

Handbook for the Promotion of the Agri-Food Sector

Overview of agricultural policy promotion instruments aimed at the development of farm enterprises and agricultural value chains



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FOREWORD

Many countries have developed extensive strategies on how to overcome hunger and poverty by creating rural areas that prosper and offer economic opportunities especially for the rural youth. However, only a few countries have also identified concrete instruments to achieve these theoretical goals. In addition, many countries still lack sufficient funding and institutional capacity to implement the objectives or to set suitable indicators to measure the degree of implementation.

This handbook aims to support these countries in their endeavour to close the gap between political commitment (the strategy) and achieving the objectives at the level of farms and enterprises along agri-food value chains. Through this, the handbook will help decision-makers and agricultural policy advisers in their day-to-day (advisory) work.

The handbook is structured as follows: after a short introduction, chapter 2 discusses the various target groups in a rural economy, based on the theory of the “Five Rural Worlds”. The numerous political, economic, social and environmental factors influencing rural (farm) enterprises are discussed in chapter 3, while, after a brief summary in chapter 4, chapter 5 outlines the various promotional instruments available. These are categorised by area of intervention and objective. Policy makers must carefully assess their relevance and applicability in a specific country context.

This document is the result of a long and lively discussion dating back to a kick-off workshop in December 2015 in Bonn. My particular thanks go to my co-author, Dr Helmut Born, without whose profound and ever-friendly support the production of this handbook would not have been possible. Further I would like to thank Dr Wilhelm Elfring, Dr Paul Armbruster, and Karl-Martin Lüth for their steady critical perspective, their confidence, support and contributions.

My thanks also go to Dr Thomas Breuer who inspired this handbook and who has never doubted it would reach completion. Finally, my thanks go to Dr Christine Wieck for both her moral and profound technical support as well as to Heike Höffler, Kristina Mensah, Katharina Schlemper, Waqas Malik, and Simon Hörhold for their valuable contributions during the process.

A compilation of instruments can and never will be complete. This is a “living document” and will develop on through contributions and experiences of policy makers and policy advisors on the topic. Constructive comments, examples and additions are always welcome at agritrade@giz.de.

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LIST OF ACRONYMS

BMZ	German Federal Ministry for Economic Cooperation and Development
DFS	Digital Financial Services
DIE	German Development Institute
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross domestic product
ICT	Information and Communication Technology
IFAD	International Fund for Agricultural Development
kWh	Kilowatt hour
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
QMS	Quality Management System
SDG	Sustainable Development Goals
SPS	Sanitary and phytosanitary measures
UN	United Nations
WFO	World Farmers' Organisation
WTO	World Trade Organization

1. INTRODUCTION

The Food and Agriculture Organization of the United Nations (FAO) estimates that global food production has to increase by 50 percent in order to provide food of a satisfactory quality and quantity for a world population that is estimated to grow to 9.73 billion by 2050.¹ However, it is not only this enormous increase in production levels that presents a challenge to the global agri-food sector: overexploitation of natural resources has already caused irreparable damage in many parts of the world, increase occurrences of extreme weather events and rising temperatures affect vegetation zones as well as the occurrence of pests and diseases, traditional communities come under pressure due to a growing population (in certain parts of Africa) or due to an aging population (in rural areas in parts of Asia, Latin America and Europe). In addition, commodity markets and prices become more and more volatile while market power is shifting to traders.

In order to meet all these and other challenges it will not only be necessary to boost agricultural production levels, but also to modernise and professionalise the entire agri-food sector in many developing and emerging countries.² Even in 2011, the FAO put the annual private and public investment needed for this goal at around US\$209 billion.³

The process of modernising and professionalising the agri-food sector needs to meet these challenges not only in an economically but also in a socially and environmentally sustainable manner. Only then will it be

possible to create growth and jobs in rural areas, improve the attractiveness of the sector for the youth, preserve the natural resource and production base, and meet the increasing demand for safe, high-quality and divers food and agricultural commodities in the long run. Hence, a modern agri-food sector is also a necessary requirement for political stability – not only in rural areas but at the national, regional and – due to increasing youth unemployment and migration – even at the international level.

Opinions on how to achieve such a sustainable and inclusive agricultural development differ greatly and are even based on agricultural models that are sometimes mutually exclusive. However, despite all the differences, there seems to be agreement on one thing: the decisive factor in successfully promoting the development of rural areas and the agri-food sector is the farm enterprise.

According to FAO estimates, there are currently more than 570 million farms across the globe, around 60 percent of which are in China and India alone. More than 80 percent of farms are less than two hectares in size, with just two percent exceeding 20 hectares.⁴ How can the agri-food sector be modernised and professionalised in a way that benefits not only these farms with their different structures and sizes but also enterprises in sectors upstream and downstream of agricultural production? Can appropriate instruments be identified for a policy that not only promotes markets, pricing, structures and infrastructures, agricultural finance and education but that also takes

¹ see FAO 2017: 46.

² However, modernisation and professionalisation do not necessarily imply the industrialisation of agriculture and the use of capital-intensive technologies; improvements in efficiency and productivity can in fact be achieved in other ways, for example by introducing

“intermediate technologies” which simultaneously promote employment in rural areas (see Braun 2010: 5).

³ see Schmidhuber, Bruinsma, Boedeker 2011: 339.

⁴ see Lowder, Scoet, Singh 2014: 4 and 12. This does not include enterprises specialising exclusively in forestry or fishing.

social and environmental aspects as well as consumer protection and animal welfare into account?

According to the authors' experience, a successful modernisation and professionalisation of the agri-food sector is driven by at least the following seven factors:

1. **Acknowledgement by political decision-makers and willingness to reform.**
2. **Formulation of a strategy** in discourse with public, private and civil-society actors, both at individual level (micro) and at that of society and its structures (meso and macro levels).
3. **Clear responsibilities, human and institutional resources and the political will** to implement them at local, regional and national levels.
4. **Identification of concrete suitable instruments** for achieving the overall and subsidiary goals formulated.
5. **Necessary funding from public (and private) sources.**
6. **Regular reviews of the effectiveness** of selected instruments by independent bodies.
7. **Efforts and organisation on the part of the rural population itself.**

PART I

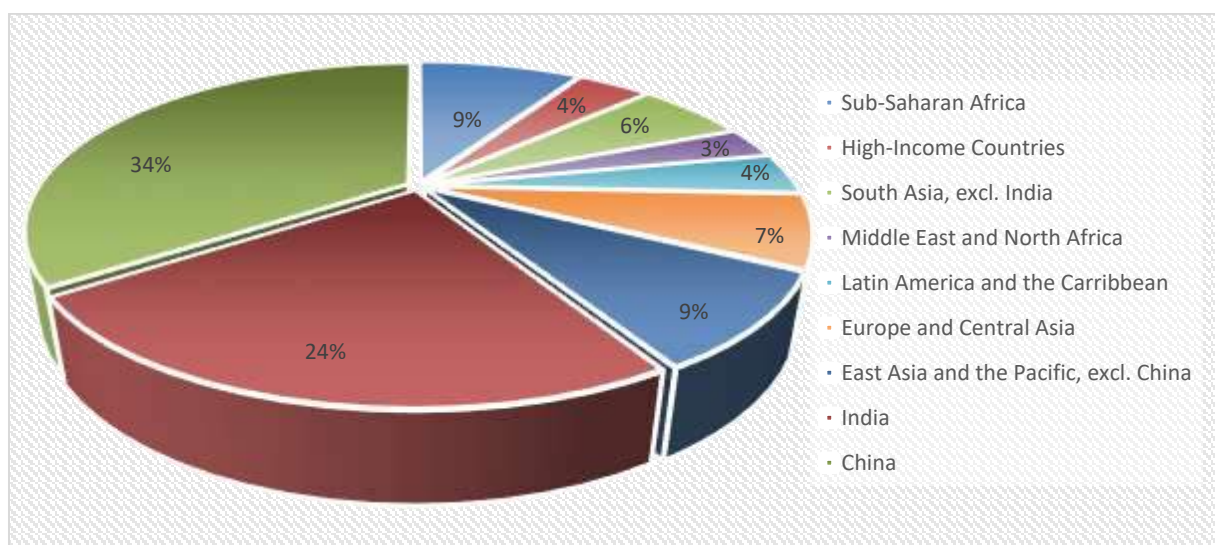
Actors and Influencing Factors

2. RURAL ACTORS BASED ON THE MODEL OF THE “FIVE RURAL WORLDS”

Around 45 percent of the world’s population lives in rural areas. This number is falling in relative terms (57 percent in 1990) but still rising in absolute terms: from 3 billion people in 1990 to 3.4 billion in 2016. For the majority of the world’s population, agriculture is their main or second profession.⁵ Hence, rural development, and therefore agricultural development, plays a hugely important role in the development of future growth strategies, particularly in Africa and Asia. Positive income effects of investments in the agricultural sector are believed to be three times higher than in other sectors; in Sub-Sahara Africa even eleven times higher.⁶

According to FAO estimates, there are currently more than 570 million farms of different sizes across the globe. Around 74 percent of these are in South and East Asia and the Pacific region (with 24 percent in India and 34 percent in China), approximately nine percent in sub-Saharan Africa and seven percent in Europe and Central Asia. Just three percent of farms are in the Middle East and Northern Africa and four percent in Latin America and the Caribbean respectively (see figure 1).

Figure 1: Distribution of the world’s estimated 570 million farm enterprises.



Source: Lowder, Scoet, Singh 2014: 5.

⁵ See World Bank 2017.

⁶ vgl. FAO, IFAD, WFP (2015): 48.

Around 84 percent of farms, operating on only approximately 12 percent of the world's available arable land, cultivate an area of less than two hectares, while only 16 percent of farms are larger than two hectares but farm 88 percent of the available arable land. Only two percent of farms have an area of more than 20 hectares. About 500 million farms are run as family farms.⁷

Due to the range of farm sizes and regional distribution this group is very heterogeneous and its value chain involvement also very diverse. A concept that goes beyond the description of farms, but also involves upstream and downstream enterprises as well as other rural actors in a simplified way, is the "Five Rural Worlds" model for developing and emerging countries. This model was published by the Organisation of Economic Cooperation and Development (OECD) in 2006⁸ and was later revamped and expanded upon by the German Development Institute (DIE).⁹

The "Five Rural Worlds" model describes rural actors and classifies them pragmatically according to their assets, their access to production factors (land, labour and capital) and education, their competitiveness, their growth potential and their needs. The description looks beyond the size of a farm, also providing information on the extent to which farms in one particular category, or "world", are able to provide other rural actors with adequate livelihoods.¹⁰ The reason the model is particularly useful for selecting suitable promotion instruments is because it takes into account the needs of individual farms on the one hand, as well as short, medium, and long-term effects on other rural and urban actors on the other.¹¹ This is an

asset that is particularly important when looking at measures that promote rural employment.

As the five "worlds" are not mutually exclusive, interdependencies arise between areas such as the labour and the financial market.¹² The five worlds are distinguished as follows:¹³

1. Large-scale commercial agricultural households and enterprises

These are a very small group of households and enterprises in developing countries which are generally engaged in exporting cash crops and produce very little for the domestic market. Actors in this group generally have direct access to finance, risk management instruments, market information and infrastructure. Because of their size they have a relatively influential voice in national politics and institutions. At the same time, they are able to provide jobs in rural areas and provide financial support for education and training for their employees. Actors of this group are usually not targeted by measures of international development cooperation, however, they do play an important role for direct or indirect employment promotion.

2. Traditional landholders and enterprises

This group includes a relatively large proportion of farms and enterprises in the agricultural value chain. They often form part of the local elite but have limited influence on policy at the national level. These farms are usually devoted to both commercial agriculture at the regional level and subsistence agriculture. Products are often of lower quality and the farms

⁷ See Lowder, Scoet, Singh 2014: 4f, 17.

⁸ See OECD 2006.

⁹ See DIE Briefing Paper: [Revamping the OECD's Five Rural Worlds Model for Poverty-Oriented Inter-Sectoral Analysis, Communication and Planning](#).

¹⁰ See Brüntrup 2016a: 1.

¹¹ See Hazell, Rahman 2014: 8.

¹² See Wegner 2016: 8.

¹³ After Brüntrup 2016a and 2016b.

have limited market access, so they tend not to be internationally competitive. Since the structural adjustment programmes of the 1980s, a large proportion of this group has no access to innovations, finance or formal risk-management instruments. Nonetheless, actors in the second rural “world” are usually able to earn a living above the poverty line, expand, make provision for failed harvests or illness, and provide their children with basic education.

3. *Subsistence agricultural households and micro-enterprises*

The third rural “world” encompasses what is probably the largest group of actors in rural areas. Most of these actors’ agricultural output is for their own consumption, although they have to buy some of their food from local markets. Any surpluses earned from selling their produce are often used to buy food and other daily requisites, but a substantial proportion of their income is often earned outside agriculture. As actors in this group are extremely vulnerable and usually have no access to finance, they are limited to non-capital-intensive production technologies. Labour productivity is therefore usually very low, and actors in the third rural “world” are generally, below the poverty line, even in good years.¹⁴

4. *Landless rural households and micro-enterprises*

A significant part of this fourth group comprises women who earn their living through sharecropping or by working as agricultural labourers (e.g. for actors in the first “rural world”). Actors in this group often migrate daily or seasonally to larger urban centres to earn a living. Very low levels of education are a major barrier to migrating out of poverty. Living conditions in this group are usually precarious and characterised by poverty, although they generally manage to

achieve self-sufficiency in food, albeit usually at a very low level.

5. *Chronically poor rural households (many no longer economically active)*

This group comprises households that have no access to or ownership of land or labour. The members of this group are often chronically sick, disabled and/or orphaned and are socially excluded from the larger community. They generally live in marginal areas or areas with very little available agricultural land. They are highly dependent on remittances from relatives abroad or in urban areas to provide for themselves.

Actors of the second and third “world” are often addressed by international development cooperation in the framework of a value chain development approach. It aims at increasing incomes, productivity, food quality and safety along certain agricultural value chains. However, actors of the first and second “world” are also interesting when looking at their ability to provide jobs, either directly or indirectly through consumption of goods and services.

The creation of job opportunities in upstream and downstream sectors or in larger, market-oriented farms and, above all, access to non-farm jobs is of strategic importance for the sustainable development of rural areas, partly for the third and particularly for the fourth and fifth “worlds”. Demand-oriented education and training opportunities play a key role for this group.

Members of the fourth and fifth “world” are usually not addressed by international development cooperation by a market-oriented value chain approach but by measures of social protection and food and nutrition security.

¹⁴ Wiggins (2009) assumes that labour productivity of US\$700 per annum is sufficient to lift a person out of poverty, while Conway (2014) assumes US\$900.

3. FACTORS INFLUENCING ENTERPRISES IN AGRI-FOOD VALUE CHAINS

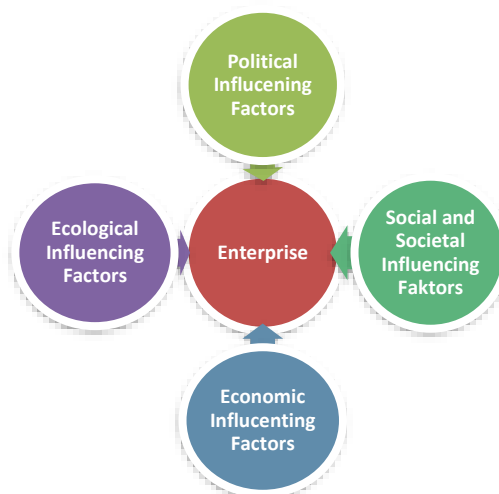
Formulating a sustainable and successful long-term development strategy and choosing appropriate instruments for its implementation is a particular challenge, especially in the agricultural sector. In a background paper produced for the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in 2013, Wiggins *et al.* described agriculture as an “awkward sector” as it interfaces with a large number of other sectors and has to fulfil a multitude of expectations under relatively difficult conditions.¹⁵

The next chapter provides an overview of the various factors influencing the development of farms and other enterprises along agri-food value chains. Interactions between these factors have to be taken into

account when selecting suitable instruments for developing enterprises along agri-food value chains. For the sake of clarity, the chapter is divided into four subchapters covering political, economic, social/ societal and ecological influencing factors (see figure 2). Each factor is always country specific, meaning, its relevance differs from country to country as well as from one rural “world” to another (see [chapter 2](#)). Hence instruments mentioned may only be suited under certain preconditions.

All chapters are of a descriptive nature only. Recommendations for action are avoided.

Figure 2: Factors influencing enterprises in agri-food value chains



Source: Produced in-house.

¹⁵ See Wiggins *et al.* 2013: xii.

3.1 Political influencing factors

For private investments and hence the development of farm and other enterprises along agricultural value chains political framework conditions play a special role. A favourable investment climate fostered by peace and security, macroeconomic stability, low inflation, a competitive exchange rate, secure property rights, low corruption and a fair tax system that reinvests revenues in public assets such as infrastructure is a necessary precondition for growth in private sector businesses and hence farm enterprises.¹⁶

Consequently, a favourable investment climate is also a requirement for employment, particularly for young people. Nine out of ten jobs are created by the private sector.¹⁷

In an ideal situation such as this, the legislature defines the legal frameworks and, together with the judiciary, determines the level of legal certainty (e.g. on land rights or contractual transactions), while the executive identifies aspects such as the economic, educational, environmental and socio-political instruments that are necessary to achieve the promotional objectives. To achieve this, policymakers need to have an excellent knowledge of the economic and

social interrelationships in rural areas and of the natural and technical production requirements and challenges faced by the agricultural sector in their country. Engaging various actors from all rural “worlds” in **multi-stakeholder dialogues** can help improve the representation of different interests, thereby taking the actors’ differing expectations into account. At the same time, appropriate institutional and human resources are needed in order to be able to coordinate different short, medium and long-term initiatives within and across authorities. This may generate greater synergies and improve self-confidence of local policymakers.

International development cooperation can support some of these processes by deploying experienced policy advisers, assisting with the design and implementation of an effective and sustainable policy framework. All initiatives must always contribute to the overall and subsequent goals of a national development strategy (alignment), they must be transparent and generate synergies (harmonisation) and they must be coordinated by competent partner authorities under their own responsibility (ownership).¹⁸

3.1.1 Legal framework conditions and legal certainty

Among the most important factors influencing agriculture and its upstream and downstream sectors are the legal framework conditions and the level of legal certainty that is needed to ensure compliance with legal norms. Areas of law that are particularly relevant to the agricultural sector include contract, property,

labour, environmental, food and company law. Laws and regulations in these areas must be formulated in such a way that they are easy to understand, unambiguous and practical. They should further be completely non-discriminatory to not hinder private-sector involvement and employment creation. Courts

¹⁶ See Wiggins *et al.* 2015: 21.

¹⁷ See World Bank 2013: 7.

¹⁸ Likewise, in the Paris Declaration on Aid Effectiveness in 2005, the international donor community agreed five basic principles of

effective cooperation: (1) ownership, (2) harmonisation, (3) alignment, (4) results and (5) mutual accountability.

must take decisions promptly and may be assisted by local **arbitration courts**.

In the area of property law, particular emphasis should be placed on secure and formalised land titles (ownership) or land-use rights (access). They form the basis of a farmers' commercial activity. After all, without reliable land or land-use rights that give the security of being able to harvest the fruits of their labour in future years, entrepreneurs cannot make long-term investment decisions. This holds especially true for farmers in regard to aspects such as soil improvement, irrigation, buildings or machinery. The existence of secure land or land-use rights therefore also impacts on environmental sustainability and the protection of natural resources. Furthermore, they

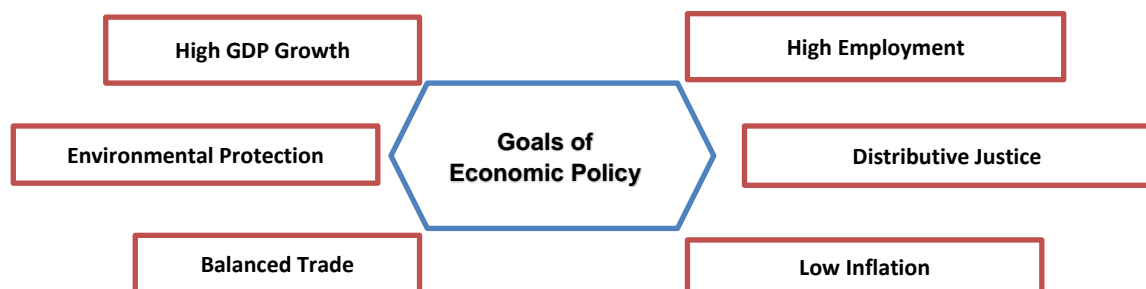
form the basis for the implementation of many different promotion instruments, such as **investment grants, coupled direct payments** or settlement structure improvement measures. They also often form the basis for **access to financial services** (see [chapter 3.2.2](#)). A recognised state **land cadastre** and property system protects the buying and selling of land, enables taxes to be raised on these transactions and facilitates the granting of **loans** on them. A system of formal land rights (e.g. in the form of a **land register**) can help prevent agricultural parcels from being divided up into ever smaller areas, for example by **limiting the splitting of real estate** or by **land consolidation**. These processes must necessarily be carried out with high levels of civic/ farmers' participation (e.g. through **multi-stakeholder dialogues**) to avoid social tensions.

3.1.2 Economic policy

All areas of economic policy, i.e. both regulatory and procedural policy (such as **market and pricing policy**), are relevant to market actors along agricultural value chains. Sectoral and regional structural policies, such as infrastructure and trade policies, also play a major role. In literature, distinction is made between four

quantitative goals of economic policy: high employment, low inflation, high gross domestic product (GDP) growth and balanced trade.¹⁹ This "magic square" is expanded to form a hexagon with the addition of two qualitative goals: distributive justice and environmental protection (cp. Figure 3).²⁰

Figure 3: Hexagon of economic policy.



Source: after Beeker 2011.

¹⁹ See Bofinger 2011: 273 ff.

²⁰ See Beeker 2011: 21 ff.

In order to shape a development that is both economically as well as socially and environmentally sustainable, it is especially important for policy makers to understand the relationships between rural and urban areas, since a close interaction requires careful coordination of planning and administration: Urban areas fulfil important roles in social services, health, education, and culture. Remittances and expertise are crucial stimuli for the development of rural areas. Rural areas provide urban centres with food, raw materials, drinking water and fresh air as well as with opportunities for recreational and leisure activities.²¹ To avoid social tensions within the country, citizens both living in urban and rural areas need a common and viable perspective, based on a firm economic footing.

A prominent phenomenon referred to as “urban bias” underlines the nature of agriculture as an “awkward sector”, torn between a demand-led and a supply-led economic policy. At the same time, it stresses the importance of understanding the interrelationship between urban and rural areas: The “urban bias” describes the phenomenon where a growing urban population demands an ever increasing supply of low-cost food of ever higher quality on the one hand, while on the other, the growing rural population equally demands targeted support for the development of rural areas. This holds particularly true for sub-Saharan Africa, where, despite high rates of urbanisation, according to forecasts by the World Bank and the International Fund for Agricultural Development (IFAD), the rural population is expected to continue to grow by around 60 percent by 2050²² and where job opportunities are particularly urgent. To solve this problem of distribution, which is a challenge for policymakers, it is necessary to understand

the two important interrelationships described below.

Firstly, the often poor state of (market) infrastructure (see [chapter 3.2.1](#)) is a major challenge for farmers in developing and emerging countries seeking to supply urban areas with locally produced food. Due to poorly developed roads, very high and continuously rising energy cost and inefficient logistics in the agri-food sector, locally produced food often cannot compete with foreign imports, both in terms of quality and price. A lack of **storage and cooling technology**, for example, leads to animals being transported or driven to urban centres alive, which, besides putting the animals under stress, is enormously time-consuming and costly. These high costs often favour cheaper imports instead of locally produced goods as they are sometimes even easier to organise logistically, especially in coastal regions. However, in regard to an increasing scarcity of resources across the world as well as a growing world population, this reliance on an import-based food supply could, in the long run, prove extremely risky. Moreover, an import-led food supply also results in urban consumers in developing and emerging countries increasingly demanding the **quality standards** and prices found on the world market (see [chapter 3.2.5](#)), to which local producers may not comply.

Secondly, politicians usually behave as so called “utility maximisers”. Voters tend to rather reward the achievement of short than long-term goals. Hence politicians usually reject measures that would appear to be detrimental to voters in the short-term, even if they are necessary for the overall social development in the long run. With respect to the urban bias, this means that policymakers have a tendency to prioritise the provision of services to urban centres over making long-term structural improvements in rural

²¹ See GIZ 2012: 17.

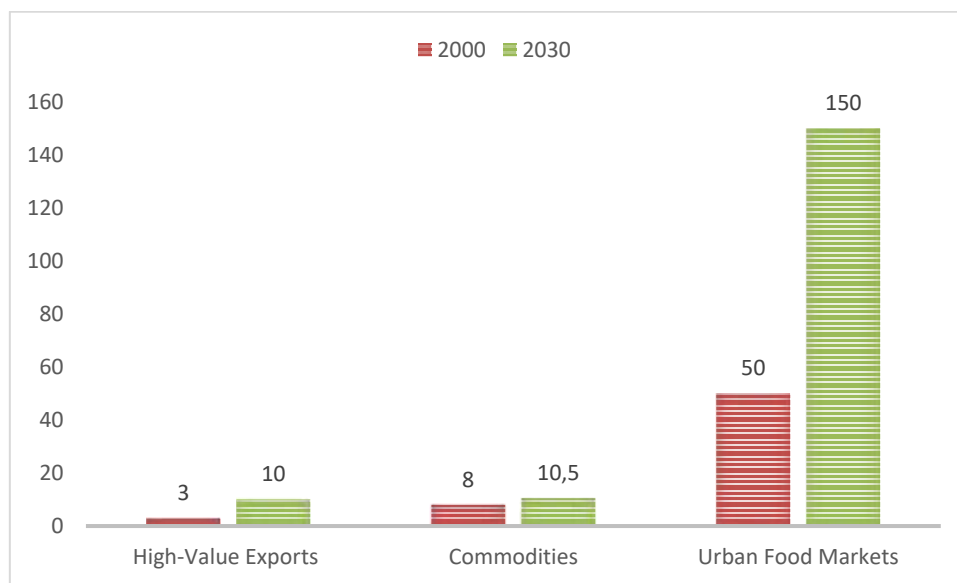
²² See World Bank, IFAD 2017: 6.

areas. After all, the urban population is much more politically assertive than the rural population: unable to be self-sufficient, urban centres quickly become centres of political resistance if supply shortages occur. The rural population on the other hand usually doesn't have the opportunity to exercise political influence. Exception are actors in the first "world", who are in a position to exercise a relatively high degree of influence due to their market position and lobby groups.

Popular instruments for addressing the dilemma of urban bias include removing tariff and non-tariff

trade barriers in order to promote imports while at the same time implementing large-scale subsidy programmes for rural areas to improve food security. However, this strategy leaves the potential for economic development from a growing domestic urban sales market untapped: Farming First, a coalition of multi-stakeholder organisations committed to the goal of sustainable agricultural development, predicts that at US\$150 billion, sales volumes in urban markets in developing and emerging countries will be 15 times higher than export market volumes by 2030 (see figure 4).

Figure 4: Potential sales volume, measured in small-scale farming incomes in US\$ billions by 2030.



Source: after Farming First 2016.

In order to make full use of this potential for job creation and rural economic development, however, firm political will is needed to promote the local agri-food sector, putting in place a long-term agricultural strategy. Apart from a strategic economic and infrastructure policy, this also calls for an intensive educational and research policy for the agricultural sector, an agricultural social policy to accompany the

structural changes being made, and practice-led policies on animal welfare, nature conservation and environmental protection.

The phenomenon of urban bias as described above requires a distinct mix of policy instrument ensuring a balanced promotion of both urban and rural areas and their interdependencies (rural-urban linkage) while at the same time taking into account the various needs of the five rural "worlds". Successfully

implementing, this would enable urban centres to be supplied with sufficient local products in reasonable quality while at the same time benefiting the rural population through a more modern and professional

agri-food sector. Untapping this potential would play a key role in creating prospects for the young rural generation entering the labour market (see chapter [3.3.3](#)).

3.1.3 Tax policy

Tax policy is an important factor influencing the economic development of rural farm and other enterprises in the associated value chain. If and to which extent a country actively pursues an effective tax policy depends on its level of development (e. g. on the ability to levy or collect taxes).

In the agri-food sector especially relevant are the land tax, turnover tax, income tax, taxes on products (e.g. on wine, sparkling wine, beer and tobacco), inheritance tax or business taxes. The primary objective of a country's tax policy is to generate government revenues to finance public expenditure. While taxes finance the general budget, other levies are used for specific purposes (e.g. to maintain roads or to finance schools and universities). Besides the aspect of financing, however, a targeted tax policy can also be used to pursue economic, social and environmental policy goals ("steering function"). On the one hand, the steering function can be beneficial for consumers, producers and the processing industry: Tax relief or

exemptions can reduce production costs (as in the case of **tax relief on inputs**), make using certain resources more attractive than others, provide investment incentives for certain products (as in case of **tax relief on new products**, for example) or make local products more expensive to export (e.g. by imposing an **export tax**). Furthermore, taxes can promote gender equality or reduce discrimination against vulnerable groups, provide tax incentives for old-age provision or facilitate business succession by reducing **inheritance taxes**. On the other hand, in the event of a market failure, the steering function can lead to higher prices for consumers, producers and the processing industry, such as when environmentally harmful consumption and production activities are made more expensive.

