

The Future of Agriculture A common agenda

Recommendations of the Commission on the Future of Agriculture (ZKL) - Abstract

Imprint

Text

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1 FOREWORD BY THE COMMISSION CHAIR

The production of food is a task of fundamental importance to society and one of existential importance to humanity worldwide. In conjunction with the food system, farming and its associated upstream and downstream sectors form a highly diverse, highly differentiated and complex branch of the economy. This can be viewed from numerous angles – including social, economic and environmental perspectives – some of them mutually complementary, others in conflict with each other. There are practical aspects relating to craft trades to be considered along with questions involving high-tech, hygiene and nutritional physiology, and not least the moral, ethical, political and legal dimensions. Cultural, religious, aesthetic and tourism issues also come into play when discussing farming and food, for example when talking about individual and collective self-reproduction.

In the first instance, this means that no one can participate in social discourse on farming and food without being directly affected; there is no neutral objective standpoint looking in from the outside. From this, however, it can be seen that social discourse on farming is shaped by very wide-ranging perspectives and in some cases intensive debate. Differing positions often seem irreconcilable and not infrequently they clash, if only on the basis of simplistic contrasts. Large-scale industrial farming systems are pitted against small-scale farm structures and vice-versa, organic versus conventional, intensive versus extensive production systems and regional versus global competition. But such simplifications lack nuance regarding both the actual conditions of production and sustainability aspects of the agriculture and food system. They are not suited

to the development of meaningful strategies and models.

The intensity of social discourse over farming and food is also reflected in protest movements, the latest examples in a long line of which being the youth climate movement (Fridays for Future) and the many farmers' protests that have flared up since 2019. From agriculture, climate change, environment and animal welfare policy to policies on food and health and on to economic and trade policy, pronounced conflicts also shape related policy fields at all levels from local communities to the EU and beyond. As policymaking of this kind often lacks a coherent approach, in many cases it fails to meet its own environmental goals.

Against this backdrop, by a cabinet resolution of 8 July 2020, the German Federal Government established and appointed a Commission on the Future of Agriculture (Zukunftskommission Landwirtschaft, or ZKL). Its membership comprises what were initially 32 and later 31 leaders appointed *ad personam* from the most important German sectoral associations and organisations in the fields of agriculture, industry and business, consumer protection, environment protection and animal welfare, together with six academics from the fields of agricultural and environmental research and a Commission Chair. Representatives of the Federal Chancellery and of the Federal Ministries of Finance, of the Interior, Building and Community, of Justice and Consumer Protection, for Economic Affairs and Energy, of Food and Agriculture, and for the Environment, Nature Conservation and Nuclear Safety participate in Commission activities as non-voting guests.

The Commission's core remit is to draw up "recommendations and proposals to ensure that agriculture in Germany is environmentally, economically and socially sustainable into the future." A highly ambitious time frame was set – between 7 September 2020 and 29 June 2021, during which the Commission met in a total of nine plenary sessions and one extraordinary session. A large and particularly important part of the Commission's work was conducted in internal working groups that the Commission set up to focus on the social, environmental and economic dimensions of the agricultural and food system and on the Common Agricultural Policy (CAP). A further working group, assisted by an external service provider and using a methodologically pre-structured foresight process, drafted scenarios for potential farming systems of the future. In addition, at the Commission's request, two Commission members who represent youth organisations engaged in extensive exchange to develop a **Shared Vision for the Future of Agriculture**. Responsibility for planning, organising and coordinating the Commission's work fell to the Commission office located at the Federal Ministry of Food and Agriculture (BMEL) and to the Chair, who was advised in particular by a small group of 'Critical Friends of the Chair'.

As can be seen from the resolution establishing the Commission, it is less a neutral expert commission and more a kind of round table, where representatives of various organised societal interest groups and members of academia meet to share and discuss their different standpoints. The logic in setting up the Commission is to strike a societal and political balance between conflicting economic, environmental and social interests. The final report shows the Commission's achievements in pursuing this endeavour. The result owes much to the common will, shown by all Commission members from the outset, not to consider the views and interests of others as less relevant, less reasonable or less legitimate than their own. In other words, the paper's

existence owes much to the shared commitment of the participants to learn from one another and together as one.

The final report sets out viable perspectives for agricultural and environmental policy over an average time horizon of around ten years (the equivalent of two to three legislative periods). This implies that, rather than taking a specific position on current policy conflicts, the report aims to provide focus for policy-related decision-making.

The future agricultural and environmental policies are described at a medium level of concreteness and abstraction. While refraining from setting out detailed proposals on, for example, regulatory indicators or legal and administrative implementation of the Commission's recommendations, the report nonetheless intends to foster political efficacy. It is primarily directed at the Federal Government's agricultural, environmental and consumer protection policy. Where it does address options for action in farming and the food system, this is largely done in an attempt to suggest and underpin policy-related options, preferences and priorities.

Finally, it should be noted that, despite its overarching perspective, the final report concentrates first and foremost on farming in Germany in relation to the EU. As the most important and influential reference basis in the agricultural system, the food system and rural regions are naturally taken into account, but they are not addressed in the same detail as the agricultural system itself. Forestry and fisheries had to be left out of the analysis.

The members of the Commission believe this endeavour to have been wholly worthwhile.

They see it as an important step both in resolving entrenched conflict and in moving towards common, objective, fair efforts to

shape Germany's farming sector into one that is sustainable, and equally viable in environmental, economic and social terms as well as enjoying broad social acceptance. The significance of this can hardly be overstated given the tremendous societal challenges presented by the civilisational paradigm shift that will ensue from interconnected transformations of the agriculture and food system, resource use and mobility and will radically change every sector of economic – and hence also agricultural – production, distribution and consumption.

