



Bundesministerium  
für Ernährung  
und Landwirtschaft

# Pathways to a socially accepted livestock husbandry in Germany

**EXECUTIVE SUMMARY AND SYNTHESIS REPORT**

**Scientific Advisory Board on Agricultural Policy at the  
Federal Ministry of Food and Agriculture**

March 2015



**Members of the Scientific Advisory Board on Agricultural Policy (WBA) of the Federal Ministry of Food and Agriculture (BMEL)**

**Prof. Dr. Harald Grethe (Chair);** University of Hohenheim, Institute of Agricultural Policy and Markets

**Prof. Dr. Olaf Christen (Vice Chair);** Martin-Luther-University Halle-Wittenberg, Institute of Agricultural and Nutritional Sciences

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**Prof. Dr. Regina Birner;** University of Hohenheim, Institute of Agricultural Economics and Social Sciences in the Tropics and Subtropics

**Prof. Dr. Wolfgang Bokelmann;** Humboldt-University of Berlin, Thaeer-Institute of Agricultural and Horticultural Sciences

**Prof. Dr. Dr. Matthias Gauly;** Free University of Bozen-Bolzano, Faculty of Science and Technology

**Prof. Dr. Ute Knierim;** University of Kassel, Farm Animal Behaviour and Husbandry Section

**Prof. Dr. Uwe Latacz-Lohmann;** Christian-Albrechts-University of Kiel, Department of Agricultural Economics

**Dr. Hiltrud Nieberg;** Thünen Institute, Institute of Farm Economics

**Prof. Dr. Matin Qaim;** University of Göttingen, Department of Agricultural Economics and Rural Development

**Prof. Dr. Achim Spiller;** University of Göttingen, Department of Agricultural Economics and Rural Development

**Prof. Dr. Friedhelm Taube;** Christian-Albrechts-University of Kiel, Institute of Crop Science and Plant Breeding

**Prof. Dr. Peter Weingarten;** Thünen Institute, Institute of Rural Studies

**External researchers that contributed to the report**

**Prof. Dr. José Martínez;** University of Göttingen, Institute for Agricultural Law

**PD Dr. B.-A. Tenhagen;** Federal Institute for Risk Assessment, Unit Epidemiology, Zoonoses and Antimicrobial Resistance

**Research assistant**

**Dr. Steffen Entenmann;** University of Hohenheim, Institute of Agricultural Policy and Markets

**Head Office of the Advisory Board**

**Dr. Thomas Schmidt,** Federal Ministry of Food and Agriculture, Division 531, 531@bmel.bund.de

**Information on the Advisory Board**

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## **Executive Summary and Synthesis Report**

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## Summary

In recent decades the livestock industry in Germany has developed into a successful economic sector. Major progress has been made in resource efficiency. At the same time, there are considerable **shortcomings, particularly in the areas of animal welfare and environmental protection**. Combined with changing attitudes with respect to the relationship between humans and animals, this has led to a reduced societal acceptance of livestock husbandry.

Against this background, the Scientific Advisory Board on Agricultural Policy (WBA) of the Federal Ministry of Food and Agriculture is of the opinion that the current husbandry conditions for most livestock will not be viable in the future and has therefore developed **guidelines and recommendations** for socially acceptable livestock husbandry. In order to more readily reconcile the societal demands regarding livestock husbandry with the reality of agricultural production, the WBA recommends not only a comprehensive package of measures, but also a comprehensive debate between the agri and food business community, civil society, political circles and scientists. In this context, the strong focus of the current societal debate on the role of farm size ("mass animal farming") in animal welfare and environmental protection could also be countered. According to current knowledge, farm size has comparatively little impact on animal welfare compared to other contributing factors, such as the quality of management.

Besides synergies, there are several conflicts between the relevant societal goals for livestock husbandry, such as between environmental protection, animal and consumer welfare, and competitiveness. These conflicts hinder targeted policies. In many areas, however, these conflicting goals are less serious than often presumed, for instance in the case of ammonia emissions and outdoor climate contact. In principle, the conflicting goals of competitiveness and animal welfare can be overcome, for instance through a combination of state payments, voluntary initiatives by the sector and the seizing of market opportunities that result from the basically positive attitudes held by most parts of the population towards animal welfare. The very high price mark-ups for those meat products with animal welfare labels currently on sale on the market, labelling gaps and the limited offering are the main reasons why this market potential is far from being fully exploited at the present. In contrast, meat products are currently being sold in most cases as standard goods via the price.

Given the global ecological footprint and the negative health effects of very high meat consumption, the WBA advocates a strategy of more animal friendly and environmentally compatible production coupled with a parallel reduction of the amounts consumed. This is about grasping the economic opportunities for the necessary changes in livestock husbandry and introducing a new culture for the production and consumption of animal products.

In the field of **animal welfare**, the WBA sees the following important points as **guidelines for the development of viable livestock husbandry accepted by large parts of the population**:

- (1) access of all livestock to various climate zones, preferably including outdoor climate;
- (2) provision of different functional areas with various floor coverings;
- (3) provision of installations, substances and incentives for species-specific activities, feed intake and grooming activities;
- (4) provision of sufficient space;
- (5) a halt to amputations;
- (6) routine farm self-inspections based on animal-related animal welfare indicators;
- (7) a clear reduction in the use of medicinal products;
- (8) improved level of education, knowledge and motivation of people working in the livestock sector;
- (9) and greater consideration of functional characteristics in breeding.

Depending on their actual content, the implementation of these guidelines will entail considerable adjustments in the sector, some of which can be started immediately, some of which will take more time. It will be very difficult for farms with special operating and site preconditions, e.g. pig fattening farms in a confined village location, to implement these guidelines. For other farms, this will be less complicated.

The concrete implementation of the guidelines will lead to additional costs on a roughly estimated scale of 13 to 23 % (in total, around 3 to 5 billion Euro a year) for most livestock farms. The additional costs would lead—given a value-added share of agriculture in the consumer end price of around 25 % and the simple passing on of these costs—to an increase in consumer prices of around 3 to 6 %. This equals the declared willingness to pay of a large share of the population. However, because of a lack of both concepts and international market integration, this willingness to pay is not currently realised. Without accompanying policy measures, a cost increase of this kind would lead to the relocation of some production to countries with lower animal welfare standards due to the competitive pressure in the meat and milk industry, which is characterised by cost leadership. This would then thwart animal welfare goals.

In the face of these major challenges, the WBA believes that the set goals can only be achieved through joint efforts by the government, the food- and agribusiness community and civil society. To this end, the WBA proposes a strategy that encompasses state, private industry and civil society governance. This governance includes policy measures such as clearer and additional statutory minimum standards, a multi-stage state animal welfare label, premiums and compensatory payments within the framework of the Second or First Pillar of the Common Agricultural Policy (CAP), as well as private sector measures such as the branch initiative animal welfare and self-restraint agreements. These measures should be aligned as far as possible. Both the develop-

ment of underlying guidelines and their concrete implementation require extensive societal discussions on various levels (deliberative processes) in order to promote mutual understanding and consensus.

To **achieve animal welfare goals**, the WBA proposes first immediate action and second medium- to long-term activities on the level of the federal government, federal Laender, the EU and the business community.

The **immediate action on the federal government level** includes (1) the establishment of national animal welfare monitoring, (2) the promotion of innovative forms of civic involvement, (3) proof of qualifications and a commitment to further training for livestock farmers and animal keepers, (4) an information programme for consumers including a state animal welfare label, and (5) a research and innovation programme for animal welfare. Ideally, points 1 to 5 should be coordinated and implemented as part of a federal animal welfare programme. Other proposed measures are (6) supplements to animal protection legislation, (7) testing methods and approval procedures for animal housing, slaughter and stunning facilities, (8) reallocation of First Pillar CAP funds to the Second Pillar in order to increase the financial scope for animal welfare measures, (9) (together with the federal Laender) the adding of further animal welfare measures to the range of action of the Joint Scheme 'Improving agricultural structures and coastal protection,' and (10) widening the public procurement regulations to include animal welfare. With regard to **medium-term action, the federal government should** forge alliances early on with other EU Member States and select topics in order to already now prepare the next CAP reform and an animal welfare strategy for the WTO negotiations.

The **immediate action on the federal Land level** will involve the systematic implementation of already valid animal protection regulations in the future. The federal Laender should clearly communicate the fact that they will issue orders to enforce a halt to regularly conducted non-curative intervention. This announcement should be coupled with a realistic deadline for compliance of around 3 years (for turkeys around 5 years). Furthermore, the enforcement shortcomings in animal protection can only be reduced by a combination of statutory and organisational measures seeking to achieve improved inspection techniques and structures, higher inspection densities and stiffer sanctions. Furthermore, the WBA recommends the promotion of initial and further training for all people who work with livestock and the extension of economic incentives for more animal welfare in the Second Pillar of agricultural support.

The **action to be taken immediately on the EU level** includes, for instance, the launch of a German initiative to raise EU-wide minimum standards and to enter into multilateral agreements between the main north-west European animal husbandry countries with comparable animal protection ambitions. Furthermore, detailed animal protection provisions should be issued on the EU level for animal species that are not yet covered and greater EU-wide alignment of enforcement practice should be initiated. The WBA sees joint action of the main production countries as a signal that would have a major impact on future developments. **In the medium term,**

**EU agricultural policy is to be revised** to enable it to offer major financial stimuli and innovation incentives to improve animal welfare. This includes (1) a reallocation of funds from the First to the Second Pillar of EU agricultural policy, (2) changes in the conditions for animal welfare payments under the Second Pillar, and (3) the introduction of the option of animal protection payments in the First CAP Pillar.

**The business community** (in particular commerce, large-scale consumers and industry) can contribute to the improvement of societal acceptance of livestock husbandry through committed implementation and far better funding of the branch initiative animal welfare, delisting decisions and market differentiations. The agri-food industry should input not only its economic arguments, but also more of its own ethical positions into the standard-setting process.

To achieve the goals in the fields of **environmental protection** (nature conservation, water and climate protection) in foreseeable future, the WBA believes there is an urgent need for, amongst other things, adjustments in fertiliser legislation that go beyond the present officials' draft for a reform of the Fertiliser Ordinance. Attention is again drawn here to the joint opinion of the Scientific Advisory Boards on Agricultural Policy and Fertiliser Issues and the German Advisory Council on the Environment regarding the 2013 amendment to the Fertiliser Ordinance. The WBA is of the opinion that the negative environmental impact of livestock husbandry, which is mainly observed in regions with a high livestock density, stems from the inadequate implementation of emission-reducing strategies. Attempts to achieve a more even spatial distribution have proved difficult because of the positive economic cluster effects on the one hand and residents' protests in regions with a low livestock density up to now on the other. If the environmental protection measures recommended in this Opinion do not lead to the desired results, the WBA does not see any other alternative in the medium-term than to reduce the size of livestock populations in the current "agglomerations" of animal husbandry. In line with the Dutch model, regional upper limits for livestock numbers would then be introduced. Given their major importance for biodiversity, the WBA recommends continuing or stepping up measures that ensure the societally desirable use of low-yield grassland locations.

In the field of **consumer protection**, the WBA believes there is a particular need for major improvements to the use of veterinary medicinal products because of the antibiotic resistance problem. The chosen path of antibiotic reduction in the 16th amendment to the Medicinal Products Act involving monitoring and benchmarking is promising in the opinion of WBA when combined with an optimisation of husbandry methods, and should be consistently implemented and refined.

The WBA is aware that the implementation of the proposed measures will entail sweeping changes in livestock husbandry. This will require major efforts by the government, the food- and agribusiness community and society which are essential for the achievement of more societally acceptable livestock husbandry.



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## 1 Introduction

Animal husbandry is of major economic importance for the German agri-food industry. In some regions it, along with agribusiness, is of considerable relevance for the economic development of rural areas (value chain, jobs). Particularly in low-yield agricultural regions, it is also important for nature conservation and the protection of agricultural landscapes. From the economic perspective, animal husbandry and processing have mainly enjoyed a very positive development over the last two decades in Germany. All stakeholders in the fields of food production, processing and marketing have succeeded in ensuring that animal products can now be produced with a high degree of food safety guided by consumer protection and efficiency.

However, there are a number of, in some cases, major deficits in livestock husbandry in the areas of animal and environmental protection and social standards. There is a need for further action, too, in the field of consumer protection despite clear improvements. Societal debates, which take a critical look at some aspects of animal husbandry, for instance at types of husbandry (animal protection), at use of medicinal products (antimicrobial resistance), at the link between the level of meat consumption and health, global food supply and indirect land-use effects (virtual land import), at meat exports (disruption of markets in developing countries), at the spatial concentration of animal husbandry (slurry surpluses, bioaerosols), animal stock sizes, and at the climate relevance of animal husbandry, are on the rise.

It is clear that these different problems have a very high potential for societal conflicts. The societal acceptance of animal husbandry and the meat industry has fallen massively in recent years.

In particular, discussions about animal welfare and the ethical assessment of livestock husbandry have increased markedly. Recently, political circles, industry and civil society have responded with various initiatives. This includes the German government's Animal Welfare Initiative. Its implementation was launched with the BMEL key issues paper "Minding Animals" in the autumn of 2014 as were the industry animal welfare initiative of private industry and the animal protection label of the German Animal Welfare Federation. These initiatives are to be welcomed but they still do not constitute a coherent overall strategy. Their financial resources are far too limited, and they have conceptual shortcomings. Animal welfare is, therefore, a key area in the present Opinion.

In conventional animal husbandry systems, there is a high risk of animals being exposed to pain, suffering and harm. To operate smoothly, the prevailing systems must resort to what are, in many cases, painful interventions in animals (e.g. tail docking and beak trimming) or threaten to overtax the animals' ability to adapt. In some cases, this leads to a high degree of behavioural and health disorders amongst livestock. In many cases, they result from the limited opportunities to engage in species-specific behaviour and from management that falls short. Very often there is little opportunity for the livestock to experience positive emotions. At the same time, recent years have witnessed a shift in paradigms in ethological livestock research. The evaluation of an-

imal husbandry is now no longer restricted to the husbandry systems and management but also encompasses animal protection indicators from the areas of animal health and behaviour. In the philosophical discussion about animal husbandry, the consideration of positive emotions and animal integrity is taking on increasing importance. The animal protection recommendations formulated in this Opinion of the Scientific Advisory Board on Agricultural Policy (WBA) are based on the estimation that many of the current animal husbandry conditions will not be viable in future against the backdrop of social change and new scientific evaluations.

Besides animal protection, environmental protection problems constitute a key challenge in the core animal husbandry regions. Technical progress and productivity gains did lead to a reduction in environmentally-relevant emissions per product unit in recent decades. However, this positive development is increasingly thwarted by the spatial concentration of animal husbandry. This is expressed above all in the continuingly high nitrogen and phosphate balances and ammonia emissions in regions with a dense concentration of animal-keeping farms and enterprises.

The high level of consumption of animal products is both an environmental and a health problem. Animal husbandry is one of the major contributors to greenhouse gas formation. This takes place both directly (in particular methane) and indirectly (in particular from feed production). The average meat consumption in Germany is about two times higher than the level recommended on health grounds by national and international scientific societies. Against the backdrop of the steadily growing world population, too, the high consumption of animal products must be viewed critically from the angle of long-term food security.

There are partial conflicts between international competitiveness, animal, environmental and consumer protection that impede a dedicated policy. Furthermore, various measures have structural effects in these areas as small farms, in particular, are not able to make the necessary investment and withdraw from the market. There are other conflicting goals between animal protection and occupational health and safety (e.g. elevated dust pollution in litter systems) and within animal protection between animal behaviour and health (e.g. parasites in run systems). However, the scale of conflicting goals is often smaller than assumed in many areas.

Compared with the problem pressure, the volume of regulatory rules has been small especially in the field of animal protection. Furthermore, up to now only comparatively limited financial resources have been earmarked from the Second Pillar of the Common Agricultural Policy (CAP) for the promotion of animal protection.

The industry, too, has only made minor efforts in the past to maintain or regain societal acceptance. It is only recently that politicians and industry have launched measures that are, however, insufficient and poorly coordinated.



Therefore, WBA is again presenting a comprehensive Opinion on animal husbandry in Germany, ten years after its Opinion on "The Future of Livestock Production" in Germany. The main goal is to develop a governance strategy for more socially acceptable livestock husbandry.



## 2 Importance and structural developments in livestock husbandry and the related agribusiness

### 2.1 Importance of livestock husbandry

#### 2.1.1 Importance and development on a global scale

Animal husbandry is the largest user of agricultural land in the world. In this context, grassland, which accounts for around two-thirds of agricultural land in the world, plays the biggest role since it is almost exclusively used by ruminants. Besides the production of animal protein, animal husbandry serves other purposes in many regions around the globe like transport, working animals, "living" bank, safeguarding the regular availability of money (milk) and ecosystem services (in particular in grassland use). Traditional animal husbandry systems currently contribute to securing the existence and generating the income of 70 percent of the poorest people on earth. In industrial and newly industrialised countries, livestock husbandry is increasingly organised along the value chain. This is characterised by the use of modern technologies, economies of scale and linking up with international trade.

Viewed globally, livestock husbandry is one of the fastest growing agricultural sectors. The driving forces are population growth, rising incomes and urbanisation and, by extension, the related changes in consumer behaviour like increased meat consumption. Over the last 50 years global meat production has increased fourfold. Milk, beef and sheep meat production have more than doubled and pork production has roughly quadrupled. Poultry production even grew by a factor of eleven. Against this backdrop, the structure of world meat production has changed markedly over the last ten years. China, Brazil and the USA are key growth countries. Germany has chalked up the fourth highest absolute production growth for pork. During the last decade it has switched from being a net importer to the largest pork exporter in the EU.

Although the global meat trade has increased markedly over the last 20 years, the meat market is still characterised by low shares in world trade. In global terms, they are below 15 percent of production volumes for all kinds of meat. The export shares of the big exporters only exceed 20 percent of production in a few cases.