When setting taxes and levies, it is always important to avoid jeopardising farming families' and enterprises' own initiatives while at the same time securing financing for (local) public commitments.

3.1.4 Education, training and research policy

In the long term, the most decisive factor for the development of farm enterprises and the agri-food sector is access for farming families to sound general education and training. After all, a developing agri-food sector is, at all levels, knowledge-based. Access to knowledge for the rural population directly contributes to increased productivity and an improved

nutritional status. In an Africa wide survey by the German Federal Ministry for Economic Cooperation and Development (BMZ) among 10,000 young people aged between 18 and 35, around 35 percent of respondents indicated that education and training were the second most important factor in increasing the attractiveness of rural areas after improved

employment opportunities.²³ It is hence essential to offer all young people in developing and emerging countries a seamless range of primary and secondary schools as well as opportunities for further education.

For the development of the agri-food sector and based on primary and secondary education, local technical colleges as well as vocational training and skills development centres should be established. These facilities provide farmers-to-be as well as farm workers with practice-based theoretical knowledge, supplemented with hands-on experience on farms or in other enterprises along the agri-food value chain (“dual” training system). Of similar importance is the **promotion of public and private agricultural advisory services** in accordance with **quality standards** established by local authorities. **Training opportunities for agro-input dealers** and **public governance structure** that comply with these standards can further improve the quality of extension services along the value chain, thereby also contributing to protecting health

Agricultural Practices, adapted to local conditions. It must be the overarching aim of policy makers to provide all young practitioners, both boys and girls, with a sound basic knowledge that is supplemented with regular follow-on courses and seminars.

This education and training should enable a reasonable proportion of young farmers to also attend technical colleges and universities.

Generally, close cooperation between agricultural research institutions and agricultural universities on the one hand and practitioners and local extension officers on the other is essential for disseminating the results of research and innovation rapidly among farmers. Agricultural research contributes to productivity increases and therefore employment, for example through plant breeding programmes adapted specifically to local agri-environmental conditions.²⁴

However, the basis for success, both at school and later at work is a healthy physical growth. A poor diet or malnutrition during the so called “window of opportunity”, referring to the first 1,000 days of an infant, may lead to irreparable damage and can affect mental and physical development. A healthy physical growth requires a constant and sufficient supply of diverse high-quality foods and clean drinking water. Furthermore, healthy growth depends on the quality and access to the local healthcare system that ensures the needs of mothers, infants and young



and environment. Quality standards also help harmonising international development cooperation’s approaches and training content in regard to Good

²³ See BMZ 2017: 52f.

²⁴ See GFA 2016: 2.

children are taken into account properly and that appropriate **nutritional advice** is given.

Involving children in the work on farms may enable traditional knowledge of agricultural production processes to be passed on from the older to the younger

generation at an early age. However, this should not be abused or even prevent children from gaining a sound education and proper training. **Binding social standards designed to protect against child labour** can help ensure that all young people in rural areas gain a proper education

3.1.5 Social policy

Family plays an exceptional role in rural areas. This holds particularly true for farming families, where family life and work are more closely intertwined and interdependent than in virtually any other economic sector. A farm is often home to several generations; the older generation are housed and looked after by the middle generation while in turn often taking care of the youngest generation. This social component does much to ease the burden on the economy and its social system. However, this largely self-sustaining system starts lacking in stability in many parts of the world: in some parts of Africa, for example, population growth fosters the splitting of real estate. In parts of Asia and Europe, growing numbers are leaving rural areas and the aging of the rural population drives rural transition. To achieve sustainable and inclusive rural development, a long-term social policy is needed that is geared specifically to the requirements of the agricultural sector. Both self-employed farming



families and agricultural and forestry workers should have access to social insurance schemes that provide **risk cover against accidents and illness, old-age provision** and/ or **childbirth, accident, illness or old-age care**. This also contributes significantly to equal living conditions in urban and rural areas and has positive effects on reducing population growth. In addition, the introduction of **statutory** or **voluntary social standards** can improve the living conditions of workers employed in the agri-food sector. When formulating an inclusive social policy it is of vital importance to always consider the different rural “worlds” and their needs, described in [chapter 2](#).

3.1.6 Environmental policy

Based on the Brundtland Report, the FAO defines sustainable development in the agri-food sector as follows: *“Sustainable development is the management and conservation of the natural resource base, and the orientation of technological and institutional change, in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development (...) conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable”*.²⁵

Agriculture can cause massive environmental damage (soil degradation, greenhouse gases, water pollution) if it is not practised sustainably. Sustainable professionalisation and modernisation of the agri-food sector is not in contradiction with this definition and a responsible use of natural resources. On the contrary, only with productivity-enhancing investments can soil fertility be maintained and water use be made more efficient. At the same time, environmental policy opens up new opportunities, for example programmes protecting certain species. These have to adopt to locally prevailing and sometimes very different conditions.

When selecting and implementing site-specific environmental policy instruments, it is important to bear in mind that measures designed to protect natural resources or to adapt to or mitigate climate change are usually associated with a comparatively long time horizon. However, from a farmers’ or other rural actors’ perspective, investments in production and processing as well as in upstream areas (access to inputs and financing) have a quicker, more direct

impact on productivity and income. It is only once these primary needs are met and land or land-use rights are secured (see [chapter 3.1.1](#)) that interventions geared towards sustainability (such as protecting natural resources and climate protection) or even quality (such as quality premiums, quality classes or guidelines on harvesting, transport, storage and handling) appear to make sense for them. It is the aim of an agri-environmental policy to limit harmful environmental effects of agriculture and livestock in a practice-oriented manner, while at the same time achieving positive and income-stabilising effects for farmers and entrepreneurs. This can be achieved indirectly through the **definition of good agricultural practices to protect the soil, water, climate and air** as well as **biodiversity**, which, ideally, will be widely disseminated by local agricultural extension services, and the introduction of **quality standards for these services**. Furthermore, however, it is also possible to exert direct influence by **making state aid contingent on compliance with certain environmental standards** or by providing **grants for certain agricultural services relating to environmental protection**. **Laws and regulations** play an important role, e.g. in aspects such as banning certain plant protection products in order to protect human health and the environment.

Voters’ present-centric preferences, as referred to in [chapter 3.1.2](#), can cause politicians to shy away from implementing environmental policy measures. In addition, negotiations processes between government agencies as well as with relevant lobby groups do have an impact.

²⁵ FAO Council 1989.

3.2 Economic influencing factors

In addition to the framework conditions set by politics, it is economic factors that are particularly important for the sustainable and inclusive professionalisation and modernisation of farms and enterprises in upstream and downstream sectors of the value chain. These factors include the availability

of (market) infrastructure, access to inputs, education and mechanisation, as well as access to financial services. Further decisive factors are price competition from global markets, a growing market power of traders in every-globalising supply chains, and a demand that is geared for better and better quality.

3.2.1 Availability of (public) infrastructure

Exchanging and trading in inputs, machinery, agricultural goods and services between production, processing and marketing sites require a well-developed infrastructure combined with efficient logistics. A properly functioning transport, storage, refrigeration and packaging infrastructure, the creation of marketplaces but also the infrastructure for energy, water and information and communications technology (ICT) are particularly important for the economic and social development of rural areas. They provide the rural population with better access to health and educational facilities as well as to job opportunities and provide the local economy with access to production factors, regional trading sites or the world market. This way the respective competitive advantages can be exploited and incomes increased.

In the agricultural sector, a properly functioning infrastructure is also essential for cost-effective marketing, reduction of post-harvest losses, and the improvement of food quality, avoiding consumer health risks. In particular, post-harvest losses resulting from incorrect handling or packaging during and after harvest or during transport, processing and marketing are estimated to cause farms and processing companies, and

therefore entire economies in developing and emerging countries, annual food losses of estimated 40 percent.²⁶ Trading and processing companies select their production sites partly on the basis of the anticipated transport and energy costs. Locations without adequately developed infrastructure usually lose out.

Public and private sector investments in infrastructure are prerequisites for a viable growth strategy and investment by the private sector and therefore offer job opportunities for the young generation, for example in (non-)agricultural areas of construction, expansion and maintenance.²⁷

3.2.1.1 Transport infrastructure

Efficient transport networks are the basis for a smooth marketing of food and the procurement and use of agricultural inputs. Despite their enormous relevance to what is the most important economic sector in many developing and emerging countries, the construction and maintenance of rural road networks is often neglected. According to the Rural Access Index published by the World Bank, around one billion people in rural areas have no adequate access to all-weather roads and have to walk more than two kilometres to reach a road that can be used all

²⁶ See Gustavsson *et al.* 2011: 5.

²⁷ See World Bank, IFAD 2017: 13.

year round.²⁸ The same applies for the rail network, inland waterways and aviation. This pushes up transport costs, thus placing a significant burden on local food production and reducing its competitiveness and sales volumes in urban centres (see [chapter 3.1.2](#)). In crisis situations, poor transport routes also result in delayed aid deliveries, exacerbate food shortages and hamper proper medical care.²⁹

It is generally the responsibility of the state or local authorities to build and maintain transport infrastructure. [Promoting public and private investment in the road network](#) or [expanding logistics for land and sea transport](#), e.g. in cooperation with financial international cooperation, can help reduce production costs in the domestic agri-food sector, create marketing opportunities and therefore improve incomes. Constant maintenance of infrastructure measures must also be taken into account from the outset when planning such projects.

3.2.1.2 Storage, refrigeration and packaging technology

Closely linked to the transport infrastructure and energy supply (see chapter 3.2.3.4) for reducing post-harvest losses and improving quality is the availability of suitable storage and refrigeration facilities and packaging technologies. Investments in this area can have a particularly positive impact on access to global markets in which quality plays an important role.³⁰ The packaging of fresh and processed products is influenced by a large number of biological and technical factors. Value chains with low levels of professionalisation do usually not have standards for packaging materials, often leading to the loss of moisture and rapid deterioration of the packaged goods, particularly during transport. Refrigeration equipment can

also reduce losses of perishable foods and is furthermore a relatively cost-effective solution compared with measures to increase production. As a rule of thumb, lowering storage temperatures by 10°C (down to a level that is tolerated by the perishable item) can double the half life of the product.³¹ Expanding storage and refrigeration facilities promotes jobs both inside and outside the agri-food sector. In addition to the physical requirements of a functional cold chain technology, knowledge is also required for its proper management and maintenance.

Target-group-specific training measures for farmers and first-level processing companies provided [in co-operation with the agri-food sector](#) or [training opportunities for agricultural advisers](#) and the [introduction of quality management systems along the value chain](#) can promote proper harvest management on farms, boost trade and help reduce post-harvest losses. With a properly developed transport infrastructure and a stable energy supply in place, the availability of storage, refrigeration and packaging technology can be increased through [investment grants](#) combined with improved [access to financial services](#). Refrigeration and storage facilities are also particularly suitable for cooperatives or for the [introduction of warehouse-receipt systems](#).

3.2.1.3 Local and regional marketplaces

The existence and accessibility of markets, referring to central places where goods are traded regularly, is another key prerequisite that enables farmers and their cooperative marketing organisations to increase their sales. In developing and emerging countries, unsurfaced marketplaces with inadequate roofing and poor drainage often spoils agricultural goods more quickly and keeps suppliers, traders and consumers away, particularly in the rainy season.

²⁸ See World Bank 2010.

²⁹ See GIZ 2016: 1.

³⁰ See GIZ 2013: 151f.

³¹ See Kitinoja 2013: 3.

Public **investment in local and regional marketplaces** can improve the quality of the food on offer and also increase sales volumes for local producers by providing better access for consumers. Markets should always be established or renovated on the basis of respective local demand, including the availability of market-related services (e.g. storage, cleaning services and price information) on site. In theory, improving physical market infrastructure should enable markets and their supply channels to operate all year round.³² However, the positive effects of improved market infrastructure can only be gained where there is also access to inputs (see [chapter 3.2.3](#)) and financing (see [chapter 3.2.2](#)).

3.2.1.4 Energy supply

Significant deficits also exist in supplies of electricity, diesel, petrol, gas, fire wood and charcoal. Estimates put the number of people without access to electricity at around 1.6 billion. Approximately 2.8 billion people – mainly in rural areas – use wood-based fuels every day, contributing to forest damage and deforestation by using non-sustainable collection strategies and harvesting processes.³³

A poor energy supply, particularly in sub-Saharan Africa, prevents people from being able to refrigerate their food or their medications. In addition, this deficit has a negative impact on their participation in economic and political processes and on access to information via modern communication and information channels. Energy generation capacities are particularly limited in sub-Saharan Africa, where the average capacity is currently approximately 37 megawatt per million people, compared with an average of 326 megawatt per million people in other less developed regions. The cost of electricity in sub-Saharan Africa is also relatively high, averaging 14 cents

per kilowatt hour (kWh) compared with 4 cents/kWh in East Asia and the Pacific region and 1 cent/kWh in South Asia.³⁴

The expansion and use of renewable energies such as solar and biogas therefore play an increasingly important role. The expansion of the energy supply network for renewables is not only an attractive new field from an agri-environmental point of view but also from the employment perspective. However, even when subsidized, it is difficult for alternative energy sources to gain acceptance over traditional sources (e. g. wood).³⁵

Taking environmental policy objectives into account, **securing the energy supply** is the responsibility of the state and/or private service providers. Financial international development cooperation can be another source of support for the expansion of the energy supply. Farmer organisations can promote the distribution of electricity (supply networks) and power generation (wind and water power, biogas). The same applies to the sustainable distribution of diesel, petrol, gas, firewood and charcoal. **Reforestation programmes** and **subsidies for developing sustainable generation methods for traditional energy sources** such as charcoal can increase the sustainability of the energy sector and improve the supply situation.

3.2.1.5 Information and communication infrastructure

The communication infrastructure (radio, TV, internet, mobile/landline telephone networks and print media provision) enables the rural population to access comprehensive, timely information, market and price data and access to all forms of autonomous advice and training. The spread of ICT in the agri-food

³² See GIZ 2013: 229.

³³ See Hoffmann, Brüntrup, Dewes 2016: 1f.

³⁴ See Livingstone, Schonberger, Delaney 2014: 39.

³⁵ See Hoffmann, Brüntrup, Dewes 2016: 2.

sector is usually accompanied by significant efficiency gains. In particular, the increasing popularity of mobile telephones across the globe and the growing number of services along the entire agricultural value chain that are available via these devices have greatly reduced farmers' market transaction costs and risks in recent years. Among the services offered are information on market prices of seed, fertilisers, pesticides and end products, information on pests and disease infestations, weather forecasts, technical advice and opportunities to link with potential buyers.³⁶

Mobile phones are also becoming increasingly widespread in sub-Saharan Africa, with the result that the region is almost on a par with South Asia (71 and 75 mobile phones per 100 people respectively).³⁷ In recent years this has also led to improved access to digital financial services (DFS) (see [chapter 3.2.2](#)). The dissemination of technical innovations is particularly

important for women and the rural youth (see [chapter 3.3.3](#)) as it promotes their economic and social inclusion. Both since they adapt particularly quickly to DFS and rural advisory services offered via digital platforms.³⁸

Responsibility for **developing ICT** lies with both the state and private sector service providers. The use of ICT should also be driven forward by **agricultural publishers and media companies** supported by farmers' cooperatives in collaboration with agricultural advisory services. This way it enables farmer organisations to provide their members with needs-oriented information that is of great practical relevance to them. International development cooperation can also help improve ICT through **public-private partnerships** (PPP) or **strategic alliances** with private sector companies.

3.2.2 Access to financial services³⁹

Access to financial services is a fundamental prerequisite for any investment decision and hence also the development of farms and all other enterprises along an agricultural value chain. According to the FAO, investments to the tune of around US\$209 billion are needed to achieve the increase in productivity of 50 percent by 2050. Largest share of this volume of investment would have to be raised from equity capital in the agri-food sector itself and borrowed capital from the financial system. Also needed is a clearly defined financial policy that enables the agri-food sector to be promoted by trustworthy local institutions in a targeted, unbureaucratic way but that also regulates and supervises suitable financial service providers.⁴⁰ In addition, public funds are needed to speed up the

development process in a targeted manner. However, state intervention in the financial sector should not have the effect of suppressing private sector involvement or distorting markets.⁴¹ The availability of suitable financial services in rural areas supports the initiatives and economic activity of small-scale farmers and enterprises along the value chain and enables them to stabilise or improve their incomes and protect themselves against financial shocks.

All farmers selling marketable goods are entrepreneurs and are therefore regarded as private sector actors. The majority of them, particularly those who do not fall within the first and second "rural world" categories, are small-scale farmers who earn much of

³⁶ See Heinemann 2014: 381.

³⁷ See International Telecommunication Union, World Bank 2015: 2ff.

³⁸ See World Bank, IFAD 2017: 10ff.

³⁹ Policy instruments for the improved access to financial services are currently not part of this handbook but are in the making.

⁴⁰ See Wegner 2016: 17.

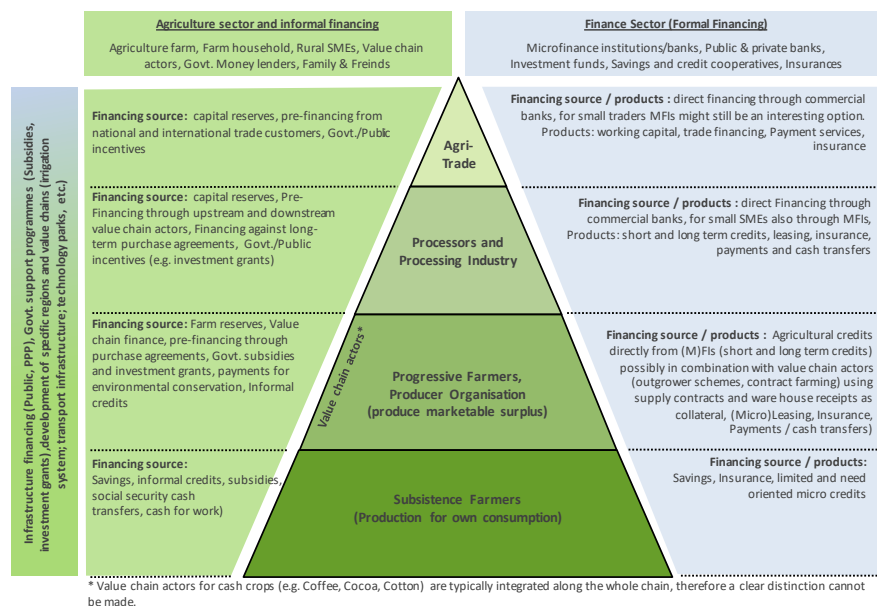
⁴¹ See GIZ 2011: 14.

their income outside the agricultural sector and do not usually have sufficient capital of their own to make sizeable investments in current or fixed assets. Remittances or savings from family and friends (informal financing) do often also not suffice for bigger investments. In many countries in sub-Saharan Africa and South-east Asia, women organise traditional saving groups which make a significant contribution to their livelihoods and enable them to make small investments. Savings and credit co-operatives have also emerged, although it has often been difficult for them

to develop comprehensively. Difficulties arose, among other reasons, due to the absence of a legal framework, a lack of management skills, governance problems, fraud, the absence of external supervision and auditing, a poor network and the absence of an economic basis or instrumentalisation on the part of governments.

The illustration below (figure 5) summarises the financial services available in the formal and informal sectors and through value chain finance.

Figure 5: Sources of finance and investment products in the agricultural sector



Source: after Wegner 2016: 15.

3.2.2.1 Financing via state banks and the formal financial system

In rural areas it can be extremely difficult to set up local financial services adapted to local needs via the formal financial system (commercial banks, post office banks, co-operatives, savings banks, insurance companies and leasing companies). In developing and emerging countries, commercial banks in particular have little incentive to offer financial services adapted

to the needs of rural businesses for a range of reasons. Transaction or unit costs for direct lending often considerably outstrip interest revenues when individual loan volumes are relatively low. What is more, the agricultural sector is subject to specific risks (production, price and market risks) which farmers are largely unable to influence and which banking personnel are often inexperienced in dealing with. In addition, they

also lack information on agricultural data and the specific situation of the borrower. As many small-scale farmers cannot provide adequate collateral – on account of a lack of land titles, for example – local banks have to consider alternatives. Furthermore, the lack of adequate refinancing sources, equity capitalisation and currency risk hedging are the main obstacles to the development of a stable banking sector in many countries. As a result, many developing and emerging countries have a thriving informal financial sector operating alongside the formal financial institutions – including moneylenders or pawnbrokers – which is difficult if not impossible to regulate.

There are several crucial factors in the development of a fully functional banking and financial system in rural areas. First and foremost are the financial institutions' equity capitalisation and refinancing opportunities (possibly secured by state guarantees) from passive or active sources (e.g. via a central bank). Secondly, it is necessary to develop the capacities of the employees of state banks and other financial institutions (commercial banks, micro-finance institutions, cooperative banks and non-regulated financial institutions) in product development, risk management and credit appraisal techniques, specifically for agricultural clients.

A proper risk assessment can enable the provision of appropriate, target-group-specific financial services which can contribute to improving the economic situation of agricultural businesses. By “financial services” are meant services such as payment transactions, various short, medium and long-term loan products, savings and insurance schemes. For small-scale farmers, who often demand loan sizes that are not attractive for commercial banks, micro-credits can play an important role in accessing debt financing, particularly if there is the prospect of a higher

loan once they have completed a probationary period or shown good repayment behaviour. Actors in rural areas, particularly small-scale farmers, must be informed about the availability of financial services that are suitable for them. In this case, the quality of private or public sector agricultural extension services plays an important role. Disseminating good agricultural practices and teaching the fundamentals of business administration simultaneously helps improve the creditworthiness of the farm enterprises. In areas where farms are located at great distances from banks, which usually operate in urban areas and cannot afford to run a rural branch network, expanding digital financial services or agent banking for rural areas can be an affordable solution.

3.2.2.2 Internal value chain finance

Financing requirements in the agricultural sector can also be met, at least in part, by trading partners in upstream and downstream sectors of the value chain (value chain finance). For their procurement activities, agri-food businesses are increasingly prioritising direct, long-term supply relationships with local farms (see [chapter 3.2.5](#)). In return for agricultural products supplied to a fixed quality standard, they can grant farmers pre-financing in the form of cash or in-kind loans (e.g. in the context of supply contracts). Those downstream operators providing these traditional harvest loans accept the agricultural product as collateral – usually on the basis of cash flow forecasts – instead of assets.⁴² In the sector upstream of production, agro-input and equipment dealers can improve access to inputs by granting supplier loans. However, all these should be fair and farmers should not be taken advantage of by too low product prices or too high input prices, nor should their entrepreneurial freedom be substantially be impacted. This can be

⁴² See Wegner 2016: 14.

counteracted by farming families establishing independent savings and credit cooperatives. Farmer organisations can play an important role in negotiating contract terms.

3.2.2.3 The role of international development cooperation in development finance

In developing and emerging countries, international development cooperation projects often play a role in ensuring that partnerships between upstream and downstream enterprises and farmers are structured sustainably, e.g. in the context of contract farming. Most international development organisations have good access to small-scale farmers, whom it is in the public interest to provide with a good skill set.

Instruments suitable for this purpose include multi-stakeholder dialogues or value chain platforms. The actors in international development cooperation also pay attention to areas such as compliance with social

and environmental standards. Moreover, they help by providing training in agribusiness for bank and insurance company employees and in aspects of business administration for agricultural advisers, and by strengthening savings and credit cooperatives.

Many actors in international development cooperation often focus their efforts in this area exclusively on small-scale farmers and other actors in the third, fourth and fifth rural “worlds”. However, the members of the first and second rural “worlds” also play an important part in the quest for sustainable and inclusive modernisation and professionalisation in the agri-food sector, as they can drive innovation and development, create jobs and therefore strengthen rural areas. Job opportunities throughout the entire value chain and outside the agri-food sector shape the future prospects for young people in rural areas (see [chapter 3.3.3](#)).

3.2.3 Access to inputs

In agricultural production, inputs mainly relate to seed, fertilisers, pesticides, irrigation technology and equipment. Access to educational opportunities adapted to the agricultural sector is also key.

Since improved access to inputs goes a long way to increasing an enterprise’s productivity and profitability, improved access to financial services is also vital (see [chapter 3.2.2](#)). Access to inputs can also be improved

through cooperative arrangements, such as the promotion or establishment of **purchasing and sales cooperatives** for farmers, providing there is sufficient private entrepreneurial commitment. This also applies to **access to information on procurement and sales markets**. In addition, it is important for farms and processing companies to have the necessary inputs available at competitive prices and in the right quality by way of an efficient market infrastructure (see [chapter 3.2.1](#)).

3.2.3.1 Access to quality seed

Access to appropriate quality seed is crucial for crop production and therefore for the productivity and viability of farms. According to a study by the Alliance for a Green Revolution in Africa, the use of improved seed increased yields in nine African countries by between 50 and 100 percent.⁴³ Formal seed systems consist of a mixture of public and private sector institutions carrying out research into plant breeding, public and private sector seed propagation and distribution companies, and largely public sector organisations responsible for registration, variety approval, seed certification and quality control. However, many developing countries do not yet have effective systems that produce seed in sufficient quality and quantities to meet local agri-environmental needs and make it available to farmers at the right time for planting. Formal seed systems are just starting to emerge and are, as yet, inefficient when it comes to implementing laws and regulations. As a result, the market is dominated by informal seed systems that propagate traditional landraces (locally adapted varieties) and modern varieties outside of the formal regulatory supervision frameworks. It is estimated that 80 percent of the seed used on the African continent comes from the informal sector and

is therefore not subject to standardised quality assurance or control.

The advantages of informal systems are that they also make tried and trusted landraces available to small-scale farmers with low purchasing power in remote production locations. The disadvantages include a poor supply of seeds after failed harvests (many small-scale farmers keep back part of the harvest as seed for the next season – farm-saved seed) and the highly variable or often poor quality of the seed. The latter is due to inadequate preparation, storage and packaging, as well as degeneration of varietal characteristics due to genetic mutations, cross-pollination, and, in the case of farm-saved seed from improved varieties, contamination with wild species.⁴⁴ The state can improve the availability of good quality seed that has been adapted to specific agri-environmental conditions by [investing in practice-led agricultural research](#). As this is only a necessary precondition for the availability of the seed, however, it should be accompanied by [support for propagation nurseries](#) that provide both traditional and modern varieties and the [establishment of a quality assurance system in the seed sector](#).

3.2.3.2 Access to fertilisers and pesticides

Organic and chemical fertilisers provide the soil with nutrients that plants require for growth. Pesticides (herbicides, insecticides and fungicides) are used to control weeds, harmful insects and plant diseases. Besides [expanding market infrastructure](#) and [improving access to financial services](#), the state can also improve access to these inputs with measures such as [price subsidies](#) or [tax relief](#). In order to safeguard

plant health and yields and protect farmers' health, fertilisers and pesticides should be subject to [official approval](#). Consumers can be protected by performing [residue and contaminant analyses on foods and feedstuffs](#).

International development cooperation can provide effective support by [training agricultural advisers](#) in good agricultural practices and the fundamentals of

⁴³ See AGRA 2013: 5.

⁴⁴ See GFA 2016: 2f.

good business administration, for example by **developing the vocational education system** and **providing further training for agro-input dealers**. Improving training for advisers and agro-input dealers should also help prevent damage to public health and the environment as a result of the improper use of fertilisers

and pesticides. Collaborations with the private sector (e.g. in the form of **contract farming**⁴⁵) also offer an opportunity to improve access to inputs and ensure their proper use.

3.2.3.3 Access to irrigation

A farm's productivity can be significantly boosted by access to irrigation and high yielding varieties and a targeted use of organic and/or mineral fertilisers. Irrigation can enable farmers to grow all year round, produce several harvests per year and farm additional land that is unsuitable for rainfed farming. This also improves the availability of year-round employment for agricultural labour.⁴⁶ Approximately 20 percent of

groups is becoming stiffer. Irrigated agriculture needs large volumes of water of a usable quality, while private households need smaller quantities of water but preferably of drinking water quality. The state is responsible for the **legal norms governing water use** as well as for **developing the water and wastewater infrastructure**, often together with private or cooperative service providers. The cost of transport-



ing a unit of water in comparison to its value is relatively high, however, and maintaining the supply infrastructure is very expensive.⁴⁸

Development banks and financial cooperation can provide financial support for the expansion of water and wastewater infrastructure in developing and emerging countries. Cooperation in the areas of technology and human resources can play a role in making water use more sustainable and

the world's agricultural land is irrigated; this land produces around 40 percent of the world's harvest every year,⁴⁷ so it plays an essential role in global food and nutrition security. Nonetheless, water is a scarce commodity for agriculture and industry on the one hand and private households on the other (see [chapter 3.4.1](#)), and competition between different user

strengthening **local water user groups** with measures such as **training for public** and/or **private sector agricultural advisory services**. An important factor in rural areas, particularly in developing countries, is the establishment of self-organising and self-financing organisations (cooperatives) of water users to help ensure a secure water supply in the long term.

⁴⁵ See Will 2013.

⁴⁶ See World Bank, IFAD 2017: 14.

⁴⁷ See FAO 2003: 346.

⁴⁸ See FAO 2004: 2f.

