Swedish University of Agricultural Sciences, Box 7068, SE750 07 Uppsala, Sweden

[‡] Agricultural Economics Research Institute, Wageningen University and Research Centre, Hollandseweg 1, 6706 KN Wageningen, The Netherlands

[§] Centre for Rural Economy, Newcastle University, Newcastle-upon-Tyne NE1 7RU, UK

* Contact for correspondence and requests for reprints: Linda.Keeling@slu.se

Abstract

A single solution to promote higher animal welfare across the whole EU is unlikely due to significant regional differences and because what is most appropriate for each region depends on many factors. Based on analyses of eight member and candidate EU countries, this paper provides a conceptual framework, an 'animal welfare roadmap', which can be used to assess the stage of maturity of a country in farm animal welfare policy development and identify appropriate policy instruments and indicators to monitor progress towards higher animal welfare. The 'roadmap' consists of five sequential stages: increasing compliance with legislation; raising awareness; product development; mainstreaming; and integration of animal welfare with other issues. For each stage, specific policy instruments are identified alongside the category of stakeholders most likely to be influential in the implementation of each instrument. The policy instruments used to achieve these stages are those used by government departments/agencies, private enterprises, academic bodies or non-governmental organisations who formulate standards for animal welfare. These are supported by indicators best suited to document their effectiveness. Although we have emphasised how different situations and contexts within the EU mean that there is no single optimal policy instrument for the EU as a whole, but rather appropriate policy instruments should be selected according to the stage of development of a country or sector, we do propose a harmonised choice of indicators to allow benchmarking of changes at the EU level with regard to progress towards animal welfare.

Keywords: animal-based measures, animal welfare, animal welfare assessment, policy, policy indicators, policy instruments

Introduction

McInerney (2004) was among the first to discuss in detail the issue of how to define appropriate animal welfare policy objectives. More recently, the Farm Animal Welfare Council of the UK listed the relative strengths and weaknesses of different types of government intervention (FAWC 2008) and there has been considerable work related to animal welfare policy since (see Bennett & Appleby 2010; Vapnek & Chapman 2010 for overviews). Examples of the types of instruments to promote good animal welfare discussed in the literature include legislation, capacity building, labelling, cross-compliance, information and education programmes. However, despite some recent attempts by academics and policy-makers to present different policy instruments to improve animal welfare across the EU, rarely is it taken into account that specific instruments and/or indicators are better suited to some conditions and situations than others.

EU member states differ widely in their stage of economic and market development, geographical conditions that influence the farming systems and in their cultural attitudes to animal

welfare (Evans & Miele 2008). Hence, this diversity generates differences not only in the nature of the social debate on farm animal welfare but on how various policy instruments to improve animal welfare should be implemented. For example, farm animals may enjoy good standards of care in a country where there is little or no discussion about welfare *per se*, but where traditional management methods already promote good health and permit a high degree of behavioural freedom. The reverse may also be true. In some countries there may be much discussion about animal welfare, but no or few policies in place to improve it. Although the issues are usually linked, the relationship between maturity in animal welfare policy-making and animal welfare *per se* is not necessarily linear and different indicators are required to monitor development. The word 'maturity' is used to reflect the degree of insight into animal welfare as an 'issue' or 'topic of debate' in a country and so too its stage of development in animal welfare policy.

Based on the results from two previous analyses which help to determine this 'maturity' in different European countries, this paper develops a conceptual framework by which any country can classify itself in terms of its maturity in the

animal welfare policy debate and, by so doing, identify appropriate animal welfare policy instruments to make further progress in this area. This paper therefore firstly summarises the findings from these two previous studies involving a representative sample of European countries. It then explains how a pattern emerged from this country analysis that led us to propose a roadmap of animal welfare policy development. The different steps of this roadmap are next discussed in more detail and, at the end of the paper, the countries in this study are mapped on it. This last step is intended to illustrate how the roadmap may be used in the future to help other countries identify their stage of maturity in animal welfare policy development, and thus which policy instruments and indicators may be most appropriate for them in their move towards higher animal welfare.

The methods that form the basis of this paper have already been reported elsewhere (Immink 2010; Hubbard *et al* 2011a,b; Ingenbleek *et al* 2012) and so are only presented briefly here. Data were collected as part of an EU-funded project (EconWelfare) investigating socio-economic aspects of farm animal welfare. The overall objective of the project was to identify approaches by which national and European policy-makers might further improve farm animal welfare. There were eight European countries (Germany, Italy, The Netherlands, Poland, Spain, Sweden, and the UK) and one candidate country (Macedonia) involved in the project, although people from other European countries have also contributed through direct feedback or participation in various meetings where earlier work was presented and discussed.

Identification of suitable policy instruments for improving farm animal welfare started by a mapping of countries through a SWOT (Strengths Weaknesses, Opportunities and Threats) analysis (Jain 1997), based on inductive exploratory research using literature, expert opinions, stakeholder workshops, and feedback on presentations of initial results (Immink *et al* 2010). The second step was a Policy Delphi exercise (Turoff 1970) which determined the perceptions of importance of a selection of policy objectives, the importance and effectiveness of a selection of policy instruments, and of measures that might assess the relative effectiveness of the policy instruments in delivering the animal welfare policy objectives (Hubbard & Garrod 2011). Almost 200 experts from eight countries, covering five different categories of stakeholders, took part in this exercise. Only the main findings analysed by each country are presented here.