The demand for food of animal origin will continue to grow markedly in the future, too. According to FAO forecasts, the global demand for meat will increase by 52 percent by 2050. However, there are major regional differences. The demand in developed countries will only register comparatively low growth rates given the already high per-capital consumption and meat consumption will increase by around 15 percent by 2050. Nonetheless, the attitudes towards meat consumption, which are difficult to project, and the demographic factors in these countries will have a growing impact on demand, which means projections are very unreliable. In developing and newly industrialised countries, by contrast, the demand for meat will grow far more quickly because of the higher population growth and (income-driven) rising per-capital consumption. It will

increase overall by an estimated 74 percent by 2050. High rises in demand for dairy products and fish (aquaculture) are likewise projected. However, average per-capital consumption will grow less quickly in the future than in the past. This is mainly because the exceedingly large rise in demand in the past in the densely populated countries, China and Brazil, will slacken considerably in the future as it will move closer to the per-capital consumption levels in industrial countries.

### 2.1.2 Livestock husbandry in Germany

Livestock husbandry is of primary importance for German agriculture. More than 70 percent of all farms have livestock. Over 60 percent of agricultural land is used for fodder production (grassland and 46 percent of arable land). More than half of agricultural sales revenues come from livestock husbandry and almost half of agricultural added value is generated with animal products. The value added linked to animal husbandry is of major importance in upstream and downstream economic areas (fodder production and trade, livestock housing methods, slaughterhouses, meat and milk processing, etc.). For instance, in Lower Saxony, the food sector is the second largest economic branch after the automotive sector in the manufacturing industry. As animal husbandry employs far more workers than field crops, it likewise plays an important socio-economic role in terms of rural employment.

Livestock husbandry has developed very dynamically over the last 10 to 15 years. During that period, pork production increased by just under 26 percent (+1.03 million tonnes). Poultry production has even doubled during that period (+0.85 million tonnes). Beef production, in contrast, has fallen by 21 percent (-0.28 million tonnes). Milk and egg production has been on the rise for a few years now as well. In the space of just ten years, Germany has shifted from being a net importer to a major net exporter of pork and poultry. The importance of foreign markets has, therefore, increased markedly for German producers and processors.

The income of livestock farms has recorded a positive trend over the last 10 years, but has fluctuated in some cases markedly over time - particularly in specialised pork and poultry farms but also in dairy farms - for some years now as a consequence of marked price fluctuations. In some cases, their income is far lower than that of arable farms. The other, what are known as, fodder-growing farms (mainly cattle, suckler cows, sheep) have the lowest income in most of the years. This group encompasses many extensive stock farming enterprises. Many of them find themselves in a difficult economic situation despite comprehensive direct payments.

With regard to the importance of livestock husbandry, it should finally be noted that permanent grassland (approximately 28 percent of agricultural land) can be used almost exclusively for animal husbandry (fodder production and grazing land). Livestock husbandry is, therefore, often essential for farming and, by extension, for the preservation of grassland of high ecological and nature conservation value.

## 2.2 Structural changes in livestock husbandry

Overall, structural change in agricultural animal husbandry has been moving for decades in the direction of larger stocks and farms<sup>1</sup>. Based on the accessible data, actual farm size developments are under- rather than overestimated. One contributory factor is that, particularly in the old federal states, initial research indicates that an estimated, by no means insignificant, number of farmers with large stocks and limited land have broken down their production into several separate fiscal units as part of their growth investment for tax reasons.

Basically, the Pareto principle, at least in a milder form, applies to most animal production sectors (mainly poultry and pigs). This means that around 70 to 80 percent of all animals are kept by the biggest 20 to 30 percent of the farms. Hence, average stock sizes do not provide very reliable information. The high diversity of farms calls for specific political measures.

The growth dynamics of farms is influenced by a number of factors. They include: statutory requirements (Animal Welfare-Farm Animal Husbandry Ordinance, Federal Immission Control Act), requirements of husbandry methods, working time requirements, organisation of the value chain, infrastructure and area availability. Whereas operating density is on the increase in most production systems (e.g. dairy cattle and sow husbandry), there was a slight reverse trend for laying hens following the ban on conventional battery cages in the upper flock size categories.

Overall, it can be assumed that structural changes will continue. This applies in particular to the rather labour-intensive milk and piglet production. In this context, the main drivers result from higher productivity and the working schedule advantages of larger and very large stocks. In the field of milk production, the end to the milk quota regulations will probably lead to additional dynamics.

More recent structural developments in the animal husbandry segments - laying hens, sows and dairy cattle - illustrate that growing animal protection requirements can confront both small and very large farms with major challenges. Statutory requirements, entailing larger-scale investment for instance in the group housing of pigs, frequently lead to the departure of small holdings, in particular of older farm operators. Regulations for outdoor climate and outdoor access would pose problems in contrast for large farm units in particular.

The major increase in stock sizes and the substantial productivity gains in animal husbandry impose considerable management requirements on farm operators and livestock keepers and require sufficient care capacities. Already today many family farm employees are working up to or beyond their capacity and skilled workers are only available to a limited degree on the labour market. Against this backdrop, there are fears that further expanding family farms and farms with hired labourers will increasingly come up against the system limits given demographic de-

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<sup>1</sup> Stock size describes the number of animals kept at one location whereas the farm is defined in tax law, i.e. can encompass several locations.

velopment in rural areas and the low number of trainees. This could have a negative impact on animal care and, by extension, on animal welfare.

### 2.3 Regional concentration

The high degree of regional concentration in livestock husbandry has continued in recent years. This applies above all to the centres of German pig fattening and poultry farming in northwest Germany. In the rural districts of Vechta and Cloppenburg alone, pig stocks increased by more than 20 percent between 1999 and 2010.

Hand in hand with increasing animal stocks, many of the upstream and downstream sectors have set up shop in the agglomeration areas. This leads to diverse competitive advantages for the enterprises: regional knowledge, use of infrastructures, cost advantages when purchasing production means, proximity to slaughterhouses and processing plants and establishment of high-performance value chains etc. Not only the individual enterprises but also the entire economic area benefited from this (value added, jobs). A growing density in animal husbandry also leads to negative economies of agglomeration like nutrient surpluses, ammonia emissions, odour, dust and noise pollution and the risk of epizootic diseases. There are more space use conflicts in the communes.

In recent years, increased efforts have been made to limit problems of this nature in areas with high livestock densities by means of further statutory provisions, e.g. orders for waste air purification in animal installations and the requirement of testing for bioaerosol pollution in immission control approval procedures in Lower Saxony and North Rhine-Westphalia, changes in building law, an ordinance on placing on the market and transport of livestock manure. These statutory amendments have led, amongst other things, to far stiffer requirements that have to be met by new livestock housing and have put a brake on the growth dynamics over the last two to three years.

### 2.4 Structure and competition strategy in the value chain

Overall, German pig and poultry production is competitive on the international stage mainly because of the high level productivity of the processing sector and the low wages in the slaughterhouse and processing plants.

The upstream and downstream animal husbandry (agribusiness) levels of value added are all very highly concentrated when applying a national (e.g. slaughter) and partly international yardstick (livestock housing methods, poultry breeding). As the fodder and meat markets are increasingly active across Europe, the farmers here (still) have viable fall-back positions. In the field of poultry genetics there are, by contrast, oligopolistic structures.

Value added in the meat and partly in the milk industry is hindered more by a one-sided focus on cost and price competition than by the factor market power. On these markets the scope for new strategies is typically low and this impedes adjustment to dynamic environmental developments, like increased awareness of animal protection.

Given their market power, retail chains can play an important role in setting quality standards, initiating process innovations and implementing higher animal protection standards. At the same time, they can drastically limit the scope for animal-welfare oriented management by means of price negotiations.

## 2.5 Vertical integration in the value chain

In the poultry industry, structural changes and innovation processes are strategically coordinated by the dominant processing enterprises whereas in other sectors the agricultural farm operators largely plan them independently. In the unbound supply chains, innovation processes are more complex, lengthier and dependent on the individual decisions of many agricultural players. In vertically integrated chains, strategic direction and innovative capacity largely depend on individual enterprises/persons. This can have both positive and negative effects on innovative potential.

The example of poultry breeding shows that animal breeding can boast particularly well-developed economies of scale. This is due to the high level of research and development that leads to narrow oligopolistic structures around the world. They are problematic from the competition perspective as high market entry barriers are left in place.

Aside from the food retail trade and a few brand manufacturers, all suppliers in the meat value chain are unknown to consumers. Production is not, therefore, transparent when it comes to consumption decisions. For this reason societal protests are often selectively concentrated on the few brand suppliers (e.g. Wiesenhof).

## 2.6 Innovation system livestock

Germany holds a leading position internationally in terms of the ratio between the financial resources made available for public agricultural research and the size of the agricultural sector. The livestock sector benefits from this, too. In the areas of livestock breeding and animal health, Germany is a location for leading international innovation-oriented companies characterised by a high level of expenditure on research and development. Mention should also be made here of the well-developed role played by clubs and associations like the German Agricultural Society (DLG) and specialised media in the innovation system for agriculture and, by extension, for livestock husbandry. However, this innovative strength has not been sufficiently utilised up to now to address the societal challenges of environmental and animal protection.

In the field of agricultural consulting, a dismantling of the state advisory service offering and a trend towards fee-based advisory services can be observed. Nonetheless, public advisory services are still an important source of information for the majority of farmers. Private advisory services are only used by on average one-third of farms. However, there are regional differences. The field of advisory services has potential, which has been largely untapped up to now, with regard to animal welfare.

Stagnation in training numbers in the dual education system can be observed whereas the number of university graduates has increased markedly over the last decade. These are good preconditions for optimising animal husbandry systems, too, along the lines of animal welfare by steadily raising the level of training when this topic is integrated more into training curricula in future.



## 3 Perception of livestock husbandry in society

### 3.1 Ethical principles in the animal protection debate

There is a broad spectrum of ethical points of view about how people should treat animals. However, very little reliable information is available about the actual spread of specific ethical positions in society. The call for animal rights and the related rejection of any use of animals (point of view of the animal rights movement) are only supported by a minority in the population whereas the undertaking to treat animals carefully and respectfully (point of view of the animal protection movement) meets with broad approval.

The demands for welfare-oriented husbandry are firstly justified by the capacity of animals to feel pain, suffering and emotions and secondly by their need to engage in species-specific behaviour. Both German and European animal protection legislation is based on these aspects.

Trends in philosophical debate and changing values indicate for the societal debate that positive emotions and the integrity of animals will take on importance in the animal protection debate.

### 3.2 Change in the man-livestock relationship

In recent decades, the societal requirements for animal welfare have increased markedly in many industrial countries, in particular in northwest Europe against the backdrop of the outlined ethical positions. Important indicators for changing values are a growing number of vegetarians, increasing animal protection protests and growing media attention.

Examples like mink breeding for fur production or animal experiments for cosmetics show that sectors can lose their societal acceptance over the course of time if their purpose is no longer recognised as a "sound reason" as defined by the Animal Welfare Act.

### 3.3 Acceptance in society

The growing public criticism is directed at companies that are not used to dealing with critical stakeholders and tend to go about their business away from the public eye. This applies to many parts of the sectors involved in the manufacture of animal products, in particular the meat industry's entire value chain.

Up to now, there has been little communication by the sector about the major changes in animal husbandry. Romantic images have prevailed in advertising and public relations. The sector has not succeeded in "getting society on board" with the technological development of production

systems; the contrast between the reality of animal husbandry and societal expectations has become very large. These developments have led to a massive loss of confidence.

### 3.4 Conflict lines on the single farm or local level

Livestock farms and slaughterhouses are increasingly coming up against the limits to their entrepreneurial room for manoeuvre (citizens' initiatives, difficult approval methods, etc.) both inside and outside the classical regions with high livestock densities.

NIMBY (Not In My Backyard) and other conflicts of interest (odour pollution, nitrate and ammonia emissions) can at least be contained on the local level by way of greater political regulation (e.g. limiting preferential treatment for the agricultural sector) and by measures taken by the livestock farmers. However, local conflicts about animal husbandry and the meat industry are embedded in a more comprehensive debate about the future of animal husbandry. Values conflicts of this nature can scarcely be resolved locally and are a source of major stress for livestock farmers.

In the core regions of pig fattening and poultry breeding, the growing (also domestic agricultural) conflicts mainly stem from the increasing competition for dwindling resources (land, nutrient application).

### 3.5 Conflicts on the sector level

Developments up to now in animal husbandry have been heavily criticised by opinion makers in the population. The criticism is frequently based on media-driven ideas about animal husbandry that are shaped above all by a decade-long debate about the battery rearing of laying hens. The focus here is above all on poultry and pig husbandry.

The improvements deemed to be necessary for livestock housing mainly have to do with space and movement for animals, runs and the reduced use of medicinal products. Furthermore, farmers' relationships to animals are perceived as being rather economic and their lack of emotional ties ("care") is criticised. Finally, the animal protection debate is partly linked to other topics like developments in farm size ("agro-industry") or meat consumption and global food supply.

For a long time, the sector has tended to ignore this criticism or has given technocratic responses. There were limited public relations activities and efforts to make themselves understood. More public relations activities have been undertaken recently but they frequently involved an "awareness-raising concept". However, according to the results of PR research, they are not likely to convince the critical groups in the population because of the low level of confidence in the sector for one thing.

A strategy to improve animal husbandry should involve stakeholders from the goal definition phase onwards and should be open to mutual learning between political circles, industry and interest groups. Recently, there have been signs of some initial steps in this direction.



## 4 Behaviour of consumers and citizens

### 4.1 Quantitative development of meat consumption

For the first time in history, higher-income and more highly educated households are tending towards lower meat consumption in Germany and a few other industrial countries, although meat consumption is still on a relatively high level. Meat is gradually becoming an inferior good, i.e. as income rises, meat consumption falls. This opens up opportunities for a societal shift towards lower overall meat consumption in Germany.

In newly industrialised and developing countries, meat consumption by contrast still rises markedly when incomes grow.

### 4.2 Determinants of meat consumption

In Germany, the volume and type of meat consumption are influenced by a number of socio-demographic factors (like income, belonging to a social class, age, gender) whereby taste preferences and psychological determinants (attitudes, values) are becoming increasingly important.

Although meat consumption is falling slightly (e.g. through growing health awareness, figure consciousness and negative media coverage), meat is still a fixture in the Germans' shopping basket. However, there is a growing group of consumers who eat little or no meat whereas some consumers have a very high consumption level.

### 4.3 Nutritional assessment of animal products

A major proportion of the population currently eats more meat, in particular meat products, than recommended by scientific nutritional societies. The overall reduction of meat consumption, in particular of processed meat, is therefore to be recommended.

### 4.4 Preferences and willingness to pay for animal welfare

A large majority of the population has a positive attitude towards animal protection. The relationship between an awareness of animal welfare and socio-demographics is generally rather limited. However, women, more highly educated individuals, high-earners and people with a major interest in agriculture tend to be more critical about prevailing livestock husbandry.

In Germany, people's preferences deviate on several important points from the reality of animal husbandry. Actual stock sizes are seen as "intensive animal husbandry" for many species and are,

in many cases, rejected. There is very restricted tolerance of antibiotics use in livestock husbandry. There are clear preferences for more natural husbandry systems (pastoral stockfarming, open grown, straw). The sole use of livestock housing is rejected for the most part in consumer surveys.

Despite the limited number of studies and the necessary caution in the interpretation of research results, the available consumer studies point to a sizeable target group for products from more animal-friendly husbandry.

The markedly higher price mark-ups of animal products offered on the market today, which claim higher animal protection standards (between 100 and 300 percent) do, however, exceed the willingness to pay of most consumers interested in animal welfare. They come with average price mark-ups of between 20 and 30 percent.

In addition, there are labelling gaps (unknown labels), doubts about credibility and a low distribution density that means that the market potential is far from being exploited.

## 4.5 Citizen versus consumer perspective

For systemic reasons, the market entry barriers for animal- and environmentally friendly meat are so high that a market failure can be observed. The discrepancy between the consumer and the citizen perspective is particularly large in the case of animal welfare. This means that suppliers receive very different signals from the market than they do from the societal dispute. Two problems are the major contributory factors: First, only some parts of an animal can be sold for higher prices. When it comes to exports, sausage production and the hotel or restaurant trade, there is scarcely any demand at the present time for higher animal or environmental standards. The final consumer in retail stores must, therefore, "cross-subsidise" these parts and this increases price mark-ups two or threefold. Second, the quantities in these market segments are currently so small that there are high additional costs in the slaughter, processing and retail segments. In addition, there are high costs caused by consistent goods separation all along the value chain.

A policy that wants to use market forces for animal and environmental protection goals must break out of the vicious circle of the smallest volumes problem and limited willingness to pay. The example of Switzerland shows that both labelling and financial incentives are suitable options on the supply side. This is not just because of the special position of this country. In the egg market, Germany has likewise succeeded in securing market shares of animal welfare and resource-saving oriented goods (free-range and organic eggs) of more than 20 percent.

Overall, approaches for greater animal welfare based on consumer behaviour can make an important but limited contribution to mitigating societal conflicts about animal husbandry. This po-

tential has not been exploited up to now. What is needed is courageous investment to break out of the vicious circle described above.





## **5 Problem areas of livestock husbandry**

### **5.1 Animal protection**

#### **5.1.1 Use of terms and methodological foundations**

The terms animal protection, animal welfare, well-being and compliance with animal welfare requirements all aim to achieve the greatest possible absence of pain, suffering and harm, and ensure animal well-being, just partly from differing perspectives. Hence, they are mostly used as synonyms in this Opinion and are to be classed as low or poor up to high or good along a gradient.

The well-being of animals in a stock cannot be accurately assessed on the basis of their husbandry and management conditions (e.g. space availability) or breeding characteristics alone. A combination of animal-related indicators (e.g. proportion of lame animals) results in more valid statements. Work must be done on enlarging the choice of viable and reliably recordable animal-related indicators.