The Commission on the Future of Agriculture unanimously adopted their final report on 29 June 2021.

Peter Strohschneider (Chair)

2 EXECUTIVE SUMMARY

Agriculture is systemically important:

It represents the most fundamental economic activity practised by mankind. It gave rise to the division of labour and to the formation of cities and states, providing the roots from which civilisations emerged. Constituting more than 80% of German territory, farming and forestry in Germany has a major impact on the natural environment, on soil, animals, waterbodies and biodiversity, and on the country's topography, the 'lay of the land'. With steady increases in production, agriculture has enabled strong population growth. And it has made the supply of food to that growing population ever more reliable and affordable for households. To a large extent, this has resulted in what is now generally perceived as prosperity, meaning that large shares of government, business and household income are available to spend on non-foods and other consumer goods.

The flip side of this progress is seen in overexploitation of the natural environment, and of animals and biological cycles – up to and including seriously harmful effects on the climate.

Added to this is the fact that farming faces an economic crisis. Various factors, not least policy decisions in the past, have led to farming practices that are no longer sustainable in environmental, economic and social terms. Along with general progress, technological advancement has brought rapidly accelerated structural change to Germany's farming system. As a result, production and productivity have increased manifold, while rising costs mean that more and more farming families no longer see a future for their farms. These trends have led to farming being increasingly less able to operate in environmentally sustainable resource cycles

without exceeding natural limits. Given the external costs of prevailing production forms, retaining today's agriculture and food system is not an option on environmental, animal ethics and economic grounds.

The agriculture and food system displays numerous tensions and contradictions. It stands both at the centre of the **global changes** that have gripped our entire civilisation and on the verge of a **radical transformation process**. Given our responsibility for present and future generations, that transformation must be completed within a very short period of time. It is consequently an **agenda for society as a whole**. To secure social acceptance, environmental protection and climate action must be translated into business and economic success. Farming cannot and must not be left behind.

The scope and complexity of the challenges and the diversity of perspectives, interests, needs and expectations also find expression in social conflicts and protests. This is what prompted the Federal Government in July 2020 to establish the Commission on the Future of Agriculture (*Zukunftskommission Landwirtschaft*, or ZKL). This is the Commission's final report.

The Future of Agriculture

In its analyses and recommendations, the final report is also guided by a vision for the future of the agriculture and food system jointly developed for the Commission by representatives of Young Friends of the Earth Germany (BUNDjugend) and the German Rural Youth Association (BDL). That vision links the needs of agricultural producers, the natural environment and future generations worldwide. Intent is that farmers earn social recognition, including in the form of

financial remuneration, because they assume both social and environmental responsibility. In the future, agriculture will serve biodiversity conservation and positively impact the climate. Equally important in this vision are fair structures in commercial dealings with upstream and downstream sectors, the promotion and predominant use of regional cyclical economies, and ideally stable or growing farm numbers. The vision for the future also encompasses farmers and agricultural workers who enjoy the work they do. And it shows high welfare livestock farming, consumers who are well informed about the quality of food, adherence to climate policy agreements and wide-ranging use of digitalisation.

The Commission's final report sets out **development paths** towards that future vision. Those paths are designed to contain risks inherent in future transformation, providing planning reliability and increase farmers' acceptance of the transformation. But above all, they are intended to significantly improve the environmental sustainability of Germany's agriculture and food system, secure its economic viability over time and counter the relocation of production to regions with less stringent environmental and social standards, either elsewhere in Europe or beyond.

For this purpose, the Commission has developed a wide range of proposals and recommendations relating to various aspects of the agriculture and food system. These follow a **common principle: That environmental and ethical (including animal welfare) responsibility in farming can be improved most effectively and sustainably by translating avoidance of the prevailing immense macroeconomic costs of agriculture into economic benefits for farms.**

The agriculture and food system must thus be structured in such a way that increasing the positive and avoiding the negative effects on the

climate, the environment, biodiversity, animal welfare and human health can be in agricultural producers' business interest.

For their part, policymakers must promote and accelerate these changes. They should coherently integrate their entire policy toolkit (from legislation to agricultural administration to financial support) and carefully coordinate their measures with other policy areas (such as trade, consumers, building and education). It is also recommended that, where possible, they switch from indicator-based input management to process and outcome management and attach particular importance to regional cooperation and targeted trials.

Building environmental skills and capabilities

To increase the **positive impacts** of agricultural production **on the climate, the environment, biodiversity, animal welfare and human health** and in turn **avoid negative impacts**, the Commission sets out a package of measures whose integration into farming practice should be supported by various forms of funding, consultation and advice, vocational education and training, and more.

At the forefront are the contributions made by farming in efforts to combat climate change and conserve biodiversity. The aim must be for agriculture and land users to exploit available opportunities to help limit global warming to 1.5 °C. For example, as a matter of urgency, restoration of agricultural greenhouse gas sinks (peatlands and humus-rich soils) must be significantly accelerated and made more attractive. No less important is the creation of stable agroecosystems, the conservation and provision of biodiversity-rich landscape features in sufficient quantities and the establishment of sustainable nutrient cycles at the regional economic and farm level. In this regard, the Commission also

puts forward recommendations for reduced consumption of animal products, improved animal welfare and a more environment-compatible geographical distribution of livestock farming which, in all likelihood, will go along with further reductions in livestock numbers.

Sharing the societal burden

The climate and the environment, biodiversity and animal welfare are public goods and factors of production at the same time. Overusing them incurs economic costs, but protecting them also has its price. Measures to both increase the positive and reduce the negative externalities of agricultural production usually go hand in hand with **rising costs of production**. They must therefore be underpinned with clear, practicable goals that provide reliability for operational and investment planning. The services farming provides to society deserve public recognition and economically attractive remuneration. As the funding needed will exceed currently available public finances, **generating that funding is an agenda for society as a whole**.