3.2.3.4 Access to machinery

Another important element in boosting agricultural productivity is access to machinery. This is a crucial factor in agricultural development in both developing and industrialised countries. In agricultural production, machines are used in soil preparation, sowing and harvesting, thus making more efficient use of inputs and improving the quality of the harvest. In downstream areas, the use of machines reduces post-harvest losses and increases quality and capacities in local processing businesses.⁴⁹

Growing demand for agricultural products coupled with rising real wages generally leads to a higher demand for machinery.⁵⁰ If the price of machinery falls relative to the price of labour, mechanisation can have a negative impact on jobs. The labour laid off by this development have to find work in other growth sectors (e.g. the service sector, crafts, industry). If jobs in the third, fourth and fifth “rural worlds” are to be safeguarded, it is neither feasible nor desirable to eschew technical progress. A high level of mechanisation can offer new prospects, particularly for young

people (also in non-farm sectors; see [chapter 3.3.4](#)).

Policymakers need to weigh up any potential negative and positive effects carefully beforehand.

The state can help farms and food businesses mechanise with measures such as [investment aid for businesses looking to modernise, specialise or expand their processing capacity](#) or by granting [exemption from customs duties on imported machinery](#). There must also be sufficient equipment and expertise available on site to enable machines to be maintained and repaired. In the production sector, the size of a field is also a major factor in mechanisation.

Farmers can achieve economies of scale that would otherwise be denied to them individually by pooling specialised machinery (machinery rings, threshing co-operatives etc.). International development cooperation can support access to mechanisation by promoting these [machinery rings](#) and by promoting cooperation with the private sector (e.g. through [leasing models](#)).

3.2.4 Market access, information and marketing

The early 1980s saw a range of market reforms introduced under the Washington Consensus to reduce state intervention in markets and promote private sector. Before that, responsibility for marketing agricultural goods had in many countries been in the hands of semi-state agencies with a wide network of distribution points, which also set trans-regional prices. The sudden withdrawal of the state from agricultural markets led in many developing and emerging countries to the development of a more

powerful intermediary sector made up of both small, informal traders and large food companies and multinationals.

For those producers who mainly sell their surpluses through informal local and regional markets and do not produce for export (see [chapter 3.2.5](#)), this development brought with it a number of challenges, as prices and supply relationships were no longer dictated by state agencies and now had to be negotiated with a large number of different actors. This new

⁴⁹ See Breuer, Brenneis, Fortenbacher 2015: 17.

⁵⁰ See World Bank, IFAD 2017: 21.

market structure has often been characterised by extreme asymmetry in the relationships between producers and a small number of intermediaries, and market relationships are often one-sided, unpredictable and unfair. As a result of a poorly developed market infrastructure (see [chapter 3.2.1](#)), many farmers are dependent on intermediaries who come to their villages and buy up harvests at farm gate prices. Where intermediary visits are infrequent, as is the case in remote areas, farmers usually have to accept the first offer, however disadvantageous it may be to them. This unbalanced relationship is further exacerbated in situations where the traders are the only source of market information (see chapter 3.2.1.5), where access to education is inadequate (see [chapter 3.1.4](#)) and where producers have not banded together to form farmer organisations (see [chapter 3.3.1](#)).⁵¹

The state can compensate for the farmers' asymmetrical negotiating position vis-a-vis the intermediaries on both informal and formal markets by **developing market infrastructure, market information systems and ICT** and by **promoting farmer organisations**. Furthermore, a binding **set of rules for the conclusion of supply purchasing and supply contracts** can help agricultural businesses integrate into the value chain on an equal footing. International development cooperation can support the implementing institutions and organisations through the use of international advisers. It is particularly important to promote local and urban markets in developing and emerging countries, due to their ever-increasing sales potential (see [Fig. ure 4](#)).

3.2.5 International agricultural markets, vertical integration and the influence of traders

While some foods destined for the local market tend to be traded on informal markets, agricultural products for export are usually sold under formal supply relationships between the producers and the food companies. The markets for export goods in many developing and emerging countries have therefore developed much more quickly. The international agricultural markets on which these export goods are traded have also changed dramatically in recent decades: they are opening up, becoming more competitive, more concentrated and more integrated, and are therefore more demanding in terms of food quality and safety.

Today there is barely a region anywhere in the world where local agri-food businesses can operate independently of the world market. With consumer

demands in industrialised countries in particular changing so rapidly and converging worldwide, integrated supply chains are needed to guarantee high standards and traceability of foods and to enable the necessary investments to be made.⁵² The desire for ever greater economies of scale has in recent years led to the formation of large food conglomerates (e.g. The Coca-Cola Company, Groupe Danone S.A., Mars Inc., Mondelez International, Inc., the Unilever Group, PepsiCo and Nestlé S.A.). However, large companies have been emerging at an even faster pace in the food retail sector (e.g. Walmart, Lidl, Carrefour and Shoprite). Consumers expect the food industry to provide a stable supply of food tailored specifically to their needs and their tastes at all times. This is a development that also impacts on farmers in developing

⁵¹ See IFAD 2003: 6ff.

⁵² See Wiggins *et al.* 2015: 71f.

and emerging countries due to the ever increasing globalisation of supply chains.

In order to meet their customers' needs, food retailers demand products that meet ever more strictly defined quality criteria in areas such as seed, varieties, animal welfare and storage, that are delivered on time and that are traceable. Integrated supply chains, particularly for foods that have to meet high quality standards, such as dairy products, meat products, fresh produce or organic products, therefore require extremely close links between farms, agri-food businesses and food retailers. Ongoing quality controls, further training and production timing form the heart of the supply relationship in industrialised countries, although protecting the natural resource base (e.g. in the form of voluntary **environmental standards**) is also playing an increasingly important role. Today many companies in the planting/seed sector also offer planting out and inspections as a service to producers. Similar developments can be seen in animal production (e.g. provision of special feeds). Another important factor is compliance with certain **statutory** or **voluntary social standards**, particularly in countries and sectors that produce consumer goods for the European and American markets.

In developing and emerging countries, as elsewhere, local and regional actors in the processing, storage, wholesale and retail sectors collaborate more and more within integrated supply chains and as such

form a powerful role in the market. To save transaction costs, processors prefer to buy their raw materials via local wholesalers and traders, who pass on their requirements to their suppliers. As many producers are largely unorganised despite making up the largest proportion of market actors, traders often cream off significant margins in processes that can be lacking in transparency. This development is also a problem when demands are formulated solely to reflect customer requirements but are incompatible with natural conditions and existing farming systems. Many small-scale farmers in the second and third rural "worlds" can then have trouble expanding their production to include higher value products.

The market position of farmers in the value chain can be boosted by **strengthening farmer organisations** and **cooperatives**, e.g. through international cooperation. As they join to negotiate the terms of supply and delivery they secure their incomes and develop confidence in the future. In addition, international development cooperation can help agricultural businesses become incorporated into global supply chains on an equal footing. This can be achieved in **cooperation with the private sector** (e.g. by drawing up **supply contracts**) and in compliance with certain **environmental and social standards**. To enable the necessary quality to be supplied, private sector and international development cooperation organisations often offer joint training measures.

3.2.6 Food safety and quality standards

The path travelled by food from farm to fork has become longer and more complex in recent years due to the increase in the number of processing steps. The dissemination of new scientific findings is raising awareness among traders and consumers, particularly in industrialised nations, but also in urban centres in developing and emerging countries, as more accurate

technical analysis processes make it increasingly easy to detect contamination and hygiene problems. The growing liberalisation of agricultural trade and technical progress in logistics are enabling even highly perishable foods to be traded over long distances. These goods often carry with them pathogens and pests which sometimes need global efforts to control.

The World Trade Organization (WTO) permits statutory restrictions on free trade for the protection of consumer health (sanitary and phytosanitary measures – SPSs) provided they are reasonable and are not abused for protectionist purposes. This duty of care required by the legislator and the growing awareness among customers have prompted globally operating food companies and agricultural organisations to introduce **voluntary quality and food safety standards**. These “voluntary” private standards sometimes go beyond the statutory requirements and can have both a positive and a negative impact at farm level. Positive effects can in particular be achieved when farms gain improved access to agricultural training and inputs. In addition, environmental protection measures help preserve the natural production base. Social protection for farmers and workers promotes social sustainability, and more efficient use of pesticides in the field and stricter hygiene regulations in food processing can have a positive impact on the health and nutritional status of consumers, producers and processors.

⁵³ However, if a standard is associated with particular

species, varieties or other requirements and fails to take account of good agricultural practices, prevailing agricultural production systems or individual assets, this can have a negative impact on farms. Moreover, as compliance with these standards is usually technically demanding and costly, farming families in developing countries often regard them as a barrier to market access. This conflict can be resolved by farmers’ interest groups putting forward the concerns of the agricultural sector independently and on equal terms.

To improve food safety for the consumer, the state can introduce **binding rules and applications to prevent contamination**. Animal health and food hygiene can be improved with measures such as **establishing a state veterinary administration** or an **animal health service**. Plant health must be supported by introducing **official approval of fertilisers and pesticides**. The **establishment of a state plant health service** ensures that pesticides are used in a manner that is harmless to health.

⁵³ See GIZ 2013: 266f.

3.3 Social and societal influencing factors

Another extremely important influencing factor for the rural population besides the political frameworks and economic factors is the social and societal environment. The worldwide trend towards urbanisation leads to more and more young people leaving rural areas. According to World Bank and IFAD estimates, the likelihood of rural exodus among young people aged between 15 and 24 is 40 percent higher than among adults. Nonetheless, the absolute number of young people living in rural areas in sub-Saharan Africa will continue to increase and is attributed to a high population growth. It is estimated that an additional 440 million young adults will enter the labour market in Africa over the next 15 years.⁵⁴ This enormous number highlights the urgent need to drive forward the sustainable and inclusive modernisation and professionalisation of the agri-food sector, particularly in sub-Saharan Africa. Growth in the agricultural sector has also a positive effect on employment in other and non-farm economies (e. g.

craftsmanship). These economies also need to be addressed by policy makers in a holistic approach.

While rural populations continue to grow in sub-Saharan Africa, the proportion of young adults in South Asia is expected to decline which is already the case in Europe, East Asia and the Pacific region. This will have a negative impact on the economic and social structure of rural areas, not least in situations where farm succession is an unresolved issue, and will also impact on all forms of social security. This trend could be reversed if the rural culture received greater appreciation by the general society and also by ensuring an equivalent economic development and social security for all rural populations. In this social discourse, organisations representing farming families' and other rural stakeholders play a particularly important role.

3.3.1 Farmer organisations

To ensure the concerns of the agricultural sector are authentically represented to policy makers at national, regional and local level and also to agricultural market partners, it is very important for farmers to actively work together in independent farmer organisations. Inter-farm cooperation can strengthen the market position of farmers as they sell their products and purchase inputs. It can also save them money when buying machinery and in animal and plant breeding. Inter-farm cooperation boosts the competitiveness of the individual farms along the value chain; it also promotes knowledge sharing and the exchange

of goods between urban and rural areas. Depending on the level of professionalisation of their members, farmer organisations also have the task of supplying their members with regular information on market developments, production technologies, the latest legislation and administration matters and of providing social protection and training opportunities. Any innovations in the home, on the farm and also regarding employment outside agriculture (e. g. crafts or tourism) can be rapidly disseminated by **publishing**

⁵⁴ See Losch, Takaravasha 2016: 10.

companies run by farmers' organisations and through digital networks. Inter-farm cooperation has a long tradition in farming organisations in Germany and Europe where it is very widespread and takes on many forms. By comparison, in other parts of the world this concept of cooperation has historically been very slow to catch on. Farmer-organised collaboration generally takes the forms described below.

Agricultural **cooperatives** are member organisations. The farmers provide capital through shares and control the cooperative through its bodies. Every cooperative is autonomous and dedicated only to its members' concerns. The entrepreneurial activities of the cooperative revolve around its mission which is promoting its members' interests and catering for their economic needs. The cooperative links its members with the market, such as by investing in machinery and buildings etc., by buying inputs and advice, by marketing the produce or processing it (purchasing and sales cooperatives). A particularly successful aspect of cooperatives and associations is their multi-level nature so that local cooperatives receive support from their head offices when purchasing and selling material and financing investments. This gives their members the power to secure fair market prices for their produce when dealing with the private agri-food sector. The concept of the cooperative not only respects the tradition of the village community but also strengthens the feeling of self-worth within society and therefore contributes to the development of the entire rural community.

A simpler form of inter-farm cooperation takes place within the context of **producer rings and producer organisations**. Usually restricted to one single produce

and its marketing, these rings pool all yields, negotiate the prices and quality standards and organise access for their members to financing and input sources.

Machinery rings provide access to modern machinery, such as tractors and trailers – which is an important benefit particularly for smaller farmers. The machines are owned by the machinery ring members and shared against payment of a fee. As machines like harvesters, spreaders and sprayers are extremely costly, their shared use relieves the financial burden on the individual farmers while enabling them to benefit from innovative technology. Some larger agricultural enterprises also make use of machinery rings, since the capacity of modern machines such as combine harvesters, forage harvesters or mo-



bile feed mixers increases constantly and requires a certain level of machine utilisation.

The **farmers' association** is the body that represents the interests of farmers at local, regional and national level. As such it puts forward proposals concerning

market development, pricing policies, national protection measures, legal and institutional frameworks for food markets, promotion measures for individual farms and measures to develop a professional training and advisory system. The association supports all inter-farm projects such as shared use of machinery, irrigation and drainage, joint purchases and sales of inputs, as well as organising animal and plant breeding. It also helps its members access finance schemes and supports practical education and training for young people. Finally, farmers' associations help to stabilise living conditions in rural areas by working to ensure social security for all members of farming families in the form of accident, illness or retirement provision. This is of fundamental importance, because it helps farmers to keep up with the rapid structural change that is taking place in agriculture and the rural economies of developing countries. An important aspect of association activities at local level is providing farming families with legal advice, assistance with inheritance arrangements and with detailed information on all matters affecting the farm and its family. The individuals who are in charge of providing these services at farm level are trained in dedicated training institutions (farmers' academies) and assisted in their volunteer work by the farmers' association itself.

3.3.2 The rural non-farm economy

An important remit of structural and regional policy in developing countries is to move companies from urban to rural regions and hence create business and income-generating opportunities. This is particularly important in view of a growing population in rural areas of developing and emerging countries, which is

Chambers of agriculture are usually public bodies at local, regional, or national level which require farmers to be members qua profession. The chamber is usually funded by public sources and by membership fees (e. g. according to farm size). Hence, members usually have a say in defining the chamber's areas of work, which are usually laid down in its rules of procedure. These working areas typically comprise practical field research and the dissemination of the findings, education and training, information services and more. Due to their proximity to agricultural farm enterprises, chambers of agriculture are often also assigned governmental and/ or statistical tasks.

Agricultural societies are usually voluntary associations of professionals who are interested in and committed to agricultural progress and development. Due to this commitment, agricultural societies are able to quickly call upon a broad range of agricultural expertise which can then be disseminated through special information activities (e. g. exhibitions, congresses, tests of agricultural inputs or machinery). The areas of work are therefore far broader than in other farmer organisations, usually covering the entire value chain, including its up- and downstream businesses. This also includes research work, good agricultural practices, dialogue between policy makers and the general society, marketing, product assessments etc.

anticipated despite a clear trend towards urbanisation.⁵⁵ Adding value to food and agricultural commodities provides substantial scope for establishing long-term jobs outside the agricultural sector to a growing number of people who enter the job market in rural areas. After all, boosting the productivity in

⁵⁵ See World Bank, IFAD 2017: 6.

the production of staple foods and especially of higher-value crops and agricultural commodities creates more jobs in the non-farm economy, particularly in the primary products processing sector but also in craftsmanship or the agri-tech industry, for example.⁵⁶

However, incomes in the rural non-farm economy are generally subject to strong fluctuations, because they are linked to the availability of agricultural raw materials and are therefore subject to flows of labour and finance in the rural sector. It is estimated that today up to 35 percent of the rural population on the African continent and up to 50 percent in Latin America, the Caribbean and Asia are earning their living partly or entirely in the rural non-farm economy, predominantly in the food processing industry.⁵⁷ This sector has probably the greatest potential for sustainable development in the rural areas of developing and emerging countries, because the dietary habits in urban areas are changing and the demand for higher-quality agricultural products is growing: according to Farming First⁵⁸, these markets will represent a sales volume of around US\$150 billion by 2030 (see [figure 4](#)).

Improving the local processing industry provides good leverage for attracting craft, industrial and service businesses and therefore jobs outside the agri-food industry. These are of strategic importance in creating long-term prospects outside the major conurbations, which applies to young people in particular (see [chapter 3.3.3](#)). The higher a country's per-capita income, the greater the share of jobs available in non-farm sectors.⁵⁹

Policy makers need to support the development of the rural non-farm economy by supporting and promoting the establishment of new commercial and craft businesses (e.g. by providing [aid for investments in non-farm sectors](#) or [rural services](#)). Besides creating a favourable investment climate (see [chapter 3.1](#)), these measures should also include the long-term expansion of [training opportunities and advisory services](#) along with establishing [scientific institutions](#) in rural areas. To improve their living conditions, the actors in the fourth and fifth rural "worlds" are almost entirely dependent on the rapid development of the rural non-farm economy.

3.3.3 Farm succession - prospects for young people in rural areas

Creating prospects for young people in rural areas is an extremely important ingredient in any sustainable development strategy. More than 70 percent of the young people in Africa are currently believed to subsist on less than two US-dollars per day. The agri-food sector is still their most important source of income. It is expected that in sub Saharan Africa alone, the youth population will double to over 350 million

people by 2050. This implies that around 10 to 12 million new jobs will have to be created per year to absorb these new entrants in the labour market. Today, only three million formal jobs are created annually.⁶⁰ The average age of people in the region is just 18.3 years – in Niger it is as low as 14.8 years.⁶¹

While agricultural degrees and training courses are gaining in popularity in industrialised countries, young

⁵⁶ See Emerick 2016: 8.

⁵⁷ See Haggblade, Hazell, Reardon 2007: 4.

⁵⁸ A group of multi-stakeholder organisations who have committed to the goal of promoting the agri-food sector sustainably (see p. 26).

⁵⁹ See World Bank, IFAD 2017: 8f.

⁶⁰ See Wobst; Schwebel 2017: 6.

⁶¹ See World Bank, IFAD 2017: 5ff.

people in developing and emerging countries still associate rural areas with poverty, informal and archaic structures, poor job prospects and career opportunities and poor health care. Hence, they do not consider rural areas an attractive place to live. In an Africa wide BMZ survey among 10,000 young people in rural areas aged between 18 and 35, revealed that 76 percent of the respondents were of the opinion that it was difficult to find a decent job. Only 7 percent responded that they would like to stay in rural areas despite or because of the current economic and social situation.⁶²

This exodus of young people, especially the visionary ones, to the urban centres or to other countries has dramatic and long-term consequences for the development of the rural areas and their ability to supply a growing urban and world population with food. Policy makers, the private sector, civil society and international development cooperation have to meet the

needs of these young adults in a sustainable and inclusive way. Young adults, especially women, are currently often excluded from political decision-making and participation processes. Failure to provide these young adults with prospects would lead to considerable social and political tensions at local, regional and international level.

Nevertheless, in view of a growing global and urban demand for processed agricultural products (see above), the agri-food sector offers a huge potential for employment.⁶³ Yet from an individual's point of view the sector has to become more modern and innovative: 21 percent of the young respondents indicated agriculture would become more attractive by using innovative technologies, through better payment and through an improved reputation in society. For rural areas in general to become more attractive, the young people appreciate – apart from employment perspectives – the availability of education and



⁶² See BMZ 2017: 52f.

⁶³ See ILO 2014: 1.

training opportunities as well as the development of infrastructure.⁶⁴

These answers do not come without reason: While agricultural work is seen by many as consisting exclusively of hard physical labour, it is potentially knowledge- and science-led and calls for high business management skills. Promoting entrepreneurship in agricultural production and the downstream sectors such as processing, sales, trade and transport (known collectively as agropreneurship) creates personal and professional prospects and also opens up non-farm career and earning opportunities in rural areas. Investments and innovations both inside and outside agriculture and along the agricultural value chains are therefore key to any macroeconomic development in rural areas. Education is generally regarded as an important initial step for this to happen and also increases the attractiveness of the rural sector for young people. In addition, the creation of a favourable investment climate (see [chapter 3.1.2](#)) as well as the improved access to financial services and inputs (especially for young women) is of vital importance (chapter [3.2.2](#) and [3.2.3](#)).

Policy makers can, for example, support **improvements to vocational training opportunities** after basic schooling, which would in particular help families who in the past have depended on their children to go out to work. The main point is to teach young people that agriculture is an interesting, responsible, self-determined and entrepreneurial line of work. It

enables people to design their own marketing strategies and business plans, both inside and outside agriculture, and enables them to handle their own financial and administrative affairs.⁶⁵ One way to encourage this is to involve young people at an early stage by including them in the decision-making processes on the farm, by giving them access to **farmer organisations** (see [chapter 3.3.3](#)) and involving them, especially young women, in decision-making processes of these. Rural training centres also need to pay attention to personal development. Promoting self-organising **young people's interest groups** invites the young generation to engage in political decision-making and dialogue.

The process of handing over responsibility from the older to the younger generation can often be difficult and affect the development of both the business and people involved. This applies in particular to small family farms that are run along traditional lines. Young people are frequently left out of farm-related decisions and do not get the opportunity to put forward innovative ideas. As a result, they often decide to migrate to nearby urban centres. This can only be remedied by meeting both the younger and the older generation with understanding and support. Governments can help create scope for a positive development in agriculture and rural areas by providing **training** and **investment subsidies for young farmers** and at the same time develop a social security system for the older generation.

3.3.4 Social security

In order to improve social security for farming families, it is necessary to adapt the traditional social policy instruments. In addition to providing proper facilities such as hospitals, great effort must be spent

on organising accident and health insurance schemes with reliable contributory and financial structures. An important aspect here is an effective **accident insurance** that **will ensure the farm's continued operation**

⁶⁴ See BMZ 2017: 52f.

⁶⁵ See Agriculture for Impact 2014.

in the event of an accident by providing social security. Agricultural health insurance schemes should cover all members of the farmer's family. The old-age care that is provided by agricultural pension insurance schemes can only provide long-term security if the contributions that are lost due to structural change are made up by the country's national pension system. This means that the development of any special agricultural social security system that will limit the risks of accidents, illness, old-age and care must go hand-in-hand with the development of an overall and general social security system.

A trustworthy social security system that does not rely on the family and the individual farm reduces the

burden on farms, facilitates structural change and curbs population growth.

However, many developing countries, especially in sub-Saharan Africa, are currently not in the position to implement such an advanced security system, which requires extensive administrative structures, profound technical and institutional capacities plus large numbers of the population holding a formal employment. Nevertheless, a sustainable and long-term social protection system for farm enterprises plays a key role in any sustainable rural development strategy, which may be adopted by these countries at a later stage of development. It shall hence not be omitted in this toolbox.

3.4 Environmental influencing factors

In addition to the framework conditions defined by policy makers and economic and social influencing factors, it is the environmental factors that play a major role in agricultural production. Any future increase in production must be achieved in a way that prevents the overexploitation of the natural resources

and preserves these for future generations. By implication, this means it necessary to unlink agricultural growth and the consumption of resources. This can only be achieved if policy makers provide sound conditions for an efficient and knowledge-based agricultural sector.

3.4.1 Availability of soil and water resources

In some regions, the use of unsustainable practices has led to the overuse of natural resources, thereby causing irreparable damage in some cases. Deforestation, overgrazing and monocultures are causing soil degradation and a reduction in biodiversity across the globe. In addition, the improper use of fertilisers and pesticides has led to polluted water courses, while poor irrigation practices and the increase in the number of tube wells have caused groundwater levels to drop and soils to become salinised as a result of poor drainage. Water is increasingly becoming a major limiting factor in agricultural production. There are already 2.8 billion people – just under 40 percent of the world's population – living in regions with physical water shortages (e.g. as a result of falling groundwater levels and degradation) or economic water shortages (e.g. inadequate water infrastructure or unfair distribution). This is particularly the case in sub-Saharan Africa, South-east Asia, the Middle East and North Africa.⁶⁶

In light of a global increase in water stress and soil degradation, there is an urgent need to increase water and soil productivity in the agricultural and processing sectors and to reduce environmentally harmful activities. It is particularly important to invest in practice-led research and development activities in

rural areas. Furthermore, a **regulatory policy framework for the use of water and soil** and a **definition of good professional practice** are required to establish the organisational and institutional framework for an effective and sustainable use of soil and water in agriculture. This also requires effective institutions that are able to enforce compliance with the regulatory framework. Another option is **the introduction of statutory or voluntary environmental standards** and/or **standards for sustainable forest management**. These standards can be more easily enforced at the local level by cooperating with farmer organisations (see [chapter 3.3.3](#)). These help to **implement a sustainable pasture management**, a local administration of water rights, manage the access to water and/or land and ensure its sustainable use.⁶⁷ Besides efficient irrigation systems, there are also various integrated rainfed concepts that have been tried and tested over many years. These include land use planning, water-conserving cultivation practices and measures to improve water storage, treatment and retention in soils. Such concepts can be communicated to the farmers by providing appropriate **training for agricultural advisory services**. Further-reaching environmental and climate protection measures can be linked to financial incentives for

⁶⁶ See International Water Management Institute 2007: 10ff.

⁶⁷ See GIZ 2013: 198.

farmers as described in [chapter 3.1.6](#). Examples include **premiums, subsidies, direct payments or**

grants contingent upon compliance with environmental standards (the EU cross-compliance scheme) and **grants for agricultural environmental services**.

3.4.2 Climate change

Agriculture has always been one of the most climate-sensitive sectors of the economy. It is linked to global climate change in three ways: firstly, plants play an active role in protecting the climate by binding CO₂ and releasing oxygen as part of the process of photosynthesis. Secondly, it is actively involved in climate change as an emitter of 20 percent of greenhouse gases. Finally, agriculture is itself directly affected by climate change as it uses about 40 percent of the land that is available on our planet.⁶⁸ Climate change is expected to have an enormous impact on agri-environmental conditions over the next few years: rising temperatures and an increase in extreme weather events (e.g. droughts and storms) will affect the occurrence of pests and diseases and change vegetation zones. Changing rainfall patterns will reduce yields in areas in which rainfall is currently adequate but will improve them in others. Furthermore, coastal areas are exposed to the risk of rising sea levels and salinisation of the soil.⁶⁹

As a result of the changes that can be ascribed to climate change, the agricultural sector must take measures to adapt its production systems to these climate changes. At the same time, policy makers must fulfil their mandate to reduce global warming by promoting measures that reduce agricultural emissions

and mitigate climate change. Furthermore, emissions of greenhouse gases from fossil fuels can be greatly reduced through the use of biomass (particularly wood and agricultural residues).



In the context of agricultural and environmental policy advice, international development cooperation can support the development of a suitable regulatory framework and the selection of appropriate instruments. In addition, it can support the application of good agricultural practices or, in cooperation with the private sector, the introduction of and compliance with **environmental standards** by providing **training for agricultural advisers**. Measures intended to adapt or mitigate climate change are usually associated with a very long time horizon.

⁶⁸ See Chmielewski 2009: 28

⁶⁹ See Wiggins *et al.* 2015: 66.

4. TO SUM UP: WHAT FORM SHOULD A NATIONAL STRATEGY TAKE TO PROMOTE THE AGRI-FOOD SECTOR?

In this handbook we have looked at the various requirements and needs of the five rural “worlds”, and the various factors influencing farms and enterprises along the agricultural value chain. All these aspects make one thing clear: it is not possible to come up with patent remedies for any country, any region, any farm enterprise or any of the five rural “worlds”. Nonetheless, it is possible to highlight a number of constants that play an important role in selecting a specific development path and applying the individual instruments:

⇒ **Firstly, creating a favourable investment climate for farming families and rural areas** is an essential prerequisite for private-sector growth and therefore for the growth of agricultural businesses and individual farms. Hence, it is also a prerequisite for increasing productivity and employment. In order to create this favourable investment climate, it is essential for **policy makers and public authorities to have accurate knowledge of the long production and investment cycles in agriculture** and their high dependency on volatile markets and environmental factors. There are generally no quick wins in these production and investment cycles,

which is why policy makers have to ignore voters’ present-centric preferences and take on board the long-term interests of the common good by formulating agricultural policy strategies that will be economically, socially and environmentally sustainable. Rural areas are inextricably linked to urban areas and demand equal attention from policymakers, business and society.

⇒ **Secondly, for achieving a sustained increase in productivity in a traditional industry, and for creating competitive farms and structures it is essential to create new and diverse job opportunities in rural areas by investing in vocational training opportunities for young people that are accessible to all.** Only then can investments in the agri-food sector, in the rural infrastructure and in non-farm sectors be assured of long-term success. Today, any agricultural and food producing activity on this globe is a knowledge-based activity that relies heavily on scientific research, advisory services, and modern communication technology.

⇒ **Thirdly**, the economic prosperity of the agricultural sector and rural areas in general is contingent on **a higher respect for agriculture by society as a whole**. This is urgently needed if we are to stem the constant exodus away from rural areas and the unhealthy growth in conurbations that are taking place all over the world.