#### **5.1.2 Status quo of animal husbandry in Germany**

Only inadequate statistical data are available on the spread of various livestock husbandry methods. However, the available figures illustrate that large numbers of livestock are kept in restrictive conditions in Germany that lead to considerable impairment of animal welfare. They include, for example, a relatively high proportion of dairy cows in tie stalls (27 percent of cows in 2010) and a higher proportion of pigs (67 percent in 2010) kept on fully slatted floors.

#### **5.1.3 Animal protection problems in livestock husbandry**

Based on various scientific reports, for instance commissioned by the European Food Safety Authority (EFSA), we can assume a large number of animal welfare problems in all areas of livestock husbandry, breeding, transport and slaughter. In the case of many of these problems, this encompasses multi-factor harm, diseases or behavioural disorders for which the risks are located furthermore in several levels (e.g. breeding and production stages). In most cases, approaches to improvements are necessarily complex.

The impact of the management and handling of animal keepers on animal welfare is very high.

Desirable characteristics in the field of animal health and animal behaviour have not carried much weight up to now in animal breeding. Knowledge about these characteristics, e.g. for more rare species as well, is moreover still limited in some cases.

Non-curative interventions like tail docking, beak clipping or polling help to avoid cannibalism or animal injuries provoked by non-species-specific husbandry systems and poor management. If it is possible to do without these interventions, then this is a key indicator of a high level of animal welfare.

The areas transport and slaughter are not a main focus of this Opinion. Nevertheless, Chapter 5.1.3 mentions important problem points like implementation gaps, the need for concretisation of legal requirements, the necessary examination of stunning facilities, a lack of awareness amongst economic stakeholders for animal protection questions (e.g. transport of animals that are not fit for transport), and the use of contract workers without adequate technical expertise or language skills.

#### **5.1.4 Scale of animal protection problems in livestock husbandry**

At the present time, there is no systematic federal or EU-wide evaluation of animal welfare in farms with livestock husbandry on the basis of scientifically validated, result-based (i.e. animal-related) indicators. At the same time, there is scarcely any information about the husbandry and management conditions of our livestock. Consequently, no quantitative overview of the level of animal protection in Germany and Europe based on standardised measurements is available right now.

The available data on mortality, disease rates and treatment frequencies show that on average rather unsatisfactory situations prevail in terms of animal welfare in farms.

The considerable range in the scale of animal protection problems between farms clearly reveals that the situation in individual farms can, in principle, be improved. However, frequently for various reasons (for instance economic reasons or because of inadequate expertise or a low degree of motivation) these improvements fail to materialise.

#### **5.1.5 Level of animal protection legislation in Germany in an international comparison**

In Europe, Germany does not have a pioneer position in animal protection in contrast to the general assumption but is located in the upper middle range. This applies both to the completeness of detailed statutory regulations, the level of regulation, and the number and degree of implementation or shaping of voluntary programmes for specific market segments.

### 5.1.6 Stock size and animal protection

In the public debate, the assumption is frequently advanced that animal protection problems increase with the size of the farm or stock. Frequently, no clear distinction is made between company, farm and stock size. There are only a few scientific studies on this subject. Moreover, the available studies that are often only suitable to a limited degree, present heterogeneous results about the possible effects of stock size and indicate that other factors like management quality have a bigger impact on animal welfare. Some stock sizes may lead to system changes (e.g. reduction in cattle grazing, reduced use of litter) for logistic and infrastructural reasons. This may have negative effects on the exercise of certain types of behaviour.

The implementation of a rational animal protection policy and its acceptance in agriculture are improved when "size arguments" are not moved centre stage. Nonetheless, many critics of present-day animal husbandry explicitly defend structural policy goals. The orientation of the political and societal debate towards target figures of animal welfare and environmental compatibility may, by contrast, lead to a more objective debate.

Large farms bear special responsibility for animal protection because their actions affect far more animals and the special public view of large farms in societal discourse constitutes the standard in a media society. So far, large animal husbandry farms have not visibly assumed this responsibility and they have failed to seize the opportunity for a more positive perception by society.

## 5.2 Environmental protection

### 5.2.1 Positive environmental effects and nature conservation impact of livestock husbandry

Animal husbandry does have a few positive effects on the environment and the balance of nature. Animal husbandry facilitates the use of by products from plant production, increases resource efficiency and itself delivers large volumes of by products (leather, wool, etc.) in addition to food. Furthermore, animal husbandry contributes on a moderate scale to increasing crop diversity and to the variety of agricultural landscapes by means of the diversity of fodder crops grown. The use of grassland for animal husbandry contributes more than arable use to climate, soil and water protection and to preserving biodiversity and habitat structures. Furthermore, it enriches landscapes. These factors vary considerably from region to region.

Technical and breeding progress has led in recent decades to a reduction in environmentally relevant emissions per product unit and, by extension, to increased eco-efficiency. This positive development of reduced environmental pollution per product unit is set against spatial concentration effects of animal husbandry. They are visible in the continuingly high positive nitrogen and phosphate balances and ammonia emissions in animal husbandry regions.

### 5.2.2 Fodder area needs, organic fertiliser formation and nutrient balances

60 to 70 percent of the 17 million hectares of agricultural land in Germany is used for fodder production. In addition, there are "virtual fodder area net imports" (soya) on a scale of around 2 million hectares a year. The annual use of 191 million m<sup>3</sup> of liquid farm fertilisers on 45 percent of agricultural land in Germany results from the fodder quantities used in German animal husbandry. Organic fertiliser accounts for around 37 percent of nitrogen input in agricultural production in Germany.

Germany's nitrogen balances have been stuck for about 10 years on a level of around +100 kg N/ha agricultural land/year. Hence, they have failed to reach the goal in Germany's sustainability strategy of a maximum of +80 kg N/ha/year for 2010. In this context, animal husbandry in Germany makes an above-average contribution to nitrogen surpluses.

### 5.2.3 Nutrient contamination of water bodies

In many cases it is unlikely that the objectives in the EU Nitrate Directive, the EU Water Framework Directive and the EU Marine Strategy Framework Directive will be achieved with the current statutory framework conditions, particularly in regions with intensive livestock husbandry. It is far more the case that in many areas nitrate pollution of groundwater is increasing, particularly in the intensive animal husbandry regions in north and northwest Germany. Hence, they are violating the ban on quality deterioration in European water legislation.

### 5.2.4 Pollution from ammonia emissions

The requirements regarding the reduction of ammonia emissions from animal husbandry are comparatively relaxed in Germany compared with neighbouring countries that likewise have intensive animal husbandry. Investment is needed above all in the provision of additional slurry storage capacities and the establishment of low emission slurry application methods to improve the situation in Germany. This need results from the fact that the objectives of the National Emission Ceilings (NEC) Directive for 2010 formulated by the European Commission in 2001 have only just been achieved but it will only be possible to achieve the future objectives of the NEC Directive (39 percent emission reduction from 2005 up to 2030) proposed by the EU if additional measures are put in place. The call for the direct mixing of slurry into vegetation-free ground (within one hour) is of major importance and can be speedily implemented. This is the most cost-effective ammonia reduction measure. The implementation of these measures should be done in a prompt manner independently of the objectives formulated for 2030, as ammonia emissions are also drivers behind the loss of biodiversity and additional greenhouse gas emissions.

### 5.2.5 Climate impact of greenhouse gas emissions

The direct emissions from the digestive processes of ruminants (methane), from farm fertiliser (methane) and from organic and mineral nitrogen fertilisation for fodder production (laughing gas) play a central role. In addition, there are indirect laughing gas emissions induced by nitrogen deposition from ammonia emissions. Hence, all ammonia-reducing measures contribute to reducing greenhouse gas emissions, too.

CO<sub>2</sub> emissions from land use are likewise of importance. In this context, the intensive use of moors for fodder production in particular should be viewed critically and the current intensity questioned. Here, the widely differing regional adjustment costs must be taken into account.

As the production of meat and animal products is usually linked to far higher greenhouse gas emissions and consumption of resources than plant production, the consumer can contribute to climate protection by reducing his consumption of animal-based foods.

### 5.2.6 Effects of livestock husbandry on nature conservation and biodiversity

The effects of animal husbandry on biodiversity in agricultural landscapes are somewhat ambivalent. On the one hand, the regions with intensive animal husbandry in particular clearly question the achievement of biodiversity goals because of the regional concentration processes with elevated ammonia emissions and intensive fodder production. On the other hand, animal husbandry combined with extensive forms of grassland is the precondition for biodiversity in agricultural landscapes. This is jeopardised by the abandonment of grassland in many regions in Germany. Low-yield grassland locations with, as a rule, high biodiversity can only be maintained in many regions with the help of financial support for a socially desirable use.

### 5.2.7 Environmental impact of the use of medicinal products in livestock husbandry

The active ingredients in veterinary medicinal products (including antibiotics) can reach soil and groundwater from manure and slurry. Substance residues can be taken up by plants that are then used as food or fodder or they can contribute to resistance development through changes to soil flora. The scale of use, the biochemical properties of the substances and the metabolism of the substances in animals and the various processes involved in degradation after application are important when assessing environmental pollution. Despite the accepted importance of environmental effects, there is still no exact quantification of them (e.g. resistance formation in specific substances).

The reduction in antibiotic use, which is already being pursued in response to growing resistance, also makes sense from the perspective of environmental pollution with veterinary medicinal products. Regional pollution peaks go hand in hand with other regional environmental pollution. They do not, therefore, require any special measures that go beyond the general ones needed to protect the environment. Given the special importance of antibiotics, groundwater should be monitored for antimicrobial substances in regions with particularly high livestock densities.

## 5.3 Protection of human health and economic consumer protection

### 5.3.1 Exposure pathways

Foods of animal origin generally entail risks for human health. Possible health impairments result firstly from zoonotic pathogens that occur in animal stocks and can reach consumers by various routes and secondly from various substance contaminations from animal husbandry and the development of resistances to medicinal products.

Links between agricultural livestock husbandry and consumer health protection result from a) human exposure through contact with livestock, b) consumer exposure to manufactured foods of animal origin, c) human exposure to the environment (emissions), d) indirect human exposure to individuals who work in animal husbandry. Consumer exposure to harmful influences from animal husbandry mainly occurs along the food chain. Environmental contamination only plays a subordinate role, but there are exceptions. In the case of pathogens, for instance, that can spread via aerosols, the environment may be the main exposure pathway.

### 5.3.2 Prevalence and control of zoonotic agents in livestock populations

Zoonoses are diseases whose pathogens can be transmitted via natural pathways from animals and humans and vice versa. The main zoonotic diseases, in terms of numbers, in humans are campylobacteriosis and salmonellosis. Despite major improvements in quality assurance systems in the field of *Salmonella* diseases, the risk of microbiological contamination is still considerable with several tens of thousands of people falling sick every year and a high level of under-reporting. Zoonosis management in agriculture is still partly in the establishment phase (e.g. *Salmonella* control in pigs).

Contributory factors that lead to a higher risk of transmission to consumers are governed by complex interactions. Consequently, there are no simple or clear links for instance between stock size and density on farms and the risk of exposure of the people living in the vicinity. Hence, approaches to zoonosis control are necessarily complex. The avoidance of germs at source (in animal husbandry) is an important step. At the same time, reducing the spread of these germs by

means of improved slaughter hygiene is very important. In the field of slaughter (particularly of poultry), technological improvements are still necessary to reduce the risk of cross-contamination. This applies to *Salmonella* and, in particular, to *Campylobacter* contaminations. There is still a major need for research and action.

### 5.3.3 Antibiotic use and resistance

In Germany, large amounts of antibiotics are used in animal husbandry compared with other EU Member States. However, there are major differences in antibiotic use between production sectors and farms with the same production orientation.

It is an undisputed fact that animal husbandry contributes to a resistance to antibiotics in humans. However, so far it was not possible to quantify its importance. The influence and the relevant transmission routes vary from bacterial species to bacterial species.

In the field of medicinal product use, major improvements are needed and possible because of the antibiotic resistance problem. The path of antibiotic reduction adopted in the 16th amendment to the Medicinal Products Act by means of surveillance and benchmarking is promising and should be consistently implemented and further developed. The decisive criterion is that the reduction does not entail any impairment of animal health. Doing away with antibiotics in livestock husbandry does not make sense as this would lead to animal welfare problems. However, there is major potential to reduce antibiotic use without any impairment of animal health.

### 5.3.4 Undesirable substances in food

Consumer may also be exposed to substances that should not be in foods (undesirable substances like dioxins). The detection of substances in foods at higher concentrations than deemed safe is repeatedly a subject of public debate even when the set limit values are not exceeded and there is a lack of clarity about possible harmful effects. Frequently, it is not possible to directly determine the origin of undesirable substances.

Undesirable substances in foods of animal origin do not constitute a central problem in today's production not least because of the considerable improvements to control and surveillance systems in recent years.

### 5.3.5 Impact of herd and stock size and the regional concentration of livestock husbandry on the scale of exposure

Given the complex relationships, no clear general link can be observed between stock size and animal health.

In contrast, the link between animal health and the regional concentration of animal production is much clearer. Farms that are separate from other animal installations are at far lower risk of the input of specific germs than farms in regions with high livestock production.

### 5.3.6 Protection against deception and food imitations

Food imitations are not a specific problem of the meat and dairy industry. However, the cost structures for animal products are such that the replacement of animal ingredients by foods of plant origin or the use of residual substances (mechanically separated meat) often leads to considerable cost reductions. In principle, substitutions of this kind do indeed make ecological sense and are welcomed by some consumers (vegan products). What is misleading and problematic for the image of the sector is, however, the relatively high rate of unlabelled or insufficiently labelled substitution processes.

The clarification and mandatory labelling specified in the Food Information Regulation (FIR), which entered into force in 2014, considerably improve protection against deception in the case of animal products. Nonetheless, the bulk sale of goods (serving counter) and the hotel and restaurant industry will continue to throw up special challenges for food surveillance.

Whereas in the field of industry and commerce considerable efforts have been made in terms of quality assurance because of the high degree of organisation, the hotel and restaurant industry is still a weak point as there are no supra-enterprise quality assurance systems. Major shortcomings have come to light in food safety and in protection against deception. Given the predominant small farm structure and the low degree of organisation in the hotel and restaurant trade, efforts have so far failed to integrate this sector into voluntary quality assurance systems.

In the field of protection against deception, inadequate specifications of country-of-origin labelling and product names upset many consumers as their expectations are partly disappointed. The use of images about agricultural production is often done in a very consumer-unfriendly, partially misleading form. In marketing production, forms are suggested that reflect the wish of many consumers for naturalness without these claims being met by production (e.g. "pasture milk" packaging).



## 5.4 Aspects of social compatibility and fairness

With a view to ethical questions of animal production, social questions and fairness issues are regularly discussed in political and public circles in addition to animal welfare and environmental aspects. However, this Opinion only addresses selected aspects: the discussion of "fair prices", the working conditions in the slaughter industry and the impact of EU biomass exports and imports on developing countries.

### 5.4.1 "Fair" producer prices, fair distribution, social dumping and structural changes in agriculture

Aside from the examples where a price mark-up for the consumers is also directly passed on to the producers (e.g. fair trade products), WBA believes that discussions about alleged "fair" or "just" prices are misleading. In a market economy system, prices primarily serve as scarcity indicators. This function should be preserved. WBA, therefore, suggests rather measuring the term fairness of markets by the degree to which the rules of the market are fair. Based on this criterion, the market results would then be deemed to be fair when market players are not forced to participate, individual participants do not undermine the competitive efforts of others, the same rules apply to everyone and the results are not to the detriment of the most socially disadvantaged. These rules do not guarantee that market results are socially compatible or desirable in terms of distribution policy. Distribution goals should not, however, be pursued by intervention in pricing processes but by distributional policy measures like, for instance, tax and social policy.

The competitive efforts of others would be undermined when, for instance, market power is exercised as a consequence of a very high concentration or cartel formation on the upstream or downstream levels of the value chain. It is the task of the cartel authority to put a stop to this kind of developments. Up to now, there have only been a few concrete indications of a harmful exercise of market power in livestock husbandry although a recent study by the cartel authority confirms that the degrees of concentration are, in some cases, considerable.

Dependencies in contract production (e.g. in conjunction with contract fattening) may also lead to unfair conditions. Previous studies, particularly from the USA, have not found any concrete evidence to confirm this. Hence, contract production particularly from the perspective of its importance for quality assurance is not per se disadvantageous.

Different production standards for different producers may, in principle, constitute unfair rules. It is, therefore, important to enforce state standards for all producers, too. Failing this, the efforts of those producers who comply with these standards will be undermined.

Environmental and animal welfare and social standards vary markedly from country to country. In this context, higher standards at home than abroad cannot be deemed to be unfair for domes-

tic producers if they comply with domestic social requirements. This even applies when national producers compete internationally. However, from the perspective of public goods or ethical goals like a high level of animal welfare, it makes little sense to define higher national standards when they are circumvented through major production relocations abroad. Hence, compensation for the additional costs of higher standards by state support measures or the passing on of costs to consumers may be justified in principle.

With regard to the introduction of higher standards, it should be borne in mind in terms of fairness that those producers who have previously tied themselves in the long term to lower standards by placing their trust in valid legislation, should be given appropriate protection for legitimate expectations (e.g. through the granting of transition periods).

Agricultural households, and this also applies to the ones whose income mainly stems from livestock husbandry, do not normally rank amongst the most socially disadvantaged in society. Hence, there are no clear pointers for designating low product prices as the result of unfair conditions because the most socially disadvantaged suffer from them. This likewise applies to farms that abandon production as a consequence of structural change. In the agri-food industry, the problem of social hardship of the most socially disadvantaged is situated more amongst salaried employees than amongst independent farmers.

The high level of productivity within value chains in animal husbandry mainly benefits consumers. In this context, poorer households profit disproportionately because of the higher share of their income spent on food. Conversely, in the event of price increases they would be disproportionately burdened. The drawing up and implementation of animal, environmental or social standards, which lead to increased costs, should be done as efficiently as possible because of the above-average burden on poorer households.