The transformation is therefore to be financed first and foremost from targeted excise duties and subsidies, and also from market remuneration for food – especially foods with highly sustainable process and product characteristics – and for other agricultural products (such as energy) and management of the cultural landscape. A further part of the investment in the transformation will be recouped in the form of lower future external costs compared with current forms of production.

Fair markets and enjoyable food

Markets for food and other agricultural products are critical to farm profitability and to income and wages in agriculture. To a certain extent, the additional costs of more sustainable farming, also with regard to environmental and

animal welfare concerns, have to be earned in the respective markets. That can only be done if food prices better reflect actual production costs and if competition on the basis of process and product quality gains in importance relative to competition on quantity alone. Value creation and public appreciation are closely linked: the share of agriculture and food in total economic output is at an all-time low and will have to grow again.

Responsible, varied consumption of food is part of changing, increasingly plant-based dietary choices as well as a more modern culinary approach. This is in line with the recommendations of nutrition organisations and can be promoted by appropriate shaping of food environments, by using policy tools to improve market transparency (labelling and certificates) and by refocusing public food procurement. This type of sustainable consumption has positive effects for all involved – as well as for the healthcare system, the environment, the climate and animal welfare.

The Commission looks at many different aspects of the food markets and the food system. It recommends diversification of business models and the promotion of both regional and direct marketing channels. It demands that purchasing relationships between farmers and food processors and food retailers be structured fairly so that the costs of environmental and animal welfare-oriented production are passed on to the consumer. This includes greatly improved transparency for consumers by means of clear, comprehensible and binding labelling schemes regulated at EU level, social compensation for lower-income consumers and, last but not least, concerted further development and improvement of food environments. It also calls for foreign trade policy that ensures a level playing field for agriculture, both in the EU and beyond the borders of the internal market.

Promoting societal goals and objectives

The Commission unanimously believes that for the process of transforming the agriculture and food system to succeed, the financial resources provided by the public sector must be maintained at current levels but be directed overall in future at **financing the provision of public goods**.

The Common Agricultural Policy (CAP) thus has a key role to play in mastering the transition to a sustainable food system in the EU and placing farmers in a position, economically as well as in other respects, such that they can make the necessary contribution towards achieving climate, clean air, clean water and biodiversity goals and comprehensively protecting the environment. This requires that, over the course of the next two funding periods, the previous area-based direct payments from the first pillar of the CAP be gradually and completely transformed into payments that make it economically attractive to provide specific services benefiting societal goals. The Commission thus recommends reducing conditionality requirements accordingly, gradually increasing the share accounted for by eco-schemes, developing transitional arrangements for the transformation process, and promoting the creation of ecological networks of habitats, landscape features etc. and the establishment of cooperation-based solutions. The national funding arrangements under the Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK) should also be adjusted to address societal challenges such as biodiversity, climate protection, ecosystem restoration, the establishment of protected areas and adaptation to climate change to a greater extent than before.

Benefits for society as a whole

While detailed economic impact assessment of the Commission's recommendations presents considerable methodological challenges, it can nevertheless be said that the anticipated annual **economic cost** of thorough transformation to a sustainable, publicly accepted agriculture and food system is in any case well below the figure in the high double-digit billions of euros represented by the external costs of maintaining the status quo. However, the public budgetary resources currently earmarked for agriculture will not be sufficient to cover the cost of the transformation. The volume of public transfer payments required will also depend on the extent to which a functioning market can be developed for sustainably produced, high-quality food and other agricultural services.

In the mid and longer term, consumers are likely to face higher prices for food. The transformation must therefore be accompanied by social policy measures for low-income consumer groups. However, this additional expenditure will be offset by lower health-related costs as a result of healthier diets, as well as savings in government spending due to the reduction or internalisation of negative environmental externalities in agricultural production. The Commission is thus convinced that the transformation pathways it sets out can be structured in such a way that they are linked to **fair distribution of burdens across society and to savings for the economy as a whole**. Shaping those pathways is a political matter of the utmost urgency.

The greening of economically profitable farming in Germany as a favourable farming location has its price. But the price of failing to take that action is even higher, incurring far greater costs: for farmers, for the domestic economy as well as for future social cohesion.

3 VISIONS, AIMS AND GUIDING PRINCIPLES

3.1 A vision for the future of agriculture

The Commission on the Future of Agriculture is guided by the following vision of a future agriculture and food system. It was jointly developed on behalf of the Commission by Kathrin Muus and Myriam Rapior, who in their capacity as members of the Commission represent the youth organisations Young Friends of the Earth Germany (BUNDjugend) and the German Rural Youth Association (BDL). Based on the values of environmental, economic and social sustainability set out in the Commission's appointing resolution, they set out a vision of a desirable agriculture and food system whose many aspects expressly lie at differing points in the future and are associated with a wide range of differing demands on society, farming and policymakers.

Shared Vision for the Future of Agriculture

Farmers and farms

German agriculture contributes to feeding the population. Farmers are valued by society, meaning by people and societal institutions (companies, associations, political parties, academia, religions, etc.), for the service they provide in producing food and the role they play in efforts towards environmental protection, nature conservation and animal welfare. Food production and supply on the part of farmers form the basis for peace and prosperity worldwide, making them important factors in securing social stability. As an economic sector, farming has great social relevance because it assumes the fundamental task of securing food supply and thus provides the basis for human existence.