In view of this situation, Part II introduces the available instruments and the options they offer for taking action. These instruments are presented in an unbiased way. Whether these are applicable in the individual context and whether these can be used for the individual strategic approach is to be assessed by the actors in the individual countries. The following ‘toolbox’ provides the necessary transparency and therefore a framework for political action. The processes of policy decision-making and strategy formulation in agriculture are based on the four aspects described in chapter 3 (the characteristics of

All instruments intended to promote the development of the agri-food sector and rural areas therefore need to be embedded in a balanced general policy in the countries concerned.

the agricultural sector, the current level of macroeconomic development, the basic attitudes of the general public towards agriculture and the change in values associated with this) and to a significant degree also on one further and most important factor: the political system itself and the status agricultural policy influencers and decision-makers hold in it. Important influencing factors are the party structure in the basic political system, the position of the minister of agriculture in the government, the influence of the agricultural authorities and, in particular, the relative power of the interest groups that influence agricultural policy-making.⁷⁰

⁷⁰ See Henrichsmeyer, Witzke 1994: 533f.

PART II

Policy Toolbox

5. AGRICULTURAL POLICY TOOLBOX

Without claiming to be exhaustive⁷¹, Part II of this handbook is intended to provide an overview of those agricultural policy instruments that are known to the authors. These fall into six subject areas: market and pricing policy, agricultural and infrastructure policy, agricultural education policy, agri-environmental policy, agricultural social policy, and consumer protection and animal welfare. The individual instruments are discussed according to their political

objectives and only once, i.e. in the context of their main impact. Some instruments present an indirect support for farms and businesses in the food value chain, for example by promoting the development of market structures, whereas others have a direct impact on the actors in the agri-food sector, for example through investment aid. Instruments that can be implemented with the support of international development cooperation are shaded grey.

⁷¹ e. g. another chapter on agricultural finance instruments is currently in the making.

Policy Instrument Categories					
5.1	5.2	5.3	5.4	5.5	5.6
Market and pricing policy instruments	Agricultural and infrastructure policy instruments	Agricultural education policy instruments	Agricultural social policy instruments	Agri-environmental policy instruments	Consumer protection and animal welfare policy instruments
5.1.1 Promoting the local agri-food sector by supporting farms directly (page 45)	5.2.1 Improving the settlement system (page 88)	5.3.1 Supporting practice-led agricultural science and research (page 126)	5.4.1 Reducing the risk of accidents (page 135)	5.5.1 Protecting soil (page 156)	5.6.1 Ensuring animal health and controlling zoonoses (page 186)
5.1.2 Promoting the local agri-food sector by restricting imports (page 53)	5.2.2 Improving the business structure (page 95)	5.3.2 Supporting education and training (page 128)	5.4.2 Securing old-age provision (page 139)	5.5.2 Protecting water (page 164)	5.6.2 Safeguarding plant health and yields (page 192)
5.1.3 Promoting the local agri-food sector and/or food and nutrition security by restricting exports (page 64)	5.2.3 Promoting equal integration of agriculture into the food value chain (page 99)	5.3.3 Supporting advisory services for agricultural enterprises (page 129)	5.4.3 Securing illness provision and reducing the risk of illness (page 141)	5.5.3 Protecting climate and air quality (page 170)	
5.1.4 Improving food and nutrition security by promoting imports (page 70)	5.2.4 Securing property/usage rights (page 109)		5.4.4 Securing childbirth, accident, illness and old-age care (page 143)	5.5.4 Protecting biodiversity (page 174)	
5.1.5 Improving food diversity (page 73)	5.2.5 Improving the infrastructure of rural areas (page 115)		5.4.5 Promoting equality for female farmers (page 144)	5.5.5 Protecting forests (page 178)	
5.1.6 Improving food and nutrition security by promoting nutritionally relevant products (page 76)			5.4.6 Supporting vulnerable or marginalised groups (page 147)		
5.1.7 Reducing the market offer by reducing the amount of locally produced goods (page 81)					
5.1.8 Reducing the market offer by promoting exports (page 84)					

Political Objectives

5.1 Market and pricing policy instruments⁷²

Aim	Promoting the local agri-food sector			Food and nutrition security			Reducing the market offer	
	5.1.1 ...by supporting farms directly	5.1.2 ...by restricting imports	5.1.3 ...by restricting exports	5.1.4 ...by promoting imports	5.1.5 ...by diversifying	5.1.6 ...by promoting nutritionally relevant products	5.1.7 ...by reducing amount of locally produced goods	5.1.8...by promoting exports
	Direct payments	Import quotas	Export quotas	Reducing import duties	State purchasing programme for new products	Purchase guarantees at fixed minimum prices (conventional intervention)	Reducing land take-up	Export subsidies
	Subsidising input prices	Countervailing duty	Special levy on exports	Reducing non-tariff trade measures	Tax relief on new products	Obligation to farm special crops	Production/processing quotas	Export credit
	Tax incentives	Import tariff	Export taxes	Import subsidies	Promoting animal and plant breeding	Contract farming	Feed premiums	Coresponsibility levy
	Investment subsidy for farm modernisation/specialisation	Anti-dumping tariff	Minimum export prices		Nutritional advice	Public storage		
	Tariff and non-tariff exemption from duty for farm inputs and machinery	Categorising products as “sensitive” or “special”	Export ban			Subsidies for private storage		
	Investment subsidies for setting up processing capacity	Safeguards	Reducing export subsidies					
	Distribution/marketing subsidies	Levies						
	Product-related processing subsidies	Tariff quota						
		Import ban						
		Minimum import price/price band						
		Duty drawback						

⁷² The description of the agricultural trade policy instruments has predominantly been taken from the GIZ publication "Agricultural Trade Policy for Rural Development and Food Security, Handbook for Agricultural Trade Policy Advisory Services in Developing and Emerging Countries" (Höffken, Dill 2013).

5.1.1 Instruments for promoting the local agri-food sector directly

Direct payments TOP	
Description	<p>These subsidies for farmers are coupled to the production levels (coupled direct payments) or to the field size or livestock numbers (decoupled direct payments). Every farm is legally entitled to receive such payments providing it meets certain regulatory conditions.</p> <p>Direct payments are only made to those applicants who meet certain criteria, such as the farm size exceeding a certain minimum size, providing evidence that farming is their principle business, and demonstrating compliance with certain environmental requirements. In this context it is seen as more efficient if these payments are tailored to the individual needs of the individual regions.</p>
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design, implement and monitor subsidy payments • Land register • Adequate budget resources • Constant market testing and forecasting
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products + Boost production levels and improve incomes
Possible negative effects	<ul style="list-style-type: none"> – Great burden on the state budget – Risk of abuse through nepotism, personal gain and corruption – Free rider effects in agriculture with no promotional effect – Coupled direct payments are market distorting
Further information	

Subsidising input prices⁷⁴

[TOP](#)

Description	<p>A price subsidy is a payment from public funds paid to agricultural enterprises when they buy certain inputs (e.g. fertilisers, feed, pesticides, seed and fuel). Subsidising seeds of certain basic foods, such as maize, can be an effective measure for improving supplies of these foods.</p> <p>Time-limited subsidies for special target products or groups, such as for needy small-scale farmers, are referred to as “smart subsidies”. The subsidy must be matched to the target group concerned and should not lead to permanent distortion of the markets. Where inputs such as fertilisers, pesticides or seed are subsidised, accompanying advisory measures are often employed to ensure that the inputs are used properly and the desired increases in production levels and incomes are achieved.</p>
Requirements	<ul style="list-style-type: none"> • A properly functioning administration and control system • Smart subsidies need to be targeted by providing a list of potential beneficiary farms • Distribution points where farmers can prove their eligibility in the form of vouchers, etc.
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products + Boost production levels and improve incomes + Bring degraded soils back into productive use + Disseminate innovative technologies
Possible negative effects	<ul style="list-style-type: none"> – Market distortion – Great burden on the state budget – Obstructs the development of sustainable private distribution systems and private investment – Inefficient farms continue to operate despite negative contribution margins – Improper use of fertilisers or pesticides can have negative effects on the environment – Risk of abuse through nepotism, personal gain and corruption – Free rider effects in agriculture with no promotional effect
Further information	<p>Despite being very costly, state subsidy programmes provide opportunities for personal gain for a large number of actors (policy makers, public employees, sales staff, traders and better-off farmers).</p> <p>As a result, they often go hand-in-hand with corruption problems.</p>

⁷⁴ See Dorward 2009.

Tax incentives (tax subsidies) TOP	
Description	<p>Tax relief granted by a government to an enterprise (e.g. a farm). This is usually linked to the achievement of certain economic, social and environmental policy targets.</p> <p>A distinction is made between tax incentives intended to control, i.e. where the benefit is granted in order to induce a particular behaviour, and tax incentives with a distributive purpose, i.e. where the benefit granted helps correct a particular situation in the distribution of wealth.</p>
Requirements	<ul style="list-style-type: none"> • Properly functioning and properly resourced tax authorities (enforcement issues)
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products + Lower production costs + Increase the use of certain resources + Reduce tax avoidance and tax evasion
Possible negative effects	<ul style="list-style-type: none"> – Negative wealth distribution effects, e.g. if the tax relief benefits unintended groups of people – Loss of efficiency as a result of a more complex tax system – Free rider effects
Further information	<p>The macroeconomic costs of tax incentives are difficult to estimate in advance and could in some cases be associated with considerable differences between planned and actual losses of revenue.</p>

Investment subsidies for farm modernisation/specialisation TOP	
Description	<p>Grants that help farmers invest in new facilities, expand their production, diversify into new and additional products, or fundamentally change their farming methods.</p> <p>The grants may be spent on buildings, machines, breeder animals, seeds and plants or on business management courses.</p>
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design, implement and monitor subsidy payments • Adequate budget resources
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products + Improve the competitiveness of farms and the processing and marketing of agricultural products + Promote certain innovations + Improve resource efficiency/environmental protection + Improve product quality + Develop and secure sales markets
Possible negative effects	<ul style="list-style-type: none"> – Corruption and personal gain – Market distortion – Incentive for machinery suppliers and banks to increase prices
Further information	<p>It is important that subsidies for farms and cooperative businesses in the food sector are regarded as initial assistance and not as permanent subsidies.</p>

Tariff and non-tariff exemption from duty for farm inputs and machinery TOP	
Description	<p>Strategically important commodities which cannot be securely supplied by the national economy (e.g. certain foods, inputs or machines) are exempted from customs duties. Tariff exemption is based solely on the customs tariff and exists for commodities that are subject to the “free” tariff rate.</p> <p>Non-tariff exemption applies to commodities for which there is no tariff exemption. Requirements for exemption are defined in various legal regulations and are mainly based on the purpose for which the commodity is intended.</p>
Requirements	<ul style="list-style-type: none"> • Tariff rates, legal regulations etc. • Market testing and forecasting • A properly functioning customs administration
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products + Promote certain branches of industry or ensure competitive equality of opportunity with manufacturers based outside the region/country
Possible negative effects	<ul style="list-style-type: none"> – Barrier to the development of domestic industry – Lower government revenues – Corruption and personal gain – Lack of maintenance opportunities if international machinery manufacturers do not provide an adequate sales and service network
Further information	<p>If tariff rates become too differentiated, the public authorities become overstretched. Tariff and non-tariff exemption from duty can therefore only be applied to specific customs measures and cannot be varied at short notice.</p>

Investment subsidies for setting up processing capacity TOP	
Description	<p>Grants for investments in tangible/intangible assets for setting up new processing facilities, expanding existing processing facilities, diversifying into new, additional products, or fundamentally changing the entire production process.</p> <p>In the case of product-related processing subsidies, the subsidy is tied to a particular product.</p>
Requirements	<ul style="list-style-type: none"> • A properly functioning administration and control system • Clear, demonstrable sales potential for processed products • The revenues must ensure the profitability of the promotion
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products + Promote local value creation + Promote employment + Improve the competitiveness of the domestic food sector + Improve product quality + Develop and secure sales markets + Relevant value creation
Possible negative effects	<ul style="list-style-type: none"> – Corruption and personal gain – Market distortion – Bad investments – Risk of abuse through nepotism
Further information	<p>In the event of a seasonal or temporary surplus in certain agricultural products, product-related processing subsidies can be provided (e.g. the school milk programmes in Thailand and Germany). It is important that subsidies for farms and cooperative businesses in the food sector are regarded as initial assistance and not as permanent subsidies.</p>

Distribution and marketing subsidies TOP	
Description	Subsidy payments made for providing logistical support for the distribution of certain products to producers, processors and traders.
Requirements	<ul style="list-style-type: none"> • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products + Increase sales, particularly of regional products + Develop new markets + Increase consumption of certain foods, particularly regional products + Raise awareness of certain foods + Restore consumer confidence after severe market disruptions
Possible negative effects	<ul style="list-style-type: none"> – Market distortion – Risk of abuse through nepotism
Further information	This method facilitates cooperative advertising of domestic products and promotes regional provenance .

Product-related processing subsidies

[TOP](#)

See [Investment subsidies for setting up processing capacity](#)

5.1.2 Instruments for promoting the local agri-food sector through import restrictions

Import quotas ⁷⁵ TOP	
Description	Import quotas define the maximum quantity of a product that can be imported based on factors such as weight, unit numbers, etc. The impact on domestic prices is therefore difficult to predict. There are several procedures for allocating quotas. For example, governments can sell or auction licenses or issue them to enterprises or foreign governments on the basis of historical or preferential agreements.
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) The WTO Agreement on Agriculture stipulates that all trade barriers must be converted into tariffs or tariff quotas. As a result, import quotas are prohibited. Exceptions only apply in particular cases, such as food and nutrition security, balance of payment problems, safeguards etc. • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports + Develop a domestic agri-food sector (increase producer surplus) + Government can increase revenues by selling licences
Possible negative effects	<ul style="list-style-type: none"> – Higher prices for consumers and higher costs for processors – Lack of efficiency and transparency and corruption in issuing licences (nepotism)
Further information	<p>In bilateral and regional trade agreements, quota licenses can be issued to partner countries to strengthen regional integration. This enables regional partners to export on better terms than other countries.</p> <p>The WTO prohibits import quotas. Offences that are reported by other WTO members have to be addressed by the dispute settlement body. Moreover, quantity regulations tend to increase the risk of corruption and rent seeking.</p> <p>Tariff quotas are an alternative that combines import quotas and import duties. These allow developing countries to apply low tariffs to a certain quantity of imports, with higher tariffs for imports exceeding a critical import volume. Another alternative for limiting imports is the simple duty. However, it is harder to determine precise import volumes with this duty.</p>

⁷⁵ See Höffken; Dill 2013: 30.

Countervailing duty ⁷⁶		TOP
Description	Countervailing duties are charged on top of regular import duties. They can be levied on subsidised imports that could harm the domestic economy, for example.	
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) <p>In the Agreement on Subsidies and Countervailing Measures, the WTO enables importing countries to counter subsidies from exporting countries by imposing additional duties. However, these countervailing duties can only be applied if the importing country has undertaken a comprehensive investigation first. The investigation must prove that the exports are subsidised, that they cause harm to the domestic sector and that there is a causal relationship between the subsidies and this harm.</p> <p>Moreover, the WTO agreements regulate the procedure for the investigation and how long the countervailing duty may be applied (usually five years). Since developing countries have less strict subsidy regulations, a countervailing duty cannot be applied to countries with a per capita GDP of less than US\$ 1,000.</p> <ul style="list-style-type: none"> • Efficient customs administration 	
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports: protect the domestic market by reducing import volumes and increasing demand for domestic products + Increase self-sufficiency (usually long-term) + Improve production levels by increasing the producer surplus + Increase government revenues 	
Possible negative effects	<ul style="list-style-type: none"> – Inefficient allocation of resources/market distortion – Higher prices for consumers (loss of consumer surplus) and the processing industry (usually short-term) – Prices of complementary products could rise 	
Further information	<p>Countervailing duties are an appropriate reaction to other countries' subsidised exports that harm the domestic economy. If a sector suffers under subsidised imports and an investigation provides evidence that harm has been done, it is appropriate to apply countervailing duties. They can help safeguard the existence of domestic agricultural production and boost income and food and nutrition security. Countervailing duties may be used as a protectionist trade instrument. However, there are other WTO-compliant alternatives for protecting sectors, such as import duties and safeguards. Countervailing duties are applied much less often than anti-dumping tariffs and are mainly used by the USA and the EU.</p> <p>One problem is that in order to levy anti-dumping tariffs, the effects on the sector have to be proven scientifically. This presents a challenge to less developed countries (LDCs) in particular, since they often lack the data and scientific resources required. An alternative is safeguards, for which the burden of proof is less strict.</p>	

⁷⁶ See Höffken; Dill 2013: 38.

Import tariff ⁷⁷ TOP	
Description	<p>An import tariff is a tax on imports. While a specific tariff is imposed on a per unit basis (e.g. volume or weight), an ad valorem tariff is imposed as a percentage of the product's value.</p> <p>Tariff escalation is applied to secure or increase value creation in the domestic country. In this situation, raw materials are taxed at a low rate and the rate rises progressively on semi-finished goods, making imports of processed products less financially attractive.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) WTO members define a maximum permissible tariff rate ("bound tariff") for every product (categorised according to HC Codes). The bound tariff can only be exceeded in exceptional cases (e.g. when safeguards are applied). However, lower tariff rates (applied tariffs) can be applied and are used by many countries. These tariffs can be increased at will up to the bound level. • Efficient customs administration
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports: protect the domestic market by reducing import volumes and increasing demand for domestic products + Increase self-sufficiency (usually long-term) + Improve production levels by increasing the producer surplus (farming families' incomes) + Increase government revenues
Possible negative effects	<ul style="list-style-type: none"> – Inefficient use of production resources/market distortion – Higher prices for consumers (loss of consumer surplus) and the processing industry (usually short-term) – Prices of complementary products could rise – Could hinder technical progress
Further information	<p>When a group of countries forms a customs union, they reduce trade barriers between them and introduce common external tariffs on imports from countries outside the union. The challenge is to pitch the import tariffs at a level that is advantageous to all the countries in the customs union.</p> <p>There are several alternatives, depending on the intended effects of the tariff: tariff quotas can be applied to protect a sector, with safeguards, anti-dumping tariffs and countervailing duties used to achieve short-term protection. If the focus is on building up the domestic value chain, additional market and investment subsidies and flanking policy instruments are useful.</p>

⁷⁷ See Höffken; Dill 2013: 27.

Anti-dumping tariff⁷⁸

[TOP](#)

Description	<p>Anti-dumping tariffs are charged on top of the regular tariffs applied and can be higher than bounded tariffs.</p> <p>“Dumping” refers to the sale of export goods below domestic prices or below the cost of production. Where there are price differences between domestic and export markets, it should be ascertained whether these are cases of anti-competitive behaviour in the form of dumping or business as usual.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) <p>Dumping is practised by businesses and not countries or governments and therefore falls outside the regulatory sphere of influence of the WTO, since businesses cannot appear before the WTO arbitration panel. However, the Anti-dumping Agreement permits measures that enable governments to take action against dumping.</p> <p>To implement an anti-dumping measure, the importing country has to a) prove that dumping has taken place and that it is not simply business as usual, b) demonstrate that dumping has caused significant damage on the domestic market, and c) demonstrate a causal link between dumped imports and the damage caused to the domestic market. The WTO determines how dumping investigations should take place.</p> <ul style="list-style-type: none"> • Efficient customs administration
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports: protect the domestic market by reducing import volumes and increasing demand for domestic products + Increase self-sufficiency (usually long-term) + Boosting production levels by increasing the producer surplus (stabilising domestic providers) + Increase government revenues
Possible negative effects	<ul style="list-style-type: none"> – Inefficient allocation of resources/market distortion – Higher prices for consumers (loss of consumer surplus) and the processing industry (usually short-term) – Prices of complementary products could rise
Further information	<p>Anti-dumping tariffs are an appropriate method of reacting to unfair behaviour on the part of trading partners. If dumping is suspected and a dumping investigation reveals that the three WTO criteria referred to above are met, it is appropriate to apply anti-dumping tariffs. They can help ensure the continued existence of domestic agricultural production and boost income and food and nutrition security in rural areas. However, it is not permitted to use anti-dumping tariffs as a protectionist trade instrument. Regular import tariffs do a better job in such cases. In order to impose anti-dumping tariffs, it is necessary to scientifically prove the impact of dumping on the sector. This presents a challenge to less developed countries (LDCs) in particular, since they often lack the data and scientific resources required. An alternative is safeguards, for which the burden of proof is less strict.</p>

⁷⁸ See Höffken; Dill 2013: 37.

Categorising products as “sensitive” or “special”⁷⁹

[TOP](#)

Description	<p>Sensitive products are excluded from general tariff liberalisation. Hence, tariff protection is ensured at least for a transitional period or is reduced to a lesser extent. Sensitive products are defined during negotiations on trade agreements.</p> <p>Sensitive products are often products</p> <ul style="list-style-type: none"> • for which liberalisation is politically difficult to achieve • which are particularly relevant to food and nutrition security and rural development • which have the potential to become competitive in the future (infant industry) • the liberalisation of which would have an immediate negative impact on poor population groups.
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) <p>There is as yet no “sensitive products” category under WTO rules and discussions are still ongoing about its definition and quantities. To make it easier to define exceptions during the liberalisation process, the inclusion of two instruments is under discussion: first, “sensitive products” that apply to both industrialised and developing countries, and second, “special products” that apply exclusively to developing countries with the aim of supporting food and security, securing livelihoods and rural development. The “sensitive” or “special product” category also exists in many bilateral trade agreements (e.g. the Economic Partnership Agreements (EPA) between the EU and ACP). These are excluded from the liberalisation process.</p> <ul style="list-style-type: none"> • Efficient customs administration
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports: protect the domestic market by reducing import volumes and increasing demand for domestic products + Increase self-sufficiency (usually long-term) + Boost production levels by making farms in the domestic market more efficient (increasing the producer surplus)
Possible negative effects	<ul style="list-style-type: none"> – Inefficient economic structures are preserved, thus distorting the market – Higher prices for consumers (loss of consumer surplus) and the processing industry (usually short-term) – Prices of complementary products could rise
Further information	<p>Many economists are of the opinion that complete liberalisation of agricultural trade is not always beneficial for economic development and that protecting certain sectors such as those employing a high proportion of poor people can be an appropriate measure. However, it is important to ensure that where protection is provided, it does not enrich a group of powerful producers.</p> <p>As an alternative, safeguards are a useful measure to protect against sudden import surges. The agri-food sector can also be supported with beneficial framework conditions and input and production subsidies.</p>

⁷⁹ See Höffken; Dill 2013: 29.

Safeguards⁸⁰

[TOP](#)

Description	<p>Safeguards are WTO-level protective measures. Countries can apply safeguards, i.e. import quotas or higher import tariffs, if there is a surge in import volumes of a certain product or import prices fall significantly.</p> <p>The details of safeguards (e.g. the definition of an import surge) are regulated in trade agreements. Safeguards are usually applied for limited periods of time, e.g. no more than three years under WTO rules.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) <p>The general safeguard mechanism as per GATT Article XIX and the Agreement on Safeguards can be applied to both industrial and agricultural products. On the other hand, the Special Agricultural Safeguard (SSG) is only available to 39 countries and only for selected agricultural products. Because of this restriction, developing countries are calling in the Doha negotiation round for the SSG to be replaced by a special safeguard mechanism which would be available to all developing countries.</p> <ul style="list-style-type: none"> • Efficient customs administration
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports + Protect the domestic market from sudden or extreme drops in prices by reducing import volumes and increasing demand for domestic products + Increase self-sufficiency (usually long-term) + Boost domestic enterprises by increasing the producer surplus
Possible negative effects	<ul style="list-style-type: none"> – Inefficient structures and enterprises are retained/market distortion – Higher prices for consumers (loss of consumer surplus) and higher costs for the processing industry (usually short-term) – Price of complementary products could increase
Further information	<p>Safeguards lose their importance to groups of countries aiming to establish a customs union and harmonise their agricultural policies. That said, the form of safeguards imposed on third countries becomes more important, since they have to offer protection to all members of the economic area.</p> <p>Safeguards are an appropriate instrument for protecting domestic markets against short-term unexpected drops in prices. The more liberal a country's trade regime is and the more domestic prices are affected by fluctuations on the world agricultural market, the more important safeguards become. When safeguards are included in trade agreements, they provide vital leeway for developing countries; nevertheless, they should be a temporary measure rather than a permanent protective measure.</p> <p>Additionally, the process for approval of safeguards is relatively complex and time consuming.</p> <p>As an alternative, many developing countries use applied tariffs that are lower than WTO bound tariffs. In this case, countries can increase tariffs up to the bound level without the use of specific safeguard arrangements if import prices rise too high or prices fluctuate.</p>

⁸⁰ See Höffken; Dill 2013: 40.

Levies TOP	
Description	<p>Levies are charges that are imposed on imports of particular products and that raise the world market prices of those products to the prices on the domestic market. Levies are not customs duties, although they are imposed by the customs authorities on import. The level of the levy corresponds to the difference between the world market price and the desired domestic market price.</p> <p>Levies are sometimes linked to quotas and graduated. In this case, a certain percentage of the quota attracts a low levy while all imports above this level attract the full levy.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) • Efficient customs administration • Intensive observation of the domestic and world market • Clear idea of the desired domestic market price
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports + Protect the domestic market by equalising price levels + Increase self-sufficiency + Improve production levels by increasing the producer surplus + Increase government revenues
Possible negative effects	<ul style="list-style-type: none"> – Inefficient structures and enterprises are retained/market distortion – Higher prices for consumers and higher costs for processors – Prices of complementary products could rise – Risk of undesirable effects
Further information	<p>Levies require extremely intensive observation of both the domestic and the world market. Variable levies are not WTO compliant.</p>

Tariff quota ⁸¹		TOP
Description	<p>A tariff quota is a combination of an import tariff and an import quota. It allows a limited quantity of a product to be imported at a reduced tariff rate or even no duty at all, with higher rates for imports exceeding the quota. Most tariff quotas are defined in agreements such as the WTO Agreement on Agriculture.</p> <p>In the case of an “autonomous tariff quota”, countries voluntarily set a lower tariff rate for a certain volume of imports, for example because the product is needed as an input good.</p> <p>Like regular import quotas, tariff quotas have to be allocated. This can be done through auctions, allocating licences on a first-come, first-serve basis, based on historical trade flows, or in preferential agreements, for example.</p>	
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) The WTO Agreement on Agriculture stipulates that all trade barriers must be converted into tariffs or tariff quotas. Tariff quotas were introduced to prevent the conversion formula from causing tariffs to rise to a prohibitively high level. Currently, 24 developing countries have registered tariff quotas with the WTO. This does not include autonomous tariff quotas. Because tariffs on products outside the quota are often prohibitively high, ways of modifying tariff quotas are being discussed in the current Doha round. • A properly functioning administration and control system • Good knowledge of the domestic and world market 	
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports + Stabilise domestic enterprises by increasing the producer surplus + Government can increase revenues by selling licences 	
Possible negative effects	<ul style="list-style-type: none"> – Higher prices for consumers and processors – Lack of efficiency and transparency and corruption in issuing licences 	
Further information	<p>In bilateral and regional trade agreements, tariff quotas can be allocated to partner countries to strengthen regional integration. This enables regional partners to export on better terms than other countries. However, this must be done within the context of WTO rules.</p> <p>Tariff quotas protect markets while permitting certain volumes of imports, thus helping to balance the interests of farmers and processors. They require transparent administration as they entail an increased risk of corruption. Nevertheless, they are a WTO-compliant way of retaining quotas.</p> <p>Import tariffs can be used as an alternative. Another alternative is the duty drawback system, which can be used when certain products need to be imported more cheaply, for example because they are needed by the processing industry.</p>	

⁸¹ See Höffken; Dill 2013: 31.

Import ban⁸²

[TOP](#)

Description	An import ban is a complete prohibition on imports of a certain product. An import ban can be general, i.e. it prohibits imports of the product from any other country (e.g. because the product is forbidden in the home country), or it can be directed at imports from a certain country (e.g. because of an animal disease in the exporting country).
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) <p>In the WTO context, import bans are regarded as non-tariff trade barriers and are therefore not permitted. Countries applying import bans are expected to gradually convert them into tariffs. Import bans are permitted in certain circumstances, e.g. to protect health. Many disputes put before the WTO arbitration panel concern the question of whether import bans (such as bans on genetically modified foodstuffs) are justified scientifically or are simply a form of protectionism.</p> <ul style="list-style-type: none"> • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports + Prospering local farms improve production levels by increasing the producer surplus + Avoid imports of products harmful to health or the environment
Possible negative effects	<ul style="list-style-type: none"> – Higher prices for consumers and higher costs for processors – Importers are weakened and may have to abandon business relationships – Smuggling and black market
Further information	Import bans based on scientific objectives such as health and environmental protection are reasonable and should be used. However, they are not appropriate as an economic instrument for protecting or developing the domestic economy since they are not WTO-compliant and could increase consumer prices substantially. Moreover, they promote smuggling, they do not generate revenues for the government, and the lack of competition can prevent productivity and quality from improving. The objective of protecting and promoting domestic production can be better achieved by introducing tariffs.

⁸² See Höffken; Dill 2013: 33.