The meeting of the specific preferences of some consumers for standards deemed by them to be fair like, for instance, small-scale agriculture, is not a public task. This should be covered, where appropriate, by civil society and the private sector through voluntary labels.

#### **5.4.2 Working conditions in the slaughter industry**

To increase their competitiveness, slaughterhouses have used various options to reduce wage costs in recent decades. Mention should be made in particular of the use of foreign temporary workers with a low level of trade union representation, and work and services contracts. This meant that hourly wages of 3 to 6 euro were very common, coupled with unattractive working conditions and, in some cases, inadequate accommodation, too. Hence, it is hardly surprising that the working conditions and wages in slaughterhouses have increasingly attracted public criticism in recent years.

The conclusion of a collective labour agreement on minimum wages in the German meat industry and the inclusion of the meat industry in the Posted Workers Act (law that regulates the working conditions for non-German employees of non-German enterprises that work in Germany) will lead to major improvements in working conditions. However, it is not possible yet to determine the extent to which implementation problems could occur like, for instance, getting round the minimum wage through longer, non-registered working hours.

### 5.4.3 EU foreign trade with developing countries

Frequently, the EU is accused of having a negative impact on local/regional production in the developing countries to which it exports its meat products. Here, it should first be clarified why exports from the EU to non-EU markets are competitive. The volume of subsidised exports repeatedly criticised by WBA has fallen markedly. However, the laying down of a complete phasing out of export subsidies within the WTO would be important in order to rule out a possible U-turn by policy-makers in future.

EU exports with no political support at market conditions (amongst others especially cheap by products or less in demand parts like chicken wings) can harm agricultural producers in developing countries whereas consumers benefit from them. If this is not wanted from the perspective of distribution or efficiency, it is up to the importing countries to limit these imports in conformity with the WTO. Within the WTO, options to impose temporary import duties during periods of particularly low world market prices and during the establishment phase of a sector should, therefore, be extended in particular for developing countries.

The EU is indeed a net exporter of agri-food products (in terms of commercial values). However, the land needed for the imported products is far higher than that of the exported products as mainly high value (processed) products are exported and agricultural primary materials are imported. The specialisation behind virtual land imports resulting from comparative advantages makes economic sense. However, the market result may be ineffective not just because of distorting policies (like biofuels or EU market price support for poultry) but also because of inadequate policies leading to the internalisation of external effects (like, for instance, unwanted land use changes in export countries). The remedying of political shortcomings in the EU would lead to a reduction of animal production within the EU but it would increase elsewhere because of the ongoing demand. This would scarcely affect the EU's virtual land imports. Without any changes in consumption in the EU, the demand for animal products would be covered through the import of animal products instead of through fodder imports.

Against the backdrop of the growing world population and the rising demand for food coupled with limited land (Chapter 2.1), the consumption of animal products and the volume of food waste in the EU should be reduced for reasons of international fairness. Corresponding policies have major potential to contribute to a global, more sustainable agricultural sector. In particular,

a change in consumption style is necessary to reduce the consumption of animal products. This can only be achieved in the long term and more especially through consumer information and nutritional education.

## 5.5 Land use conflicts

The expansion of animal production has led to tension in local development for some years now. The tone in debates about planning permission is becoming more critical. The mood is changing even in regions like Emsland where agricultural production is a major contributor to the region's economic success and had been well anchored in and accepted by the population up to now. The complaints of local communities lie especially in the limited opportunities to control local development because agricultural construction projects are given priority and they could then perhaps hinder municipal planning at a later date.

As a consequence of the amendments to the Federal Building Code in 2013, local communities now have an improved consultation right when it comes to the construction of larger livestock housing facilities as commercial animal installations that exceed specific sizes are no longer given priority. The statutory amendment may have put a damper on the construction boom but it didn't halt it. It is to be expected that many plans in future will be oriented towards the thresholds (i.e. just below them) or farms may be divided up.

## 5.6 Competing goals and synergies between the various goals

### 5.6.1 Competing goals between animal and environmental protection

In the discussion of husbandry methods that are to be recommended, reference is often made to competing goals between animal and environmental protection. This applies in particular to the effects of elevated space allowance, freedom of movement, litter offering and outdoor climate contact on animal welfare on the one side and emissions on the other. A fundamental challenge is that a comparative weighing up of animal and environmental protection goals is not objectively possible and can only be done on the basis of value judgements as priorities are fixed solely on the basis of a personal set of values. All the same, the actual scale of conflicting goals is far smaller than often indicated. This has to do, amongst other things, with the fact that there are also synergy mechanisms and a series of emission-reducing measures that are efficient across all methods.

In contrast to the environmental problems, which can be reduced in most cases by various measures, animal welfare is determined solely by the interaction between the animal concerned, its direct husbandry environment and management. The entire process chain and not just livestock housing must, however, be borne in mind when determining the emissions and the corre-

sponding reduction measures. There are a number of effective emission-reducing measures (e.g. nutrient-adapted or nutrient-reduced fodder, slurry store covering, direct mixing of slurry into the soil, etc.) that considerably reduce the specific emissions when used extensively. Furthermore, technical innovations could help to alleviate conflicting goals. If environmental and animal protection goals have to be weighed against each other, solutions should be sought that do not disproportionately impair animal welfare.

### **5.6.2 Conflicting goals between animal welfare, animal health and consumer protection triggered by outdoor climate contact**

The demand for outdoor climate areas for animals on animal protection grounds is to be viewed ambivalently because of the animals' germ count. They increase the risk of exposure, which is difficult to control, to pathogenic germs and zoonotic agents. The creation of runs lowers on the one hand the farm stock density, which will probably reduce the exchange of pathogens within the stock. On the other hand, it increases the risk of outside input and the transmission of germs between stocks. This applies particularly when there are high regional livestock densities.

When it comes to infection risks for the animals and consumer health protection, outdoor climate contact of the animals is problematic when the stocks are exposed to zoonotic agents and other pathogens on a scale that goes beyond what is found in closed livestock housing. In principle, wild animals, birds, rodents, insects and the air are potential vectors. In the case of unpaved open air runs, chains of infection can only be interrupted to a limited degree by cleaning and disinfection. This means that runs may be highly contaminated with potential pathogens. Viewed in this way, the outdoor climate contact of herds of dairy cattle and suckler cows seems to be unproblematic whereas for other animal species and uses there are greater risks, which can only be minimised through extensive management efforts.

The efforts required and the implementation depend on livestock density in the regions. The use of paved and, where necessary, protected outdoor climate areas or of cold houses could constitute a viable compromise. Research and development should work on solutions that focus more on animal protection aspects and the reduction of zoonotic agents and resistant bacteria in animal stocks. Knowledge about the potential positive and negative health effects of protected outdoor climate areas should also be advanced.

It is often difficult to obtain planning permission for livestock housing with an outdoor climate or outdoor climate areas at the present time. This is due on the one hand to the currently unsatisfactory data situation about the expected ammonia emission behaviour of these animal facilities and on the other to the odour and protection of neighbouring housing. Odour pollution can be largely contained through appropriate management. In this area there is a need for greater communication about the conflicting goals and possible solutions between the inhabitants concerned, the municipalities and the planning permission authorities.

## 5.7 Corporate cultural preconditions in the industry for handling conflicts and external expectations

Almost all the companies in the German meat industry pursue a cost leadership strategy (which is unusual for the high-wage and high-tech country Germany). Both farmers and processors face considerable market pressure. Hence, they frequently see criticism from society about their type of animal husbandry as attacks by those very individuals who create the price pressure in the first place because of their price-oriented shopping habits.

The cost leadership strategy promotes an industry culture that leaves little scope for innovation beyond rationalisation. The slaughterhouses and processing establishments are characterised by very Tayloristic, i.e. highly deterministic, workflows. Hence, there is a high predominance of simple work activities and relatively lean but distinctive hierarchies. Overall, the culture in the meat industry is shaped more by classical male values; topics like animal care have a hard time and are scarcely discussed at all by the expert community. These prevailing norms have contributed to a low level of sensitivity to public criticism. In Germany, animal husbandry has, therefore, gone on the defensive in the societal debate.

The cultural and emotional-psychological sides to the conflict have been more or less neglected in agronomical and agropolitical discussions up to now. It is not uncommon for animal protection conflicts to trigger psychological defence mechanisms. In the first decade of the 21st century, farmers and processors frequently reacted to criticism by withdrawing or with defensive concepts. Additionally, the scale of their PR activities was limited.

The difficulties encountered by the agri-food industry in dealing with public criticism are also coloured by the sweeping nature of many media accusations in which different arguments are jumbled up. The predominant formulation of the conflict as a dispute about "intensive animal husbandry" is, understandably, far removed from the reality of livestock farmers.

Overall, it is problematic when livestock husbandry and the meat industry only make a limited contribution to the public debate and permanently isolate themselves. Although more efforts have been made recently in public communication, this frequently had more to do with awareness-raising (for criticism about this see Chapter 3.5) and less to do with self-critical reflection on modern animal husbandry in times of changing societal preferences. In the long term, a defusing of the societal conflict between parts of society and the industry will only be possible if mutual learning processes are stepped up and the industry's awareness of societal change is heightened.

Policy-makers can promote these societal learning processes through deliberative, dialogue-oriented policy instruments and methods (see Chapters 6.4.3 and 8.1.2.1).

## **6 Governance: the role of the state, the private sector and civil society**

### **6.1 Basic reflections on the governance role of the market, state and civil society**

The term "governance" is used in this Opinion to mean "steering" in order to analyse the steering mechanisms and processes in the three areas market, state and civil society, that are of relevance for the development of animal husbandry. According to the principles of a social market economy, state action is needed and justified when the market's governance mechanisms do not function adequately ("market failure") or when they do not lead to a socially acceptable result for other reasons. As outlined in Chapter 6.2, the animal husbandry problems analysed in this Opinion can be attributed to various market governance problems. Various governance instruments are available to tackle the problems (6.3) including self-governance instruments of industry.

The governance concept used in this Opinion recognises that there are also limits to the state's steering options because it cannot suspend basic market patterns in an open economy. Other limits to state governances are the legal framework conditions, the realities of the political system (political competition, media influence, the influencing of policy decisions by lobby groups from industry and civil society), and the realities of the administrative system (limits to implementability). Against this backdrop, political governance processes are addressed in detail in this Opinion (6.4) in order to make recommendations for the shaping of policy processes in the field of livestock husbandry.

### **6.2 Governance problems of the animal husbandry market**

The reasons why market governance mechanisms do not lead to socially acceptable results often have to do with the specific characteristics, production methods and marketing practices of animal products. Governance problems can roughly be assigned to the areas animal protection, environmental protection, nature conservation and consumer protection/human health.

Meat products are mostly sold as unbranded standard items via price. On a cost-driven market, there are major incentives for rationalisation but also for cost externalisation and, in some cases, for opportunistic behaviour (infringements of the rules).

It is difficult to organise the joint tackling of these problems by companies in one industry because of the problems of collective action (bandwagon behaviour). Major improvements have been made to the industry's self-control systems on the company and sector level over more than the last ten years. However, so far they have mainly focussed on consumer health protection and much less on environmental and animal protection and social aspects.

Food safety, animal and environmental protection as well as the social compatibility of production are not discernible by customers on the product (confidence attributes). The resulting information asymmetries to the detriment of customers can lead to market failures and require specific regulations.

The market mechanism is also problematic in the case of animal products because of the by-product issue. As much as possible of a slaughtered animal is utilised. The successful marketing of all animal parts and by-products is a decisive criterion for the profitability of a slaughterhouse. As, however, consumers are only directly interested in approximately 1/4 of an animal as meat, and this may be the only source of additional revenues for animal and environmental protection, the additional costs must be allocated solely to this sales channel. This considerably increases the price differential to the rest of the market and may lead to market failure if parallel efforts fail to secure sausage production and the large-scale consumer market for these attributes, too.

The growing spatial concentration of animal husbandry is a consequence of the economic advantages of cluster formation. The socially undesirable environmental effects associated with a heavy concentration of animal husbandry are very much externalised if there is no state control.

Animal husbandry is based to a large degree on imported biomass (fodder). In export countries, this can lead to undesirable land use changes like the clearing of tropical rain forests. The replacement of fodder imports by domestic products would not really change anything as the field crops squeezed out by domestic fodder production would be produced elsewhere (possibly also leading to tropic rain forest clearing) and more would be imported.

The working conditions in the slaughter and processing industry are not very attractive. Given the limited income and work opportunities of many foreign workers, they account for a comparatively high share of the workforce in this industry. This leads to a low degree of trade union membership and a weak negotiating position for workers with a negative impact on working conditions.

## 6.3 Analysis of possible governance instruments

### 6.3.1 Overview

The instruments available for solving the market's governance problems differ in respect of the depth of their intervention in the market mechanisms. This section begins with the instruments with a low level of intervention (promotion of the innovation system) and ends with instruments that intervene more in the market mechanisms (requirements). The following criteria should be borne in mind when assessing these instruments: (1) effectiveness, (2) cost efficiency, (3) economic efficiency, (4) dynamic efficiency, (5) political enforceability, (6) administrative implementation, (7) cost distribution, (8) effects on international competitiveness and other goals and



(9) reconcilability with international commitments. The governance instruments differ markedly with regard to these criteria as explained in more detail below.

### 6.3.2 Promotion of the innovation system

#### Research promotion as a governance instrument

Research promotion is an important policy instrument that is relevant for all areas of conflict. The special potential of this instrument is that it can lead to technical and institutional innovations that can markedly reduce the conflicting goals in animal husbandry, particularly the conflicting goals of international competitiveness and animal and environmental protection as well as social standards.

The potential of publicly funded agricultural research to achieve animal welfare goals has only been exploited to a limited degree up to now as research was very much oriented in the past towards productivity gains and reducing environmental pollution.

The research landscape in Germany is differentiated. Greater coordination and the bundling of research activities could improve the effectiveness of investment in research. Furthermore, the orientation of research support towards three-year projects is often not appropriate for complex issues like animal welfare.

The incentives in particular for university researchers to work on application-oriented solutions are rather limited given the existing evaluation systems for academic performance. Furthermore, there are scarcely any research management mechanisms that orient research in a future-centric manner towards societal issues and involve societal stakeholders in the research process.

#### Initial and further training

The knowledge of livestock farmers and animal keepers is of the utmost relevance for effective and efficient animal protection. Studies repeatedly highlight the major differences between similar types of farms that are linked to the skills of management and farm workers. The initial and further training of the workforce in animal husbandry is, therefore, an important means to more optimum achievements of animal welfare goals and, at the same time, to strengthening international competitiveness. The initial and further training level of the workforce in animal welfare is highly varied. It ranges from farm managers with a good level of initial training and a readiness to engage in ongoing further training down to semi-skilled employees without any specific initial or further training.

At the same time, with the exception of conventional fattening chicken practices (from 500 animals), there is no mandatory certificate of competence in the field of husbandry with the emphasis on animal protection. Nor is there any obligation to attend further training.

### **Advisory services**

Besides research and initial and further training, advisory (extension) services are another important form of support to help livestock farmers achieve animal protection and environmental goals as effectively and as efficiently as possible. They should be set up and can help to reduce societal problems in important areas of conflict without calling into question and maybe even improving the competitiveness of animal husbandry.

Public funds should be used above all for those advisory services that help farmers to reconcile the achievement of societal goals like animal, environmental and consumer protection with their business goals. Interesting approaches have been adopted only recently for instance in the field of pilot and demonstration projects on the subject of animal protection.

### **6.3.3 Monitoring and transparency**

Despite the major public interest, there is no publication that regularly provides objective information on the status quo and developments in animal welfare in agricultural livestock husbandry. Unlike the Environmental Ministry, the Agriculture Ministry does not have a dedicated information platform that provides a similar width and depth of reporting on animal protection topics like the Environmental Ministry has for environmental topics.

Systematic monitoring including the collection and publication of animal protection data is an important governance instrument that can contribute to a more objective debate and the resolving of existing problems. It offers greater transparency and can help to overcome policy governance problems that arise from the one-sided influencing of policy decisions by interest groups.

### **6.3.4 Industry agreements on animal protection**

Self-control instruments offer advantages over state requirements when it comes to administrative and political enforceability as they are voluntary. When the stakeholders in a sector are well organised, the nationwide implementation of specific voluntary standards, for instance in the animal welfare and environmental areas, is conceivable. However, this self-control only functions when companies believe that stiffer regulations will otherwise be unavoidable in future.

In the field of animal protection both known and innovative forms of industry agreements are being discussed: 1. self-restraint agreements on a value added level involving the delisting of specific products, frequently on the level of the food retail trade; 2. cross-chain voluntary industrial commitments; 3. mass balance; 4. industry approach with a clearing model.

The private sector initiative, Animal Welfare, is an interesting new model for achieving improved animal welfare. It aims to avoid the problems of smaller sales volumes for products manufac-

tured in line with high animal protection standards, and to reduce mark-ups. This model, with contribution-based financing, entails large retailers passing on a price mark-up on meat through a clearing house (a fund) directly to farmers. It does improve the position of producers and processors but brings with it a considerable outsider risk for the food retail trade because not all retailers participate. It takes only the non-participation of one larger commercial enterprise, which can then offer its meat at lower costs, to destabilise the system. Furthermore, it is not possible for the consumer to identify meat that comes from animal welfare-oriented husbandry and this may be a difficult point in the public debate.

In the case of voluntary participation, agricultural enterprises with a low level of animal welfare only have limited incentives to join in as they would have to make relatively high investments to meet the criteria of the industry initiative. The non-participation of problem farms carries risks for the sector's public image.

### 6.3.5 Animal welfare label

At the present time, organic farming has the most relevance for the labelling of products with a higher animal welfare level. Whereas it has a considerable market share of around 9 percent for eggs, the shares for pork and poultry meat are under 1 percent. This is due to the major price differences compared to conventional meat.