Farms are business enterprises with both societal and environmental responsibility. Farmers work independently and manage their businesses on their own account. As business enterprises, farms allocate resources, investment, production and labour in their business activities based on of the farmer's own judgement. Farmers exercise future-focused good farming practice that is based on scientific rationale and is environment and climate-friendly.

Agriculture in Germany is highly diverse. Some farms are specialised, while others have diversified their operations. Society views farming without prejudice; farming and society stand together as one. Farmers enjoy their work and operate on fair terms. Their income is comparable to the average income in Germany and is earned working on their own farms. Producer prices are set in a fair, polypolistic market in a way that makes

participation in social life, farm security and retirement provision possible for farmers and farming families. Farm workers receive a fair wage and enjoy working conditions that are decent and safe.

Ideally, Germany needs a stable to growing number of farms, while preserving the diversity of farm structures. Both society and policymakers support farm succession within and outside the farming family as a matter of priority. The state provides assistance for new farmers. Young farmers are given preferential access to land.

The environment, nature and climate change

Agriculture aids environmental protection, nature conservation and animal welfare. Through regenerative land use, the health of people and animals and the quality of water, soil and air is maintained and improved.

Farming segments and farming practices that contribute effectively to climate-change mitigation are expanded and easily implemented on farms. The future-proof, climate-friendly transformation of farming continues to receive public support.

Biodiversity is seen and valued as a fundamental resource, forming the basis of ecosystem functions. Activities that promote biodiversity and especially the protection of insects are the order of the day. The farming countryside is characterised by structural diversity, often with interconnected habitat structures such as flowering areas, hedges and green strips and verges.

Agroforestry structures have been expanded and there is no further land-take with surface sealing. Peatlands have been largely rewetted

with the aid of public funds, and the long-term prospects of the farms affected have been secured. Increased creation of humus-rich soils, a wide range of locationally adapted varieties and balanced crop rotation along with the use of legumes and catch crops all ensure that farming has a positive climate impact. Farmers work to ensure continuous soil cover to prevent erosion.

Where possible, available slurry and manure is used as fertiliser and mineral fertiliser is no longer added. Government research is being stepped up to find an adequate, mid-term replacement for synthetic fertilisers and chemical plant protection.

Farming is prepared for the consequences of global warming, receiving support in the conversion to climate-friendly, resilient production methods (such as via independent climate advice). The climate-friendly effects of farming have become established farming practice, some opening up new income opportunities for farmers in the form of new business segments.

All sectors of the economy share responsibility towards the environment. Sector coupling gives rise to synergies in environmental protection and between farms, ensuring their activities and efforts are well coordinated and aid efficient use of resources.

Economic conditions

Farmers face a fair market. Market power is balanced both in food production and in downstream processing and distribution. German policies and legislation prevent the formation of oligopolies and monopolies. German farming offers decent income opportunities and fair and transparent access

to information within its markets. Unfair trade practices are prevented by means of effective legislation.

The activities of farms are made transparent and information about them is easily available. Farmers are appreciated by society and receive recognition for the work they do.

Cooperation with upstream and downstream sectors of the agricultural value chain is structured fairly, focusing on regional processing and marketing. In this context, supraregional trade complements regional structures and provides additional business opportunities.

Regionality

Germany's agriculture and food system functions to a large extent in regional cycles. Food is ideally processed regionally, with transport distances for agricultural products kept as short as possible. To make this possible, regional structures (such as food processing and marketing) are strengthened and bureaucratic and legal hurdles to implementation are either removed or overridden.

Offering healthy, regional, organic food in public and private institutions – such as schools, authorities, hospitals, company canteens etc. – strengthens local demand for such food, ensuring farmers reliable order quantities in the market.

Most material and energy cycles are closed loops so that materials and nutrients from production, consumption and waste disposal largely circulate at regional level.

Nutrition and consumers

Everyone has access to high-quality food, and

no one in the world goes hungry. People eat a healthy, balanced diet. Food is not wasted because of the value society places on food.

People are familiar with food production process and are informed about the ways in which farmers work. Consumers thus pay close attention to the origin of and production methods used in their food and increasingly consume regional products. Reliable and easily comprehensible labelling systems help them in this regard. Consumption of animal products is reduced to a healthy level, one in harmony with the environment, the climate, nature conservation and animal welfare.

Vocational education and training; starting a farming career

Young people of all genders are keen to take up farming professions. They receive assistance in entering the profession or in becoming self-employed by taking over a farm or establishing one.

Dual training in agricultural professions provides general knowledge in both theory and practice and offers a training allowance which enables trainees to lead independent, self-determined lives. Degree and training programmes address current and future challenges – from environmentally friendly and innovative, technology-focused farming to the development of new farming segments (by introducing ecosystem services, for example).

Courses of study in agriculture and agricultural sciences, and continuing education in the agricultural professions, provide prospective farmers with practical knowledge needed in their subsequent (and in some cases specialised) working lives. Continuing education and training held at regular intervals

provides farmers with knowledge about new production practices and ways of coping with new challenges that arise. An independent advisory service is also available for them to use.

Cooperation at policymaking and institutional level

Farmers are satisfied with the level of cooperation with public institutions – planning security is guaranteed and paperwork is kept in relation to the size of the farm.

Throughout the EU, public funds are made available under the Common Agricultural Policy (CAP) exclusively for use in the provision of public goods provided by farmers, such as ecosystem services and care of the cultural landscape. This means that farmers receive subsidies for societal services performed in the interest of the public, nature and the environment.

Uniform standards for working conditions and the production and processing of food apply throughout the EU. This also creates uniform transparency for consumers Europe-wide as regards the origin, production and further processing of food.