By comparing the quantitative results from the Delphi exercise with the qualitative findings from the SWOT analysis, the robustness of the country analysis regarding policy objectives, policy instruments and indicators perceived as best suited to improve animal welfare is increased. A summary of the main findings for each country is presented in the following section. The country analysis then paved the way for the final phase, a lifecycle analysis, whereby each country was classified according to five sequential stages (ie increasing compliance with legislation, raising awareness, product development, mainstreaming and integration of animal welfare with other issues)

reflecting the maturity of animal welfare policy development. Each of these five steps is explained in detail.

This framework was presented to an invited group of EU stakeholders and further refined into a decision-making tool that can be used by EU animal welfare policy-makers and also applied in diverse countries and regional contexts. The most appropriate policy instruments for further progress were then linked to each of the five sequential stages identified above, and to the category of stakeholders likely to be most influential in the implementation of these instruments, to produce the animal welfare roadmap, for the development of animal welfare policy, which is the main part of the paper. In the final section, indicators to monitor the level of success of each proposed instrument in achieving its objective are presented.

Country analysis

Mapping of countries

A figure was constructed to illustrate existing knowledge (eg Roex & Miele 2009) and therefore support discussion on the differences between the countries in our study (Figure 1). The y-axis represents how stakeholders in a country *perceive* the level and importance of the welfare of animals in their country. Generally, stakeholders from Sweden, The Netherlands, Germany and the UK have a higher perception of, and seem to be more concerned about, the level of animal welfare than those from Spain, Italy, Macedonia and Poland. The x-axis indicates how the upward pressure to improve animal welfare is created. That is to say, it is either publicly organised, with large government involvement, or more liberal and market steered. The extremes of this axis therefore are complete legislative control of animal welfare or complete free market control. In some countries, eg the UK and The Netherlands, animal welfare and compliance with standards is more strongly driven through market forces. This contrasts with Sweden and Macedonia, where the upward pressure for improved animal welfare comes almost solely through (governmental) legislation. When the countries in our study are mapped onto the axes, Figure 1 also shows clearly what room for manoeuvre different countries have in order to improve animal welfare.

Views on policy objectives and instruments by country

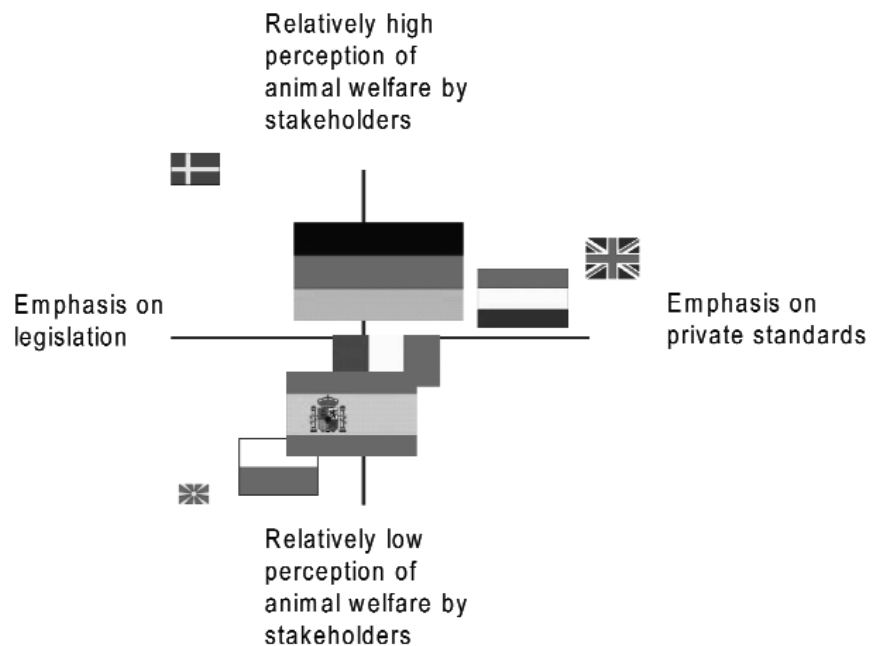
In the following section, experts' views and country-specific comments related to policy objectives and potential policy instruments to achieve the objectives are summarised. They are presented separately as arising from each of the two previous studies, the SWOT and the Delphi, to highlight similarities and differences between them. For ease of understanding, the countries have been ordered here according to how they were ultimately placed on the animal welfare roadmap.

Macedonia

As an official candidate country to the EU, Macedonia has yet to adopt and implement EU animal welfare legislation. In some sectors, legal requirements/standards are below the EU level (less animal welfare-friendly), whereas in others

Figure 1

Relative animal welfare levels and source of upward pressure to improve welfare as perceived by stakeholders from each country. The size of the flags shows the relative size of the livestock production based on pig and broiler production for each country. From top to bottom: Sweden, Germany, the UK, The Netherlands, Italy, Spain, Poland, Macedonia (from: Immink *et al* 2010).



these are equivalent to or above standards required by the EU (more animal welfare-friendly). For example, for laying hens, the existing legislation is slightly below the EU level. However, the veterinary service is well-informed and there is sufficient capital to fund extension officers to upgrade standards to the EU level, if such a raising of standards is decided upon by the government. Suggested policy instruments therefore focus on sharing good practice among producers and it may be worth exploring subsidy arrangements (farm support) to facilitate compliance with regulation. In contrast, welfare regulations in the pork and dairy sectors are already similar to those in the EU. There is, however, little awareness of animal welfare among consumers to drive market demand, suggesting that one of the main policy objectives should be to improve this situation. This could be achieved through government intervention, assisted by any NGOs that have the capacity to undertake such activities. For the lamb sector, legislation was judged by experts in this country to be higher than the EU. Anticipating increased competition from other countries that do not have to produce to these higher standards, after Macedonia has joined the EU, it was suggested that it may be worthwhile investigating opportunities to market Macedonian lamb to EU partners as traditionally reared and welfare-friendly. That is to say, for Macedonia worthwhile policy directions are to seek market opportunities for products produced to higher standards of animal welfare and to stimulate demand for animal welfare-friendly products by raising awareness among consumers.