In the meantime, new approaches to the labelling of animal-friendly products have been gaining ground outside the organic market (e.g. <http://www.tierschutzlabel.info>). These labels often need a development phase spanning several years until they achieve a greater degree of recognition by consumers and, by extension, an advertising value for suppliers. Where there is competition between several rather unknown labels with different standards on the market, this information is of little benefit to consumers ("label jungle"). For that reason and to avoid unfair competition, a state label (analogue to organic) would seem to be a good option and this has already been discussed in the past at the EU level.

The state can invest in advertising for governmental labels. Where larger advertising budgets are available, like for instance for the German organic label, a higher degree of recognition could be achieved and the effectiveness of this instrument could be markedly improved. The spread of a label also depends on the behaviour of important key companies in the value chain.

### 6.3.6 Taxes/levies and subsidies/premiums

#### **Subsidies/premiums**

Subsidies can be broken down into a) distribution-motivated subsidies like, for instance, direct payments within the framework of the EU Common Agricultural Policy (CAP) - which are not effi-

cient policy measures for the achievement of environmental and animal protection goals - and b) incentive subsidies for rewarding the socially desirable services of agriculture, for which the term "premium" (animal and environmental protection premiums) will henceforth be used. The reward for socially desirable services is envisaged in European agricultural policy mainly in the Second Pillar where the regional rural development programmes of the EU are co-financed. In the Second Pillar a whole array of different measures are supported like agri-environmental measures, single-farm investment promotion or advisory services.

The burden placed on public budgets and, in the final instance, on taxpayers impedes the political enforceability of subsidies/premiums. In addition, from the perspective of individual EU Member States there are the limited opportunities for national implementation given their politico-economic integration in the EU. State payments to companies that impair competition are governed by EU state aid rules and are not admissible (Article 107(1) Treaty on the functioning of the European Union) except in the case of exemptions. However, subsidies/premiums previously approved by the European Commission under the CAP are admissible.

A fundamental problem with the arrangements for the payment of animal or environmental protection services is the frequent conflict between the precision of policy measures, which potentially increases in the case of differentiated arrangements, and the goal of keeping administrative costs as low as possible that also tend to increase in the case of the differentiated formulation of policy measures.

Compared with environmental protection measures, only a very small proportion of funds for rural development are spent on animal protection measures like summer grazing, husbandry methods with more space, etc. Overall, just less than one billion euro was spent on animal welfare measures (ENRD, 2014a) in the EU between 2007 and 2013. By contrast, during the same period more than 33 billion euro flowed into agri-environmental measures (ENRD, 2014b). Germany earmarked just less than 100 million euro for animal welfare measures for 2007 to 2013, compared with around 4.2 billion euro for agri-environmental measures. This is because only few animal protection measures are contained in the framework plan of the Joint Scheme 'Improving agricultural structures and coastal protection' and because, more particularly, of the low degree of implementation by the Laender of the measures already contained in it. For the 2015-2020 period, animal protection payments have taken on more importance with earmarked funds of around 235 billion euro. Given the scale of the challenges and compared with agri-environmental measures, this is still a very low contribution and corresponding measures have been programmed by only six countries.

### **Taxes and levies**

The tax and levy instrument is a non-voluntary instrument with the related disadvantages of political and administrative enforceability. In environmental policy literature, it is generally seen as a "market-oriented" instrument although it is viewed more positively than the regulations and requirements discussed further below. Where there is a suitable lever and the tax or levy is cor-

respondingly high, this instrument can lead to an "internalisation" of external effects. Examples of this that were often discussed in the past are a nitrogen levy for mineral fertilisers or a levy on nitrogen balance surpluses.

### 6.3.7 Market and price policy

Animal products receive substantial price support within the EU. In 2012, it was particularly high for beef with a Nominal Protection Coefficient of almost 1.5 (i.e. a domestic price 50 percent higher than the world market price). In the case of poultry and sheep meat, price support with mark-ups of 18 percent and 16 percent on the world market price is substantial. In contrast, the EU price for eggs and pork has more or less been on the world market price level in recent years. Price support in the EU is mainly achieved through custom duties. Hence, customs protection between 19 percent and 59 percent of the goods value for most products is clearly higher than the current mark-up on the market price.

EU price support results in higher EU production and lower EU consumption than would be the case without price support. However, initially there is no direct link between the EU market and price policy and the level of animal welfare. The current customs protection does, however, permit the passing on of some of the costs induced by a potential increase in animal protection standards to the consumer. At the present time, the EU is a net exporter of all animal products except for sheep meat and eggs. A clear slump in production caused by animal and environmental protection in the EU would, therefore, also lead to a clear EU price increase for all products as the EU would move towards being a net importer and the external tariffs would have a more marked impact on the domestic price level.

### 6.3.8 Statutory standards

Out of all the instruments, statutory requirements/standards are the only ones that can serve to implement a nationwide minimum standard.

However, the efficacy of statutory requirements in animal husbandry is frequently limited at the present time by flaws in political and administrative implementation and control shortcomings (see below). It is not uncommon for governance goals to come to nothing because of far-reaching exemptions, for instance, at the present time for non-curative animal interventions (e.g. tail docking).

The effects of national standards on international competitiveness are particularly problematic when the resulting additional costs are not offset by innovations that generate additional revenue or cost savings. This is also because in the WTO neither import restrictions nor mandatory labelling are admissible for process standards.

### 6.3.9 Controls and sanctions

The impact of regulatory instruments or voluntary standards is directly linked to the effectiveness of controls and the scale of sanctions. In the opinion of WBA, the inadequate implementation and control of fertiliser application is one of the major contributory factors to the central environmental problems of animal husbandry. In the field of animal protection, too, there is a low density of control and mild sanctions. The implementation and enforcement deficits of the current legal standards stem from various factors on the economic, organisational and legal levels. A second group of problems does not encompass classical control gaps but implementation difficulties despite the relatively blatant non-compliance with statutory requirements (e.g. some non-curative animal interventions). Finally, the most severe animal protection infringements are only punished with mild or no penalties at all.

Standard enforcement instructions agreed between the Laender, the setting up of more supraregional specialist organs for control and prosecution and central contact points for animal protection issues (e.g. animal protection services, ombudsmen) are possible options for ensuring effective and largely harmonised enforcement.

At the present time, animal-related indicators are only used in a very peripheral manner for control. What are lacking are standardised legal requirements for the scale and methods for recording and transferring results.

Today, the costs of official controls are born by the state, i.e. mainly by the responsible local government bodies. At the suggestion of the Bundesrechnungshof (German Supreme Audit Institution [SAI]) some federal states (Laender) are seeking to redirect the control costs to the supervisory bodies. However, there is the fundamental risk of an overly high level of control with the associated high costs. Besides risk-oriented control, efforts should, therefore, be made to achieve a result-oriented transfer of control costs, i.e. the passing on of these costs to the farm only when (culpable) irregularities have occurred.

Improvements in environmental and animal protection are encouraged by a combination of improved control techniques and structures (using state-of-the-art technology) and the corresponding training of inspectors, a higher density of control and stiffer sanctions as the latter can, from the economic perspective, replace controls to a limited degree.

### 6.3.10 Right of associations to take legal action

The taking of legal action by an animal protection association on the federal level would be welcomed both with a view to raising the level of animal protection and to maintaining legal and economic unity as this is handled very differently at the present time in the federal states.

### 6.3.11 Inspection and approval procedures

The introduction of an inspection and approval procedure for mass-produced livestock housing, slaughter and stunning facilities could stimulate the development of more animal welfare-oriented husbandry methods and a stepping up of the expert animal protection dialogue between farmers, livestock housing companies, the competent state authorities, the federal government and scientific circles. The precondition for this is, however, sufficient resources for an appropriate body.

The introduction of an inspection and approval procedure of this kind also brings with it the risk of hampering innovation, particularly in the case of small and medium-sized manufacturers. To avoid innovation-hampering effects, livestock housing facilities requiring extensive, practical inspection should be given temporary approval and permission to be placed on the market.

To avoid creating market barriers for small and medium-sized innovative companies and given the considerable public interest, there should perhaps be public funding of the practical inspections to keep the fees for them as low as possible.

## 6.4 Governance problems of policy-makers in animal husbandry

The political steering processes in the policy field of livestock husbandry were not able to sufficiently defuse political tensions in the past. Hence, WBA believes there is a need for action in the shaping of policy processes.

### 6.4.1 The concept of societal acceptance

Societal acceptance results from the reconciliation of societal expectations with the perceived reality of practical animal husbandry. If acceptance is seen as a goal of policy decisions, then this throws up conceptual challenges.

Given the fundamental ethical debate about animal products, acceptance is a relative concept and the degree of preferred acceptance is, in the final instance, a political decision. Furthermore, there are numerous conflicting goals when it comes to livestock husbandry. Citizens do not necessarily grasp the full scale of these conflicting goals. Conflicting goals must, however, be taken into account in policy decisions.

Hence, for political decision-making processes it makes sense to obtain information that is as reliable as possible about the scale and the development over time of societal acceptance. Here, research should build on a broad spectrum of quantitative and qualitative research approaches.

This also includes longitudinal analyses (panel studies) of people's attitudes and consumers' willingness to act.

### **6.4.2 Problems of political processes in the field of livestock husbandry**

Political processes in the field of livestock husbandry are very much influenced by interest groups. Agricultural as a whole, livestock farmers and agribusiness are traditionally well-organised interest groups. By contrast and in comparison to the environmental and nature conservation movement, the animal protection movement is relatively splintered in the agricultural policy process. This is particularly noticeable in the conflicts between the animal protection movement and the animal rights movement whereby stances that fundamentally reject livestock husbandry can be communicated very effectively in the media.

Scientifically oriented expert work (ecology-oriented research institutes, etc.) is also more firmly anchored in the ecological movement than in the animal protection movement. This promotes a professional approach in agricultural policy processes and rational policy processes.

Against this backdrop, the policy process in animal protection has been positioned for a long time and with increasing intensity in an area of tension where the focus has been more on the emotional than on the scientific treatment of the topics.

The high "indignation potential" of the topic animal welfare in the media contributes to a policy pattern in which political decision-makers react to public pressure with statutory standards. But then under the pressure of the well-organised interests of livestock farmers they water them down with extensive exemptions or do not sufficiently support their implementation.

### **6.4.3 Improved steering by means of deliberative citizens' involvement**

Dialogue processes can contribute to reducing "policy failures" in the field of animal protection. The dialogue process initiated with the animal protection plan of Lower Saxony is an innovative policy process for this explosive and highly specialised policy area.

Given the limited personal resources of the interested associations and also the enterprises' supraregional activities, this form of participation does, however, come up against its limits, particularly when there are parallel processes in several federal states. Furthermore, these processes are not very conducive to identifying new opportunities for consensus as the associations are



entrenched in their positions and have little incentive or scope<sup>2</sup> to change them in deliberative processes.

Approaches that rely on greater direct citizen involvement are one alternative on the local, regional or national level. They include, for instance, consensus conferences, citizens' expert opinions/planning cells, mediation processes, future workshops and "townhall meetings". The goal of these dialogue-oriented processes is to bring together citizens, actors of civil society and decision-makers early on in a political process. Instead of interest-driven negotiations, they encourage the exchange of arguments with a view to the joint formation of consensus-minded public opinion. Up to now, little use has been made of deliberative processes of this kind outside statutory approval procedures in the field of livestock housing measures (e.g. in accordance with Federal Immission Control Act [BImSchG], Federal Building Code [BauGB]).

On the local level, for example, when building livestock housing, these processes can reduce conflicts when they are conducted in a timely and professional manner. One major attribute of these processes is their ability to provide policy-makers and administrative decision-makers with more accurate information about citizens' preferences when it comes to livestock husbandry. At the same time, these processes - when conducted on a larger scale - can improve the level of information amongst the population at large about the actual conditions of animal husbandry and conflicting goals.

#### 6.4.4 The study commission instrument

Given the socio-political relevance of livestock husbandry and its ethical dimensions, an all-party consensus-forming process would seem to make sense. In this context, the study commission instrument (Enquete-Kommission) can also be used to strengthen deliberative processes.

#### 6.4.5 Improved coordination of political and private initiatives

Given the recent marked increase in dynamics and parallel activities, WBA believes there is a need for improved coordination between the state, private industry and associations to facilitate agreement on the new initiatives (in particular an industry agreement, label and state measures), and to develop suitable processes.

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<sup>2</sup> These dialogue-oriented processes bring together citizens, actors of civil society and decision-makers early on in political processes. The focus is on the exchange of arguments with a view to the joint shaping of opinions ideally followed by consensus-based decision-making.



## 7 Viable animal husbandry

### 7.1 Transformation processes in the meat sector - for a new culture of meat consumption and production

Global meat consumption on the current OECD level would not be sustainable given the limited global resources. In addition, health considerations indicate the need to reduce the average consumption of meat and, in particular, sausage products in Germany. WBA sees a diet with more vegetables as an important element of sustainable consumption. In some fashionable social milieus with a high level of health awareness, changes of this kind can already be observed. All the same, the gap between citizens' preferences and consumer behaviour towards meat is still very wide.

In theory, reduced consumption in Germany need not lead to a slump in national production. Given the stiff international competition pressure, there are many conflicting goals between environmental and animal protection on the one hand and competitiveness on the other when it comes to exports. Hence, it cannot be ruled out that the implementation of the animal and environmental protection measures called for by WBA will lead to slumps on export markets despite the compensatory measures discussed in the following chapters.

WBA believes that the model "better and less", i.e. eating less but more sustainably produced meat, is an important element for seizing the economic opportunities for the necessary changes to animal husbandry and initiating a new culture of meat consumption and production. A shift in the strategy of rising volumes and cost leadership to a differentiation strategy with higher value added per product unit opens up improved possibilities for animal and environmental protection.

We know from similar transformation processes (like, for instance, the launch of renewable energies or sustainable mobility) that the necessary changes to strategy and culture cannot be achieved in the short term or without some degree of friction.

If the required transformation process is to avoid leading to a paralysing stagnation phase, WBA believes it is important:

1. to stage a broad political debate on the long-term requirements to be met by animal husbandry;
2. to communicate and support the direction of a transformation process in a clear political and long-term manner.
3. to cushion the transformation process in the long-term with concrete measures whilst avoiding an over-dependence on daily policy specifics;
4. to have both policy-makers and industry grasp the opportunities presented by new technologies and the increased willingness to pay.

In this context, efforts should be made to counter any erroneous developments in the societal debate like, for instance, overly focussing on farm size. More animal and environmental protection is indeed possible even in farm sizes that are seen in the public discussion as "intensive animal husbandry".

## 7.2 Guidelines for sustainable animal husbandry

The societal requirements to be met by animal husbandry will continue to rise in future. These societal demands cannot be directly turned into policies. Instead, there has to be an intensive debate between industry, civil society and policy-makers in order to define goals and to more readily reconcile societal demands and the reality of agricultural production.

The WBA is of the opinion that many of the current husbandry conditions are not animal welfare-oriented and are not viable against the backdrop of societal change. Furthermore, when it comes to the animal manipulations required in some of these systems, they are only legally admissible at the present time if there is still a very broad interpretation of exemptions. The following guidelines (Table ZF 1) sketch what WBA sees as the targets for developing animal husbandry geared to ethological and societal demands bearing in mind the economic consequences outlined in Chapter 7.3. These targets should be communicated by policy-makers as quickly as possible in a binding manner with some indication of a foreseeable timeline.

**Table ZF 1:** Guidelines for viable animal husbandry from the animal protection perspective

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### **Guidelines for animal protection**

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#### ***Area husbandry***

- (1) access of all livestock to various climate zones (preferably an outdoor climate or grazing for dairy cattle when this is possible in the region)
  - (2) provision of different functional areas with various floor coverings
  - (3) provision of installations, substances and incentives for species-specific activities, feed intake and grooming activities
  - (4) provision of sufficient space and infrastructure, no permanent tie stalls
- 

#### ***Area operational management***

- (5) a halt on amputations to adapt to husbandry systems, other interventions with pain elimination
  - (6) setting up of a system of farm self-controls (use of medical products and animal health, animal behaviour) and the mandatory drawing up of animal health plans
  - (7) limited use of medical products
  - (8) high level of education, expertise and motivation of people working in the animal sector
- 

#### ***Area breeding***

- (9) major and broad consideration of functional traits in breeding
-

## 7.3 Animal welfare and competitiveness

In terms of animal protection, the implementation of the guidelines for viable animal husbandry recommended by WBA can lead to major progress in this field. However, depending on the animal species and implementation timeline they can entail far higher production costs. If these costs cannot be offset by the market or by policy-maker or private industry measures, they may also lead to the departure of farms. Without accompanying measures, the implementation of the guidelines as a national scheme will massively jeopardise the international competitiveness of farms in the standard market. Chapter 8.1.1. looks at who should bear the implementation costs of the guidelines and how the various instruments can interact to ensure that animal husbandry does not emigrate from Germany.

### 7.3.1 Examples of concretisation as the basis for cost estimates

To facilitate the estimation of additional animal welfare-driven costs in the field of husbandry, reference is made by using the example of existing minimum requirements for fattening pigs, fattening bullocks, fattening chickens and laying hens within the framework of brand programmes, labels or partial aspects of ecological animal husbandry that correspond in full or in part to the above guidelines. They include the premium level of the animal protection label for fattening pigs and the entry level of the animal protection label of the German Animal Welfare Federation for fattening poultry and the criteria of the Association for controlled alternative types of husbandry (KAT) for "animal welfare-tested" floor housing for laying hens.

### 7.3.2 Estimation of animal welfare-induced cost increases

The estimation of cost increases is subject to a whole number of uncertainties. Therefore, it only presents a rough range of the expected additional annual operating production costs for specific measures. The cost increases may vary considerably depending on the starting conditions on the farms and the type and scale of the measures. For instance, the costs will probably be higher than the ones presented below when comprehensive livestock housing conversion work is necessary as the cost estimations only take into account the annual depreciation for additional animal protection-related investments in new livestock housing.

In total, this means for Germany - calculated roughly - additional animal welfare-induced annual costs of approximately 3 to 5 billion euro, i.e. increases in the current production costs of 13 to 23 percent. However, these figures vary considerably between the production branches. These costs correspond to around 0.1 to 0.2 percent of gross domestic income, around 2 to 3 percent of total expenditure on food in Germany or around 60 to 100 percent of today's annual budget for direct payments within the framework of CAP in Germany.