Livestock farming

Livestock is kept in accordance with strict animal welfare standards and livestock holdings are distributed throughout the rural regions. Long-term prospects have been developed and put into place in conjunction with the farms affected by structural change. Animals have adequate space and room to move around and be active. Farm animals are largely supplied with on-farm or regional feed. Veterinary medicines are used as needed and

in accordance with qualified medical advice, diagnosis and treatment. Livestock numbers and husbandry conditions have developed in such a way that Germany complies with environmental and climate policy conventions.

Digitalisation

Digitalisation is used in farming to reconcile the needs of people, animals and the natural environment. This includes techniques for precision work in the fields and for targeted plant protection as well as the use of modern innovations to promote animal health. In farming, digitalisation aids global environment protection, nature conservation and the production of food.

Data sovereignty lies with the farmers themselves. The state supports agricultural engineering in the further development and research of new technologies and in providing access to digital technologies for farms. Small and medium-sized farms should also be given access to and be able to use those technologies.

Despite the availability of digital applications, farmers are essential to the work performed on their farms. They make the decisions for both digital and analogue approaches to the respective work processes.

To enable farmers to take full advantage of the opportunities brought by digitalisation, digital coverage for rural regions is guaranteed and constantly adapted in line with technological advancement.

Global impact of German farming

Agricultural structures exist worldwide and are designed to be globally fair. Farmers can

work globally under fair working conditions. Germany's farming sector trades in fair regional, national and global markets along the entire supply chain. It has neither explicit nor implicit negative impact on third countries' human rights, society and environment.

The environmental and economic conditions for smallholder farmers worldwide enable a stable income, social participation and market access. Unrestricted access is ensured to important resources such as water, arable and pasture land, seeds, energy, capital and education.

3.2 Twelve guiding principles on transformation

The above Vision for the Future of Agriculture describes the goals of a rapid, comprehensive economic and environmental transformation of Germany's entire agriculture and food system. That transformation moves along the development path described by the forecast scenarios A and B developed as part of the Commission's foresight process (see Appendix 4 of the Report). Its necessity stems from factual circumstances and the direction set by societal goals. First and foremost, these are climate, environmental, biodiversity and animal welfare goals arising from national, international and supranational legislative initiatives and strategies mentioned by way of example in the resolution establishing the Commission (see Appendix 1 of the Report). Germany's Federal Constitutional Court recently narrowed down the required level of ambition and timeframe for the country to implement related constitutional requirements in its decision of 24 March 2021.¹

In addition to producing food and feed, farming can and must provide a wide range of services to ecosystems and help to mitigate climate change. Those services must be adequately remunerated by society so that they contribute to farm diversification as attractive sources of income. This is why the systemic transformation of farming and food is an agenda for society as a whole. Farming, food processing, industry and trade must face up to this task, as must all people along with a wide range of societal institutions and not least policymakers in all areas related to agricultural production and food. It is thus part of the specific responsibility that lies with policymakers to enable and facilitate rapid transformation of the agriculture and food system by creating appropriate conditions, and by promoting and helping to shape it.

In this process, the Commission believes that it is essential for policymakers to take into consideration the following twelve guiding principles:

Guiding Principle No. 1:

Taking into account planetary constraints, the transformation of the agriculture and food system must improve both the environmental **compatibility** and the resilience of farming production and animal welfare and promote the **diversity** of farm types, production systems, agricultural structures and agricultural landscapes. At the same time, the transformation must provide a reliable framework for farm planning processes and give farmers an economically viable future that counteracts the relocation of production to other regions in Europe or beyond that have lower social and environmental standards.

Guiding Principle No. 2:

Avoiding harmful impact and increasing positive impact on the climate, the environment, biodiversity, animal welfare and human health must be in both the personal and the entrepreneurial interests of agricultural producers. Along with agricultural and environmental policy, the agriculture and food system must thus be designed so that **avoidance** of today's **negative externalities** and the achievement of positive effects are made economically attractive to producers.

Guiding Principle No. 3:

Opportunities in farming and food markets must be linked to economic, environmental and social sustainability. This means that **food prices** (including taxes and duties) reflect the actual overall costs of food production along the entire

¹ BVerfG, Beschluss des Ersten Senats vom 24. März 2021 - 1 BvR 2656/18 -, Rn. 1-270, http://www.bverfg.de/e/rs20210324_1bvr265618.html.

value chain, that product and process-related competition on the basis of quality gains in importance relative to competition on quantity and that consumer behaviour develops along similar lines. The fact that farming is an important part of society must thus be expressed as a value in terms of farming's share of total economic output. Sustainably produced food calls for higher prices. Therefore appropriate financial assistance is needed in the form of comprehensive, accompanying social policy provision for low-income consumer groups.

Guiding Principle No. 4:

Given the (external) costs caused by today's agriculture and food system and subsequently borne by society, it can be assumed that even a highly cost-intensive transformation of the agriculture and food system will result in considerable **savings potential** at the level of **national accounts** in the mid and longer term.

Guiding Principle No. 5:

Transformation towards a sustainable agriculture and food system takes time; account must be taken of complex economic, technical, legal, social, cultural and political circumstances in a sector with a particularly small-scale structure, not all of which can be changed overnight. In addition, the necessary **transformation window** is very short for reasons of climate, biodiversity, environment protection and animal protection. In social policy terms, this can only be achieved if the systemic transformation process begins without delay and is designed so that the burdens of transformation do not grow over time and do not have to be disproportionately borne by younger and future generations. The conflict between the urgent need for systemic transformation of the agriculture and food system and the time needed for this to happen can be reconciled by ensuring predictability and plannability in structuring the process, with pre-defined milestones (stages)

that in turn are underpinned by monitoring of environmental impact and economic viability and allow for adjustments to be made where necessary.