The results of the Delphi exercise carried out in Macedonia reinforce these findings. Increasing public awareness of animal welfare issues was seen as the most important policy

objective, followed by improved education and information both for the public and chain actors such as farmers, transporters, slaughterhouses etc. Stakeholders had preferences for policy instruments supporting these objectives but also favoured promoting relevant research and development in this area. In general, increasing animal welfare was perceived as an opportunity that comes with EU membership.

Poland

In Poland, the literature and interviews with stakeholders implied that the major livestock sectors (poultry, pigs and dairy farming) have already implemented EU legislation and it seems most modern farms comply. While the domestic market remains dominant, a substantial amount of Polish production is exported, creating opportunities to increase standards in order to comply with third-party demands for animal welfare-friendly production (eg from Germany and the UK). Nevertheless, a lack of awareness about animal welfare issues in domestic consumers remains a key issue for all three livestock sectors. This suggests that stimulating demand for more animal welfare-friendly products by raising awareness among consumers would be the most worthwhile policy direction.

The results of the Delphi exercise showed that stakeholders agreed that improving public awareness was an important policy objective, as was educating chain actors and improving standards on-farm and off-farm (during transport, at markets or slaughterhouses). A difference from most other countries was the preference for incentive schemes as a way of improving standards. This might imply that adoption of EU standards is not yet considered complete and that additional funding and enforcement are necessary.

Spain

In Spain, most sectors face legislation that is comparable to the rest of the EU and some sectors are adapting to new legislation, but the SWOT analysis led to the conclusion that regional differences in legislation mean that there are still some opportunities to improve standards for specific sectors or systems. Since the majority of Spanish production is consumed on the domestic market, and most consumers are unaware of animal welfare issues, the analysis indicated that public education and information should be the main focus of policy-makers in Spain. This suggests that stimulating demand for more animal welfare-friendly products by raising awareness among consumers would be the most worthwhile policy direction.

The diversity of regional products in Spain may also explain why stakeholders in the Delphi exercise emphasised the importance of better education within the chain and the need to provide better education and information on animal welfare standards to the public. Promoting relevant research and development was considered very important in achieving these objectives, although in keeping with most other countries, education-based initiatives for the public and chain actors were also considered important.

Italy

In Italy, legislation in each of the major sectors is similar to the EU norm. However, the pig sector is still in the process of adapting to the new legal requirements that will be put in place by January 2013, so there may be issues of potential non-compliance in the future. Some stakeholders suggested that this could be mitigated by the fact that appropriate monitoring systems are in place, supported by sufficient levels of professional expertise on animal welfare issues and an institutional awareness of non-compliance. Most Italian pork is consumed in Italy itself, and many consumers (especially those in urban areas in the north) are aware of the animal welfare problems related to intensive pork production. This suggests the existence of a latent demand for animal welfare-friendly products in the pork sector. However, other than organic products, the market offers no differentiated products that are produced to a standard that is higher than the legal requirement. Thus, future policy instruments should focus on the development of such products by coalitions of commercial organisations and NGOs.

There is a different situation for the Italian dairy sector, where there is a general lack of consumer awareness related to welfare issues. Before animal welfare-friendly dairy products are developed, therefore, it was suggested that policy should focus on creating awareness among consumers about welfare issues in dairy farming. This is an area where animal-interest groups could be helpful. Overall, the results of the study suggested that stimulating demand for animal welfare-friendly products by raising awareness among consumers, as well as developing new products to exploit unmet demand, would be the most worthwhile policy directions.

In Italy, stakeholders in the Delphi exercise deemed most of the policy objectives to be important. This may reflect an optimism that most directions are worthy of development,

or that there are large differences between the sectors, meaning that different pathways are needed by different industries. The strongest preferences were for providing better education and information on welfare issues to chain actors and consumers. This was supported by stakeholder preferences for education and training initiatives and backing for labelling schemes.

Germany

In Germany, the legislation in the major livestock sectors is similar to the EU norm, although in the poultry sector some additional measures have been implemented. In this sector, the most important bottleneck is the current gap between certain organic products that are expensive and attract a small but loyal segment of consumers, and the much larger segment of consumers who opt for cheaper mainstream products. Development of new animal welfare-friendly products at different price levels is therefore a logical policy direction. This would reflect what is happening in the pig sector, where consumers are aware of animal welfare problems and products are available that cater for the demand that this awareness creates. However, these animal welfare-friendly products are not widely available (partly due to the high market share of discount food retailers). It was suggested that more pressure on retailers to include these products is required along with the development of new animal-friendly products at lower prices. In the dairy sector (the second largest sector in Germany after the pig sector), consumers are often unaware of animal welfare issues, suggesting a need for better education in this area. In summary, this suggests that creating awareness of farm animal welfare issues in sectors where little awareness exists (eg dairy/beef), increasing the availability of existing welfare-friendly products, and developing new products to exploit any unmet demand for reasonably priced animal welfare-friendly products would be the most worthwhile policy directions in Germany.