These animal protection-induced costs are on the scale of the declared willingness to pay of a major share of the population (cf. Chapter 4.4). This means that a higher level of animal protection should not be rejected solely on the grounds of costs.

It should, however, be borne in mind that these cost estimates can only provide a rough framework and that some animal protection measures cannot be implemented in certain farms (e.g. because they are too close to residential areas or other livestock housing facilities or have no access to pasture land). Moreover, the experiences with the stiffening of statutory animal protection requirements in sow husbandry (ban on crate stalls for pregnant sows from 2013) show that many farms faced with choosing between substantial modernisation costs or halting production go for the latter. Given the small margins in many livestock farms, it must be assumed that even minor price increases can result, for many farms, in a loss of competitiveness and to a significant reduction in their income from agriculture.

It should also be borne in mind that technical progress has not been factored into the cost calculations. Over the next few years, it will reduce costs particularly in the event of more widespread use of the above husbandry methods.

### **7.3.3 Implications of Germany's integration into international trade policy for animal protection policy**

Limits to national policy frameworks, which must be considered in discussions of the corresponding instruments, result both from EU integration and from membership to the World Trade Organisation (WTO). Given Germany's integration in agricultural policy, it cannot have its own pricing policy on the EU single market. What's more, the EU price policy options are limited by WTO regulations. Despite Germany's international integration there are some interactions that would limit the scale of production relocation triggered by animal protection policy.

- Some of the animal welfare requirements only change the overall costs of animal husbandry to a limited degree because, for instance, the improved skills of the animal keepers do increase personnel costs but also come with positive synergy effects for farm management and productivity.
- Given the consumer preference for domestic products, which would probably increase as a result of improvements to animal protection, many consumers would not abandon them because of minor price rises. This behaviour can be encouraged through corresponding information campaigns on animal welfare. Consequently, an increase in production costs will lead to a price rise that lessens the exodus of production.
- In the case of a drop in animal husbandry in Germany triggered by higher production costs, the price level for fodder, in particular non-marketable fodder, would fall and this would improve the cost position of domestic production.

- Given the size of the German agricultural sector, a drop in animal production would lead to a slight price increase on the EU market. This is also because the EU engages in substantial customs protection (customs duties) for most animal products (see Chapter 6.3).
- In the long term, the costs induced by tightening animal protection requirements will fall as they lead to innovation and technical progress.
- When a country advances in the animal protection field, it influences policy discussions in other countries. It can lead to a tightening of animal welfare laws in those countries, too. This can then reduce the competitive disadvantage of the initial lead country or even turn it into a competitive advantage in the medium term.

Simulation calculations permit an estimation of the price increases and production drops are to be expected if production costs rise. Based on the mean cost estimates (22 percent production cost rise for animal husbandry in Germany) given above, the results of the partial equilibrium models (CAPRI and ESIM) point to the following effects:

- Part of the increase in production costs triggered by raising animal protection standards will lead to a rise in product prices. If animal protection standards were to be raised only in Germany, the increase in product prices would be rather small because of international market integration (the highest for pork of around 4 percent). Already the joint raising of animal protection standards and a corresponding rise in the costs in some selected northern European Member States will lead to a substantially higher price rise than the raising of standards in Germany alone. As demonstrated by the simulation calculations, the price of pork will rise about twice as much. If the raising of animal protection standards is coupled with a corresponding cost increase throughout the EU, it is estimated that pork prices in the EU will increase by up to 20 percent and the prices for poultry, eggs and beef by up to 14 percent.
- Animal production would fall dramatically if animal protection standards were raised markedly without any accompanying measures because of the additional production costs. This fall in production would vary substantially between the different production methods. Milk production would change very little whereas pork production in the event of the implementation of higher animal protection standards in Germany alone would fall on a scale of 20 to 37 percent based on the simulation results. The production cutbacks for beef, poultry and eggs would be between 8 and 16 percent. In the case of EU-wide implementation of higher animal protection standards, the production slumps in Germany would be far lower.
- With regard to the drop in production, it is demonstrated that the concerted raising of animal protection standards in some northern European Member States would be far more advantageous from the angle of German animal production than if Germany were the only country to go down this route. In this scenario, the slump in meat production in Germany would be around 15 to 25 percent lower than if Germany were to go for it alone.
- By way of summary, it can be said that when the number of countries with higher animal protection standards grows, the product prices for animal products increase and the drop in meat production in Germany is cushioned more.

Against this backdrop, measures are recommended in Chapter 8.1 for counteracting the exodus of animal husbandry.





## 8 Recommendations

The following recommendations comprise a coordinated set of different measures staggered over a timeline for various recipients. They aim to improve the societal acceptance of modern animal husbandry. The recommendations are based on the idea that major changes are necessary and possible. However, they should be formulated in such a way that the exodus of animal husbandry to countries with lower standards is limited.

The following recommendations are the results of a weighing up of various goals even if they are broken down by individual target areas: animal protection (Chapter 8.1), environmental protection (Chapter 8.2), protection of human health and economic consumer protection (Chapter 8.3), social compatibility and fairness (Chapter 8.4) and space use conflicts (Chapter 8.5). The economic goal of competitiveness is addressed in more detail in Chapter 8.1.1.

It should be borne in mind that the type of animal husbandry has an impact on numerous societal goals that are linked in differing ways to one another and must be weighed up against each other. The laying down of the desired level is partly oriented towards statutory requirements (e.g. in water body protection) or can largely be justified on technical grounds. In particular, the laying down of a specific level in the field of animal protection is, by contrast, a decision which cannot be justified on technical grounds alone but must also encompass value judgement decisions.

### 8.1 Animal protection recommendations

Table ZF 2 presents the most important animal welfare recommendations.

**Table ZF 2:** Animal welfare recommendations by stakeholder, action level and timeline

	Policy-makers			Private industry
	Federal level	Laender level	EU level	
Immediate programme	<p>Establishment of national animal welfare monitoring</p> <p>Societal negotiation of modern animal husbandry</p> <p>Study commission on animal welfare</p> <p>Citizens' fora</p> <p>National animal protection plan</p> <p>Qualifications &amp; further training</p> <p>Information programmes for consumers (governmental animal welfare label, promotion of the animal welfare initiative, etc.)</p> <p>Research programme animal welfare</p> <p>Federal programme animal welfare</p> <p>Supplements to animal protection legislation</p> <p>Certificate of competence</p> <p>Further training obligation</p> <p>Animal welfare monitoring</p> <p>Data availability for competent authorities</p> <p>Where appropriate with permit reservation for animal husbandry</p> <p>More precise information about existing provisions</p> <p>Right of associations to take legal action</p> <p>Inspection and approval procedures for livestock housing, slaughter and stunning facilities</p>	<p>Implementation of requirements in the field of non-curative intervention (legal enforcement)</p> <p>Extension of initial training and advisory services in the field of animal welfare</p> <p>Certification and further training of advisers</p> <p>Adaptation of the contents of initial and further training for farmers (including animal welfare check)</p> <p>Increased promotion of animal welfare measures through the Second Pillar:</p> <p>Adjustment of investment promotion</p> <p>Development of ongoing animal welfare payments</p> <p>Open day measures</p> <p>Improvements to control systems and legal enforcement</p> <p>Improved facilities for control authorities</p> <p>Extending standard instructions for controls</p> <p>Catalogue of recommendations for amounts of fines</p> <p>Use of enforcement possibilities</p> <p>Supraregional control and prosecution organs</p> <p>Shifting of control costs in the event of violations to responsible party</p>	<p>German initiatives to raise EU-wide minimum standards</p> <p>Increased EU coordination of enforcement practice</p> <p>Multilateral agreements between northwest European core countries of animal husbandry</p> <p>Detailed provisions for the missing animal species</p>	<p>Industry initiative animal welfare</p> <p>Improved financial resources for the animal welfare fund from the private sector</p> <p>Voluntary commitment by trade and the hotel and restaurant industry to delist problematic products</p> <p>Further development of private sector quality assurance systems</p> <p>Adding of animal protection to the Corporate Social Responsibility concepts of larger enterprises</p>

	Policy-makers			Private industry
	Federal level	Laender level	EU level	
	Strengthening of Second Pillar funds for animal welfare measures by transferring First Pillar funds to the Second Pillar Extending the range of measures within the Joint Scheme 'Improving agricultural structures and coastal protection' Adding of animal welfare to public procurement regulations			
Strategic measures	CAP reform Reallocation of Second Pillar funds			Reallocation of First Pillar funds to the Second Pillar beyond the 15 percent possible at the present time Changes to the conditions for animal welfare payments within the framework of CAP WTO strategy on the topic of animal welfare EU research promotion
				Promotion of market differentiation in the meat sector Development of a new culture in meat production

### 8.1.1 Who pays for animal protection? The necessary policy mix

Competition pressure, shaped by the cost leadership strategy, in the meat and dairy industry is so stiff that a statutory raising of national minimum standards without any accompanying policy measures would lead to the exodus of parts of production (Chapter 7.3.3). The following comments sum up the thinking behind the policy mix suggested by WBA to offset the additional costs:

- According to our rough estimates, a clear improvement in animal protection on the agricultural level would result in additional costs of 13 to 23 percent of the total production costs in animal husbandry. The highest cost increases of up to 40 percent are to be expected in pig fattening (Chapter 7.3.2). However, it should be borne in mind that there are very few studies on animal protection-induced cost and price increases. Only rough estimates of the costs of animal protection measures are, therefore, possible and can merely indicate magnitudes as an orientation aid.

- With a producer share of food prices (as part of the consumer euro) of around 25 percent (for animal products) and the simple passing on of costs, these additional costs in agriculture would lead to an increase in consumer prices of 3 to 6 percent.
- Consumer studies (Chapter 4.4) indicate that the vast majority of people would accept an additional price of this magnitude.
- This should not lead to the conclusion that all animal protection problems can be solved by simply raising the minimum standards, what's more in a cost-neutral manner for agriculture. What would probably happen is that the competition pressure would lead to the exodus of part of animal husbandry to other EU Member States whereby the scale would depend on how other large EU production countries react (Chapter 7.3.3).
- This could be countered in principle by the voluntary commitment of the food retail trade to delist all (also foreign) suppliers with lower standards (Chapter 6.2.5). However, the following factors should be borne in mind:
  - There is no willingness to pay for animal protection on the markets for by products like, for instance, skins, feet, innards, etc. Overall, only around 1/4 of the animal is marketed through the food trade; almost half is exported.
  - It would be difficult to implement the delisting of imports in a market characterised in particular in the premium segment by international specialities like cheese and sausage products.
  - Due to the clear focus of the German meat industry on low price segments the resulting cost increase would lead to falling exports of animal products.
- This is where the new instrument of the industry initiative could come in (Chapter 6.3.5). However, it is still completely open whether efforts will succeed to extend this initiative to other animal species and redistribute amounts in a clearing house mechanism that make a substantial contribution to the required funds (see Chapter 7.3) without jeopardising the initiative's system stability. State payments to compensate for animal protection costs (Chapter 6.2.7) are an option that can be combined with the industry initiative or implemented on their own should the animal welfare initiative fail.
- Focussing solely on raising minimum standards is neither sufficient nor sensible. One of the counter-arguments is that the agriculture would be saddled with most of the costs. Furthermore, it would not be possible to seize the opportunities offered by market differentiation.
- Given the high level of willingness to pay by some German consumers, a highly credible state animal protection label should supplement the broad raising of standards and serve as an innovative instrument.
- To tap into further resources, the next reform of EU agricultural policy or the interim review of the current CAP should envisage a reallocation of funds from the First to the Second Pillar with a view to promoting in particular voluntary animal protection measures on a far greater scale than was previously the case, in addition to other services of agriculture.

- Overall there is a need for a policy mix that combines statutory minimum standards, self-restraint agreements/the industry initiative and label programmes with state compensation payments under the Second or even the First Pillar.
- The precise formulation of this policy mix and the success of the labelling programmes will determine who pays for animal protection:
  - Consumers with a particularly keen interest in animal welfare pay for meat marketed via animal welfare labelling programmes.
  - All consumers of animal products bear the cost share of the measures implemented via the industry initiative, which is added on to consumer prices, and the share of animal protection costs, passed on to consumer prices because of customs protection and any delisting decisions.
  - The taxpayer pays for measures financed through state measures like, for instance, animal protection premiums and compensation payments.
  - Farmers pay for the share of additional animal protection-induced costs not offset by a price increase, payments by the state or the industry initiative.
  - The upstream and downstream sectors pay for animal protection particularly when there is drop in profits caused by a slump in animal production.

## **8.1.2 Animal protection measures to be implemented on the federal level**

### **8.1.2.1 Animal protection measures to be directly implemented on the federal level**

#### **8.1.2.1.1 Establishment of national animal welfare monitoring**

- Antibiotics monitoring introduced by the Medicinal Products Act should be seen as the first part of a comprehensive state monitoring system for measuring progress in animal health and protection. The next step involves systematically recording other animal welfare indicators nationwide. At the present time, consistent indicators are missing in large areas that would enable policy makers and society to undertake a valid assessment of the animal welfare level. They have to be developed further.
- A comprehensive, regular report "Animal Welfare Monitoring – Agricultural Livestock Husbandry" should be enshrined in law and could, for instance, become part of the federal government's animal protection report which currently has an overly narrow focus.

### 8.1.2.1.2 Promotion of societal processes of understanding

- The fixing of an appropriate level of animal protection is a decision that cannot be justified on technical grounds alone but must also encompass value judgement decisions. Policy makers should, therefore, accompany this process with a broad societal dialogue.
- WBA recommends the promotion of diverse forms of citizen involvement (deliberative processes) on the future of livestock husbandry, the results of which should be systematically recorded and evaluated. In this context, support should be given in particular to those processes involving citizens who are not experts or representatives of interest groups. Instead of interest-driven discussions, there should be an exchange of arguments with consensus-oriented joint formation of public opinion as the goal.
- The processes could be staged on the local, Laender or federal level depending on the issues involved. They could be staged firstly to obtain information, also as part of research projects. Secondly, they could also play a concrete role in planning processes, for instance, as part of the elaboration of an animal protection plan or policy processes such as in the preparation of a legislative procedure. If possible, deliberative processes should be used early on in a political process to avoid major conflicts. Some processes, such as mediation, are also suitable for situations in which major conflicts have already erupted.
- The promotion of these processes should be done in a tender procedure in which a wide range of organisations can bid to promote the staging of deliberative processes.
- WBA recommends the further development and extension of transparency measures that involve, for instance, farmers making their livestock housing facilities more accessible and taking part in a dialogue with interested individuals. Furthermore, innovative processes should be promoted that convey in a transparent manner the actual conditions of animal husbandry through the use of new media.
- WBA recommends that the Federal German Parliament (Bundestag) sets up a study commission on animal welfare to prepare long-term decisions and shape them in such a way that they are viable beyond both party boundaries and government terms in office (Chapter 6.4.4).
- Dialogue processes involving representatives of interest groups and science should also be continued in addition to the above-mentioned deliberative processes of citizen participation. In this context, the limited personnel resources of potential participants should be borne in mind.
- The large number of current initiatives (industry initiative animal welfare, animal welfare label of the German Animal Welfare Federation, animal welfare payments under Pillar 2 of CAP in various federal Laender) are to be welcomed. All the same, they will require extensive coordination if they are to achieve the set goals as efficiently as possible. To this end, coordination mechanisms should be put in place. WBA recommends to BMEL that it encourages private sector and civil society initiatives on cooperation, and that it supports them in the public perception in order to defuse (alleged) competition driven by individual interests.

### 8.1.2.1.3 Qualification and further training of livestock farmers

- The qualifications and management skills of livestock farmers and animal keepers play a key role in animal welfare (Chapter 6.3.2). To this end, WBA calls for the expansion of advisory services, further training offering and minimum standards for the qualification and ongoing further training of livestock farmers, animal keepers and advisers. This contributes not only to achieving animal welfare goals but also promotes the competitiveness of animal husbandry.
- The federal government should provide expert and financial support to the Laender for the extension of advisory (extension) services and further training offerings in the field of animal welfare, and for the review of curricula from the perspective of animal welfare-relevant contents (see Chapter 6.3.3.).
- In a similar manner to the certificate of competence for pesticides, livestock farmers and animal keepers should have to provide evidence of their expertise.
- Mandatory further training should be introduced for livestock farmers and animal keepers that conveys new findings from science and practice for the improvement of animal welfare.

### 8.1.2.1.4 Information programmes for consumers

- Support should be given to measures seeking to independently raise consumer awareness firstly of animal husbandry and animal protection, and secondly of moderate/reduced meat consumption. The target groups should include children and adolescents. This also involves providing schools with information material.
- A governmental animal welfare label with requirements that go beyond the minimum standard, which has to be raised, should be introduced with comprehensive accompanying measures like for the state organic label. It should also be widely advertised.
- In consultation with the organisers of the private sector animal welfare initiative, attention should focus on what kind of meaningful support can be provided by policy-makers.

### 8.1.2.1.5 Research and innovation programmes on animal welfare

- Innovations in the field of animal husbandry can defuse conflicting goals of profitability and animal protection and that is why WBA attributes high priority to innovation support.
- WBA recommends the promotion of innovations in the field of animal welfare by further extending a "research and innovation programme on animal welfare". This research strategy should have a long-term focus, i.e. beyond the normal duration of project support.
- An important field of long-term research is the analysis of societal values and attitudes towards animal husbandry in longitudinal analyses (panel studies).