Minimum export price/price band⁸³

[TOP](#)

Description	<p>Minimum import prices ensure that a product cannot be imported at a price that is lower than a price set by the state. If the import price is below the minimum price, an additional charge is imposed.</p> <p>Sometimes price ceilings are also set, thus creating an import price band. If the price exceeds the ceiling, duties are refunded to importers. Minimum import prices and price bands can be based on domestic market prices or international reference prices.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) Under WTO rules, minimum import prices and price bands are regarded as non-tariff trade barriers and are therefore prohibited. However, they can be applied as an anti-dumping measure. • A properly functioning administration and control system • Good knowledge of the domestic and world markets
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products by regulating imports (price stabilisation) + Protect the domestic market against dumping + Strengthen domestic production levels by increasing the producer surplus + Selective imports, allowing only high quality and expensive goods to be imported
Possible negative effects	<ul style="list-style-type: none"> – Higher prices for consumers and processors – Lack of transparency compared with simple duties – Minimum import duties have to be constantly adapted to fluctuating world market prices and therefore entail significant administrative effort – Speculation on political decisions
Further information	<p>In integrated markets, minimum import prices and price bands are generally abolished internally. However, they may be included in certain bilateral or regional agreements in order to protect sensitive sectors.</p>

⁸³ See Höffken; Dill 2013: 34.

Duty drawback ⁸⁴ TOP	
Description	<p>Duty drawback is a system under which duties levied on imported input products are refunded. The refund is paid once the imported product is exported as a processed good.</p> <p>As an alternative to duties being refunded, imported input products can also be stored duty free or at preferential rates in bonded warehouses, where they can be processed ready for export. These refund schemes must be supervised by the customs authorities.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) The Agreement on Subsidies and Countervailing Measures allows duty drawback schemes as being WTO-compliant and does not class duty drawback as a subsidy. • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products + Lower production costs for processors + Promote employment
Possible negative effects	<ul style="list-style-type: none"> – Market distortion – Corruption and personal gain – Discriminates against non-exporting processing industries – Lower government revenues
Further information	<p>Since there are usually no tariff rates in free trade zones, duty drawback schemes have little relevance in regional and bilateral trade agreements.</p> <p>It is not clear how duty drawback schemes impact on a country's development process. Due to the ineffectiveness of the institutions in most developing countries, tax refund schemes are often unsuccessful, potentially leading to corruption, fraud and the high administration costs of the complicated refund system. Other problems include administrative difficulties, inadequate statistical records and a financial burden on the state. Nonetheless, duty drawback schemes can impact positively on exports and international competitiveness in countries with properly functioning institutions.</p> <p>Duty-free imports of potential input products can be an effective alternative. Although no duties are levied regardless of whether the input product is consumed domestically or processed and exported, administration costs and fraud are reduced significantly. Export processing zones with discount schemes and export credit insurance schemes are alternative ways of strengthening a country's export sector.</p>

⁸⁴ See Höffken; Dill 2013: 49.

5.1.3 Instruments for promoting the local agri-food sector and/or food and nutrition security by restricting exports

Export quotas ⁸⁵ TOP	
Description	<p>An export quota limits the maximum volume of permitted exports of a certain product.</p> <p>There are several possible administrative alternatives for issuing export licences, including the first-come, first-serve method, via auctions, and based on historical export volumes.</p> <p>In the case of a voluntary export restriction, the exporting country undertakes not to export more than a maximum volume to a particular partner country.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) GATT Article 94 paragraph 1 prohibits all forms of export restrictions except export taxes. Export quotas imposed temporarily in order to meet critical shortages in foods or other essential products are another exception. However, expressions such as “temporary”, “critical”, and “shortage” are not specifically defined. Therefore, export quotas on agricultural products are permissible provided their use can be justified to the WTO. • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by reducing the export volumes of a particular product + Increase government revenues by selecting a suitable license allocation system (e.g. auctioning export licences) + Lower prices for consumers (increasing the consumer surplus) and processors in the home country
Possible negative effects	<ul style="list-style-type: none"> – Market distortion and economic losses – Loss of income in the home country’s agricultural sector due to lower domestic prices and fewer exports – Sales markets and trading partners may be lost and could be difficult to win back in the future – Lower production in the sector of the product concerned due to lower prices, endangering food and nutrition security in the medium and long term. – Exporters may practise rent seeking (attempting to obtain economic rent) because of price differences between domestic and world market prices (quota rent), potentially leading to significant economic losses. Depending on the allocation system, some exporters could benefit from the quota while most will not. – Lack of transparency and corruption during the allocation process
Further information	<p>The maximum export volume can be determined accurately by means of export quotas, which are therefore an appropriate measure for quickly countering shortages of foodstuffs and other essential goods in crisis situations. However, the lower prices can lead to a drop in production levels in the medium and long term, which could weaken the sector concerned and possibly also jeopardise food and nutrition security.</p> <p>Alternatively, every export quota has an equivalent export tax with an identical impact on prices and volumes. Export taxes are WTO-compliant and guarantee government revenues. Moreover, export taxes are more transparent and do not encourage rent seeking.</p>

⁸⁵ See Höffken; Dill 2013: 43.

Special levy on exports ⁸⁶		TOP
Description	<p>A special levy is a non-tax levy on certain export goods.</p> <p>Unlike a tax, the special levy is not intended to finance general government expenditure but rather to benefit the group on which the special levy was imposed. This must be a homogeneous group, in other words it must be distinct from the taxpayer community by virtue of common circumstances or a common interest. The group benefit is particularly difficult to prove in the case of a special levy on exports which initially reduces the competitiveness of the exporters.</p>	
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) <p>GATT Article 94 paragraph 1 prohibits all forms of export restrictions except export taxes. Export restrictions imposed temporarily in order to meet critical shortages in foods or other essential products are another exception. However, expressions such as “temporary”, “critical”, and “shortage” are not specifically defined. Therefore, special levies on exports of agricultural products are permissible provided their use can be justified to the WTO.</p> <ul style="list-style-type: none"> • The product group to which the special levy applies must be carefully defined in accordance with the objective to be met • A properly functioning administration and control system 	
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by reducing the export volumes of a particular product + Lower prices for consumers (increasing the consumer surplus) and processors in the home country + Increase the attractiveness of the domestic market for exporters and former exporters + Increase government revenues 	
Possible negative effects	<ul style="list-style-type: none"> – Market distortion and economic losses – Loss of income for domestic farmers (loss of producer surplus) and exporters due to lower domestic prices and fewer exports – Sales markets and trading partners may be lost and could be difficult to win back in the future – Production in the sector of the product concerned drops due to lower prices, endangering food and nutrition security in the medium and long term. 	
Further information		

⁸⁶ See Höffken; Dill 2013: 41.

Export taxes⁸⁷

[TOP](#)

Description	<p>Export taxes are levied on exports of certain products. They are mainly applied by developing countries and levied primarily on raw materials. A distinction is made between specific and variable export taxes, the ad valorem export tax and the differential export tax:</p> <ul style="list-style-type: none"> • Specific export tax: an export tax per unit (e.g. volume or weight) of a product • Ad valorem export tax: an export tax calculated as a percentage of the price • Differential export tax: the level of the export tax varies according to the degree to which the product has been processed • Variable export tax: an export tax based on the world market price. These are often described as minimum export prices.
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) <p>Export taxes are not yet prohibited within the WTO. They are a popular trade instrument and budget financing tool since the application of export taxes does not have to be justified to the WTO. While new WTO members are required to reduce export taxes step by step, there is no binding agreement on reducing export taxes among existing member states. Because of the absence of a binding arrangement on export taxes in the WTO, their use is increasingly being banned in bilateral and regional trade agreements.</p> <ul style="list-style-type: none"> • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by reducing the export volumes of a particular product + Increase government revenues + Variable export taxes or minimum export prices help reduce fluctuating prices on the domestic market + Lower prices for consumers (increasing the consumer surplus) and processors in the home country
Possible negative effects	<ul style="list-style-type: none"> – Market distortion – Loss of income for domestic farmers and exporters due to lower domestic prices and fewer exports – Sales markets and trading partners may be lost and could be difficult to win back in the future – Lower prices endanger food and nutrition security in the medium and long term – Economic losses
Further information	<p>Export taxes can result in higher government revenues, fewer exports and therefore lower consumer prices and can boost the processing industry by providing cheaper inputs. All these measures can strengthen food and nutrition security in the short term and promote economic growth. However, the advantages must be weighed up against unintended consequences. Farms could suffer from lower prices, potentially leading to the redistribution of income from rural small-scale farmers to urban processors, consumers and the state. If the taxed item is a staple food, food and nutrition security could be weakened in the medium and long term due to the reduction in production incentives. Finally, competitive sectors could be discriminated against, resulting in a loss of efficiency.</p>

⁸⁷ See Höffken; Dill 2013: 41.

Minimum export prices⁸⁸

[TOP](#)

Description	<p>If a minimum export price is set for a particular product, it may not be exported below this price.</p> <p>Variable export taxes that are based on world market prices are also sometimes referred to as minimum export prices.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) <p>GATT Article 94 paragraph 1 prohibits all forms of export restrictions except export taxes. Export restrictions imposed temporarily in order to meet critical shortages in foods or other essential products are another exception. However, expressions such as “temporary”, “critical”, and “shortage” are not specifically defined. Therefore, minimum export prices on agricultural products are permissible provided their use can be justified to the WTO.</p> <ul style="list-style-type: none"> • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by reducing the export volumes of a particular product + Where minimum export prices are defined in line with world market prices (variable export taxes), they help reduce price fluctuations on the domestic market + Secure a particular export quality
Possible negative effects	<ul style="list-style-type: none"> – Market distortion – Minimum export prices have to be constantly adapted to fluctuating world market prices and therefore entail significant administrative effort (exception: variable export taxes). – They must also be pitched correctly: if they are too low they have no effect, but if they are too high they amount to an export ban. – Loss of income for domestic farmers and exporters due to lower domestic prices and fewer exports – Sales markets and trading partners may be lost and could be difficult to win back in the future – Production in the sector of the product concerned drops due to lower prices, endangering food and nutrition security in the medium and long term.
Further information	<p>Conventional minimum export prices have no significant impact in the context of development policy. They are useful for selecting between exportables and non-exportables in the same product group, so their relevance is practical rather than impacting on development policy.</p>

⁸⁸ See Höffken; Dill 2013: 44.

Export ban ⁸⁹ TOP	
Description	An export ban is a government prohibition on exporting certain products (e.g. to certain countries). It is an extreme form of an export quota .
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) GATT Article 94 paragraph 1 prohibits all forms of export restrictions except export taxes. Export bans imposed temporarily in order to meet critical shortages in foods or other essential products are another exception. However, expressions such as “temporary”, “critical”, and “shortage” are not specifically defined. Therefore, export bans on agricultural products are permissible provided their use can be justified to the WTO. So-called “government to government” (G2G) sales often take place despite the existence of an export ban. This means that some exports of limited volumes to certain countries are temporarily permitted despite the existence of a ban. Critics cite non-WTO compatibility in this context, since some countries are favoured over others. • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by banning exports of a particular product + Lower prices for consumers (increasing the consumer surplus) and processors in the home country
Possible negative effects	<ul style="list-style-type: none"> – Market distortion and economic losses – Loss of income for domestic farmers (reduction in producer surplus) and exporters due to lower domestic prices and loss of exports – Sales markets and trading partners may be lost and could be difficult to win back in the future – Production in the sector of the product concerned drops due to lower prices, endangering food and nutrition security in the medium and long term.
Further information	<p>Export bans are an appropriate instrument for quickly countering food shortages and rising prices for food and other essential goods in moments of crisis. However, to what extent prices can actually be controlled depends on the national context. Moreover, export bans are not WTO-compliant and have adverse effects on importing countries, where the exporting country has a significant share of the world market and the export ban leads to higher world market prices. An export ban on foodstuffs can therefore have a negative impact on countries that are net importers of food.</p> <p>Nonetheless, export bans are a useful way of countering short-term shortages of essential commodities, although they are not appropriate as a long-term measure for strengthening food and nutrition security, controlling inflation or boosting processing industries.</p> <p>Instead of an export ban, an export tax with an identical impact on prices and volumes could be levied. In contrast to export bans, export taxes are WTO-compliant. Another alternative would be to set a high minimum export price.</p>

⁸⁹ See Höffken; Dill 2013: 45.

Reducing export subsidies

[TOP](#)

Description	Export subsidies are government payments to exporters to help them develop new sales markets or sell surpluses on the world market in order to keep the price on the domestic market stable. Reducing them reduces a country's exports on the world market by the according amount.
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) • Constant market testing and forecasting, e.g. on agricultural market information systems
Objective	<ul style="list-style-type: none"> + Lower prices for exports on the world market, thus increasing sales opportunities for domestic products + Lower prices for consumers (increasing the consumer surplus) and processors in the target country
Possible negative effects	<ul style="list-style-type: none"> – Businesses in the target country that cannot compete with subsidised products from other countries are forced out of the market (social risks). – Cheap imports can increase dependence on the world market for security of supply in the home country.
Further information	The use of these instruments can have a significant impact on the development of world market prices and can disrupt security of supply in other countries. The WTO decision adopted in Nairobi in 2015 banned export subsidies in the agricultural sector for industrialised countries and only permits them temporarily for developing countries.

5.1.4 Instruments for promoting food and nutrition security by promoting imports

Reducing import duties TOP	
Description	Reduction in duties that form a barrier to trade in goods and services between economies or groups of economies.
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) • Constant market testing and forecasting, e.g. on agricultural market information systems
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply + Reduce trading costs + Competitive boost for the local economy + Increase growth and income by distributing resources more efficiently and increasing the division of labour + Lower prices for consumers (increasing the consumer surplus) and processors + Lower costs for the state budget
Possible negative effects	<ul style="list-style-type: none"> – Businesses in the home country that cannot compete internationally are forced out of the market (social risks) – Increasing dependence on the world market for security of supply in the home country
Further information	Multilateral agreements provide transparency and ensure that production takes place uniformly, equitably and in stages.

Removing non-tariff trade measures TOP	
Description	The removal of non-tariff trade measures (e.g. regulations, quotas, taxes, food standards, animal disease regulations, plant hygiene standards) that impact negatively on trade in goods and services between economies or groups of economies. However, this should not impact negatively on food quality and safety.
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) • Constant market testing and forecasting, e.g. on agricultural market information systems
Objective	<ul style="list-style-type: none"> + Reduce trading costs + Lower prices for consumers (increasing the consumer surplus) and processors + Improve national/regional security of supply
Possible negative effects	<ul style="list-style-type: none"> – Businesses in the home country that cannot compete internationally are forced out of the market (social risks) – Increasing dependence on the world market for security of supply in the home country – In contrast to the removal of tariff trade measures, the removal of non-tariff trade measures can be very costly
Further information	The purpose of non-tariff trade measures such as SPSs is to guarantee food safety, protect human health and to prevent the spread of animal or plant diseases. It is therefore only possible to remove these measures if safety can be guaranteed in respect of all of these areas.

Import subsidies⁹⁰

[TOP](#)

Description	Import subsidies are payments by governments on imported goods. The subsidies are paid to both private importers and state import institutions.
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) The WTO Agreement on Agriculture does not specifically mention import subsidies, so WTO members are not prohibited from applying them. As import subsidies – like export restrictions – can cause shortages on the world market, ever since the surge in agricultural prices in 2007/2008 there have been calls for the WTO to regulate these policy measures. • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by increasing import volumes + If the imported product is an input (e.g. sugar for processing agricultural products), processing industries benefit from lower import prices. + If the product is a final product, consumers benefit (increase in the consumer surplus).
Possible negative effects	<ul style="list-style-type: none"> – Great burden on the state budget – Businesses in the home country that cannot compete internationally are forced out of the market (social risks) – Increasing dependence on the world market for security of supply in the home country
Further information	<p>Import subsidies can help keep prices on domestic markets low. However, this is at the expense of domestic agriculture and the state coffers. Import subsidies are therefore only recommended as a short-term measure in times of critically high food prices. Alternatives such as lower import tariffs and social cash transfers should be considered first.</p> <p>Introducing subsidies on imports from regional partners could – depending on the exporting countries' production elasticity – cause a shortage in the products concerned and increase prices in the partner country's domestic market. This can cause problems if the products are also in high demand in the partner country (e.g. staple foods). It is therefore appropriate to reach regional agreements on import subsidies.</p>

⁹⁰ See Höffken; Dill 2013: 36.

5.1.5 Instruments for promoting food diversification

State purchasing programme for new products TOP	
Description	State purchasing, e.g. of new, nutritionally valuable foods, helps diversify supply and demand. As farmers, food businesses, trade and consumers are often slow to accept new products, the state can make up for the lack of demand in the short term.
Requirements	<ul style="list-style-type: none"> • Logistics and storage facilities • Adequate budget resources
Objective	<ul style="list-style-type: none"> + Encourage diversification of supply and demand + Improve the quality of national/regional food supplies + New sales markets for farms + Protect the environment and the resource base
Possible negative effects	<ul style="list-style-type: none"> – Distorts the domestic market – Free rider effects in markets that are growing anyway – Bad investments by the state if demand does not pick up – Corruption at purchase
Further information	The main driving force behind new products is providing the public with nutritional advice.

Tax relief on new products[TOP](#)

See [Tax incentives](#)

Promoting breeding activities for new animal breeds and new crop varieties[TOP](#)

See [Instruments for guaranteeing consumer health protection in food](#)

Supporting nutritional advisory services for promoting new crop varieties and animal breeds for human nutrition TOP	
Description	State or semi-public organisations run national and/or regional nutrition information campaigns for all age groups of the population.
Requirements	<ul style="list-style-type: none"> • Adequate financial resources • Qualified staff • Appropriate supply of a range of foods from the various food groups recommended by the WHO (meat, milk and dairy products, fish, oils and fats etc.)
Objective	<ul style="list-style-type: none"> + Encourage diversification of supply and demand + Secure supply of high-quality, affordable nutrition for consumers, particularly mothers and young children + Improve the population's general health status + Reduce harmful GHGs by encouraging people to eat less meat
Possible negative effects	<ul style="list-style-type: none"> – Advisory services and information campaigns do not take the domestic production situation into account – Differences between urban and rural areas are ignored
Further information	<p>A particularly important aspect of supporting the provision of nutritional advice is teaching teachers and schoolchildren. The provision of nutritional advice needs a reliable organisational background. A regionally adapted combination of face-to-face talks, printed material, radio, TV and Internet is crucial.</p> <p>International development cooperation can support initiatives to provide nutritional advice, e.g. by providing local non-governmental institutions with funding for cookery courses. Collaboration between the agricultural and healthcare sectors is of particular importance in this regard.</p>

5.1.6 Instruments for promoting foods relevant to food and nutrition security

Purchase guarantees at fixed minimum prices ("conventional intervention") TOP	
Description	<p>The state guarantees that it will purchase certain agricultural products (intervention purchase) at set minimum prices (intervention prices) and then store them in public or private facilities (see Public storage and Subsidies for private storage). This combination of instruments is referred to as "conventional intervention".</p> <p>The agricultural products in store are either marketed nationally at a later time, exported (often with the aid of export subsidies) or processed (see Product-related processing subsidies). These products can also be used for purposes such as school milk programmes.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) • Efficient market management and observation • State purchases of products by state intervention agencies • Storage facilities
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of agricultural products + Stabilise prices + Reduce the market offer (market clearance mechanism) + Increase farmers' incomes
Possible negative effects	<ul style="list-style-type: none"> – Market distortion – Higher prices for consumers and processors – Excessively high prices and overproduction lead to undesirable effects – Pressure on the domestic agri-food sector if prices are fixed too low – Risk of high government expenditure
Further information	<p>In the event of a seasonal or temporary surplus in certain agricultural products, product-related processing subsidies can be provided (e.g. the school milk programmes in Thailand and Germany).</p>

Obligation to grow specific crops

[TOP](#)

Description	Under this scheme farmers receive a grant if they undertake to grow a particular crop (e.g. rice) on a particular acreage within a particular period of time. The product may be of strategic importance to the national food or energy supply (e.g. rice, maize), but it may also be an export commodity (e.g. tea). It is usually up to the farmer to decide how much land to earmark for meeting this obligation.
Requirements	<ul style="list-style-type: none"> • Constant market testing and forecasting • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design, implement and monitor this obligation
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by strategically increasing production of a particular product + Stabilise the market offer + Protect the environment and the resource base
Possible negative effects	<ul style="list-style-type: none"> – Inefficient cultivation structures/market distortion – Where specialised farming systems have been set up, the sudden discontinuation of the obligation to grow a specific crop can lead to economic losses
Further information	Industrialised countries often use this obligation as a measure for dealing with environmental, resource or climate issues. For example, an obligation to grow catch crops (e.g. legumes) can help prevent soil erosion, reduce nutrient run-off and protect groundwater. The obligation to grow cash crops for energy use can reduce the demand for fossil fuels. Developing and emerging countries, on the other hand, often use this obligation as a market control instrument for fulfilling export contracts or securing supplies of staple foods at home.

Contract farming TOP	
Description	Contract farming involves farmers supplying state intervention agencies with a certain quantity of a product on a certain date. The contract not only defines the type and quantity of the product to be supplied but also often lays down quality standards and guaranteed agricultural practices. The state agency, for its part, undertakes to buy the product at a previously agreed price and organises the sale of the product.
Requirements	<ul style="list-style-type: none"> • A state intervention agency to draw up contracts and buy the products • Defined quality standards and cultivation measures
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by strategically increasing production of a particular product + Reduce revenue fluctuations by providing farmers with purchase guarantees + Technology transfer (input, technology, expertise) + Improve farmers' management, organisational and negotiating skills + Secure quality and quantities for purchasers of the goods + Ensure compliance with social and environmental standards
Possible negative effects	<ul style="list-style-type: none"> – If prices rise, farmers are unable to benefit as their prices are dictated in the contracts (risk of development of a black market and side-selling) – If prices fall, the state incurs extra costs (risk of government debt) – Discriminates against larger farms – Restricts farmers' entrepreneurial freedom of choice – Limited sanction mechanisms when agreements are broken – Loss of sales markets when contract expires
Further information	<p>Before commencing contract farming, particularly under longer-term contracts, farmers need to carry out an in-depth analysis of production processes and costs and of sales opportunities for the product. Contract farming is particularly attractive to farmers in times of strongly fluctuating prices. In situations in which prices are relatively stable and producers have free access to the market, a good relationship with their customers and sufficient financial reserves, contract farming is not necessary.</p> <p>Some countries operate state purchase programmes on the domestic market to improve food and nutrition security. In such cases, highly nutritional food is grown under contract to supply vulnerable groups of people in the short and medium term.</p> <p>International development cooperation can support contract farming by working closely with the food sector, e.g. in strategic alliances or integrated development partnerships.</p> <p>Further information on contract farming in international development cooperation can be obtained from the GIZ publication "Contract Farming Handbook. A practical guide for linking small-scale producers and buyers through business model innovation" (Will 2013).</p>

Public storage (“public intervention”) TOP	
Description	<p>Where the state organises and finances public storage facilities, farmers and agricultural dealers supply products that meet certain quality standards to state intervention agencies. These agencies commit to buying the products at a pre-set price during a certain period of time.</p> <p>In order to meet what is sometimes a statutory duty to provide public storage, the state intervention agency usually enters into framework agreements with private warehouses. Regular inspections are performed during the storage period to guarantee the quality of the goods.</p> <p>Intervention stocks can be sold through public invitations to tender.</p>
Requirements	<ul style="list-style-type: none"> • A state intervention agency to buy the products • Constant market testing and forecasting • Regionally and/or nationally regulated storage conditions • Transparent management (properly documented terms of purchase, storage and sale)
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by storing a certain product, e.g. to safeguard against other countries imposing sudden export bans or other restrictions, or following harvest losses + Short-term compensation for market imbalances and fluctuating prices + Stabilise prices by reducing the market offer
Possible negative effects	<ul style="list-style-type: none"> – Inefficient market processes/market distortion – Spoilage/loss of goods – Uncertainties caused by low stock levels push up prices – Surplus in the market when stocks are taken out of storage
Further information	<p>Strategic storage has been used as an instrument for controlling prices in the past, both at national and regional levels (e.g. ASEAN, EU), and is now increasingly being revisited in the international debate.</p>

Subsidies for private storage⁹¹

[TOP](#)

Description	Market participants can be encouraged to keep goods in storage for a time before placing them on the market by subsidising private storage. Private storage equates to a subsidised voluntary withdrawal from the market and can be used as a substitute for organising public storage . Subsidy payments are generally based on a certain subsidy rate per tonne and month. The conditions of storage and maximum storage times are officially regulated. The recipient of the subsidy is responsible for determining when the goods will be sold.
Requirements	<ul style="list-style-type: none"> • Constant market testing and forecasting • Regional and/or national regulations on storage conditions • Institution for monitoring compliance with storage conditions
Objective	<ul style="list-style-type: none"> + Improve national/regional security of supply by storing a certain product, e.g. to safeguard against other countries imposing sudden export bans or other restrictions, or following harvest losses + Stabilise prices by reducing the market offer
Possible negative effects	<ul style="list-style-type: none"> – Inefficient market processes/market distortion – Spoilage/loss of goods – Surplus in the market when stocks are taken out of storage – Private storage can involve a considerable financial burden, depending on the product and the storage requirements
Further information	

⁹¹ See BLE 2016: 1

5.1.7 Instruments for reducing the market offer by reducing amount of locally produced goods

Reducing land take-up TOP	
Description	Reducing the amount of farm land through afforestation, extensivisation, set-aside or conversion of arable land into grassland etc. can be used as a method of reducing the supply of food.
Requirements	<ul style="list-style-type: none"> • A properly functioning agricultural administration
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of certain agricultural products + Protect the environment and the resource base + Increase wood production to meet energy needs
Possible negative effects	<ul style="list-style-type: none"> – Market trends may be assessed incorrectly – Heavy demands on budget
Further information	In industrialised countries this instrument is generally used for environmental and nature protection purposes.

Production/processing quotas TOP	
Description	<p>Introduction of a local/regional/national maximum quota that producers of a certain product (e.g. milk or sugar) can produce or that processors (e.g. dairies) can process. Non-observance of the quota is punishable with fines.</p> <p>The establishment of quota exchanges enables producers and processors who have been allocated a quota or who have acquired one to trade it and receive “quota rents”.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity / restrictive rules for the domestic market are permitted under WTO rules) • Efficient administration system • Ongoing market observation
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of certain agricultural products + Protect the market against overproduction + Stabilise prices + Protect the environment and the resource base
Possible negative effects	<ul style="list-style-type: none"> – Market distortion – Risk of corruption and lack of transparency – High macroeconomic costs if quotas set too high or too low
Further information	<p>Direct quantity control in the domestic market involves a high administrative burden which structurally weak developing countries find it particularly difficult to meet. The EU just abolished its milk and sugar quotas recently.</p>

Denaturing premiums TOP	
Description	In times of state or private stock surpluses of products (cereals, oilseed, sugar, fruit or vegetables) that can not be sold on the domestic market on regular market terms, it is possible to pay feed producers and farmers so-called “denaturing premiums”. These ensure that the foodstuffs are used for feeding purposes, albeit at an inferior level in order to avoid flooding the domestic market or the export market with these products. These premiums are paid per tonne of food on provision of proof that the product has been turned into animal feed.
Requirements	<ul style="list-style-type: none"> • Reliable assessment of the market for foodstuffs and animal feed • Must be compatible with WTO law (usually the case) • Efficient, reliable public authorities • Sufficient state budget resources
Objective	<ul style="list-style-type: none"> + Reduce national/regional supplies of certain agricultural products in order to protect the market + Prevent the destruction of food + Stabilise prices
Possible negative effects	<ul style="list-style-type: none"> – Market distortion, particularly on the feed markets – Risk of corruption, lack of transparency, nepotism – High macroeconomic costs if premiums set too high or too low
Further information	This instrument for the inferior utilisation of foodstuffs is not suitable for use in countries in which food shortages occur regularly. However, it is a quick and relatively easy way of reducing short-term surpluses of foods such as rice. An alternative would be to turn surpluses of cereals, potatoes or even wine into industrial alcohol by means of a distillation premium. Processing subsidies (e.g. for canning) could also be paid.

5.1.8 Instruments for reducing the market offer by promoting exports

Export subsidies ⁹² TOP	
Description	Export subsidies are government payments to exporters to help them develop new sales markets or sell surpluses on the world market in order to keep the price on the domestic market stable.
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) <p>Export subsidies are prohibited under WTO rules.</p> <p>Developing countries may continue to benefit from the provisions of Article 9.4 of the Agreement on Agriculture⁹³ until the end of 2023, i.e. five years after the end-date for elimination of all forms of export subsidies. Least developed countries and net food-importing developing countries listed in G/AG/5/Rev.10 shall continue to benefit from the provisions of Article 9.4 of the Agreement on Agriculture until the end of 2030.</p>
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of certain agricultural products + Stabilise prices on the domestic market and secure farmers' incomes + Promote foreign trade + Increase prices on the domestic market and expand sales opportunities for the agri-food sector on the world market + Higher sales for exporters
Possible negative effects	<ul style="list-style-type: none"> – Higher prices for consumers and higher costs for processors – The cost to the state budget – Market distortion between products for export and those produced for the domestic market – (Loss of production in the importing country)
Further information	<p>Export subsidies equate to a financial transfer from the exporting to the importing country. The difference between the higher production costs or prices on the domestic market and the lower world market price is compensated for by the government of the exporting country. In addition, if large quantities of a product attract export subsidies, the world market price drops. This has an adverse effect on agricultural producers and a positive effect on consumers in third countries, particularly developing countries. The subsidised release of surpluses can also contribute to volatility in world market prices.</p> <p>Effective alternatives to export subsidies include WTO-compliant subsidies that are not solely export-based but benefit the competitiveness of domestic production in general.</p>

⁹² See Höffken; Dill 2013: 47.