From the results of the Delphi exercise, it was perhaps most noticeable that, compared to most other countries, the main stakeholders in Germany were much less positive about action to improve public education on standards or on improving consumer trust and confidence in animal welfare products. This is only partly in keeping with the views of the experts, according to the SWOT analysis reported above. While still positive about improving public awareness through better labelling and education, stakeholders' main preferences seemed to be for improving on-farm standards through improved regulation, supported by incentives where appropriate, and underpinned by relevant research and development; all in keeping with a less market-oriented tradition.

The Netherlands

In The Netherlands, legislation is on a par with the rest of the EU and there is evidence of market-awareness with the associated availability of animal welfare-friendly products. According to the experts, however, there is some untapped potential willingness to pay for better welfare products in the

market. In addition to the highly conscious consumers who represent a loyal market for organic produce, demand is increasing for cheaper products that are nevertheless linked to higher standards of animal welfare. Development of these products was suggested therefore to be the main policy objective. This pertains not only to developing products for the domestic market, but also for Germany, the major export market. In addition, the experts stressed that some sectors, eg the pig sector, have widespread problems with compliance. Improved enforcement is likely to solve these problems. The results of the SWOT study therefore suggest that creating public awareness about welfare issues in sectors where little awareness currently exists, developing new products to exploit any unmet demand for animal welfare-friendly products and to start mainstreaming these products where possible would be the most worthwhile policy directions.

The results from the Delphi exercise support the discussion above, with Dutch stakeholders highlighting the importance of developing new markets and increasing the market share for existing animal welfare-friendly products. This should be supported by an improvement in off-farm, rather than on-farm standards. The Netherlands was unique among the eight countries involved in this study in this perspective. The most effective ways to achieve this objective were seen to be private regulatory schemes and labelling, linked to third-party inspection.

Sweden

In Sweden, the experts argued that their legal standards for dairy are higher than the EU norm. As these standards do not currently have a negative impact on competitiveness, this provides potential to investigate whether the products can be marketed as especially animal welfare-friendly, either in the domestic market or abroad. Problems with competitiveness do, however, exist in the pig sector. Possibilities to transfer the existing above-EU standards to a private standards scheme are limited because supermarkets seem to focus increasingly on cheaper imported products, eg from Denmark. One policy option therefore would be to export more pork products and market them as animal welfare-friendly. This would take time and success is uncertain. Since it also seems unlikely that the rest of the EU would implement equivalent standards to Sweden, the only remaining options are to explore the possibility of farmers being compensated for the costs of production or, alternatively, to weaken current legislation. For laying hens, EU legislation enforcing the ban on conventional battery cages has recently come into effect making Swedish legislation similar to the EU. Organic eggs are available, but generally unpopular due to their high price. Developing new products that exploit the unmet demand for reasonably priced animal welfare-friendly products, raising awareness among consumers of their potential market power and implementing a national stakeholder discussion about the future of the pork industry are suggested from the findings of the SWOT study to be the most worthwhile policy directions.

The Delphi results show that, unlike their Dutch counterparts, Swedish stakeholders have a low preference for

market-oriented policy objectives. The Swedish experts also placed a relatively low emphasis on providing better information on animal welfare standards to the public or on improving consumer confidence in animal welfare products. In contrast, there was a strong preference for improving public awareness of farm animal welfare issues and for work to improve both on- and off-farm standards.

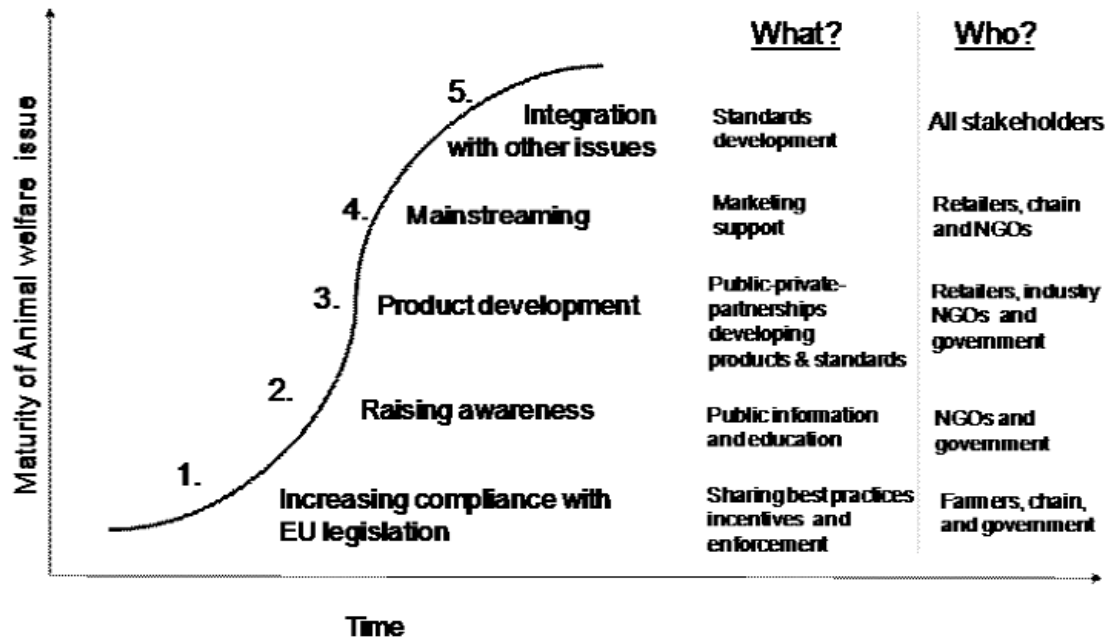
Sweden was one of the countries with the greatest variation in scores between the different policy objectives, according to the Delphi, which may reflect a mature debate on animal welfare with considerable agreement between stakeholders on the most and least preferred ways forward. However, animal welfare policies seem stuck between the fact that the EU market is increasingly influencing the behaviour of consumers (who are price sensitive) and supermarkets (importing cheaper products) on the one hand, and the unwillingness of society to develop a market-based response to these developments on the other hand. The preferred instruments according to the Delphi were related to labelling schemes, education and training for chain actors and research, with industry-based initiatives or incentive schemes being the least preferred options for most policy objectives.