- Give.3n the public relevance of this topic and the research gaps described, WBA believes that there is a need for more comprehensive research on the subject of farm/stock size and animal welfare.
- Furthermore, BMEL or the Federal Ministry of Education and Research (BMBF) should introduce a programme that embarks on "risky" new paths that are particularly innovative and that try out, for instance, completely novel forms of livestock housing or types of outdoor runs.
- Promoting innovation is not just the responsibility of BMEL. Given the relevance of this subject, all support opportunities should be exploited, particularly the BMBF and EU support programmes. The topic of animal welfare should be taken into account in ongoing and future programmes.
- Given the fragmented nature of the research landscape, there is a need for improved networking between the various research institutions. WBA believes that the cluster structure proposed by the German Agri-Research Alliance (DAFA) is a sound basis for the coordination of research and the exchange of research findings. It should be put to better use and supported by BMEL.
- The timely involvement of societal groups in the research and development process is urgently recommended in order to avoid the development and introduction of animal husbandry systems that will not be accepted by society (like, for instance, cage rearing). The setting up of advisory councils or steering groups for research programmes and research projects is an important instrument for this. The model of the European Innovation Partnerships (EIP), specifically developed for societal challenges, should be used more from the innovation perspective for the topic of animal protection. Furthermore, this instrument constitutes an interesting approach to the involvement of practice and civil society in research and it should be adopted in an even broader manner.

#### **8.1.2.1.6 Federal programme on animal welfare**

- Given the diversity of the measures listed above, which require considerable consultation, WBA advocates their coordination in a federal programme on animal welfare. A simple comparison with the federal programme "Organic farming and other forms of sustainable agriculture" based on production value shows that an annual budget of around 150 to 300 million euro would be needed. For the conduct of the federal programme animal welfare, the implementation costs of the envisaged measures should be calculated and, on this basis, a concrete budget drawn up for several years.
- WBA is of the opinion that the establishment of a Federal Foundation for Animal Protection, which would implement this programme, is worth considering. It could seek to obtain private funds (donations, etc.) in addition to state funds and in this way augment the available budget.



### 8.1.2.1.7 Supplements to animal protection legislation

- Irrespective of the discussion about the raising of minimum standards for the keeping of individual livestock species (see Chapters 7 and 8.1.3), there are a number of statutory regulations that need to be tackled immediately. Their introduction would lead to a clear reduction in enforcement shortcomings in animal protection. Furthermore, the calls for the establishment of animal welfare monitoring (see above), the further development of the qualifications and further training of livestock farmers (see above) and the introduction of the right of associations to take legal action will require amendments to animal protection legislation.
- Measures to alleviate the pain or suffering of animals resulting from non-curative interventions, which are still being carried out, should become mandatory. This applies above all to the destruction of calves' horns that should include pain elimination both during and after the intervention.
- The prerequisite for remedying enforcement shortcomings is a clearer or additional legal foundation. The ceilings for fines for violations of animal protection law should be considerably raised as they do not currently have a sufficiently general preventive effect.
- The options of the competent authorities to enforce effective measures to eliminate the observed violations and prevent future violations should be increased: Options like supplementing the examples mentioned in Section 16a of the Animal Protection Act (TierSchG) with the explicit elements of a ban or extending the mandatory permission for animal husbandry to agricultural livestock pursuant to Section 11 TierSchG should be examined and their efficiency assessed (more administration versus more complete enforcement of animal protection law).
- To improve control opportunities, the legal basis for competent authorities to access existing result-oriented animal welfare indicators should be extended and a systematic comparison of various data sources (administrative data, Animal Disease Fund, integrated administration and control system) facilitated.

### 8.1.2.1.8 Inspection and approval procedure

- In the opinion of WBA, the introduction of an inspection and approval procedure for livestock housing and slaughter/stunning facilities can make an important contribution to the sustainable improvement of animal husbandry.
- The role of a facility to advise the approval body attributed to the Institute of Animal Protection and Animal Husbandry of the Friedrich Loeffler Institute should be extended to that of an expert animal protection centre.
- To avoid innovation-hampering effects, livestock housing facilities requiring more comprehensive practical inspection should be given temporary approval.

- Where appropriate, the practical inspections should be state funded and the inspection fees kept low to avoid creating any market barriers for smaller and medium-sized innovative enterprises.
- Efforts should be made to ensure an intensive national and international exchange between the various inspection bodies.

#### **8.1.2.1.9 Strengthening of Second Pillar funds for animal welfare measures**

- Germany should allocate as soon as possible, i.e. from 2018, the current maximum possible transfer share of 15 percent of direct payments, i.e. an additional 530 million euro per year, from the First to the Second Pillar, in contrast to the current situation (transfer share of 4.5 percent). It would then use far more funds than in the past to finance animal welfare measures.
- The supported measures should then be coordinated with the private sector's animal welfare initiative (Chapter 8.1.5) in order to achieve a high degree of effectiveness and as few deadweight effects as possible. This also means coordinating the measures between the federal Laender.

#### **8.1.2.1.10 Adding animal welfare measures to the range of measures in the Joint Scheme 'Improving agricultural structures and coastal protection'**

- Further animal welfare measures should be included in the Joint Scheme 'Improving agricultural structures and coastal protection' as animal protection measures are a public good of cross-Laender importance. Co-financing by the federal government within the framework of the Joint Scheme 'Improving agricultural structures and coastal protection' will encourage the Laender to implement these measures. Furthermore, the single-farm investment support should be oriented far more towards animal protection goals.

#### **8.1.2.1.11 Addition of animal welfare to public procurement regulations**

- The tender provisions of public institutions should be supplemented to facilitate the purchasing of products manufactured in an especially animal-friendly manner even if they are more expensive. This is already possible today in the case of environmentally-friendly products.

### **8.1.2.2 Preparation of animal protection measures to be implemented in the medium term on the federal level**

- Reform steps, that have to be adopted on the EU level, require timely preparation, and work should begin immediately. They include raising the EU animal protection standards, the reallocation of First Pillar funds to the Second Pillar that goes beyond the previous possibilities, the introduction of the option of offsetting the additional animal protection-induced costs by payments within the framework of the First Pillar and the development of an EU strategy for the WTO negotiations (see Chapter 8.1.4.2). The federal government should enter into alliances with other EU Member States at an early stage, pick topics and, in this way, prepare the next policy reforms.

### **8.1.3 Animal protection measures to be implemented directly on the level of the federal Laender**

#### **8.1.3.1 Implementation of requirements in the field of non-curative interventions**

The valid animal protection regulations should be implemented more consistently in future.

- Exemptions should be exemptions and not the rule as is the case right now with tail docking and beak trimming. The federal Laender should clearly communicate the fact that they will issue orders to monitor current bans on non-curative interventions. The procedure should be agreed in a national animal welfare plan and linked to a realistic deadline of around 3 years (for turkeys around 5 years).
- To facilitate the transition, temporary premiums for halting non-curative interventions should be further extended within the framework of augmenting the Second Pillar budget. They should be coordinated with the approaches adopted in the industry initiative animal welfare.
- At the present time, not enough experience is available in production that doesn't involve any tail docking or beak clipping. There are, therefore, residual risks. Support for the establishment of a predominantly private sector risk and advisory fund should be examined in order to assist livestock farmers at least during the transitional period. Furthermore, coordinated accompanying programmes with training offerings and support in the use of farm management aids could be proposed.

### 8.1.3.2 Extension of initial training and advisory services in the field of animal welfare

- Particularly in the context of the call for a certificate of competence and mandatory further training, WBA recommends extending the federal Laender's agricultural and veterinary initial, further training and advisory service offering. The federal government should support it as part of the proposed federal animal welfare programme.
- WBA recommends in particular the introduction of a voluntary "animal welfare check" to be developed jointly by science and practice with ensuing advice that should be recognised as a further training scheme. The rural development programmes could undertake pro-rata funding of the animal welfare checks.
- WBA recommends the examination and, where appropriate, the adjustment of the curricula in all vocational training courses of relevance for animal protection. WBA also suggests that the federal government provides expert support for the competent bodies, e.g. through the publication of corresponding guidelines.

### 8.1.3.3 Extending economic incentives for more animal welfare in the Second Pillar

Investment promotion (Article 17 of EAFRD Regulation (EU) 1305/2013):

- Investment support in the field of livestock housing should be geared more than it is at the present time towards promoting animal welfare. In this context, the support rates should be oriented solely towards the additional costs generated through special compliance with animal welfare requirements.
- Investment made necessary by an animal protection label should be supported.
- A degression in the support rates over time during the transitional phase to higher minimum standards could advance the rapid achievement of animal protection goals.

Ongoing animal protection payments (Article 33 of EAFRD Regulation (EU) 1305/2013):

- The Laender should make greater use than they have in the past of ongoing animal protection payments within the framework of a coordinated federal government/Laender strategy.
- Improvements to husbandry conditions (reduction of stock densities, introduction of activity material, improved/variable quality of floor coverings) and, more particularly, animal-related success criteria (e.g. "curly tail premium") should be supported.
- The options for the performance-based remuneration of animal protection services should be (further) developed and tested.

Further training (Article 14 of EAFRD Regulation (EU) 1305/2013):

- Greater support should be given to continuing training offerings in the field of animal welfare. This will facilitate the implementation of the certificate of competence and the mandatory further training for livestock farmers.

Advice (Article 15 of EAFRD Regulation (EU) 1305/2013):

- Special advice on improving animal welfare should be offered and promoted, for instance, the proposed animal welfare check.

#### **8.1.3.4 Improvements to the control systems and legal enforcement**

The enforcement shortcomings in animal protection can only be reduced by a combination of statutory (see above) and organisational measures seeking to establish improved inspection techniques and structures, higher inspection densities and stiffer sanctions.

- In many cases, the resources of the competent authorities in terms of experts and technical aids must be improved.
- More supraregional expert bodies for control and prosecution as well as central contact points for animal protection issues should be set up.
- Standard enforcement instructions agreed between the Laender should be further developed and a coordinated catalogue of measures for fines should be drawn up.
- In the case of statutory violations in the fields of environmental, animal and consumer protection, the persons responsible should be asked to contribute on an appropriate scale to the control costs.

### **8.1.4 Animal protection measures of the federal government aimed at the EU level**

#### **8.1.4.1 Measures to be put in place directly aimed at the EU**

##### **8.1.4.1.1 German initiatives for raising EU-wide minimum standards**

- Germany, together with Member States with similar interests, should launch initiatives to raise EU-wide standards.

##### **8.1.4.1.2 Increased EU-wide coordination of enforcement practice**

- A greater exchange within the EU on enforcement practice would help to harmonise the statutory conditions and allow Member States to benefit from each other's experience. In Germany, where enforcement is the responsibility of the Laender, this would require the creation of suitable structures.

#### **8.1.4.1.3 Multilateral agreements between the northwest European core countries of livestock husbandry with a similar awareness of animal protection**

- Member States with high societal expectations of the animal protection level like Sweden, the United Kingdom, Denmark and the Netherlands could be important allies when it comes to raising EU standards. "Going it alone" in an alliance with these countries is another option in order to tone down the competition effects (Chapter 7.3.3) and build up pressure to raise the EU minimum standards.

#### **8.1.4.1.4 Approval of the detailed provisions for the missing animal species**

- EU animal protection directives with detailed provisions for fattening bulls, rearing cattle, dairy cows, young laying hens, parent poultry, turkeys and water fowl should be put in place.

#### **8.1.4.2 Measures to be put in place in the medium term aimed at the EU**

- EU agricultural policy should be revised to enable to provide major support stimulus and innovation incentives to improve animal protection.

##### **8.1.4.2.1 Reallocations from the First to the Second Pillar of EU agricultural policy**

Expenditures up to now on animal welfare measures under the Second Pillar (6.3.6.1.1) were extremely low in comparison to the above-mentioned costs of a substantial raising of the level of animal welfare in Germany of around 3 to 5 billion euro (Chapter 7.3.2). The funds for animal protection measures in the Second Pillar should, therefore, be considerably topped up.

- Within the framework of the mid-term review of CAP, the maximum rate for the reallocation of funds from the First Pillar to the Second Pillar of currently 15 percent should be markedly increased from 2018.
- For the period after 2020, a comprehensive reform of CAP should be sought and prepared in a timely manner. WBA reiterates its recommendation from its Opinion "EU Agricultural Policy after 2013: Plea for a new policy for food, agriculture and rural areas" (WBA, 2010, p.30): "It will not be enough to settle for minor amendments to EU agricultural policy and shift funds to and between the two CAP pillars. [...] On the contrary it is necessary to develop a completely different architecture of the policy for agriculture and rural areas." One element in this dif-

ferent policy should be a consistent and long-term process of the gradual phasing out of direct payments and of the extension of concerted measures - in the field of animal protection, too - as implemented for instance in the Second Pillar. There should be a critical evaluation of how competences (goal setting, decisions, financing) could best be distributed between the EU and the Member States.

#### **8.1.4.2.2 Changes to the conditions for animal welfare payments within the framework of CAP**

- Against the backdrop of very different national animal welfare preferences (Chapter 4), Member States should be given the opportunity to advance their minimum standards at varying speeds (this is already possible now) without overly losing competitiveness on the Common Market. WBA sees three options for this:
  1. In principle, no payments are made for measures resulting from compliance with the existing regulatory laws in the Second Pillar. The existing exemption for payments to compensate economic disadvantages caused by statutory requirements for farming in nature conservation areas (Natura 2000 areas) could be extended to animal protection because of the special public interest in animal protection in the next amendment to the EAFRD Regulation.
  2. The provisions in the Second Pillar could be amended in such a way that animal protection payments could also be granted for services in line with the statutory instructions when they are clearly higher than the EU level.
  3. If options 1 and 2 are not implemented, annual state payments to producers within the framework of the First Pillar should be introduced to partially compensate the additional costs. Already in the mid-term review the option should be discussed of tying direct payments, that may be granted at the present time in coupled form (maximum 10 percent to 15 percent of direct payments), to animal protection standards when they are clearly higher in the individual Member States than the EU level.

#### **8.1.4.2.3 WTO animal protection strategy**

- In the long term the EU should pursue a strategy of declaring state payments to compensate animal protection induced costs as "green box" policies.
- Within the WTO, the EU should advocate for further developing the existing regulations with regard to ethical and moral concerns to allow for animal protection-related mandatory labeling and import limits with clear and strictly defined rules.

#### 8.1.4.2.4 Horizon 2020 - Research support

The current work programme of Horizon 2020 (2014-2015) refers to animal protection-relevant challenges and promotes research on and the application of best practice examples. In this context, the opportunity for networking between various players like final consumers, farmers and companies should be grasped. In the following work programmes this subject area should be further expanded.

### 8.1.5 Animal protection measures of the private sector

#### 8.1.5.1 Industry initiative animal welfare

The industry initiative animal welfare (<http://initiative-tierwohl.de>) is a very promising model but its nationwide roll-out is clearly underfinanced at the present time.

- WBA believes that the annual budget will have to be considerably topped up if the industry initiative is to make an important contribution to increasing animal welfare.
- Compensation payments to agriculture for non-curative interventions should be laid down in such a way that nationwide implementation is possible. In this context, WBA also recommends the setting up of a risk fund to provide advice and at least partial compensation to farms that suffer substantial losses when they halt these interventions (see also Chapter 8.1.3).
- The premium system of the industry initiative should be coordinated nationwide with the animal protection premiums under the Second Pillar of CAP, i.e. also between the Laender.
- The industry initiative should gradually be extended to other relevant animal husbandry sectors (like for instance cattle fattening).
- The opportunities to advertise products from the animal welfare initiative should be examined in discussions with policy-makers and stakeholders whereby consumer expectations should be taken into account.

#### 8.1.5.2 Voluntary commitments by industry on the last level of value added

- Parallel to the industry initiative, the food retail trade should declare in voluntary commitments its rejection of eggs and meat from trimmed or docked animals (timeline: 3 to 5 years, see also Chapter 8.1.3.1). The voluntary commitment of the food retail trade with a deadline for laying hen husbandry (halting of beak trimming) should be extended to pork, turkey meat and processed products.



- This voluntary commitment should also be backed by wholesale enterprises and large-scale consumers like system catering and public catering facilities (refectories, canteens).
- By means of informal and high-profile efforts, like in the BMEL initiative "Minding Animals" at the present time, policy-makers should encourage voluntary commitments in two ways. Firstly, political support can advance the decision-making process of the retail centres. Secondly, policy-makers can encourage agricultural institutions that are important for broad implementation in the non-vertical chains for pigs and cattle, to assume their co-responsibilities.
- A broad, industry-wide voluntary commitment will also offer major incentives for change in those countries that export large volumes to Germany. In a few important EU countries, parallel discussions are in any case ongoing at the present time. On the European level, it should be possible in this way to achieve stricter implementation of the EU tail docking ban with the support of other northwest European countries. The pressure on the European Commission to enforce the existing ban throughout the EU will increase markedly if important production countries effectively impose the ban on routine docking. Within the framework of the European Meat Alliance (members: QS (Germany), CERTUS (Belgium), IKB (Netherlands), QSG (Denmark), AMA quality label (Austria) and Bord Bia (Ireland)), industry could make important contributions and launch more transnational initiatives.
- The main economic problem, i.e. the funding of the additional costs that may be incurred for animal products (meat, sausages) and the most varied by products exported by Germany, can be mitigated by more transnational initiatives and these initiatives should, therefore, be extended. Also here, policy-makers can provide support, for instance, through a northwest European animal protection summit for the elaboration of a joint strategy with the participation of the private sector.

### **8.1.5.3 Promotion of market differentiation in the meat sector**

- WBA recommends that companies in the meat industry and food retail trade put in place sales strategies for meat from particularly animal-welfare oriented husbandry (e.g. by introducing brands and labels) in order to seize market opportunities.
- The aggressive price marketing of meat at the present time runs counter to the new culture of meat products and consumption called for in Chapter 7.

### **8.1.5.4 Further development of private sector quality assurance systems**

- The increased addition of environmental and animal welfare aspects to self-control systems, which is taking shape at the present time, should be systematically continued.

- To improve the industry's reputation, more systems for the disclosure of fraudulent behaviour (investigative audits) should be put in place. The liability of certification companies for the non-disclosure of gross mismanagement and transparency on the certification market (overview of how well private control bodies inspect) should be increased.