⁹³ Article 9.4 of the Agreement on Agriculture, which includes temporary exceptions for developing countries, allowing them to subsidize marketing, including handling and upgrading as well as internal or international transportation.

Export credit ⁹⁴ TOP	
Description	Government export credits enable foreign buyers to purchase domestic products on non-standard market terms. This usually means postponing the payment until a later point in time (usually up to a year for food). The government supports these credits, which are generally provided by export credit agencies, by providing guarantees, insurance or cheap interest rates.
Requirements	<ul style="list-style-type: none"> • Must be compatible with WTO law (WTO conformity) Agricultural export credits may not be used as export subsidies in disguise in order to avoid trade sanctions. Common rules on agricultural export credits were defined within the “Nairobi packages” in December 2015. • Adequate financial resources
Objective	<ul style="list-style-type: none"> + Promote national/regional supplies of certain agricultural products + Stabilise prices on the domestic market and secure farmers’ incomes + Promote foreign trade, e.g. in new products (market placement) + Increase prices on the domestic market and expand sales opportunities for domestic farmers and agribusinesses on the world market + Higher sales for exporters
Possible negative effects	<ul style="list-style-type: none"> – Higher government spending – Higher prices for consumers and processors if export credits lead to shortages in the home country – Corruption in the issuing of credits
Further information	<p>Agricultural export credits can help establish agricultural products on the world market and boost sales. However, they are an expensive instrument. It makes more sense to first promote the development of national agricultural credit markets, particularly for poor developing countries with limited budget resources.</p> <p>Export credits are often used more widely during financial crises in order to counter restrictive lending to the agri-food sector by private banks.</p>

⁹⁴ See Höffken; Dill 2013: 48.

Coresponsibility levy TOP	
Description	The coresponsibility levy reduces producer revenues by a set percentage. State intervention prices and state purchase prices cause producer and consumer prices to develop at a different rate.
Requirements	<ul style="list-style-type: none"> • WTO conformity • A properly functioning administration • Good knowledge of the market
Objective	<ul style="list-style-type: none"> + Reduce national/regional supplies of certain agricultural products + Reduce farmers' incomes (reduction in producer surplus) + Increase government revenues
Possible negative effects	<ul style="list-style-type: none"> – Market distortion – Misuse to obtain covert state financing
Further information	The coresponsibility levy can be regarded as a product-specific charge that increases government revenues. It is permitted for a short period of time under WTO rules, although it is complex to administer and therefore of limited suitability for developing countries.

5.2 Instruments for improving the agricultural structure and infrastructure of rural areas

Aim	5.2.1 Improving the settlement system	5.2.2 Improving the business structure	5.2.3 Promoting the integration of agriculture into the food value chain	5.2.4 Securing property/ usage rights	5.2.5 Improving the infrastructure of rural areas
	Land reparingelling	Subsidies for young farmers and farm transfers	Regulatory framework for cooperation in supply chains	Regulatory framework for protecting ownership of agricultural land	Developing market infrastructures
	Grants for voluntary land exchange	Tax relief on farm transfers	Rules for the conclusion of purchasing and supply contracts	Introducing a country-wide property/land register	Promoting product and commodity exchanges
	Settlement programmes	Smallholder's premium	Establishing arbitration tribunals	Transparent inheritance law with low inheritance taxes	Promoting public and private investment in the road network
	Grants for performing municipal duties	Promoting farmer organisations	Introducing binding commercial categories and marketing standards	Limiting the splitting of real estate	Promoting water supplies and sewerage systems
	Subsidies for providing non-rural services		Introducing voluntary commercial categories and marketing standards	Strengthening the legal rights of agricultural tenants	Securing the energy supply
	Subsidies for investments in non-agricultural areas		Introducing binding quality management systems		Privatising the infrastructure for transportation, energy and water
	Compensatory allowance for landscape management		Cooperative advertising of regional products		Developing specialist land and sea transport logistics
			Certification		Developing ITC networks
			Monitoring cost grant		Market price information systems
			Value chain platforms and multi-stakeholder dialogues		Support for professional information

5.2.1 Instruments for improving the settlement system

Land reparcelling TOP	
Description	In regions in which factors such as the splitting of real estate , inheritance across different family branches or regional urban and infrastructure development have caused structural deficiencies, state aid can be used to combine uneconomical agricultural land. This can be done in the form of voluntary or compulsory redistribution or by merging plots. Fragmented areas of land are seized from the owners, who are allocated new, merged plots in return. This enables several small, separate areas of land on a farm to be consolidated into one or more larger areas. Where the plots are of different quality or value, area or value adjustments are made. The underlying principle is that every owner must be compensated for their land with land of equivalent value.
Requirements	<ul style="list-style-type: none"> • Effective property law and secure formal land rights • Administrative legislation as the legal basis for all public authorities involved (e.g. land reparcelling authority) • Public authorities that are willing to act and achieve consensus and that have the necessary expertise to implement land reparcelling • Inventory of the land available for reparcelling, including soil fertility appraisal • Local landscape culture must be respected • Adequate budget resources
Objective	<ul style="list-style-type: none"> + Improve the field structure of individual farms + More efficient management + Optimised domestic road network + Market access + Set up ecological focus areas and water protection areas
Possible negative effects	<ul style="list-style-type: none"> – Complicated process for clarifying ownership situations – Negative social consequences due to a lack of consensus of interests between the parties involved – Inadequate value adjustment – Nepotism and corruption
Further information	Farmers must be willing to participate; this can be encouraged in advance by providing in-depth advice. Among other things, it can be useful to create a land reparcelling committee made up of members of affected farming families or their representatives. Alternatively, simplified voluntary land exchange processes could be introduced.

Grants for voluntary land exchange TOP	
Description	<p>Grant towards expenses incurred by natural or legal persons exchanging owned or tenanted agricultural land. Voluntary land exchange can be a quicker and cheaper way of improving the agricultural structure than the process of land reparcelling.</p> <p>Additional grants for preparatory work can be made if additional information is required for implementing the land exchange, e.g. if the exchange is suggested by a third party such as the municipality.</p>
Requirements	<ul style="list-style-type: none"> • Effective property law and secure formal land rights • Administrative legislation as the legal basis for all public authorities involved (e.g. land reparcelling authority) • Consensus between the contracting parties recorded in an exchange plan • Public authorities that are willing to act and achieve consensus and that have the necessary expertise
Objective	<ul style="list-style-type: none"> + Improve the farmland structure of individual farms + More efficient management + Optimised domestic road network + Market access
Possible negative effects	<ul style="list-style-type: none"> – Social tensions as a consequence of land exchanges seen retrospectively as unfair
Further information	<p>Land exchanges can also take place for nature protection or landscape management purposes.</p>

Settlement programmes TOP	
Description	Very small-scale farmers, farms lacking in development potential, refugees or farmers who farm in unsuitable areas (e.g. near or in urban areas) are relocated. Producer cooperatives and machinery pools can be established and, importantly, the means of production can be used in a more viable way.
Requirements	<ul style="list-style-type: none"> • Suitable land available in places with good growth potential and access to the market, particularly in respect of infrastructure such as road networks, water and energy supplies etc. • Integration of the new settlements into the existing administrative structures (regional authorities, advisory services, chambers of commerce etc.) must be ensured. • Efficient public authorities and, if applicable, settlement societies • Adequate budget resources
Objective	<ul style="list-style-type: none"> + Improve the economic basis for individual farms + Enable farmers to generate an adequate income and create long-term prospects in agriculture by giving them a new start + Create agglomeration benefits across various farms with complementary specialisations
Possible negative effects	<ul style="list-style-type: none"> – Social tensions within the existing and/or new settlement structure due to a lack of consensus of interests between all the parties involved – Existing structures such as public authorities, agricultural advisory services or the road network could become overburdened – Emigration – Nepotism and corruption
Further Information	It is extremely important for settlement societies to share experiences with each other and with the farmers concerned.

Grants for performing municipal duties

[TOP](#)

Description	This involves municipalities paying farmers grants to take over municipal or public duties. These duties may include managing green spaces in towns or villages, maintaining and looking after the road network or drainage systems, providing energy (especially renewable wood energy ⁹⁵), working in municipal forests or on municipal farms.
Requirements	<ul style="list-style-type: none"> • A properly functioning administration and control system • Technical resources on the farms concerned (e.g. tractors and agricultural implements) and willingness on the part of the farmers to invest in these resources
Objective	<ul style="list-style-type: none"> + Strengthen local economic structures and support structural change + Revive local economies by incorporating farms into local economic cycles + Greater degree of utilisation and therefore more economic deployment of the human and technical resources available on farms, including at quieter times + Secure additional sources of income + Reduce the burden on municipalities, with less equipment needed at depots
Possible negative effects	<ul style="list-style-type: none"> – Lack of transparency in awarding grants and problems with non-performance of contracts – Reliability of contract performance by contractors could be jeopardised if agricultural work has to take priority due to weather conditions
Further information	Farmers can also provide manpower and machinery jointly (see Machinery rings)

⁹⁵ See Hoffmann, Brüntrup, Dewes 2016.

Subsidies for providing non-rural services

[TOP](#)

Description	Farms receive subsidies for services they provide in non-rural areas of the economy, such as tourism, the preservation of protected areas, road building, energy, social services and facilities for the elderly and enterprises for the disabled.
Requirements	<ul style="list-style-type: none"> • A properly functioning administration and control system • Technical and human resources on the farms concerned and willingness on the part of the farmers to invest in these resources
Objective	<ul style="list-style-type: none"> + Strengthen local economic structures and support structural change + Revive local economies by incorporating farms into local economic cycles + Greater degree of utilisation and therefore more productive use of the human and technical resources available on the farms, including at quieter times + Secure additional sources of income + Reduce the burden on municipalities
Possible negative effects	<ul style="list-style-type: none"> – Lack of transparency in awarding grants and problems with non-performance of contracts – Reliability of contract performance by contractors could be jeopardised if agricultural work or operational duties have to take priority.
Further information	

Subsidies for investments in non-agricultural sectors of the economy		TOP
Description	Financial subsidies are provided to encourage new craft, service and industrial enterprises to settle in rural areas, bringing alternative employment opportunities to farm workers or family members. Land or facilities on existing farms can also be used (depots, temporary storage, workshops etc.).	
Requirements	<ul style="list-style-type: none"> • Market demand in a growing rural economy • Policy makers and public authorities need clear targets on rural economic development in non-agricultural sectors • Adequate budget resources 	
Objective	<ul style="list-style-type: none"> + Support structural change within agriculture, particularly by creating jobs, additional earning opportunities etc. + Improve farmers' incomes + Develop new services to ensure more consistent use of farm resources + Create future prospects in rural areas for the next generation + Achieve long-term improvement in economic development + Boost purchasing power in rural areas 	
Possible negative effects	<ul style="list-style-type: none"> – The new economic activities could divert land and resources away from the agricultural sector – Seasonal labour shortages – Rising wage costs 	
Further information	Rural structural policy with targeted investment subsidies plays a key role in bringing about socially acceptable structural change. It opens up entrepreneurial opportunities outside agriculture for the younger generation.	

Compensatory allowance for landscape management TOP	
Description	The compensatory allowance for landscape management compensates for costs or loss of income and other disadvantages on farmland in mountain regions and other disadvantaged agricultural zones (e.g. wetlands or steeply sloping areas). It therefore promotes arable or livestock farming practices that preserve a certain agricultural structure that would not be competitive without support (e.g. preserving mountain pastures or managing grassland in protected areas).
Requirements	<ul style="list-style-type: none"> • Efficient administration system • Transparent payment structure • Monitoring and control system for the agricultural production processes supported • Adequate budget resources
Objective	<ul style="list-style-type: none"> + Secure the sustainable use of agricultural land in disadvantaged areas + Preserve the cultural landscape + Promote more sustainable farming practices
Possible negative effects	<ul style="list-style-type: none"> – Preserves non-competitive structures and prevents modernisation in agriculture – High operational risk that could potentially threaten the existence of farmers if premium payments were to cease – Nepotism and corruption
Further information	Landscape management programmes that pay farmers for specific services are more effective.

5.2.2 Instruments for promoting farms and the business structure

Subsidies for young farmers and farm transfers TOP	
Description	Payments to natural persons below a certain age starting out as farmers. The subsidy is only given for a certain number of years.
Requirements	<ul style="list-style-type: none"> • Clear development prospects for agriculture and participation of farms • The older generation must be willing to pass on the farm • Efficient administration system • Support for advisory services
Objective	<ul style="list-style-type: none"> + Secure long-term agricultural production through a farming economy + Preserve a family business structure + Improve national security of supply in the long term
Possible negative effects	<ul style="list-style-type: none"> – Bandwagon effects – Structural change restricted
Further information	Young farmers' decisions should be encouraged by developing properly functioning market structures .

Tax relief on farm transfers

[TOP](#)

Description	A lower inheritance tax on the transfer of farms to the younger generation, provided the transfer guarantees the continuation of the farm and preserves the jobs for a certain period of time, for example.
Requirements	<ul style="list-style-type: none"> • Tax legislation and a properly functioning tax system • Formalised requirements for the productive use of farm assets
Objective	<ul style="list-style-type: none"> + Secure long-term agricultural production and processing + Preserve a family business structure + Preserve jobs + Improve national security of supply in the long term
Possible negative effects	<ul style="list-style-type: none"> – Short-term reduction in tax revenues – Back taxes could be payable if the requirements are not met, leading to loss of the farm
Further information	Inheritance tax only affects family businesses, not legal entities.

Smallholder's premium TOP	
Description	The smallholder's premium is a premium paid to farms under a certain maximum size.
Requirements	<ul style="list-style-type: none"> • Targeted registration of small farms • Efficient administration system • Adequate budget resources
Objective	<ul style="list-style-type: none"> + Increase the competitiveness of smaller farms compared with large-scale operations (economies of scale) + Preserve a family business structure
Possible negative effects	<ul style="list-style-type: none"> – Market distortion – Risk of reverse structural change (splitting of farms) – Nepotism and corruption
Further information	Besides being paid the premium, small-scale farmers can also be exempted from certain bureaucratic requirements, e.g. relating to social or environmental policy.

Promoting farmer organisations TOP	
Description	Farmer organisations can include purchasing and sales cooperatives, producer rings and organisations, machinery rings and farmers' associations (see chapter 4.3.1.).
Requirements	<ul style="list-style-type: none"> • Legal frameworks (laws on cooperatives, taxation, competition and voluntary associations) that support farmers' self-help organisations and do not discriminate against other entrepreneurial joint ventures (level playing field) • Skilled personnel to manage the organisation and staff its various bodies (governance structures) • Properly functioning external audit structures (e.g. via regional or national auditing associations)
Objective	<ul style="list-style-type: none"> + Promote the integration of agriculture into the food value chain + Establish and secure market links for individual farms and reduce their transaction costs through: <ul style="list-style-type: none"> ✓ economies of scale ✓ economies of skills (e.g. expertise) ✓ economies of scope (e.g. expanding core competencies and synergy effects) + Increase members' incomes + Improve the range of services for farmers + Reduce competitive disadvantages for farmers + Joint trading and storage infrastructure + Disseminate innovations more quickly + (Network structures to strengthen individual farmer organisations)
Possible negative effects	<ul style="list-style-type: none"> – Poorly functioning audit structures could result in members losing trust in their organisation – Farmers' influence in their cooperative could be diminished – Supply chain dictates prices to agricultural producers – Farmers could find it hard to market their own products directly
Further information	<p>International development cooperation can support the various types of farmer organisations by providing advisory services (e.g. on setting up governance and auditing structures).</p> <p>The European cooperative model is often transferred to developing and emerging countries purely for the purpose of attracting financial incentives, without respecting local circumstances. However, there is also a lack of deeper conviction and initiative on the part of the farmers involved. The governance problem is also a serious one, with external audits rare and members of these bodies often inadequately trained.</p>

5.2.3 Instruments for promoting the integration of agriculture into the food value chain

Regulatory framework for cooperation in supply chains TOP	
Description	General trade and contract law is systematically adapted to the special aspects of the food value chain (payment terms, quality standards, jurisdiction etc.).
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources to design and implement the regulatory framework • Jurisdiction or an arbitration board
Objective	<ul style="list-style-type: none"> + Promote the equal integration of agriculture into the food value chain + Provide a reliable negotiation framework for farmers and their market partners + Transparent terms of business for all links in the value chain
Possible negative effects	<ul style="list-style-type: none"> – Actors overstretched with too many legal and bureaucratic requirements – Discriminates against smaller-scale farmers and processors who have no access to proper legal advice
Further information	<p>Agricultural, trade and food laws are dealt with by separate legal institutes or faculties. Farmer organisations should help their members by providing legal advice.</p> <p>International development cooperation can help to shape the regulatory framework by bringing in agricultural policy advisers and organising knowledge-sharing and training events. The discrimination faced by smaller-scale farmers and processors can be counteracted by supporting farmer and cooperative organisations.</p>

Rules for concluding purchasing and supply contracts		TOP
Description	Trade and contract law can be enforced by providing standardised purchase and supply contracts that are based on the relevant laws and regulations. This concerns contracts between entrepreneurs, private individuals (consumers) and between entrepreneurs and private individuals.	
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources to implement the rules • Jurisdiction or an arbitration board • Quality definitions • Regulated and legally protected payment structures • Participation of the various actors involved, particularly farmers' interest groups 	
Objective	<ul style="list-style-type: none"> + Promote the equal integration of agriculture into the food value chain + Legal certainty + Ensure compliance with payment terms + Eliminate fraud 	
Possible negative effects	– The individual contracting parties could be disadvantaged if not properly advised	
Further information	<p>Farmers and their associations must propose and push through their own solutions.</p> <p>International development cooperation can help shape purchase and supply contracts by bringing in advisers and organising knowledge-sharing and training events. The discrimination faced by smaller-scale farmers and processors can be counteracted by supporting farmer and cooperative organisations. International development cooperation can ensure that supply contracts taken out between small-scale farmers and downstream businesses in the value chain (contract farming) are socially acceptable. By promoting DFS, it can help to improve access to partial downpayments for customers, prefinancing of inputs by cooperatives and settlement on delivery.</p>	

Establishing arbitration tribunals

[TOP](#)

Description	These are non-governmental courts which sit exclusively by agreement of the parties to a dispute and issue judgments known as arbitration awards. Such agreements generally take the form of a contract between the parties known as an arbitration agreement. The judgment is generally made binding on the parties in the general terms of business. It can be subjected to judicial review.
Requirements	<ul style="list-style-type: none"> • Arbitrators should be locally recognised authorities
Objective	<ul style="list-style-type: none"> + Resolve disputes more quickly than is possible through the court system + Lower costs
Possible negative effects	<ul style="list-style-type: none"> – Independence of arbitrators cannot always be guaranteed
Further information	Arbitration tribunals must earn the trust of market parties, which takes time.

Introducing binding commercial categories and marketing standards TOP	
Description	Introducing binding commercial categories enables certain agricultural products to be standardised in accordance with certain properties (e.g. size, moisture content, smell/taste, amount, length, gradings etc.). In addition, marketing standards lay down presentation and labelling criteria.
Requirements	<ul style="list-style-type: none"> • Generally binding market system (commercial category regulations) that makes compliance compulsory for all farms and businesses in the supply chain • Enforcement by national authorities or, if necessary, private organisations with regional and local branches • Both the state authorities and the private organisations must have the human and technical resources to carry out spot checks • Quality Management Systems (QMS) for farms and businesses
Objective	<ul style="list-style-type: none"> + Promote the integration of agriculture into the food value chain + Ensure transparency and certainty in respect of product properties throughout the entire supply chain from farm to consumer + Provide greater financial incentives for agricultural producers to improve the quality of their products (consumer protection) – Increase producer prices by differentiating payments according to generally applicable, comparable criteria + International commercial categories and marketing standards facilitate international trade and promote exports
Possible negative effects	<ul style="list-style-type: none"> – Spoilage of non-compliant agricultural products – Increased costs in interregional trade with differing commercial categories and marketing standards – Excludes actors in the third, fourth and fifth rural “worlds”
Further information	<p>Unlike in industrialised countries, in which almost all agricultural products must meet certain quality standards, the bulk of products marketed in developing and some emerging countries are not (yet) subject to commercial categories and marketing standards. There is often little incentive to increase product quality for consumer protection purposes, e.g. by using fewer pesticides or reducing aflatoxins by storing goods properly post-harvest, since higher quality products do not usually attract a price premium on local markets.</p> <p>International development cooperation can promote the benefits of quality, environmental and social standards with appropriate awareness-raising measures for government bodies, producers and consumers.</p> <p>The government authorities and any private bodies responsible for formulating, introducing and monitoring commercial categories and marketing standards can be supported by bringing in qualified advisers. In addition, international development cooperation can also promote compliance with the standards by farmers by providing training or assisting with the establishment of QMSs. This can also be done in collaboration with farmer organisations or the private sector.</p> <p>In developing countries, introducing binding commercial categories and marketing standards is of limited use. It depends on the availability of local resources and is usually only done for goods produced for export. Establishing such a system and checking that locally marketed goods comply with it is extremely complex and requires the authorities or private organisations responsible to earmark considerable institutional and technical resources. Due to the lack of access to inputs and education, many farmers are unable to meet the complex requirements of such systems. This must always be borne in mind when considering introducing these systems.</p>

Introducing voluntary commercial categories and marketing standards TOP	
Description	<p>Farmers and trading partners along the supply chain agree voluntary arrangements customary in the sector, in line with standard commercial terms and conditions of business. These generally encompass basic trading arrangements, quality parameters, expertise and arbitration.</p> <p>Introducing voluntary commercial categories enables certain agricultural products to be standardised in accordance with certain properties (e.g. size, moisture content, smell/taste, amount, length, gradings etc.). In addition, marketing standards lay down presentation and labelling criteria.</p>
Requirements	<ul style="list-style-type: none"> • Clear, transparent information between farmers and their customers • Quality Management System (QMS) for farms and businesses • Arbitration body for disputes (see Arbitration)
Objective	<ul style="list-style-type: none"> + Promote the integration of agriculture into the food value chain + Ensure transparency and certainty in respect of product properties throughout the entire supply chain from farm to consumer + Provide greater financial incentives for agricultural producers to improve the quality of their products (consumer protection) + Increase producer prices by differentiating payments according to generally applicable, comparable criteria
Possible negative effects	<ul style="list-style-type: none"> – Spoilage of non-compliant agricultural products – Excludes actors in the third, fourth and fifth rural “worlds”
Further information	See “Further information” under Introducing binding commercial categories and marketing standards .

See [Chapter 6.7.1](#)

Cooperative advertising of regional products TOP	
Description	<p>State advertising of local products includes all sales promotion measures controlled or initiated by the public sector intended to encourage market participants to buy certain regional products. These measures not only comprise conventional financial assistance for promoting the sale and purchase of regional products but also include the provision of simple, qualified information on geographical provenance.</p> <ul style="list-style-type: none"> • • Generic names • Designations of origin • Geographical information • Quality marks issued by state bodies to promote sales <p>Consumers rate the same products with different international provenance differently. Businesses find it easier to sell regional products in places where consumers have emotional ties to the region.</p>
Requirements	<ul style="list-style-type: none"> • Must be compatible with EC or world trade law (WTO conformity) • Clear definition of the products being promoted (e.g. the degree of regional value), e.g. in the form of a statutory definition of the term “regional provenance” • The product characteristics must be clearly recognisable • A properly functioning administration and control system
Objective	<ul style="list-style-type: none"> + Promote the integration of agriculture into the food value chain + Increase sales opportunities and revenues of domestic businesses in the competitive international market + Increase consumption of certain foods + Raise awareness of certain foods + Increase consumer confidence in regional production + Restore consumer confidence after severe market disruptions + Respect tradition and preserve genetic diversity
Possible negative effects	<ul style="list-style-type: none"> – Distortion of competition by favouring certain products – Promotion of products that have obvious deficits compared with others and that are inferior to international products – Abuse arising from imported products being sold as domestic products – Regional provenance undermined by products being bought in from elsewhere
Further information	

Certification		TOP
Description	<p>Certification is a process used to provide evidence of compliance with certain quality requirements, in the form of binding or voluntary quality, environmental or social standards. Certified products are labelled with a quality seal or mark (graphic or written product labelling).</p> <p>Technical implementation on the farm and at the processing stage is monitored regularly by state or private inspection institutions.</p>	
Requirements	<ul style="list-style-type: none"> • A properly functioning administration and control system • Certification systems should be developed jointly with the relevant actors in the value chain • CD measures in the form of a long-term change management approach promoted and implemented jointly with the purchasing enterprises and branded companies • Purchaser and consumer demand • Broad acceptance and recognition of the seal 	
Objective	<ul style="list-style-type: none"> + Secure the natural resource and production base in the long term + Promote environmental (or social) sustainability in supply and value chains + Open up new sales markets + Promote regional products + Consumer protection 	
Possible negative effects	<ul style="list-style-type: none"> – Abuse if control mechanisms not in place 	
Further information	Certification systems must be developed jointly with farmer organisations.	

Monitoring cost grant TOP	
Description	Monitoring cost grants are paid to farmers and businesses along the value chain for a specific <u>period of time</u> to help them pay the monitoring costs associated with certification .
Requirements	<ul style="list-style-type: none"> • A properly functioning administration and control system • Adequate budget resources
Objective	+ Help farmers and businesses along the value chain to gain certification
Possible negative effects	– Abuse if control mechanisms not in place
Further information	

Value chain platforms and multi-stakeholder dialogues TOP	
Description	Value chain platforms bring together all the actors directly or indirectly involved in a value chain (e.g. farmers, processors, marketers, regional service providers and support structures).
Requirements	<ul style="list-style-type: none"> • In-depth value chain analyses to identify the actors directly and indirectly involved • Actors must be willing to dialogue
Objective	<ul style="list-style-type: none"> + Promote the integration of agriculture into the food value chain + Improve actors' understanding of their contracting partners' business structures + Improve the range of services for the actors in the value chain + Improve market position and marketing + Increase direct marketing (e.g. as part of contract farming)
Possible negative effects	<ul style="list-style-type: none"> – Dialogue platforms miss out certain key actors – Ownership of the platform by local actors is limited
Further information	International development cooperation can set up value chain platforms, thus helping to increase their effectiveness.

5.2.4 Instruments for securing property/ usage rights

Regulatory framework for protecting ownership of agricultural land TOP	
Description	General property law is expanded to include sections on buying, selling and inheriting agricultural and forestry land and entire farms and businesses (land-use regulations). This is usually associated with the introduction of a country-wide property/land register .
Requirements	<ul style="list-style-type: none"> • Traditional land rights and participation of all directly and indirectly involved local actors must be respected • Public authorities with sufficient technical and institutional resources to design and implement the regulatory framework • Jurisdiction or an arbitration board • Clearly defined responsibilities for national and local authorities and jurisdiction with regard to merging parallel traditional and modern systems
Objective	<ul style="list-style-type: none"> + Enshrine farmers' ownership of land in law + Increase incentives for farmers to implement long-term investments and environmental protection measures + Improve access to financial services (e.g. by enabling land to be used as collateral) + Improve access to field-based subsidy payments + Create opportunities for farmers to sell farmland + Create opportunities to raise property taxes
Possible negative effects	<ul style="list-style-type: none"> – Traditional, non-documented land rights and land management systems not respected – Traditional users driven out or forced to resettle elsewhere to the benefit of national and international investors – Necessary structural change restricted (e.g. where strict splitting of real estate is practised)
Further information	<p>The development of efficient, sustainable agriculture is almost impossible without secure land and land use rights. Changes to land law and policy should always be formulated with a high level of involvement of local actors.⁹⁶</p> <p>In many developing and emerging countries, state land law, which is oriented towards private ownership, contrasts with locally rooted traditional or indigenous land rights, which are based on common use. Traditional land rights and land management systems generally regard land as the common property of a defined group of people. Traditional land rights may relate to particular plots of land, common land (e.g. grazing land) or the use of natural resources. Population growth, the abandonment of subsistence farming and increasing production for the market cannot be controlled with traditional land rights. These rights are also unsuitable for controlling migration and the arrival of external land users. Purchasing and leasing large areas of land, on the other hand, also conflict with self-sustainable development. A balanced ownership and land policy is needed.⁹⁷</p> <p>International development cooperation can help with the formulation of a regulatory framework for protecting ownership of agricultural land by bringing in international advisers. To ensure that traditional land rights and land management systems are adequately respected in the formulation of modern systems, international development cooperation uses instruments such as participative spatial and land use planning. This provides additional protection for existing land rights, prevents potential conflicts and helps prevent the various sectoral ministries'</p>

⁹⁶ See Wiggins et al. 2015: 30.

⁹⁷ See GIZ 2013: 86f.

planning activities from overlapping. International development cooperation can also play an important role in analysing practical experiences and organising professional training, dialogue and networking events adapted to the specific needs of the area concerned.