Guiding Principle No. 6:

The full range of **political instruments** relating to the agriculture and food system (legislation, requirements, taxes and duties, subsidies, emission allowances, advisory services, training and continuous education, research funding, etc.) must be conceptually coherent with these guiding principles.

Guiding Principle No. 7:

Effective agricultural and environmental policy that aims at sustainability in farming requires both better horizontal and better vertical **integration and continuous improvement of policy measures**. This means, firstly, that policy instruments (such as financial support and regulation) and policy areas (such as agricultural, trade, consumer, environmental and animal protection policies) must be more reliably coordinated, the various policy levels (EU, Federal Government and Länder) be more coherently linked and their policy measures more effectively dovetailed with each other. Secondly, it necessitates ongoing adjustment of the legal and administrative framework for the agriculture and food system, which is extremely complex at all policy levels (from Länder law up to international agreements). That framework must neither obstruct nor slow the transformation process. Instead, it must promote and accelerate the transformation while ensuring planning and investment security.

Guiding Principle No. 8:

In the future, public sector funding for farming activities must serve the purpose of targeted **financing of the provision of public goods**.

Guiding Principle No. 9:

In many areas of agricultural and environmental policy, it is not possible to precisely measure target achievement at reasonable cost. Political and administrative decision-makers therefore often fall back on indicators on the input side, such as land area, that are constitutive of agricultural production and are considered easy to measure and operationalise. However, area-based measures have an impact on the market for land. For this reason alone, they are subject to the risk of undesirable side effects. It is thus advisable to align policy measures with the achievement of objectives and, where possible, to switch from indicator-based input management to **process and outcome management** based on impact measurement.

Guiding Principle No. 10:

To the extent possible, when designing agricultural and environmental policy, variations in geography and agricultural structure must be taken into consideration. Regional cooperation between agricultural and environmental stakeholders and other partners should thus be facilitated and promoted by means of appropriate measures at policy level. This can deliver quick results especially in the implementation of agri-environment-climate measures. **Cooperation** of this kind can strengthen the commitment of all stakeholders involved.

Guiding Principle No. 11:

Where possible, new policies and transformational measures should be tested and scientifically evaluated in targeted, open-outcome randomised controlled **trials** ('real-world laboratories'). Such trials would also relieve the decision-making process of the need for fundamental debate and aid better integration of the various administrative levels (regions, Länder, Federal Government and EU).

Guiding Principle No. 12:

Discourse processes such as those used by the Commission on Improvements in Livestock Farming and by the Commission on the Future of Agriculture (despite the adverse conditions caused by the COVID-19 pandemic and the end of a legislative period) indicate that even the pronounced polarisations in the agri-environment debate can be overcome. Such processes should be promoted at the various political levels using suitable formats (round tables, commissions of inquiry, partnerships, etc.).

4 OVERVIEW

The following overview sets out the numerous thematic areas and findings covered in the final report

A Introduction

The first section, **Introduction: Agriculture in Germany** (p. 19), describes the initial situation. The section on **economic aspects** (p. 22) presents key figures on the structure of agriculture, the sector's economic importance and the financial situation of farms as part of a complex value chain. The situation of those who work in agricultural production, either as farm managers, family members or employees, is addressed in the **social aspects** section (p. 28). This is followed by a look at the situation of rural regions, the change in societal demands on agriculture and the self-perceptions of farming families. The **societal tensions** associated with food production, consumption and dietary choices are also discussed: the desire for more sustainable food is not always reflected in the consumer

behaviour that actually shapes the food market and is sometimes associated with adverse health impacts. The third part of the situational report deals with aspects concerning the **environment and animal welfare** (p. 34). The desire for more sustainable food does not always correspond with the fact that farming takes place in nature. More than any other branch of the economy, agriculture influences public goods such as the landscape, soil fertility and biodiversity, water, air and the climate, and the situation for animals living in natural habitats and especially for those kept as livestock. Agriculture is also reliant on the good condition of the natural systems that, by practising increasingly intensive farming, it currently influences in a way that gives rise to a need for change.

B Recommendations

The **recommendations put forward by the Commission** (p. 40) describe what needs to be done in response to that need for change. These are guided by a **Shared Vision for the Future of Agriculture** (p. 40), which the Commission's two youngest members drafted on its behalf. This describes what kind of future of the agriculture and food system the instruments and measures proposed by the Commission in the following are designed to achieve. The broad horizon

inherent to this vision plays a key role, because the Commission aims to mitigate the risk of the agricultural and environmental policy debate getting in its own way by becoming bogged down in matters of detail (as important as these may be) and losing sight of the larger scale societal tasks at hand. This is followed by **twelve guiding principles for rapid, comprehensive transformation** (p. 45) of Germany's agriculture and food system. These describe how the economic,

environmental and social challenges involved can be overcome. They also provide a step-by-step approach to achieving the vision, seeing it not as a task that farming, food processing, industry and trade must tackle alone, but as an agenda for society as a whole. Environmental sustainability and resilience of the food and agriculture system require that its negative externalities be avoided, that food prices reflect actual overall costs as far as possible and that, in the extremely short transformation period (especially in light of the climate crisis and biodiversity loss), reliable economic prospects are ensured for producers. Agricultural and environmental policy will, however, only be able to serve the goals that have been set if their financial and legal measures are designed in an outcome-oriented manner, tested and evaluated in practice and developed coherently using consensus-building processes that require continuous effort.

The subsequent sections specify how the transformation described in the **vision** and **guiding principles** can be implemented in the various areas of action. Of the **social areas of action** (p. 48), section 2.1 first discusses **diversification of the farming sector** (p. 48), which is necessary in achieving economic stability for smaller farms. This means broadening the range of business segments, products and processing structures, and underpinning these with policy measures and appropriate funding programmes. Careful consideration must also be given to **farm risk management** (p. 50) along with the processes of **farm succession** or, where necessary, **farm exit** (p. 50).