#### **8.1.5.5 Extending the social responsibility of companies and communication with society**

- The scale of animal protection in a society is an ethical decision (cf. Chapters 3 and 5). The agri-food industry should input not only economic arguments but also, to a greater degree, its own ethically-based positions into this standard-setting process. More recent management concepts offer numerous instruments under the concept of Corporate Social Responsibility that lead to a greater exchange with society.
- The external image of the industry calls for active involvement in the societal communication processes particularly of the large livestock farms and large companies from industry and retailing. Companies should take this more into account in future.
- In the population, there are only relatively weak, tending towards negative, links between more knowledge about agriculture and acceptance of husbandry forms (cf. Chapter 4). Hence, industry's communication concepts for animal husbandry cannot take the form of classical "awareness raising campaigns" but should be dialogue-oriented and open to mutual learning processes.

## **8.2 Environmental protection recommendations**

Despite major efforts by industry and science to reduce environmental pollution from animal husbandry (productivity gains resulting in reduced emissions per product unit, technical solutions to reduce ammonia emissions, phased feeding to reduce N-emissions, etc.) and despite existing environmental policy measures (e.g. Federal Immission Control Act, Fertiliser Application Ordinance), the negative environmental impacts have even worsened over the last ten years mainly in regions with a high livestock density.

Policy-makers have since reacted and taken different measures. They include above all the ordinance on placing on the market and transport of farm fertilisers to monitor inter-farm nutrient flows, that are known as filter orders in some federal Laender (mandatory fitting of waste air facilities in large stocks), and the limiting of priority for livestock housing outdoors for commercial animal husbandry within the framework of the revised Federal Building Code.

With the pending amendment to the Fertiliser Application Ordinance and the resulting adjustments in the Fertiliser Act, policy-makers are taking another step in the right direction. For WBA,

however, the proposed amendments do not go far enough. Hence,<sup>3</sup> mention is made again here of the WBA Opinion on the amendment to the Fertiliser Application Ordinance.

### 8.2.1 Raising the standards in the amendment to the Fertiliser Application Ordinance

- WBA believes that there is an urgent need for adjustments to fertiliser law in order to achieve the protection goals in the fields of water protection, climate protection and biodiversity in the foreseeable future and given the sometimes stiffer environmental legislation in neighbouring countries with intensive animal husbandry (Denmark, the Netherlands). The officials' draft for the amendment to the Fertiliser Application Ordinance<sup>4</sup> is an important step in the right direction but only partly satisfies these demands.
- The demand by WBA, WBD and SRU (2013) to treat fermentation residues from biogas plants as organic fertiliser of animal origin has indeed been met. However, it is possible for the federal Laender via Laender optionality clauses to apply these fermentation residues in volumes on arable lands that correspond to the opt-outs for grassland (derogation: maximum 230 kg N/ha). Instead, it should only be admissible to apply all slurry forms/fermentation residues on a maximum level equivalent to the application upper limit of 170 kg N/ha on arable land.
- The expansion of the slurry storage capacities to be documented by the farm from 6 to 9 months in large livestock farms is indeed to be welcomed. However, the chosen upper limit of three livestock units is far too high. The limit should correspond to the application upper limit of 170 kg N from organic fertiliser per hectare and year. In further steps, the storage capacities should be increased on other farms, too.
- There is likewise an urgent need for the speedier introduction of the latest technology for slurry application. Transitional periods of 5 to 10 years (grassland) for application techniques (slurry injection), that have been the binding standard in other European countries since 1994 (for instance in the Netherlands) or 2011 (Denmark), are too long.
- The period for the mandatory mixing in of slurry when applied to bare ground should be reduced from four hours to one hour. This is already possible today from the organisational and reasonable cost perspective.
- The current proposals for phosphate fertilisation are to be welcomed. However, in order to considerably reduce the existing nutrient loads and given that phosphate fertilisers are a scarce commodity around the globe, the next step must entail further adjustments. For in-

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<sup>3</sup> WBA, WBD, SRU (2013): Short opinion. Amendment of the Fertiliser Application Ordinance: Limiting Nutrient Surpluses Effectively Scientific Advisory Board on Agricultural Policy (WBA), Scientific Advisory Board on Fertilisers (WBD), German Advisory Council on the Environment of the federal government (SRU), Berlin [http://www.bmel.de/SharedDocs/Downloads/Ministerium/Beiraete/Duengungsfragen/NovelleDuengeverordnung.pdf?\\_\\_blob=publicationFile](http://www.bmel.de/SharedDocs/Downloads/Ministerium/Beiraete/Duengungsfragen/NovelleDuengeverordnung.pdf?__blob=publicationFile)

<sup>4</sup> BMEL (2014): Fertiliser Application Ordinance Federal Ministry of Food and Agriculture (BMEL), Berlin. [http://www.bmel.de/DE/Service/Gesetze-Verordnungen/Entwuerfe/\\_VO-Downloads/EntwurfDuengeverordnung.pdf?\\_\\_blob=publicationFile](http://www.bmel.de/DE/Service/Gesetze-Verordnungen/Entwuerfe/_VO-Downloads/EntwurfDuengeverordnung.pdf?__blob=publicationFile)

stance, in the soil supply level "C", no significant phosphate surpluses, and from soil supply level "D", only fertilisation clearly below extraction (far higher depletion than had been envisaged up to now) should be allowed.

- WBA welcomes the introduction of a farm-gate balance from 2018. However, the circle of participating farms should be markedly extended and the current defined lower limit of 3 livestock units/ha reduced to a level where it corresponds to the application upper limit of 170 kg N from organic fertiliser per hectare and year.
- These farm balances should be given to and processed by the competent authorities so as to create a reliable basis for environmental monitoring.
- The amendment to the Fertiliser Act made necessary by the amendment to the Fertiliser Application Ordinance should be used on the one hand to ensure the launch of comprehensive documentation of material flows in agriculture and, on the other, to underpin the equal standing of agricultural production and protection of the natural balance when it comes to defining the plants' fertilisation requirements.
- The statutory foundations for a public authority comparison of the data from various sources (administrative data, Animal Disease Fund, integrated administration and control system) should be put in place to improve the control options.

### 8.2.2 Increasing the control intensity in animal husbandry regions

- WBA recommends substantially increasing the control intensity in regions with the occurrence of organic N fertiliser above a scale of 120 kg N/ha with regard to compliance with the provisions of the Waste Shipment Regulation and the Fertiliser Application Ordinance.

### 8.2.3 Support for technical and organisational innovations

- A key measure for solving the nutrient problem in regions with a high livestock density is increasing the worthwhileness of transporting nitrogen fertilisers. Hence, promoting the development of technical and organisational solutions for the cost-effective reduction of nutrient emissions and their testing and transfer to practice is an important measure. WBA is of the opinion that the financing of innovations such as cost-effective slurry processing systems within the framework of research and development and model projects should be co-financed by the sector (where appropriate, through a slurry levy in farms with a slurry volume of more than 170 kg N per hectare and year).
- Given the ongoing gaps in knowledge about the scale and impact of medicinal product residues and fine particulates/bioaerosols on humans, animals and the environment, WBA recommends stepping up research in these fields.

### 8.2.4 More far-reaching measures for emission reduction

- Should the measures implemented in recent years and the measures proposed here fall short in terms of commitment and implementation and then not lead to any major reduction in emissions and environmental pollution in intensive animal husbandry regions, WBA does not see any other alternative in the medium term than to reduce the size of animal populations in these intensive animal husbandry regions.
- In line with the Dutch model, a maximum animal stock/ha should be introduced on the regional level (rural districts). Again, as in the Netherlands, a reduction of regional animal stocks could be achieved by the single-farm assignment of negotiable husbandry rights between farms, which can then be gradually reduced.

### 8.2.5 Establishment of accompanying measures

- Flanking measures like environmental advice and voluntary environmental audits/sustainability certifications can increase the impact of existing and planned measures and should, therefore, be on offer.
- Data collected in state-funded audits/sustainability certifications or environmental information systems should be centrally recorded in compliance with data protection and used for regional, national and international environmental reporting. The federal government should work towards the coordination of the various data collection systems.

### 8.2.6 Development of a moor use strategy

Drained moors mainly used for animal husbandry account for around 6 percent of agricultural land in Germany. However, they generate more than 50 percent of greenhouse gas emissions from agricultural land.

- WBA recommends the development of a national moor use strategy with adjustment measures for the farms concerned. In this context, the agri-structural conditions, which vary markedly from region to region, should be borne in mind.

### 8.2.7 Support for low-yield grassland sites

- Given their major importance for biodiversity, WBA recommends furthermore even extending agri-environmental measures that ensure the socially desirable use of low-yield grassland locations.

### 8.3 Recommendations for the protection of human health and economic consumer protection

- The success of zoonosis management in agriculture should be systematically monitored and adjusted where necessary.
- In the opinion of WBA, improvements are needed in the field of slaughter and more particularly for slaughter technology for poultry in order to reduce the risk of cross-contamination. This applies to *Salmonella* and, in particular, to *Campylobacter* contaminations. There is a need for research, too.
- Major improvements are also needed in the use of medicinal products in the light of the antimicrobial resistance problem. The proposed path of antibiotic reduction by means of monitoring and benchmarking, adopted in the 16th amendment to the Medicinal Products Act, is promising and should be consistently implemented and refined. The call for antibiotic freedom that is sometimes expressed should, however, be rejected here for animal welfare reasons.
- When it comes to economic consumer protection, food labelling terms should be used more clearly to avoid the deception of consumers. Terms should be aligned more quickly with new product development. There should also be a clear definition of which elements are advertising terms and which ones are concrete quality indications (terms, graphs) on packaging. Designations like animal welfare labels can be used almost arbitrarily at the present time, which confuses consumers. An extended specification of quality indicators that are more easily understood by the consumer is an important precondition for product differentiation and a means to increasing animal welfare.

### 8.4 Aspects of social compatibility and fairness

- Problems of social, environmental or animal protection dumping should not be remedied via intervention in the price mechanism but through the establishment and enforcement of the social, environmental and animal protection standards expected by society. The same applies to cartel law problems.
- When enacting the Posted Worker Act, potential implementation problems like, for instance, circumvention of the minimum wage through longer, non-recorded working hours, should be countered through corresponding measures (like control).
- In the field of agricultural animal husbandry and slaughter, more attention must be paid by industry and by state institutions to the upholding of social standards than in the past. This applies in particular to foreign workers with a low level of trade union membership who account for a large proportion of the workforce.

- Specific preferences of some consumers for standards deemed by them to be fair, such as small-scale agriculture, do not justify any state intervention. They can, however, be catered for by corresponding labels in cooperation between civil society and the private sector.
- The EU should undertake to completely forego the use of export subsidies. This could be done in a resolution of the Doha development round of the WTO or as a unilateral voluntary commitment.
- As part of trade agreements, the EU should work towards extending the opportunities of developing countries to levy temporary import custom duties in phases of a particularly low world market price and in the build-up phase of a sector.
- Against the backdrop of the growing world population and the rising demand for food coupled with limited land and for reasons of climate protection, policy-makers should use a package of measures to work towards reducing the consumption of animal products and the volume of food waste in Germany.

## 8.5 Recommendations for land use conflicts

- The amendment to the Federal Building Code in 2013 was the first step towards reducing land use conflicts. Whether the regulated limiting of privileges contained therein will be sufficient, needs to be critically examined. It is likely that many livestock housing plans will be oriented towards the thresholds (i.e. just below them) and/or that farms will be divided up. Hence, the proposal already advanced in the amendment to the Federal Building Code by the affected communities should be re-examined. It recommends that agricultural livestock housing projects should not be given preferential treatment in general when the overall livestock density in a municipal district exceeds 2 Livestock Units/ha agricultural land.

## 8.6 Concluding remark

WBA is aware that the implementation of the proposed measures will lead to sweeping changes in livestock husbandry. This will require major efforts by political circles, industry and society that are nonetheless essential for the achievement of more socially acceptable animal husbandry.





## Glossary of technical terms

Term	Explanation
Animal protection	Refers to what has to be done to safeguard animal welfare (e.g. statutory regulations)
Animal welfare	State of animals
Antibiotics/antibacterials	Substances that inhibit metabolic processes in microorganisms
Antimicrobial resistance	Bacterial resistance to antibiotics
Bioaerosols	Air-borne microorganisms
CDEs	Carbon dioxide equivalents
Certificate of competence	Proof that a person is entitled to carry out a specific activity, frequently linked to a theoretical and practical examination
Clearing	Mutual calculation and offsetting of receivables and payables between business partners
Clearing house	An institution that balances by way of settlement the reciprocal receivables and payables between Member States based on an agreement
Common Agricultural Policy (CAP)	The Common Agricultural Policy (CAP) is a policy area of the European Union. It is based on Common Market regulations and the development of rural areas.
Core-region of animal production	Regions with a high density of animal-keeping farms and enterprises
Corporate Social Responsibility (CSR)	The concept entails a voluntary contribution by enterprises to sustainable development beyond statutory requirements.
Cost leadership	A corporate strategy to secure a competitive advantage through lower costs
Deliberative processes	Dialogue-oriented process that brings together citizens, actors of civil society and decision-makers in a timely manner in a political process. The goal is the joint shaping of public opinion and, ideally, consensus-based decision-making.
Dioxin	General term for environmental toxins
Distributional policy; policy measures to redistribute income and wealth	Financial or socio-political measures that influence income and wealth distribution
Dual education system (combination of in-firm training and vocational school)	Parallel training in farms and vocational schools
Economies of agglomeration	Effects of rural densification. They can be agglomeration advantages or disadvantages.
Economies of scale	Cost savings with increasing farm size
Emissions	Discharge/release of disruptive factors into the environment
Employment/hired labour	Human work under free labour market conditions in a market economy. It is remunerated on the basis of a contractual agreement between employer and employee.

Term	Explanation
Exposure	Sum of all environmental influences of a biological, chemical or physical nature that impact living organisms. In medicine and toxicology, this term describes the exposure of living organisms to harmful environmental influences like pathogens, toxic elements, toxic compounds or physical influences.
Farm fertilisers	Organic substances (farmyard manure/compost, slurry manure, liquid manure) that occur in agriculture and are used as fertilisers.
Fattening farm	Enterprises that mainly or solely fatten animals
Fodder production	Growing of plants, e.g. forage turnips, maize, cereals to feed animals
Governance	Processes of political and societal "steering"
Greenhouse gases	Radiation-influencing, gaseous substances in the air that contribute to global warming
Inferior good	Good for which demand falls as incomes rise
By products	Products that occur simultaneously in technologically or biologically related production (by products) in a production process
Joint Scheme 'Improving agricultural structures and coastal protection'	Part of the national strategy for the development of rural areas that specifies the measures financed jointly by the federal government and Laender
Land use effects	Changes in the use of land areas
Law on posted workers	Law on the basis of which minimum standards for working conditions can be laid down in certain sectors in Germany. The aim of the law is to lay down mandatory working conditions for workers who are sent by employers based abroad to provide cross-border services to Germany. In addition, the law envisages the statutory option of enforcing minimum working conditions for all employees in Germany.
Litter	Materials (mainly straw) used in animal husbandry to cover the floor of livestock housing facilities and cages. The materials absorb animal excretions. They also protect the animals from the cold and the wet. The animals play with the litter, too.
Livestock husbandry	All forms of animal husbandry used for economic purposes by humans
Livestock unit	Roughly corresponds to the weight of an adult 500 kg cow
Mass balance	Sustainability management concept for goods in which certified goods and standard raw materials are mixed. The customer receives a product for which only the average proportion of the sustainable raw products is known. Known examples are the round table approaches to soya and rapeseed oil.
Media society	A form of society in which media production and consumption are an important social and economic activity
Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	Bacteria ( <i>Staphylococcus aureus</i> strains) that are resistant to $\beta$ -lactam antibiotics (e.g. penicillin) available on the market. They are normally multiresistant, which means that they are also resistant to other antibiotic classes.
Monopoly	Market situation in which there is only one supplier of an economic good

Term	Explanation
Natural living frame	Intuitive understanding by the population of animal welfare that is characterised by ideas of near-natural forms of husbandry
NIMBY effects	Not in my backyard
Oligopoly	Market form in which there are many customers but only a few suppliers
Parasitosis	Disease that is caused by different species of parasites,
Price elasticity	Yardstick for the relative changes to the volume of supply and demand in the case of a relative price change
Retail	Commercial enterprises that procure the products of various manufacturers, combine them into a range and sell them to the final consumer
Salmonellosis	An infectious gastrointestinal infection caused by <i>Salmonella</i> (bacteria)
Second Pillar of the Common Agricultural Policy	Part of the CAP measures for developing rural areas
Self-restraint agreement	Voluntary agreement between private sector companies
Slatted floor	Livestock housing floor consisting of alternating slats (area for animals to walk on) and openings (to allow faeces and urine to pass through) whereby the animals push the faeces through the openings with their feet and it falls into the accumulation baths below.
Social compatibility	A benchmark oriented towards social parameters for policy-maker circles, society and industry for the benefit and/or the costs of a process, regulation, a project or a result.
Social dumping	Illegal competition resulting from goods produced under conditions that did not comply with labour law standards.
Socio-demographics	Population characteristics on the personal level
Stakeholder	Persons involved in a process
Standard output	The standard output of an enterprise corresponds to the average monetary value (in euro) of gross agricultural production at from-farm prices in line with the situation in a specific region. It reflects the market performance of an enterprise (Federal Statistics Office).
Stock size	The number of animals kept in an agricultural unit
Suckler cow	Female cow not kept for milk production but only to rear her calf
Technocratic	Form of governance in which all actions build on scientific and technical knowledge
Tie stall	Form of husbandry in which all animals are in tie stalls
Value chain	Levels of production as a structured sequence of activities
Vertical integration	Form of company concentration in which the upstream and downstream manufacturing stages (production or trade stages) are incorporated into one production process in one company
Virtual land imports	Areas required outside Germany for the production of agricultural products exported to Germany
Zoonoses	Diseases whose pathogens can be transmitted from animals to humans and vice versa via a natural pathway