Introducing a country-wide property/land register TOP	
Description	<p>A property/land register is a register or collection of records with spacial relevance. More specifically, a property/land register is a country-wide register of all plots of land (surveyed parcels or other plots) with descriptions. The information held in the register is compiled on the basis of geodata. The property/land register may generally be viewed by anyone who can prove a legitimate interest.</p> <p>A land register consists of two parts. The descriptive part (the property register) contains the description of the plot, its geographical situation and address, the names of the owners, the type of use and the size of the plot. The second part is the parcel or cadastral map. Its scale can vary between 1:500 and 1:5000, depending on the level of detail required. The titles and encumbrances associated with each plot of land are also documented.</p> <p>Changes can be agreed between two parties, for example purchases, sales, leasing or mortgaging, or take place as a result of social events such as a birth, death, marriage or divorce.⁹⁸</p>
Requirements	<ul style="list-style-type: none"> • Regulatory framework for protecting ownership of agricultural land which also respects traditional land rights. • Public authorities (land registry or surveyor's office) with sufficient technical and institutional resources to record all changes that take place in connection with a plot of land • Technical facilities to record geodata (varies depending on the scale of the cadastral map)
Objective	<ul style="list-style-type: none"> + Enshrine farmers' ownership of land in law + Increase incentives for farmers to implement long-term investments and environmental protection measures + Improve access to financial services (e.g. by enabling land to be used as collateral) + Improve access to field-based subsidy payments + Create opportunities for farmers to sell farmland + Create opportunities to raise property taxes + Designate water and drinking water protection areas and ecological focus areas
Possible negative effects	<ul style="list-style-type: none"> – Traditional, non-documented land rights and land management systems not respected – Traditional users driven out or forced to resettle elsewhere to the benefit of national and international investors – Necessary structural change restricted (e.g. where strict splitting of real estate is practised)
Further information	<p>Land register systems differ greatly worldwide. One method involves registering all land titles in a particular area. Another method involves keeping a written record of changes to ownership only, or registering property rights. Most systems in use today use the title registration method. However, many countries do not have a land register at all.⁹⁹</p> <p>International development cooperation can help with the introduction of a property/land register by bringing in international advisers. The advisers must also ensure that traditional land rights and land management systems are respected. International development cooperation can also play an important role in analysing practical experiences and organising professional training, dialogue and networking events (see also Multi-stakeholder dialogues) adapted to the specific needs of the area concerned.</p>

⁹⁸ See GIZ 2013: 105f.

⁹⁹ See GIZ 2013: 105f.

Transparent inheritance law with low inheritance taxes TOP	
Description	Inheritance law consists of the subjective right to leave or inherit assets. In its objective sense, inheritance law sets out all the legal norms relating to the transfer of assets by one person (the testator) to one or more other persons on his or her death.
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources to implement the rules • Jurisdiction or an arbitration board • A properly functioning property/land register • A transparent tax system
Objective	<ul style="list-style-type: none"> + Preserve rural family farms and farm structures by providing tax relief + Provide farmers with assets
Possible negative effects	<ul style="list-style-type: none"> – Other heirs not inheriting or continuing the farm will be worse off
Further information	International development cooperation can help with the formulation of transparent inheritance law by bringing in international advisers.

Limiting the splitting of real estate TOP	
Description	The law on limiting the splitting of real estate states that the heirs who will continue to run the family farm are the sole inheritors of the farm. In return they are often required to provide the former farm managers (usually the parents) with a pension.
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources • Jurisdiction or an arbitration board • A properly functioning property/land register • Transparent assessment scheme for the value of farms that does not threaten the existence of the farm once inheritance claims have been settled
Objective	<ul style="list-style-type: none"> + Preserve family farms and family farm structures (ensuring their continued existence) + Protect farms from financial emaciation as a result of the atomisation of field structures
Possible negative effects	<ul style="list-style-type: none"> – Other heirs are worse off than the heirs inheriting the farm
Further information	Farm succession is a critical aspect in the preservation of individual farms and family farm structures.

Strengthening the rights of tenant farmers		TOP
Description	<p>A tenant farmer needs legal certainty in order to manage his or her time-limited lease properly. Land tenancy laws regulate the duration of the lease, the rent and compensation for any investments made between the lessor and the tenant.</p> <p>The lessor and the tenant enter into a tenancy agreement in which the lessor agrees to grant the tenant the right to use the leased object and enjoy the fruits thereof (if regarded as yields under the principles of good farming practice) during the tenancy period.</p>	
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources • Jurisdiction or an arbitration board • Properly functioning property/land register and contract law 	
Objective	+ Legal certainty and security of investment for the tenant	
Possible negative effects	– Loss of value of the land and therefore loss of capital for the owner if the tenant has managed the farm poorly	
Further information	<p>If the tenant manages the farm well, the owner can sell the land at a higher price. To compensate the tenant, he or she should be given the right of first refusal in the event of a sale. Traditional farm management systems can be legalised with adapted tenancy law.</p> <p>International development cooperation can help with the formulation of land tenancy law by bringing in international advisers. It can also strengthen the advisory services farmer organisations provide for their members.</p>	

5.2.5 Instruments for improving the infrastructure of rural areas

Developing market infrastructures TOP	
Description	Farmers themselves invest jointly in and manage processing, drying, cleaning and storage facilities etc. (usually on a cooperative basis). This often involves considerable investments in buildings, logistics and management of storage and sales facilities.
Requirements	<ul style="list-style-type: none"> • Clear management concept geared towards farmers' needs • Adequate budget resources • Close cooperation with, and if necessary involvement of, the processing industry
Objective	<ul style="list-style-type: none"> + Involve individual farms in volume markets, for example by organising volume sales jointly + Improve market position and marketing with inter-farm cooperation
Possible negative effects	<ul style="list-style-type: none"> – Investments in market infrastructures fail to meet demand and are not sufficiently used – Management and supervision quality does not meet market requirements
Further information	Cooperatives and producer groups are independent enterprises and therefore have to be run competitively. They provide member farmers with indirect support in the form of favourable input and sales prices.

Promoting product and commodity exchanges TOP	
Description	Establishment and support of commodity and futures exchanges at which agricultural goods are traded, and collection and sharing of market data (market price information systems). Banks and insurance companies can provide long-term support for establishing these exchanges.
Requirements	<ul style="list-style-type: none"> • Suitable facilities • Transparent exchange supervision and administration • Commodity futures exchanges generally require government approval and control and need a solid financial foundation for their clearing business
Objective	<ul style="list-style-type: none"> + Simplify purchasing and sales decisions + Simplify financial support for the value chain by rural banks
Possible negative effects	<ul style="list-style-type: none"> – The exchanges are controlled by dealers, so farmers do not receive fair prices – Corruption and personal gain – Distortions caused by exchange manipulations that could threaten the livelihood of all market participants
Further information	The worldwide food price crisis has significantly boosted the relevance of commodity futures exchanges to the agricultural sector. The trend towards price hedging has intensified.

Promoting public and private investment in the road network TOP	
Description	Road building is a key element in promoting the rural economy. Access to farms and fields is in both the public and private interest.
Requirements	<ul style="list-style-type: none"> • Political will to develop and maintain rural transport infrastructure • Legal certainty • Secure financing • Clarification of responsibility for maintenance work • Inclusion of municipalities
Objective	<ul style="list-style-type: none"> + Easier market access, including for remote farms + Reduce operating costs by reducing travel times + Enable transportation of larger quantities + Live animal transports + Quality assurance and consumer protection
Possible negative effects	– Lack of follow-on investments for maintaining the road network
Further information	<p>Maintaining the road network requires significant effort and follow-on investment.</p> <p>Development banks and international financial cooperation can provide financial support for the expansion of the road network in developing and emerging countries.</p>

Promoting water supplies and sewerage systems TOP	
Description	Water supplies and sewerage systems are a key instrument in promoting the ability of rural areas to develop and integrate. They are not only significant for the farms themselves but also for providing households with drinking water and processing companies with industrial water.
Requirements	<ul style="list-style-type: none"> • Political will to develop and maintain rural water infrastructure • Laws and legal standards on the sustainable use of water (e.g. water abstraction rights or guidelines for the safe use of wastewater and sewage sludge) • Secure financing, e.g. in the form of state grants for investing in and maintaining the systems • Technical solutions adapted to local circumstances • Safeguarding and maintenance of systems by local authorities, farmers or water user groups
Objective	<ul style="list-style-type: none"> + Increase agricultural production and productivity all year round independently of weather conditions + Provide a hygienic supply of drinking water for households, crops and livestock + Drainage and wastewater pipes to combat salinisation, pollution and contamination (environmental and consumer protection) + Promote the settlement of food companies in decentralised locations + Promote employment
Possible negative effects	<ul style="list-style-type: none"> – Overuse of water resources – Salinisation of soils – Conflicting water abstraction arrangements – Management and maintenance errors with far-reaching consequences such as pollution and contamination of systems and springs along the supply network
Further information	<p>Development banks and international financial cooperation can provide financial support for the expansion of the water and sewerage infrastructure in developing and emerging countries.</p> <p>In addition, there are various tried-and-tested integrated rainfed concepts which can boost productivity, such as in land use planning, water-conserving cultivation practices and measures to improve water storage, treatment and retention in soils. Cooperation in the areas of technology and human resources can play a role in making water use more sustainable and strengthening local water user groups with measures such as training for public and/or private sector agricultural advisory services. An important factor in rural areas, particularly in developing countries, is the establishment of self-organising and self-financing organisations (cooperatives) of water users to help ensure a secure water supply in the long term.</p>

Securing the energy supply		TOP
Description	<p>Securing the energy supply is a key instrument in promoting the development of rural areas. This is not only important for the farms themselves but also for households and, in particular, processing companies. Securing the energy supply can on the one hand be given a boost by supporting public or private electricity providers.</p> <p>High-tech farms and labour-intensive branches of industry with a large number of small machines are particularly dependent on a reliable energy supply. These include dairy farms, dairies, direct marketers and virtually the entire food sector.</p> <p>Furthermore, the absence of a reliable energy supply impacts negatively on the supply of drugs, participation in economic and political processes and access to information via modern communication and information channels.</p>	
Requirements	<ul style="list-style-type: none"> • Political will to develop and maintain a rural energy infrastructure • Secure financing, e.g. in the form of state grants for investing in and maintaining the supply networks • Qualified staff to plan the network infrastructure • Qualified staff to operate the power stations in the long term (network operators) • Technical solutions adapted to local circumstances • Protection and maintenance of electricity networks 	
Objective	<ul style="list-style-type: none"> + Security of supply + Promote the settlement of food companies in decentralised locations + Promote employment + Reduce post-harvest losses and improve quality (consumer protection) + Reduce the use of natural energy sources that can impact negatively on health (e.g. wood energy) + Improve ICT provision 	
Possible negative effects	<ul style="list-style-type: none"> – Regular or lengthy power failures can threaten the existence of certain enterprises – High maintenance costs of an extensive network with very remote customers 	
Further information	<p>Development banks and international financial cooperation can provide financial support for the expansion of the energy infrastructure in developing and emerging countries. Cooperation in the areas of technology and human resources can be helpful, for example by providing training for staff.</p>	

Privatising the infrastructure for transportation, energy and water

[TOP](#)

Description	<p>In the broader sense of the word, privatisation means transferring activities that were previously run by the state (in this case, transport and the energy and water supplies) into private hands. Privatisation of the transport, energy and water infrastructures is an option when the state has insufficient financial resources to finance and/or maintain the supply systems, for example.</p> <p>A distinction is made between three types of privatisation:</p> <p><i>Material privatisation:</i> The state withdraws from the production of goods and activities previously in public hands are transferred to the private sector (the most comprehensive form of privatisation).</p> <p><i>Functional privatisation:</i> The state contracts private companies to carry out activities previously in public hands.</p> <p><i>Formal privatisation:</i> The activity remains the responsibility of the state but the legal form is converted into a private company.</p>
Requirements	<ul style="list-style-type: none"> • Secure financing by the private enterprises • Qualified staff to plan the network infrastructure • Qualified staff to operate the power stations in the long term (network operators) • Technical solutions adapted to local circumstances • Protection and maintenance of electricity networks
Objective	<ul style="list-style-type: none"> + Security of supply + Improve efficiency + Expand the network <p>(See the objectives of state security of supply described above)</p>
Possible negative effects	<ul style="list-style-type: none"> – Higher prices compared with a state-run energy supply – Marginalised groups could be disadvantaged – Social and environmental aspects neglected – Loss of democratic control – Optimisation of utility companies resulting in job losses
Further information	<p>The transfer of public tasks to private actors requires a higher level of state control.</p>

Developing specialist land and sea transport logistics

[TOP](#)

Description	<p>Logistics means all collaborative business processes involving the distribution of goods and services efficiently in terms of time, cost and quantities. A definition of logistics attributed to Plowman, known as the Seven Rights definition, is that logistics means ensuring the availability of the right goods, in the right amount, in the right condition, at the right place, at the right time, for the right customer at the right cost. The forms most relevant to the agri-food sector are acquisition, production, distribution and port logistics.</p> <p>An important example of specific logistics in the agri-food sector is the provision of a reliable refrigeration chain. The closed refrigeration chain forms the basis for all trade in fresh products. The five primary components of a refrigeration chain are: a) adequate packaging and refrigeration of fresh products, b) proper processing (especially the freezing of processed products), c) long- and short-term refrigerated storage, d) refrigerated transport and e) refrigerated sales through wholesalers and retailers.¹⁰⁰</p>
Requirements	<ul style="list-style-type: none"> • Coordination between the various actors in the supply chains • Qualified staff
Objective	<ul style="list-style-type: none"> + Secure the transport, storage, provision, acquisition and distribution of goods, people, money, information and energy + Improve market access for companies along the entire value chain + Process optimisation
Possible negative effects	<ul style="list-style-type: none"> – Marginalised groups could be disadvantaged
Further information	<p>Developing economies need disproportionately high investments in logistics and infrastructure.</p>

¹⁰⁰ See Kitinoja 2013: 2.

Developing ICT TOP	
Description	The development of an efficient ICT network is a key instrument in promoting the ability of rural areas to integrate into the economy. Private households are not the only actors to benefit from efficient, fast information and communication channels; ICT also plays an important role for farms and processing companies. The ICT network can either be developed by the state or the private sector.
Requirements	<ul style="list-style-type: none"> • Political will to develop and maintain a rural energy infrastructure • Secure financing, e.g. in the form of state grants for private companies for investing in and maintaining the networks • Qualified staff to plan the network infrastructure • Potential users need basic skills in the use of ICT
Objective	<ul style="list-style-type: none"> + Improve rural-urban linkage + Increase the attractiveness of rural areas for the next generation + Boost participation in information and innovation + Efficient, low-cost data exchange (e.g. for controlling plant diseases) + Innovation transfer
Possible negative effects	<ul style="list-style-type: none"> – Operational response times constantly become shorter – Use of ICT takes up time, manpower and capital – High demand for advice
Further information	<p>Partners in an ICT system are agricultural service providers, banks (e.g. MPesa in Kenya), advisory services and other development-related agricultural partners.</p> <p>International development cooperation can support the development of ICT as part of its financial or technical cooperation work.</p>

Market price information systems TOP	
Description	Farmers need access to up-to-date information on markets with relevance to them (e.g. farm inputs). Besides price information, a description of the offer and an estimate of how demand is likely to develop are also key. Market price information systems only achieve their purpose if they are constantly updated and are therefore relatively expensive to maintain.
Requirements	<ul style="list-style-type: none"> • A resilient support structure and financing concept • Online access for farms and all market participants wherever necessary • Secure public financing
Objective	<ul style="list-style-type: none"> + Improve the decision-making basis and transparency for producers + Appraisal of long-term market trends
Possible negative effects	<ul style="list-style-type: none"> – The food sector could use the price transparency in the supply chain to put pressure on producer prices
Further information	<p>An example of an international system of this kind is the Agricultural Market Information System (AMIS), which was launched by the G20 nations in response to the 2007/2008 price crises.</p> <p>International development cooperation can support the development of market price information systems, particularly in cooperation with farmer organisations.</p>

Support for professional information TOP	
Description	Up-to-date, comprehensive and targeted professional information on production factors, farm management, markets and social security via channels such as periodicals, books, brochures, the internet, radio and television.
Requirements	<ul style="list-style-type: none"> • Well-educated trade journalists • Private or public sector publishing companies and media centres
Objective	+ Provide a constant flow of targeted information to boost farmers' participation in innovation
Possible negative effects	<ul style="list-style-type: none"> – Journalistic independence compromised (state, enterprises) – Reporting is not neutral
Further information	<p>Public support should strengthen journalistic independence. Farmer organisations and cooperatives are particularly well placed to become disseminators of trade information, for example through rural (specialist) publishing companies and publications.</p> <p>International development cooperation can also support the publication and dissemination of specialised information via a range of media.</p>

5.3 Instruments for supporting agricultural science and research, education and training and for improving agricultural advisory services

Aim	5.3.1 Supporting practice-led agricultural science and research	5.3.2 Supporting education and training	5.3.3 Supporting advisory services for agricultural enterprises
	<u>Instruments for promoting agricultural science and research</u>	<u>Supporting education and training by establishing public agricultural schools and dual education programmes</u>	<u>Promoting public and private sector agricultural advisory services</u>
	<u>Supporting specialist agricultural research institutes</u>		<u>Safeguarding quality standards in agricultural advisory services</u>
			<u>Training opportunities for agro-input dealers</u>
			<u>Training opportunities for public authorities</u>
			<u>Supporting public information channels</u>

5.3.1 Instruments for supporting agricultural science and research

Instruments for promoting agricultural science and research TOP	
Description	<p>State support for universities and colleges specialising in subjects relevant to the agri-food sector in their countries universities and colleges are centres of teaching and research and are the scientific nucleus for efficient yet environmentally sound agriculture.</p> <p>As a rule, larger universities and colleges establish faculties for agriculture and forestry, horticulture, food science, fisheries, agri-environmental protection and consumer health protection.</p> <p>The results of the research carried out at these institutions are international public assets and should always be generally accessible. The benefits they deliver extend beyond regional boundaries. In addition, agricultural research aims at providing a continuous flow of knowledge and expertise to the farming world, the food and raw materials value chain and consumer science. Researchers work closely with local institutions and non-governmental organisations and are the driving force behind developments in this field.</p>
Requirements	<ul style="list-style-type: none"> • Provision of sufficient budget resources • Official recognition of degree programmes and the degrees they confer • International networking between universities and colleges • Dialogue with the business community and society on the content of degree programmes and research priorities • Continuous assessment of the number of graduates required
Objective	<ul style="list-style-type: none"> + Provide ongoing training for qualified specialists in agriculture, agri-food, public administration and science + Ensure targeted research into practical issues relevant to agriculture and the entire value chain and to environmental and consumer protection + Develop codes of good agricultural practice in respect of soil, water, climate, air and biodiversity in collaboration with practitioners (advisers, farmers and their interest groups)
Possible negative effects	<ul style="list-style-type: none"> – Number of graduates exceeds domestic demand and encourages emigration to industrialised countries – Failure to translate results of scientific research into practice
Further information	<p>Developing countries have a particular interest in applied science and research. This calls for an effective dialogue between higher education and the agricultural and agri-food sectors when deciding on the focus of individual agricultural faculties. Universities and colleges often form the nucleus of national advisory services for farmers and consumers, which is often seen in North America in particular, but also in Asian countries.</p> <p>International development cooperation can support the promotion of agricultural science and research by providing funding and advising on the institutional organisation of universities and colleges and by encouraging them to network at international levels. International development cooperation also plays an important role in translating the results of scientific research into practice.</p>

Supporting specialist agricultural research institutes

[TOP](#)

Description	<p>Establishing and supporting specialist research institutes has proved to be an effective way of consolidating research work in a targeted manner. These institutes specialise in areas such as animal and plant breeding, soil science, agricultural machinery, crop storage and processing, food science and consumer protection, animal disease control, development and testing of fertilisers and pesticides, and nature conservation and environmental protection. They all have the task of supporting policy makers, public administration, commercial practice and scientific research at universities.</p> <p>Specialist agricultural research institutes receive financial support from government departments, regional authorities, national and international research organisations and institutions. They also cooperate with private-sector research projects in the agri-food industry, agricultural machinery and the fertiliser and pesticide manufacturing industry, and with non-governmental organisations concerned with animal welfare, nature conservation and environmental protection.</p>
Requirements	<ul style="list-style-type: none"> • A national research policy and strategy which interacts with national parliaments and the agricultural and agri-food sectors and also takes consumer protection into consideration. • Longer-term funding of these research institutes needs to be safeguarded.
Objective	<ul style="list-style-type: none"> + Provide immediate assistance for problems with animal and plant diseases and nutrition, as well as for macroeconomic issues + Offer young graduates the opportunity of in-depth research work in specialist fields after leaving university.
Possible negative effects	<ul style="list-style-type: none"> – Too much emphasis on basic research and therefore loss of practical relevance
Further information	<p>Specialised research institutes in the agricultural and agri-food sectors need to be able to network effectively at the international level. If developing countries are unable to raise adequate resources for specialist research institutes in addition to supporting universities and colleges, they could benefit from cooperating with neighbouring countries with similar agricultural sectors or with organisations in industrialised countries.</p> <p>Of particular importance in the global network of agricultural research institutes in both developing and industrialised countries are the <i>National Agricultural Research Systems</i> (NARS), which are made up of national agricultural research institutes, agricultural colleges, private sector companies, non-governmental organisations and farmer organisations. The amount of funding and human resources which NARS are able to provide in different countries differs greatly. In industrialised countries such as Germany or the USA, agricultural research is financed in equal parts by the private and public sectors, whereas in developing countries more than 90 percent of funding comes from the public purse¹²⁴.</p> <p>Another key player in international agricultural research besides NARS is a group of fifteen research centres that are funded by the Consultative Group on International Agricultural Research.</p> <p>International development cooperation can also provide support for specialist agricultural research institutes in the form of funding and advice on institutional organisation and international networking. International development cooperation also plays an important role in translating the results of scientific research into practice.</p>

¹²⁴

See BMZ 2013: 11.

5.3.2 Instruments for supporting education and training

Supporting education and training by establishing public agricultural schools and dual education programmes TOP	
Description	Country-wide development of vocational and technical schools that teach all “green” professions (arable and livestock farming, forestry, horticulture, fishing, baking, butchery, milling, etc.). After leaving school (usually at secondary level), new entrants often embark on a two- to three-year apprenticeship on a farm or with a company in the value chain while simultaneously attending a vocational or technical school (the dual system). These schools can be run as boarding schools if the host farms or companies are too far away. The apprenticeship ends with a publicly recognised qualification (e.g. as a certified farmer). It can be continued over several years of further training, leading to a qualification such as Master or Engineer, which is generally associated with more in-depth specialisation.
Requirements	<ul style="list-style-type: none"> • National and regional governments must invest in schools’ educational infrastructure (buildings, teaching materials, specimens, school gardens, etc.) • Sufficient budget resources • Farming families must make it easier for their children to attend vocational and technical schools • Education and training require both sides to make a financial commitment • Codes of good agricultural practice in respect of soil, water, climate, air and biodiversity
Objective	+ Provide sound initial vocational training for new entrants with good knowledge and skills in arable, grassland, and livestock farming and farm machinery, as well as in business organisation, accounting and finance and a basic knowledge of market processes and sales
Possible negative effects	– Demand for well-trained professionals is also growing outside of agriculture, which can lead to an upturn in emigration
Further information	<p>Shorter-term training programmes that are also suitable for older farmers are common in developing countries and are very worthwhile. However, consistent and significant investment in broad initial vocational training is required to make the agricultural and agri-food sectors internationally competitive. Above all, this calls for more training of teachers who are familiar with the practices in these sectors but who are also able to incorporate the results of research and science into their curricula.</p> <p>International development cooperation in the areas of technology, human resources and finance can support the establishment of public agricultural schools and dual education programmes by providing financial assistance, human resources and technical advice.</p>

5.3.3 Instruments for improving agricultural advisory services

Promoting public and private sector agricultural advisory services TOP	
Description	Continuous improvement and updating of farmers' and farm workers' knowledge through public, semi-public or private sector advisory services. Advice is provided individually or in groups, via a range of media or online, usually in collaboration with the schools providing the initial agricultural education or with research and development institutions. In addition to general aspects of crop or animal production equipment, business management and finance, specialist advice is also provided on matters such as fertilisation, crop protection, animal feed and farm machinery. All advisory services cooperate with model farms that run trial fields and animal feed trials, and also with accounting and tax organisations and local technical schools.
Requirements	<ul style="list-style-type: none"> • Country-wide advisory services in both the public and private sectors • Advisers working in both the public and private sectors need access to information that reflects the standards of good agricultural practice • Access must be open to all farmers, regardless of the size of their farm • Clear responsibilities in public authorities • Sufficient budget resources • Farmers need to contribute themselves to ensure close cooperation with the advisory services
Objective	<ul style="list-style-type: none"> + Improve the transfer of knowledge to the agricultural sector + Diffuse innovation along the entire value chain + Boost production levels and improving farmers' incomes + Safeguard the natural resource base + Security of supply + Improve the dissemination of information in coordination with public and private sector advisory services, farmer organisations etc.
Possible negative effects	<ul style="list-style-type: none"> – Lack of practical relevance and too much emphasis on theory – Lack of acceptance by farmers on account of one-sided advice or state influence – Farmers have no access to the farm inputs recommended by the standards (e.g. due to a lack of funding instruments) – Political patronage and corruption resulting in certain farmers or regions being prioritised
Further information	<p>Advisory services must undergo a constant process of renewal in order to incorporate scientific and research results and to translate them into effective practices. Farmers' interest groups and cooperatives in particular need to create a climate of openness to advice or set up their own advisory services (e.g. advisory boards).</p> <p>Besides agricultural advice, advice on business administration and accounting also plays an important role for the development of farms, especially with a view to improving access to financial services.</p> <p>Promoting public and private sector advisory services is one of the main instruments of technical international development cooperation in the agricultural sector. This is done through local Capacity Development Strategies (CDS) and generally includes training programmes for these advisory services.</p>

Safeguarding quality standards in agricultural advisory services TOP	
Description	Improving the quality of public and private sector advisory services by introducing quality standards for the advice given. In this context it is important to also set up codes of good agricultural practice on soil, water, climate, air and biodiversity in collaboration with scientific and research institutes and advisory services.
Requirements	<ul style="list-style-type: none"> • National frameworks for safeguarding the quality of the advice given that are in line with national agricultural policy • Country-wide availability of standard-compliant information for public and private sector advisers • Clear responsibilities in public authorities
Objective	<ul style="list-style-type: none"> + Improve the efficiency of agricultural advisory services + Clarify the roles of the various public and private sector actors involved + Diffuse innovation along the entire value chain + Boost production levels and improving farmers' incomes + Safeguard the natural resource base + Improve the dissemination of information in coordination with public and private sector advisory services, farmer organisations etc.
Possible negative effects	<ul style="list-style-type: none"> – Failure of standards to meet the needs of the target group – Lack of practical relevance and too much emphasis on theory – Farmers have no access to the farm inputs recommended by the standards (e.g. due to a lack of funding instruments)
Further information	International development cooperation in the areas of technology and human resources can support the formulation and implementation of quality standards in advisory services. Adapting standards to the needs and capacities of the target group is particularly important in this area.

Training opportunities for agro-input dealers TOP	
Description	Continuous improvement and updating of the quality of advice given to agro-input dealers by public, semi-public or private sector advisory services, for example on the sustainable use of fertilisers and pesticides, animal feed or agricultural equipment.
Requirements	<ul style="list-style-type: none"> • Suitably qualified staff to deliver the training • Country-wide availability of training opportunities • Clear responsibilities in public authorities • Sufficient budget resources
Objective	<ul style="list-style-type: none"> + Improve agricultural advisory services + Diffuse innovation along value chains + Boost production levels and improving farmers' incomes + Protect the health of farmers and consumers + Protect natural resources + Improve the dissemination of information in coordination with public and private sector advisory services, farmers' organisations etc.
Possible negative effects	<ul style="list-style-type: none"> – Lack of practical relevance and too much emphasis on theory – Lack of acceptance on the part of agro-input dealers who provide biased advice that will benefit themselves
Further information	<p>The information passed on to farmers by agro-input dealers must be constantly updated to include scientific and research results so that they can be translated into effective practices. Another possibility would be to licence certified agro-input dealers, e.g. by awarding a quality mark.</p> <p>Training for agro-input dealers on good agricultural practice can also be provided through international development cooperation programmes.</p>

Training opportunities for public authorities TOP	
Description	Training opportunities for public authorities in the agri-food sector. The staff of public authorities is generally qualified in public administration but rarely possess in-depth knowledge of the specific needs of the agri-food sector.
Requirements	<ul style="list-style-type: none"> • Suitably qualified staff to deliver the training • Country-wide availability of training opportunities for staff • Clear responsibilities in public authorities • Sufficient budget resources
Objective	<ul style="list-style-type: none"> + Improved service delivery by public authorities by providing staff with a better understanding of the agri-food sector + Better management in public authorities
Possible negative effects	<ul style="list-style-type: none"> – Lack of practical relevance and too much emphasis on theory – Content taught does not meet the needs of the target group
Further information	International development cooperation in the areas of technology and human resources can support the planning and delivery of training opportunities for staff in public authorities.