A more comprehensive list of measures is set out under 2.2 and 2.3. These are intended to make the **situation for farm workers** (p. 51) more socially equitable and attractive, and address the tasks associated with **generational issues and also diversity** (p. 52) – both in farm succession and with regard to greater equity in agriculture. Section 2.4 addresses the most important of the

future challenges arising from structural change in **agricultural social security** (p. 55).

The social and value creation system around farming remains an important factor for **rural development** (p. 56). However, in section 2.5, the Commission shows this to be a cross-sectional field to which agricultural policy can only do justice in coordinated interaction with a whole range of other policy fields.

Focusing on **social perceptions and appreciation of farming and food** (2.6; p. 57) and on **dietary choices and consumer behaviour** (2.7; p. 58), the two subsequent sub-sections open up yet another thematic area. First, they revisit the different societal positions and expectations regarding farming and food and draw **conclusions for food policy** (p. 58). The Commission believes that without improved dietary choices and changes in consumer behaviour, which also include reductions in the consumption of animal products as well as sugar, fat and salt, transformation of the agriculture and food system will not succeed. The Commission thus sets out recommendations on nutritional education, improving communal catering, healthier food environments, **food labelling** (p. 60) and prevention of **food waste** (p. 61).

The two concluding parts of the second section in Part B, on **politics and administration** (2.8; p. 62) and **knowledge management and scientific political advice** (2.9; p. 64) set out recommendations for structuring the transformation process in terms of policy and administration. In particular, the activities of all relevant policy areas and government departments must be coherently coordinated and provide market players with reliable planning perspectives. At the same time, there are growing demands with regard to the level of knowledge needed in the agriculture and food sector and in relevant policymaking. This must be taken into account when developing practitioners' skills in education, training and

advisory services, and in policy-level reliance on agricultural and nutritional expertise.

Section 3 of the recommendations section of the report turns to **environmental action areas** and **livestock farming** (p. 68) – the biggest priority (3.1) being the **climate crisis** (p. 68), which poses a particular challenge in the farming sector. Farming is especially affected by climate change and must become **more resilient** to its outcomes (p. 72). This calls for changes in the farming countryside, improved soil quality and the development of adapted crops and varieties. As farming produces greenhouse gases, it also contributes significantly to **global warming** (p. 69). This is why a focus is placed in this section on carbon pricing systems, greenhouse gas sinks such as **peatlands and humus-rich soils** (p. 70) and emission reduction measures – for example in connection with nitrogen fertilisation and livestock farming.

Biodiversity (3.2 to 3.3; p. 72) and biodiversity loss, which is caused to a considerable extent by agricultural production, comprise a second field of environmental action of no lesser urgency for agriculture and society as a whole. The Commission believes it is imperative to reverse the trend as quickly as possible and to meet the goals set out in the Farm to Fork Strategy and the EU Biodiversity Strategy. The focus here is on targeted use of **fertilisers and pesticides, on biodiversity-promoting cultivation methods** (p. 72) and **farming countryside that is diverse in terms of both landscape features and species** (p. 75), and also on conserving and enhancing diversity in livestock breeds and crops, together with corresponding economic incentives. In the implementation of agri-environment-climate measures deemed suitable for this purpose, the Commission advocates approaches in which these measures are developed and implemented not in isolation at individual farm level, but in **cooperatives involving both farmers and conservation workers** (p. 75), thus achieving

better outcomes in terms of conservation goals and bureaucratic effort.

The third field of action covered in this section is **livestock farming** (3.4; p. 79). This is a sector of utmost importance in both environmental and economic and also in social and ethical terms. Here, the Commission on the Future of Agriculture makes express reference to the proposals put forward by the Commission on Improvements in Livestock Farming (Kompetenzzentrum Nutztierhaltung) and supplements these with additional recommendations for improved animal welfare and health, environmental protection and climate change mitigation. These include proposals for adapting livestock density to available land areas and for a more even geographical distribution of livestock farming, and for reforms to building and emissions legislation.

Finally, in section 4 of its recommendations, the Commission addresses the **economic areas of action** associated with the transformation of the agriculture and food system (p. 82). It is assumed here that, given the major social and environmental challenges in achieving this transformation at national and international level, the prevailing policy programmes, legal frameworks and contractual arrangements must be adapted and that this must be done in a way that also provides operators in the agriculture and food system with economic prospects and a reliable planning horizon. Moreover, it is assumed that meeting the additional costs arising from the transformation is an agenda for society as a whole, that the process can be shaped in a way that is economically viable for farmers and that avoidance of the externalities passed on today to the general public and to future generations will result in a future net gain to the economy.

Subsection 4.1 on **markets** (p. 83) first explains that the form of transformation most compatible with the requirements of functioning markets comprises **avoidance and internalisation of the**

externalities of farming and food production (p. 83). Given the great structural differentiation in the agriculture and food sector, achieving such a transformation calls for a diverse package of measures. In addition to regulatory law and publicly funded incentives, these include various mechanisms to **price in externalities**, thus integrating them into business profitability calculations and thus into market pricing. Where this results in an increase in prices for food, appropriate social compensation must be afforded to low-income groups. In principle, measures to promote the **internalisation of externalities should be embedded at EU policy level**. The EU must also ensure corresponding environmental and social standards by means of border adjustment mechanisms which, as explained in subsection 4.2, establish a **level playing field in international agricultural trade** (p. 90).