The United Kingdom

Legislation in the UK is comparable to the EU, with the notable exception of the early adoption of loose housing for gestating sows. Its long-standing tradition in promoting animal welfare has meant that the UK has been able to remove most of the potential societal and market barriers to improved animal welfare. Most animals are produced under private farm assurance schemes with third-party accreditation. The UK even has several retailers (eg Marks & Spencer) that use more animal welfare-friendly products as the default option in their ranges (eg as store brands rather than as premium-priced ethical alternatives). This potential is, however, not yet fully exploited elsewhere and results of the SWOT study suggest that policy attention should therefore focus on promoting retailers who set a good example, highlighting the fact that not all retailers have adopted similar practices. As an additional instrument, that anticipates a trend of consumer fatigue about animal welfare, the issue may be integrated with other issues. This suggests that mainstreaming animal welfare-friendly products and integrating animal welfare with other issues (eg environment) would be the most worthwhile policy directions.

Uniquely, among the eight countries studied, the UK showed the strongest preferences for policy objectives that improved both on- and off-farm standards in the Delphi exercise, probably reflecting the progress that has already been made in terms of consumer understanding and awareness. While education of chain actors was an important instrument to achieve both these aims, research and development was also regarded as an effective instrument to improve on-farm standards. Private and government regulatory schemes were seen as the preferred ways to improve off-farm standards.

Figure 2



Proposed improvement in animal welfare over time with the various steps in animal welfare policy ordered to reflect maturity in the animal welfare debate.

The roadmap for development of animal welfare policy

Taken together, the findings summarised in the previous section suggested five steps in developing animal welfare that countries seem to have to pass through on their way to achieving higher animal welfare. These insights are limited to the current EU environment in which major improvements in animal welfare should be achieved through the market (*cf* Ingenbleek *et al* 2011). Each of these steps (1–5) can be considered as a policy objective and are portrayed in the form of a lifecycle (Figure 2). Time is on the x-axis whereas the y-axis indicates the level of animal welfare policy development, ie maturity.

As previously mentioned, the relationship between animal welfare policy and the welfare of animals *per se* is not linear and no information on the actual impact of each step on animal welfare (from the animal's perspective) is available. Some steps may also be considered as boundary conditions to the next steps, without having much direct impact on the welfare of the animals, although every new step builds upon the previous steps. For example, sharing good practices and compliance with legislation remain important even when policies become more focused on market development, such as raising awareness and developing products. Thus, the more policy-advanced (mature) countries are, the greater the range of different animal welfare policies and instruments in place. The figure can, therefore, be considered as a form of 'roadmap' or 'road for development'

towards higher levels of animal welfare. The two columns to the right hand side of Figure 2 show which policy instrument is associated with which step and the stakeholders most likely to be influential in its implementation.

The five different steps (policy objectives) in the lifecycle are discussed in more detail in the following sections.

Increasing compliance with EU legislation

The first step in the development of animal welfare is to comply with the legal minimum requirements. Policy options at this stage need simultaneously both to stimulate and enforce (ie both carrot and stick approaches are needed). As such, the appropriate infrastructure should be in place for sharing best practices related to the standards among farmers themselves, as well as incentives for farmers and other chain members to whom the legal standards apply. Key actors to implement these policy options to stimulate development are therefore the farmers and other chain members. At the same time, another key actor is the government who should be enforcing compliance with the legislation. This requires the necessary infrastructure of animal welfare inspectors, veterinary services etc.

Raising awareness

Once sectors comply with legal standards, or at least there is no systematic non-compliance, the road to further develop animal welfare is to go above legal requirements. This decision may need further explanation. In the current international economic and political climate, the possibil-

ities to prevent imports of products produced with animal welfare standards lower than those required in the EU are limited. In addition, one might argue that people should have the freedom of choice to decide which animal products to buy. The choice may be influenced by price alone, which may apply particularly to people living on low incomes and for whom cheap meat, eggs and dairy contribute to their own welfare. But the choice may also be influenced by attributes of the product itself or issues related to how it was produced. Above-legal standards can only be implemented voluntarily by farmers and other chain actors. Implementation of higher standards can nevertheless be used to strengthen competitiveness, for example by targeting market segments of consumers that demand products with higher standards. This can, however, only work if there is sufficient awareness among consumers to generate this demand.

Awareness has two different elements. First, it refers to citizens being aware about problems with animal welfare, ie the fact that legislation may not be sufficient to ensure that animal welfare is in accordance with the norms that prevail in society at large or to their own value judgements regarding animal welfare. Second, it refers to consumers being aware that through their purchasing decisions they can actually improve animal welfare. In most countries, these are closely linked and every purchase is also a vote. However, in Sweden, the results indicated that although people were aware about problems with animal welfare, there was little awareness that legal requirements alone may not be effective to deal with these issues. Nor was there much awareness that consumers were able to contribute to the solutions by their purchasing decisions. Emphasis appeared to be on behaving as a citizen and voting to improve animal welfare, rather than on being a consumer driving improvements in animal welfare. This was unique among the countries included in this study, although other work suggests that Norway may also have a similar view (Kjaenes & Lavik 2008).

Increasing awareness (of individual citizens and consumers) can be achieved through public education and information about animal welfare and consumer power. Although governments may have a role in educating the public, they are expected to govern the interests of all stakeholders and not only those of the animal. Companies, on the other hand, may only help to raise awareness if it fits their marketing strategies. NGOs, such as animal welfare groups, may therefore be more effective in communicating to the public. This requires however that these groups are sufficiently large and professional to fulfil that task. If they are not, governments may provide some support to help them in this role. The first European Conference on Education in Animal Welfare (European Commission 2010) reflects the growing interest throughout Europe in this issue.

Product development

Once awareness is present, there is a latent demand for more animal welfare-friendly products. The next step is therefore to ensure that such products are available on the market to allow consumers to exercise this demand. As the willingness to pay of consumers may differ for different segments of the market, it probably requires multiple products, priced at different levels (eg Monroe 2003; Lagerkvist & Hess 2010). In countries such as the UK and also partly in Germany, there has already been considerable differentiation between private standards on how far above legal requirements they extend or which welfare issues they prioritise. This gives consumers a greater possibility to integrate their personal values on animal welfare into their purchasing decision. The very fact that there is a range of products available on the market may also contribute to raising awareness.

To make the claims of the products trustworthy, involvement and approval of an independent control body is necessary. A preference for independent auditing, rather than industry-based initiatives without third-party checks, was very strong in the policy Delphi (Hubbard *et al* 2011a). In countries where NGOs traditionally fulfil the role of critic towards the practices of the agri-food industry, collaboration in the form of public-private partnerships or commercial-NGO partnerships, with government playing a facilitating role, may be an approach. NGOs can also develop their own (private) label for products meeting defined standards, as has already happened in the UK and The Netherlands, ie countries with the most highly developed markets for animal welfare (Figure 1). A public (animal welfare) label with independent auditing could fulfil a similar role (European Commission 2009). Furthermore, standards-developing partnerships can use both a private and a public label. For example, in countries where animal welfare is an indirect or secondary motive for consumers, the relationship between animal welfare and other cues, such as quality labels or region-of-origin labels, might be strengthened.

Mainstreaming

When higher animal welfare-friendly products are available on the market, the next steps to improve animal welfare are by increasing their market share. In this way, more animals benefit from the raised standards, even if the standards themselves remain the same. Large chains will play an important role in this step through their market share (Schmid & Kilchsperger 2011). Marketing support may help to increase the market share, for example by making animal welfare-friendly products a default option for a retailer's premium brand or even the norm for the basic store brand. As long as animal welfare is an important issue for consumers, they are likely to reward these companies with higher reputations (that may translate into more purchases and a greater willingness to pay). This also means that there is an incentive for these companies to raise their standards from time-to-time, in order to maintain their good

reputations and so their lead over their competitors. To keep this process going, NGOs should make sure that the animal welfare issue remains on the agenda of consumers. Companies that are behind in the process are ‘shamed’ and those that are forerunners are ‘named’.

Integration of animal welfare with other issues

Over time, a *status quo* will probably be reached, related to the level of interest in purchasing animal welfare-friendly products. At this point there is also the risk of consumers becoming ‘tired’ of animal welfare and they may start to focus their attention on other issues of concern eg climate change. So-called ‘consumer fatigue’ occurs, as may be starting in the UK. Unless external events awaken interest again and raise it to new levels of consumer demand, stakeholders can prevent sales of higher animal welfare products from decreasing, by ensuring it goes only ‘out of sight’. This can be achieved by integrating it with other issues in standards that cover a broader domain than animal welfare, for example, broader standards incorporating animal welfare with environmental sustainability, human health (eg reduced use of antibiotics) and fair-trade (eg linking it to human welfare). All stakeholders involved in formulating standards are likely to be part of this process. Combining issues may even lead to an increase in the total sales of animal welfare-friendly products as they are now purchased by additional categories of consumers. It may also allow producers and supply-chain actors to compensate between costs within this package of added values.

Extensions to the lifecycle

Once voluntary higher animal welfare standards are so widespread that they are a part of mainstream products and integrated with other issues, it would be easy to incorporate them into legislation, since the majority of animals are produced to these higher standards anyway. In this case, the lifecycle curve effectively starts again, since now there is a need to increase compliance with the new legislation, raise awareness even more and so on (Van Tulder & van der Zwart 2006).