One fundamental economic problem, especially for farms, involves the uneven **distribution of market power in the food system** (p. 85). This report thus addresses issues of anti-trust laws, the UTP Directive and the Supply Chain Act. It also deals with producer associations and reducing the distance to consumers with local and regional value chain partnerships (VCPs). These can help boost producers' market positioning and share. **Market transparency and labelling and certification schemes** are particularly important and comprise the main focus in section 4.1.3 (p. 87). In the interest of consumer sovereignty, the Commission argues in favour of clearly comprehensible, trustworthy, binding labelling regulated at EU level.

Subsection 4.1.4 looks at **organic farming** (p. 88) as the only EU-wide, legally defined production system with its own market and well-documented performance requirements for meeting the goals and targets described in the earlier sections. It sets out the policy measures required to further improve the provision of public goods by organic farming and achieve the expansion

targets set at various levels in Germany and the EU.

Subsidies (p. 92) represent a considerable share of income for the vast majority of farms and constitute the largest budget item in the EU. As they are consequently of tremendous economic importance for farmers and have a significant governing effect, the topic is addressed in a dedicated subsection (4.3) of its own. For the EU's **Common Agricultural Policy (CAP)** (4.3.1; p. 92), it is recommended that the current area-based direct payments be gradually and completely transformed from 2023 onwards into economically attractive measures that aid transformation processes in farming – all in line with the guiding principle that public funding for farming activity is specifically directed at financing the provision of public goods. Attention must be paid here to the effectiveness of the funding in relation to the intended goals and also to efficient administration and evaluative monitoring of the funding instruments used. The same applies to **Federal and Länder funding programmes**, which are addressed in 4.3.2 (p. 94). These must also be further developed in a way that ensures they support efforts to protect the climate, biodiversity, farm animal welfare and protected areas in a much more targeted and robust manner than before.

Section 4.4 deals with **technological progress** (p. 97) as a necessary prerequisite in the transformation to a sustainable system, while acknowledging that technology is not sufficient on its own. On the one hand, it discusses the opportunities that digitalisation brings for farming. On the other, it deals with the much-debated innovative field of **plant breeding** (p. 98). In achieving a sustainable, resilient, productive agriculture and food system, along with the largest possible number of crop species, location and climate-adapted varieties are needed that are high-yielding, robust and healthy and of high food or feed and processing quality. Scientifically

sound assessment of breeding methods must be carried out in compliance with the principles of precaution and freedom of choice. **Agrochemical progress** (p. 97) can also aid the sustainable transformation of farming. This calls for a regulatory framework that enables rapid introduction of appropriate products such as biostimulants and low-risk pesticides.

Finally, section 4.5, headed **“Precaution pays”**, **summarises the economic costs and benefits** of a sustainability-focused transformation of the agriculture and food system (p. 100). It calculates the additional costs of such a transformation and shows they will be significantly higher than the public funding currently available for the farming sector. It also shows that these additional costs are far below the figure in the high double-digit billions of euros representing the estimated annual externality cost of maintaining the status quo.

The transformation proposed by the Commission is needed to meet the environmental challenges, the ethical and social aspects of animal husbandry and to enable an economically viable future for Germany's agricultural and food system. As it will be associated with considerable economic benefits in the future, the transformation can be structured in a way that is both socially acceptable and economically attractive for farms. For this reason, achieving it is an agenda for society as a whole.

Appendices

In the Appendices to the final report, the Commission sets out the background to and the milestones in its work process. These include, firstly, the establishing resolution adopted by the Federal Government, the Commission's rules of procedure, its meetings and its working groups. Secondly, they include a **position paper on the Common Agricultural Policy** prepared by the CAP Working Group (p. 161) and four different **scenarios for the future of agriculture** in Germany (p. 147). The latter were developed by the Futures Working Group with support from the *Fraunhofer Institute for Systems and Innovation Research* (Fraunhofer ISI) as part of a methodologically structured foresight process that played a formative role in integrating the heterogeneous problem areas listed in the Commission's mandate and in drawing up its recommendations.

Scenarios A and B, developed as part of this foresight process, describe the target corridor recommended by the Commission for the transformation towards sustainable agriculture in Germany. By way of contrast, Scenario X depicts a business-as-usual approach, which is considered less than sustainable.

Scenario A predicts a broad societal shift towards sustainable farming and food, triggered by a wide range of different stakeholders. In that process, livestock farming will see a sharp decline and will meet societal expectations; external costs will be fully internalised. There is greater regionalisation, decentralisation and the creation of fair value chains along with an increase in direct marketing and the diversity of domestic agricultural products. Environmental policy will make use of regulation, but environmental goals will primarily be achieved by means of market-based incentives. Consumers will have a pronounced

awareness of sustainability, and sustainability will also drive innovation.

Scenario B is characterised by policy activities that bring about fundamental change in the market. Pricing will remain the decisive control variable for consumers. In addition, sustainability and environmental aspects of a product or production process will be priced in by government, thus resulting in sustainable consumption. Societal expectations on animal welfare are not met on a broad scale, so demand for meat and thus livestock farming in Germany will see significant decline. Socially accepted livestock farming will emerge in niches, but the German population will obtain its daily protein requirements from alternative protein sources. The food market will be highly diversified, with biotechnological production of food gaining greatly in importance. Environmental goals will be achieved by means of both regulatory instruments and market-based mechanisms, with compensation provided to offset regulatory interventions.

Scenario X leads to considerable problems regarding biodiversity and goes hand in hand with agriculture migrating and relocating outside of Germany. Environmental policy goals will be achieved by means of regulation and external costs will either be paid for from public funds or exported abroad. The market will be highly segmented and diversified consumption patterns will prevail.

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² Until 24 June 2021.

³ Member until 19 March 2021.

⁴ Until 30 June 2020.