Whereas most of the countries included in this study are relatively easy to place on the roadmap (see Figure 3), Sweden challenges the model and it is left off the map in this first version. Sweden raised its legislation above the EU level in 1988, long before becoming an EU member state, and to-date it is still perceived as having a relatively high level of animal welfare compared to other EU countries. This position was, however, achieved without apparently going through the stages of product development and mainstreaming. Thus, it could be argued that Sweden is now on its second ‘lifecycle’, having effectively developed only one product during the time that it could prevent imports — a Swedish product — that integrates animal welfare with other ethically important issues. On the other hand, it could be argued equally well that, given its closed market, Sweden just stayed at step 2, raising awareness and legislation without the need to move to the next step. Whatever view is taken, both the findings from the country mapping (Immink *et al* 2010) and the Delphi exercises (Hubbard *et al* 2011a) suggest that Sweden is currently between steps 2 and 3 in Figure 2, ie is

creating awareness among people that they should ‘vote’ for high animal welfare not only during elections, but also when shopping. If Sweden aims to keep its high level of animal welfare while being a part of the EU common market, it should rapidly raise awareness among consumers that animal welfare is influenced by their purchase decisions, and marketing initiatives should be developed regarding product development and mainstreaming. If this does not happen, farmers and companies in the animal-based production chain may be squeezed between the high levels of legislation in their own country and cheaper imports from other countries with lower legislation. As such, now that Sweden is part of a common market, its higher legislation solution is difficult to sustain. The challenge to the model posed by Sweden, as to whether there needs to be an extension to the lifecycle, implies that it may be difficult to place on the roadmap other countries which also have high animal welfare standards and restrict access to their markets, eg Norway and Switzerland. It is a potential limitation to the model that the roadmap may not be suitable for all countries, but specific countries that follow the EU approach.

Indicators

As explained previously, policy instruments are needed to achieve each of the steps in the animal welfare roadmap and different categories of stakeholders are involved according to which instruments are selected. Indicators are also needed to monitor the level of success of each instrument in achieving its objective. Since there is one policy objective for each step, the same indicator can be used to follow the extent to which each objective is met, irrespective of the policy instrument chosen. The indicators presented here are those preferred in the Delphi exercise (Hubbard & Garrod 2011).

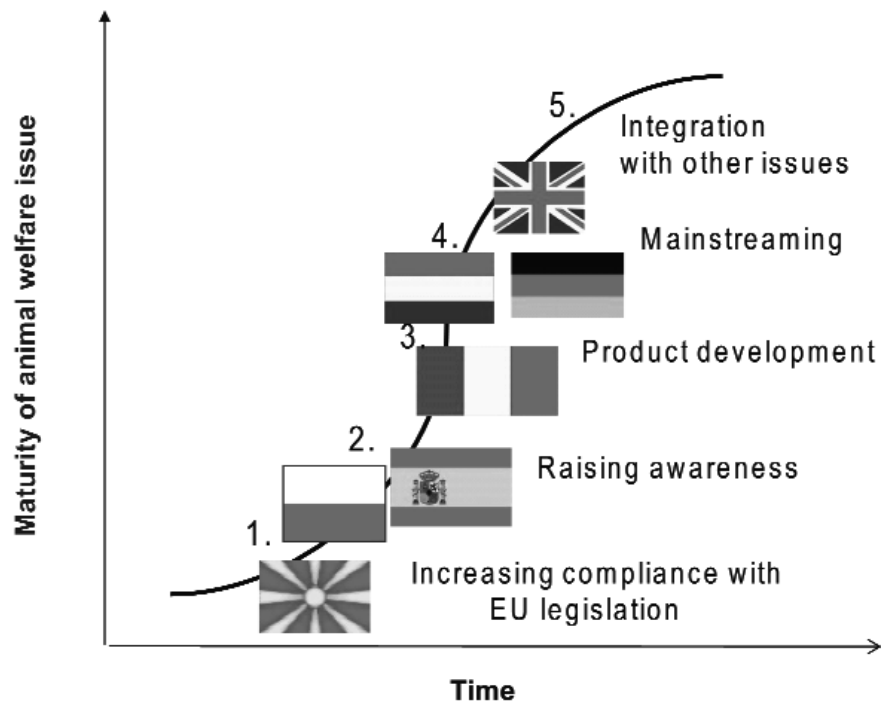
Within a county or sector one can easily imagine the benefits of benchmarking indicators to track changes over time and also to facilitate fine tuning of each instrument, so that it is as effective as possible. In this paper, we have argued that there are five steps on the road to higher animal welfare and that these are common to all countries and sectors. One can also envisage the benefits of monitoring at least one indicator for each of these five steps to compare countries and/or sectors within the EU as a whole. Such a harmonised approach would allow benchmarking of changes at the EU level with regard to progress towards improved animal welfare.

Based on the Delphi exercise, the following section explores how appropriate and effective specific indicators are (within five broad categories of indicators) for evaluating changes in the level of farm animal welfare. It links them to the five steps on the animal welfare roadmap for policy development. The five different categories of indicators are: animal-based; farm-level; supply chain; society-based; and institutional indicators (Hubbard *et al* 2011b). The more similar the views across countries and stakeholder categories, the easier it would presumably be to agree upon and to implement such an indicator.

The first step in the lifecycle is increasing compliance with EU legislation. Monitoring of the extent to which there is

Figure 3

'Animal welfare roadmap' lifecycle with the probable location of seven countries.



compliance requires institutional indicators and the most effective (according to the Policy Delphi) were 'levels of monitoring of welfare standards/compliance' and 'levels of detection of non-compliance to regulations'. All countries and all categories of stakeholder were positive to these indicators. Although the particular details of the indicator would need to be agreed upon and developed, one can envisage some form of harmonised measure related to number (or proportion) of farms visited each year. Some relevant information is already included in the EU Single Payment System (cross-compliance) of conditions for animal welfare which could be used as a basis from which to develop this indicator. For example, one could potentially supplement this 'levels of monitoring' indicator with harmonised information on the outcome of the visit, so addressing the 'levels of detection of non-compliance'. Countries less well developed (less mature) in animal welfare policy, such as Macedonia, Poland and Spain, also scored high in the Delphi exercise for 'the number of state-provided educational/training initiatives for chain actors (including farmers)' and 'the amount of public money spent on research and development initiatives', which fits well with the need both to enforce and stimulate compliance.

The second step on the roadmap is raising awareness and the most preferred societal (citizen/consumer) indicators were 'changes in expenditure on enhanced welfare products' and 'changes in awareness of animal welfare issues'. While the countries having a less well developed animal welfare policy (Macedonia, Poland and Spain), rated

these as rather similar in their effectiveness, those countries with better developed animal welfare policy (Sweden, Germany and the UK) all rated changes in expenditure as the much more effective measure. Again, this fits with the earlier argument about the need to build awareness both when people are acting as citizens and when they are acting as consumers. There are already several large surveys related to awareness, eg Harper and Henson (2001), the EU Eurobarometer surveys (EC 2005, 2007) and Evans and Miele (2008). A *post hoc* analysis of changes in answers to the two Eurobarometer surveys could give some insight into the effectiveness of awareness raising initiatives during that two-year period. There would, however, probably need to be considerably more discussion on how best to track changes in expenditure on animal welfare-friendly products in a harmonised way across the EU, since it is not entirely clear which products could or should be classed as coming from animals with better welfare (Roe & Higgin 2008). Some form of EU animal welfare-labelling system, even a voluntary one, would greatly facilitate the monitoring of changes in expenditure on animal welfare-friendly products across sectors and countries (EC 2009). For example, one can already track changes in sales of the different categories of shell eggs, which seem to show a decrease in sales of eggs produced from birds kept in cages and an increase in those from free range (Parrott 2004).

The third step on the roadmap is product development and the most preferred supply-chain indicators, according to the Delphi research, were 'adoption of labelling for animal

welfare on products' and 'membership of private standards schemes with third-party inspection'. The distinction between this and the previous step is that the indicator here relates also to the variety of products available, so reflecting interest by suppliers (to be a member of a labelling scheme) and not only interest by consumers. Labelling animal welfare-friendly products at the EU level has been the subject of an EU-commissioned report where several potential routes were suggested (EC 2009). If a labelling system were to be adopted, then the number of different products registered could be considered as an indicator, as could the number of farms /animals belonging to schemes that have animal welfare standards above that required by legislation.

The fourth and fifth steps on the roadmap are mainstreaming and integration of animal welfare with other issues. For both these steps, 'changes in expenditure on enhanced welfare products' was considered as the most appropriate indicator. Although, already envisaged as one of the potential indicators for monitoring awareness, and so related to both citizens and consumers, at stages four and five, animal welfare is market-driven and so the focus should be on the consumer to create demand for enhanced welfare products.

The ultimate goal of the five steps discussed in this paper is to improve the welfare of the animals. As stated previously, indicators of animal welfare *per se* are therefore needed to continually monitor the actual level of welfare, whatever the country's level of maturity in animal welfare policy-making. The findings of the Delphi exercise firmly supported the view that animal-based indicators are the most effective to assess the welfare of the animals themselves. This reinforces the findings already widely accepted and promoted within the Welfare Quality® project (Blokhuis *et al* 2010). Chain, society and institutional indicators, on the other hand, are selected according to the particular policy instrument that is to be monitored.

Throughout this paper we have emphasised how different situations and contexts within the EU mean that there is no single optimal policy instrument for the EU as a whole, but rather appropriate policy instruments should be selected according to the stage of development of a country or sector. Against this background, we are nevertheless proposing a relatively short list of indicators to monitor the effectiveness of any chosen policy instrument. These indicators are: levels of monitoring of welfare standards/compliance; levels of detection of non-compliance to regulations; changes in awareness of animal welfare issues; changes in expenditure on enhanced welfare products; adoption of labelling for animal welfare on products and membership of private standards schemes with third-party inspection. To this should be added animal-based indicators to assess whether the policy instrument, even if effective in achieving its objective, is having the desired consequence of improving the welfare of the animals.

Animal welfare implications

This paper emphasises the importance of a conceptual framework that is flexible enough to reflect differences between regions and between the different animal sectors, so it can be used as a decision-making tool for policy-makers. Such a framework, an animal welfare 'roadmap', is proposed. The implication is that by using this roadmap, a country or a sector can more easily select the most effective instrument to improve animal welfare and the welfare of animals in that country will improve quicker, or more, than if the roadmap is not used. A relatively small number of indicators are also proposed that can be used to monitor the effectiveness of the policy instrument(s) in achieving the objective(s), eg better compliance, improved awareness etc, or that can be used to identify where further refinement is needed. Benchmarking of these indicators will be considerably more beneficial in the long term if they are harmonised across the EU. Likewise, if the association between these chain and society indicators and animal-based indicators of welfare improvement is known, it will allow even more emphasis to be placed on the most effective policy instruments with the corresponding best improvements in animal welfare.

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