Support for public sector advice channels TOP	
Description	Public advice channels provide professional information on production factors, business management, markets and social security via radio, television, internet or print media. See also Support for professional information .
Requirements	<ul style="list-style-type: none"> • National quality standards for advice • Knowledgeable trade journalists • Public sector publishing companies and media centres • Sufficient budget resources
Objective	+ Targeted and ongoing information to boost farmers' participation in innovation
Possible negative effects	<ul style="list-style-type: none"> – Reporting is not neutral – Risk of subliminal advertising of certain products and services
Further information	<p>Public funding must not undermine journalistic independence. Farmer organisations and cooperatives are particularly well placed to become disseminators of trade information by setting up rural (specialist) publishing companies and publications.</p> <p>International development cooperation programmes can also support the publication and dissemination of specialised information via a range of media.</p>

5.4 Agricultural social policy instruments

Aim	5.4.1 Reducing the risk of accidents	5.4.2 Securing old-age provision	5.4.3 Securing illness provision and reducing the risk of illness	5.4.4 Securing child-birth, accident, illness and old-age care	5.4.5 Promoting equality for female farmers	5.4.6 Supporting vulnerable or marginalised groups
	<p><u>Establishing a statutory or cooperative accident insurance scheme</u></p> <p><u>Introducing accident prevention and occupational safety regulations</u></p> <p><u>Promoting a social service to ensure continuation of farms in the event of accidents</u></p> <p><u>Establishing a liability insurance scheme</u></p>	<p><u>Establishing a statutory agricultural pension insurance scheme</u></p> <p><u>Introducing pensions for farmers giving up their businesses</u></p>	<p><u>Establishing a statutory agricultural health insurance scheme</u></p> <p><u>Establishing a country-wide healthcare advisory service</u></p>	<p><u>Establishing a statutory agricultural care insurance scheme</u></p>	<p><u>Introducing compulsory insurance for female farmers</u></p> <p><u>Supporting rural women's organisations</u></p> <p><u>Amending property and inheritance law</u></p> <p><u>Improving access to financial services</u></p>	<p><u>Supporting multi-stakeholder dialogues and formal networks</u></p> <p><u>Supporting interest groups for young people in rural areas</u></p> <p><u>Introducing statutory or voluntary social standards to secure employee rights</u></p> <p><u>Introducing binding social standards to protect against child labour</u></p> <p><u>Micro-insurance schemes</u></p> <p><u>Protecting minimum wages for migratory and seasonal workers</u></p> <p><u>Supporting nomadic forms of farming in mountainous and arid zones</u></p>

5.4.1 Instruments for reducing the risk of accidents

Establishing a statutory or cooperative accident insurance scheme TOP	
Description	<p>A statutory or cooperative agricultural accident insurance scheme covers the insured against occupational accidents. This scheme covers all costs incurred as a result of accidents suffered during land management, livestock farming, forestry, fishing or hunting activities. The insurance pays the cost of medical care for the accident victim, including rehabilitation, and, depending on the policy, provides social security for the surviving dependants in the event of a fatality. A distinction is made between compulsory and voluntary accident insurance schemes.</p> <p>An agricultural accident insurance scheme usually takes the form of a risk-sharing community organised as a cooperative, which is financed on a pay-as-you-go basis by the regular contributions of member businesses, in some cases supplemented with state grants. The financial contributions are determined on the basis of the size of the farm, livestock numbers and the number of staff.</p> <p>Some of the insurance premiums go towards accident prevention measures (e.g. safety guards on tractors and machines and in housing systems prescribed by law). Failure to practice accident prevention can be sanctioned with higher contributions to reflect the higher risk.</p>
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources • Adequate budget resources • High proportion of the working population in formal work
Objective	<ul style="list-style-type: none"> + Reduce and improve the predictability of the risk of accidents + Protect against occupational accidents, illnesses and health risks + Restore health or productivity following an accident or occupational illness + Prevent existential crises on farms
Possible negative effects	<ul style="list-style-type: none"> – Conventional state social insurance systems do not cover workers in the informal sector – Farmers neglect to implement accident prevention measures
Further information	<p>International development cooperation can support the development of social security systems adapted to the specific needs of the country concerned.</p>

Promoting a social service to ensure continuation of farms in the event of accidents TOP	
Description	An accident in a farming family can jeopardise the continuation of the business. To guard against this, farm support services are organised by accident or health insurance schemes or farmer organisations. These services are designed to ensure that the farm continues to run, for example by bringing in neighbouring farmers to help.
Requirements	<ul style="list-style-type: none"> • Membership of an accident or health insurance scheme or farmer organisation providing these services • Training and financing to enable young farmers to help out on neighbouring farms
Objective	+ Provide farm support services to ensure the continuity of a farm's household and its arable and livestock production in the event of an accident, thus securing its existence.
Possible negative effects	<ul style="list-style-type: none"> – Insufficient numbers of helpers available – Helpers do not take their duties seriously
Further information	<p>Farm support services can also find replacements for workers who drop out as a result of an accident.</p> <p>International development cooperation can support the development of these services, particularly in cooperation with farmer organisations.</p>

Introducing accident prevention and occupational safety regulations TOP	
Description	<p>Accident prevention in the workplace is an element of occupational safety and is promoted through intensive prevention work, for example through agricultural employers' liability insurance associations. Measures include maintenance and inspection of technical equipment and machinery, health and safety arrangements for workers working with machinery (including guards and protective equipment) and animals, ensuring farm buildings, stairs and accesses are constructed safely, and by providing instructions for use of equipment and chemicals. Occupational health and safety and accident prevention are wide-ranging topics that vary depending on the farm and the type of work carried out there.</p> <p>See also Promoting a social service to ensure continuation of farms in the event of accidents</p>
Requirements	<ul style="list-style-type: none"> • Systematic research into the causes of accidents by farmers and insurance providers • Regular staff instruction • Close cooperation between farms, cooperatives and policy makers
Objective	<ul style="list-style-type: none"> + Reduce accidents and improve farm safety + Prevent existential crises on farms
Possible negative effects	<ul style="list-style-type: none"> – Discriminates against smaller-scale farmers and processors
Further information	<p>International development cooperation can support the introduction of accident prevention and occupational health and safety regulations, for example by promoting farmer organisations or working with insurance companies.</p>

Establishing a liability insurance scheme TOP	
Description	Provide protection of farmers and processors from third-party claims for personal injury, damage to property or financial loss caused by culpable negligence (e.g. in livestock farming, use of agricultural machinery, contamination of food or water pollution).
Requirements	<ul style="list-style-type: none"> • Establishment of liability insurance schemes • Setting of risk-based premiums • Public authorities with sufficient technical and institutional resources
Objective	<ul style="list-style-type: none"> + Prevent existential crises on farms resulting from third-party claims for damages + Incorporate farmers into the value chain
Possible negative effects	<ul style="list-style-type: none"> – Insurance fraud – Claim could be passed on down the value chain to farmers
Further information	<p>In the initial stage of a professional liability insurance policy, the state can provide subsidies to reduce the burden on the farmer.</p> <p>International development cooperation can support the development of liability insurance schemes adapted to the specific needs of the country concerned.</p>

5.4.2 Instruments for securing old-age provision

Establishing a statutory agricultural pension insurance scheme TOP	
Description	<p>An agricultural pension insurance scheme can form part of the general pension insurance system. It provides self-employed farmers with at least a basic old-age pension when they reach retirement age or if their earning capacity is reduced. Premiums are graduated based on the size of the farm, although the amount of the basic pension is the same for all farming families. Each farmer has an individual entitlement to the pension.</p> <p>In the initial stage of a professional liability insurance policy, the state can provide subsidies so that immediate pension payments can be made. Permanent subsidies can also be provided. This may be necessary in order not to overburden young farmers, particularly in areas where the agricultural sector is undergoing major structural change.</p>
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources • Sufficient budget resources for state subsidies • High proportion of the working population in formal work
Objective	<ul style="list-style-type: none"> + Provide farmers with an old-age pension when they reach retirement age or in the event of a reduction in earning capacity + Reduce small and medium-sized farms' dependence on the next generation + Allow businesses to develop and innovations to spread by accelerating the switch from the older to the professionally trained younger generation + Make it easier to lease or give up the farm during structural change
Possible negative effects	<ul style="list-style-type: none"> – Traditional intergenerational care loses its significance
Further information	<p>This basic provision supplements, but does not usually replace, farming families' private pension arrangements.</p> <p>International development cooperation can support the development of social security systems adapted to the specific needs of the country concerned.</p>

Introducing pensions for farmers giving up their businesses TOP	
Description	This state-funded pension provides social security in old age until such time as the farmer's own pension insurance benefits commence.
Requirements	<ul style="list-style-type: none"> • The farm must be transferred to a family member or a successor who is a member of the farmer's staff or from outside the farm.
Objective	<ul style="list-style-type: none"> + Old-age provision + Provide support for subsequent generations + Allow businesses to develop and innovations to spread by accelerating the switch from the older to the professionally trained younger generation
Possible negative effects	<ul style="list-style-type: none"> – Bandwagon effects without benefits to the structure
Further information	International development cooperation can support the development of social security systems adapted to the specific needs of the country concerned.

5.4.3 Instruments for securing sickness provision and reducing the risk of illness

Promoting the establishment of a statutory agricultural health insurance scheme TOP	
Description	<p>A health insurance scheme pays the insured all or part of the cost of treatment for illness (outpatient or inpatient), childbirth and, in some cases, after an accident. It is financed from the insured parties' regular premiums. The amount of the premiums depends on the type of membership and the members' economic capacity. Membership can be mandatory or voluntary.</p> <p>A statutory agricultural health insurance scheme provides compulsory insurance for full-time farmers and their family members etc. In line with the principle of solidarity-based financing, the premiums depend on the members' economic capacity (economic value, labour requirements or other appropriate yardstick, such as land value)</p>
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources • High proportion of the working population in formal work • State support for providers of agricultural health insurance, since premiums are not usually sufficient to cover costs following structural change • Sufficient budget resources for state subsidies
Objective	<ul style="list-style-type: none"> + Provide social security in the event of illness (as well as childbirth or accident) + Restore health or productivity following an accident or illness + Prevent existential crises on farms + Provide the same level of security for farming households in the event of illness as for urban households (particularly in the case of agricultural pension insurance)
Possible negative effects	<ul style="list-style-type: none"> – Premiums set at a level that is unaffordable for the insured – The provision does not meet the needs of the population – Provision cannot be guaranteed due to a lack of access to medical resources
Further information	<p>See also Promoting a social service to ensure continuation of farms in the event of accidents</p> <p>International development cooperation can support the development of social security systems adapted to the specific needs of the country concerned.</p>

Development of a country-wide healthcare advisory service TOP	
Description	Governmental and semi-governmental organisations, agricultural advisory services and, in some cases, NGOs provide information on general healthcare issues, basic hygiene, nutrition and parenting (see also Nutritional advice) on a national or regional basis. Regular preventive measures (e.g. deworming, vaccinations) are also carried out.
Requirements	<ul style="list-style-type: none"> • Adequate budget resources • Country-wide network of advisory services with adequately trained staff (e.g. midwives, nutritionists) • Collaboration with schools
Objective	<ul style="list-style-type: none"> + Disease prevention (particularly for women and children) + Improve the population's general health status + Reduce the cost of treating illness
Possible negative effects	<ul style="list-style-type: none"> – Lack of qualified staff, particularly midwives and nutritionists – The provision does not meet the needs of the population – Discriminates against the rural population compared with the urban population – Decentralised units are not properly funded
Further information	<p>Farmers' self-help organisations can also play a role in improving the health status of the rural population.</p> <p>International development cooperation can help establish a country-wide network of advisory services and can provide training for advisers. Immediate assistance can be given in a crisis, for example by providing medical resources.</p>

5.4.4 Instruments for securing childbirth, accident, illness and old age care

Promoting the establishment of a statutory agricultural care insurance scheme TOP	
Description	Insurance that covers the risk of the need for care. In the event of a claim, the policy provides financial or other benefits in order to guarantee all or part of the necessary care. The benefits generally cover both in-patient and home care.
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources • High proportion of the working population in formal work • State support for providers of agricultural care insurance, since premiums are not usually sufficient to cover costs after structural change • Sufficient budget resources for state subsidies
Objective	<ul style="list-style-type: none"> + Provide social security for farmers in need of care in old age or after becoming incapacitated + Provide the same level of security for farming households with a member in need of care as for urban households
Possible negative effects	<ul style="list-style-type: none"> – Lack of qualified care staff – Discriminates against the rural population compared with the urban population
Further information	<p>In developing and emerging countries, as elsewhere, other family members are finding it increasingly difficult to care for older relatives. Establishing a statutory care insurance scheme that includes farmers reduces the risk of an existential threat to the farm in old age or if the farmer becomes incapacitated.</p> <p>See also Promoting a social service to ensure continuation of farms in the event of accidents</p> <p>International development cooperation can support the development of social security systems adapted to the specific needs of the country concerned. However, in light of the continuing prevalence of close family ties in most places, the social insurance system should prioritise pension, health and accident insurance.</p>

5.4.5 Instruments for promoting equality for female farmers

Introducing compulsory insurance for female farmers TOP	
Description	Women often undertake a substantial proportion of the work on farms, yet they are often not formally recognised as co-entrepreneurs. Separate compulsory accident, pension, illness and care insurance should be provided for these female farmers.
Requirements	<ul style="list-style-type: none"> – The female farmer should not have a main occupation outside agriculture – See the chapters on accident, pension, illness and care insurance
Objective	+ Provide female farmers with their own pension entitlement independently of their husband or family
Possible negative effects	– Social norms and patriarchal structures prevent equality for women
Further information	International development cooperation can support the development of social security systems adapted to the specific needs of the country concerned.

Support for rural women's organisations TOP	
Description	Financial and/or organisational support for rural women's organisations in villages and towns. These organisations arrange readings, theatre visits and informative trips, as well as information networks on everyday issues and social discourse.
Requirements	– Local voluntary commitment and state support
Objective	+ Improve the social, cultural, societal and economic participation of women + Improve education and training for women + Promote cultural life in villages
Possible negative effects	– Initiatives for rural women (and young people) can be undermined in patriarchal societies – Government authorities are critical of rural population groupings
Further information	Organisations for rural women and young people are an effective channel for nurturing traditional forms of cultural life in rural areas and connecting with urban cultural and social life. International development cooperation can support the development of organisations for rural women. In addition to political lobbying at national and regional levels, it is also important to provide a range of opportunities to share information (e.g. with organisations in other countries).

Amending property and inheritance law

[TOP](#)

See chapter 6.2.3 [Securing property rights](#)

Improving access to financial services

[TOP](#)

See chapter 6.3 [Instruments for improving access to financial services](#)

5.4.6 Instruments for supporting vulnerable or marginalised groups

Supporting multi-stakeholder dialogues and formal networks TOP	
Description	Support for consultation processes, institutionalised dialogues (e.g. public/private dialogue), multi-stakeholder platforms (e.g. round tables), cross-sectoral networks and associations.
Requirements	<ul style="list-style-type: none"> • Interest and willingness on the part of the parties involved to dialogue • Involvement of all relevant actors, particularly marginalised and vulnerable groups
Objective	<ul style="list-style-type: none"> • Provide support for marginalised and vulnerable groups • Promote dialogue and mutual understanding • Integrate agriculture into the food value chain • Promote cooperation between private and public sector actors and civil society
Possible negative effects	<ul style="list-style-type: none"> – Lack of interest on the part of actors – Organisation and management, e.g. initiated through international development cooperation, may be impossible to sustain beyond the state or international support provided due to a lack of interest and funding on the part of the actors – The independence of the initiating organisation (e.g. actors in international development cooperation) is not guaranteed or is not perceived as a given by the actors involved
Further information	Initiation and organisation of multi-stakeholder dialogues and formal networks is, by virtue of its independence, one of the most important tasks of international development cooperation and is the first step in almost every project task. The aim is to ensure that the needs of vulnerable and marginalised groups are sufficiently respected in change processes.

Promoting interest groups for young people in rural areas TOP	
Description	Interest groups for young people improve the social participation of the young rural generation in political decision-making and dialogue processes and boost their members' self-confidence, e.g. by running interactive training sessions on public speaking.
Requirements	<ul style="list-style-type: none"> • Young people in rural areas must be interested in representing their own interests and must have the motivation to do so
Objective	<ul style="list-style-type: none"> + Improve the social, cultural, societal and economic participation of young farmers + Boost the self-confidence of young people in rural areas + Promote cultural life in villages
Possible negative effects	<ul style="list-style-type: none"> – Initiatives for rural young people (and women) can be undermined in patriarchal societies – Public administrations are critical of groupings of young rural people
Further information	<p>Organisations for rural young people are a very effective channel for nurturing traditional and modern forms of cultural and social life in rural areas and connecting them with a modern, partly urban cultural and social life.</p> <p>International development cooperation can support the development of interest groups for young people.</p>

Introducing statutory or voluntary social standards to secure employee rights¹⁰²

[TOP](#)

Description	<p>Social standards include both statutory regulations as well as all agreements between employee and employer organisations aimed at improving the situation of employees, in this context in the processing sector, for example. They range from collectively agreed wages and annual leave arrangements to laws on compulsory social insurance to regulations on safety precautions in the workplace. Technical implementation is monitored regularly by state or, in some cases, private inspection institutions.</p> <p>Social standards are fundamental employee rights. They include “qualitative social standards” such as the core labour standards of the ILO: eradication of slavery and child labour, freedom of association, the right to form trade unions, the right to equal pay for work of equal value, and the elimination of discrimination at work. The core labour standards are based on the UN Universal Declaration of Human Rights and apply to all countries that have ratified it, regardless of their economic development status. In most countries, social standards are also enshrined in national law. Unlike national legislative systems, the ILO cannot impose sanctions for breaches of the social standards.</p> <p>As the ILO is unable to impose sanctions, voluntary social standards, codes of conduct and quality seals play an important role in enforcing core labour standards across the world.</p> <p>The trading partners along the supply chain agree to apply specific social standards or codes of conduct that are not laid down in legislation. Their technical implementation, e.g. at the processing stage, is monitored regularly by private inspection institutions.</p>
Requirements	<ul style="list-style-type: none"> • Statutory frameworks for introducing binding social standards • Public authorities with sufficient technical and institutional resources to design and implement the regulatory framework • Jurisdiction or arbitration board • System of standards • Dialogue and clear, transparent information between farms, their customers and their staff • CD measures in the form of a long-term change management approach promoted and implemented jointly with the purchasing enterprises and branded companies • Purchaser and consumer demand • Broad acceptance and recognition of the seal • Sanction mechanisms • Where voluntary standards exist: private enterprises must take the initiative, usually in response to growing consumer demand
Objective	<ul style="list-style-type: none"> + Improve employees’ living and working conditions + Better performance and improved product quality and therefore greater efficiency + Improve the sustainability of production processes + Secure sales markets
Possible negative effects	<ul style="list-style-type: none"> – The rapid increase in standard systems, codes of conduct and audits, each with slightly different requirements, can place an immense burden on producers which can present an existential threat to small-scale farmers and processing companies in particular. – Discriminates against smaller-scale farmers and processors – Social standards are not observed due to intensely competitive markets and pressure on prices, as well as, in some cases, traditional cultural practices
Further information	<p>Audits are often performed to monitor compliance with social standards, including by major purchasers of agricultural products. To prevent inefficient multiple audits from</p>

¹⁰²

See GIZ 2013: 255.

being carried out and to enable training offered by buyers to be standardised, it is important to increase collaboration between the actors, standard systems, global trade and NGOs involved. The Global Consumer Goods Forum's Global Social Compliance Programme covers 80% of the world's consumer goods industry. It has set itself the task of harmonising the audit processes and the CD strategies of its member companies and establishing joint minimum criteria.

See also [Certification](#).

International development cooperation can support the creation and enforcement of binding or voluntary social standards for the development of sustainable living and working conditions in the agri-food sector by advising governments. Organising [multi-stakeholder dialogues](#) and [value chain platforms](#) plays a particularly important role in this as it incorporates all relevant actors, their resources and their needs. International development cooperation can also provide support in the form of appropriate CD strategies. Global customers should be involved in these processes in order to promote a systemic approach to improving working conditions and securing production markets.

Introducing binding social standards to protect against child labour

[TOP](#)

Description	Farmers' children are involved in the work routines of the farm or forestry business virtually from the moment they are born. However, they should not be overtaxed by being made to work too much, even in situations in which their assistance is needed on the family farm from time to time. Introducing binding social standards to protect against child labour can counteract this.
Requirements	<ul style="list-style-type: none"> • National social legislation on child labour must be communicated and enforced by regional and local authorities • External migratory and seasonal workers must be available for temporary employment during peak periods • Local educational opportunities (primary and secondary schools)
Objective	<ul style="list-style-type: none"> + Protect against child labour + Improve education levels, especially in rural areas
Possible negative effects	<ul style="list-style-type: none"> – Can temporarily increase rural exodus
Further information	<p>Farmers' children should be able to follow the work processes on the farm through play. Initial education should take priority up to the age of at least 14. Thereafter, children can be given vocational training in parallel to their first regular work (dual system).</p> <p>International development cooperation can support the implementation of binding social standards to protect against child labour. When selecting private-sector cooperation partners, particular care should be taken to ensure that child labour is avoided.</p>

Micro-insurance schemes TOP	
Description	<p>Micro-insurance schemes are risk-pooling instruments intended to protect poorer households, particularly those working in the informal sector, against events such as loss of income or fire. They are characterised by low premiums and comparatively low claim payouts.</p> <p>Claim payouts are not based on an assessment of each individual case but on the occurrence of a particular event, i.e. the index. The insurance provider does not insure an individual's risk but particular values in the region's predefined index.</p>
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources • Standardised contracts and claim payouts • Adequate budget resources
Objective	<ul style="list-style-type: none"> + Provide better insurance cover for vulnerable groups and workers in the informal sector against existential risks + Supplement standard social insurance schemes
Possible negative effects	<ul style="list-style-type: none"> • Regional indexes could be fraudulently calculated
Further information	<p>International development cooperation can support the development of social security systems adapted to the specific needs of the country concerned.</p>

Protecting minimum wages for migratory and seasonal workers TOP	
Description	Introduction of statutory minimum wages for migratory and seasonal workers. These generally offer very limited employee protection.
Requirements	<ul style="list-style-type: none"> • Minimum wages defined in law, possibly negotiated by collective bargaining partners • Public authorities with sufficient technical and institutional resources
Objective	+ Protect and provide social security for seasonal and migratory workers
Possible negative effects	<ul style="list-style-type: none"> – Reduction in international competitiveness – Farms can no longer afford to employ migratory and seasonal workers
Further information	<p>The seasonal demand for labour in the agriculture, forestry and food sectors peaks at certain times of the year. Fruit and vegetable growers, for example, require a lot of labour for planting, harvesting and processing and this labour may not be available locally or in the region.</p> <p>Export-based coffee, tea, fruit and vegetable producers need considerable support from seasonal and migratory workers at peak times. A minimum wage, possibly associated with the provision of social facilities and further training opportunities, cements the good relationship between employer and employee.</p>

Supporting nomadic forms of farming in mountainous and arid zones TOP	
Description	Farming in mountainous and arid zones is subject to extreme climatic conditions which can often pose an existential threat. At the same time, this form of agriculture forms part of the country's national identity and can be of relevance to national security in the country, as nomads are often an ethnic minority. State support is therefore guaranteed.
Requirements	<ul style="list-style-type: none"> • Effective monitoring system • Public authorities with sufficient technical and institutional resources to provide the ethnic group concerned with social and economic advice
Objective	<ul style="list-style-type: none"> + Ensure the use, maintenance and preservation of arid grazing land (ecosystem) + Preserve the traditional nomadic farming system + Ensure adequate household incomes in remote regions + Improve the livelihoods of nomadic herders
Possible negative effects	<ul style="list-style-type: none"> – Inadequate monitoring and pasture management can lead to overgrazing – Nepotism and corruption
Further information	<p>The long-term prospects for the farming population should be borne in mind when providing this support.</p> <p>International development cooperation can also support nomadic farming practices by bringing in international professionals. The instrument of the multi-stakeholder dialogue also plays an important role in this.</p>

5.5 Instruments for agri-environmental policy and for protecting the use of natural resources

Aim:	5.5.1 Protecting the soil	5.5.2 Protecting water	5.5.3 Protecting the climate and air quality	5.5.4 Protecting biodiversity	5.5.5 Protecting forests
	Regulatory framework for protecting the soil	Regulatory framework for protecting water	Regulatory framework for protecting the climate	Regulatory framework for protecting biodiversity	Regulatory framework for protecting forests
	Defining good agricultural practice in respect of agricultural land use	Designating water and drinking water protection areas	Defining good agricultural practice in respect of climate protection and air pollution control	Defining good agricultural practice in respect of securing biodiversity	Afforestation and reforestation programmes
Linking government subsidies to compliance with environmental standards					
	Grants for agricultural services in respect of protecting the soil	Defining good agricultural practice in respect of water protection	Grants for agricultural services in respect of protecting the climate and air quality	Grants for agricultural services in respect of protecting biodiversity	Cultivation obligations that promote renewable raw materials
	Defining good agricultural practice in respect of pasture management	Grants for agricultural services in respect of water protection	Emissions trading in the agri-food sector	Designating nature conservation areas	Subsidies for developing and using sustainable energy generation processes
	Conversion and retention premiums in organic farming	Strengthening water user groups			
	Conversion ban with compensation payments	Area-based livestock farming			
	Establishing soil analysis laboratories and fertiliser advisory services				

5.5.1 Instruments for protecting soil

Regulatory framework for protecting the soil TOP	
Description	A basic soil protection law and associated regulations lay down binding obligations for landowners and farmers to maintain soil fertility, prevent wind and water erosion, safeguard water retention and avoid contamination and hazardous substances in the soil. The soil protection law also contains concrete limits for hazardous substances, protecting humus levels etc. Technical implementation on the farm and in the processing chain is monitored regularly by state or private inspection institutions.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Good knowledge of managing good agricultural practice in respect of agricultural land use • Close cooperation with scientists, researchers and advisers at national and international levels • Close cooperation with the various actors involved and their interest groups, e.g. farmer organisations • Country-wide soil monitoring • Sanction mechanisms
Objective	<ul style="list-style-type: none"> + Protect or restore soil fertility and secure the natural resource as a production base in the long term + Develop new sales markets, particularly abroad, in compliance with recognised environmental standards
Possible negative effects	– Environmental laws that are too strict extend beyond the economic and technical opportunities open to arable farmers, thus hindering the development of agriculture and the economy as a whole
Further information	<p>The actual soil protection law is supplemented with special laws and regulations covering aspects such as the use of fertilisers and chemicals, protecting drinking water supplies and preventing water pollution (e.g. the Sewage Sludge Ordinance), nature conservation and species protection. Further information on these subjects can be obtained from the FAO, the European Commission and, for example, the UN Climate Change Conference.</p> <p>International development cooperation can help to shape the regulatory framework for protecting the soil by bringing in international advisers and organising knowledge-sharing and training events. In particular, it can ensure that the needs of the rural population are given equal weight and that interest groups are involved. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this.</p>

Defining good agricultural practice in respect of agricultural land use [TOP](#)

Description	A code of good agricultural practice in respect of agricultural land use, providing tips on soil cultivation, sowing and harvesting, crop rotation, selection of varieties, irrigation and drainage, fertilisation and use of pesticides, grassland use and area-based livestock farming, preventing wind and water erosion, using tractors and machinery etc., while taking national and regional soil and climate conditions into account. Good agricultural practice forms the basis for training the next generation of farmers and is constantly being developed in line with new scientific findings and legal frameworks in a broad process of negotiation. It is not of a legally binding nature.
Requirements	<ul style="list-style-type: none"> • All relevant actors (including farmers and their interest groups, advisers, scientists, researchers and public authorities) should be included • Constant knowledge-sharing between scientists, researchers and farmers
Objective	<ul style="list-style-type: none"> + Protect or restore soil fertility and secure the natural resource as a production base in the long term + Description of the current level of knowledge and farmers' experiences in soil cultivation that is applicable to the whole country + Basis for education and training in sustainable land management
Possible negative effects	<ul style="list-style-type: none"> – The code could be given a law-like status, lose its guideline function and therefore fail to be accepted by farmers
Further information	<p>The FAO, the European Commission, farmer organisations in Europe, North America and South America and the World Farmers' Organisation have reached an understanding on good agricultural practice in respect of land management.</p> <p>International development cooperation can help formulate a national definition of good agricultural practice in respect of agricultural land use by bringing in international advisers and organising knowledge-sharing and training events. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this. It can also ensure compatibility with international codes.</p>

Linking government subsidies to compliance with statutory environmental standards

[TOP](#)

Description	<p>Some premiums, subsidies or direct payments are contingent upon compliance with environmental standards (known in the EU as “cross-compliance”).</p> <p>All farmers who are entitled to specific premiums, subsidies or direct payments must meet certain climate and environmental protection requirements (e.g. government-defined mandatory environmental standards) on all their eligible land.</p> <p>Any costs incurred in connection with the provision of these environmental public goods, which do not generate commercial profits, can be reimbursed with a greening premium.</p> <p>If the relevant obligations are not met, the payments may be reduced by a certain percentage or withheld altogether for one or more calendar years, depending on the severity, extent, duration or frequency of the infringement.</p>
Requirements	<ul style="list-style-type: none"> • Formal land rights • A properly functioning administration and monitoring system with access to detailed information about agricultural parcels and their owners (e.g. a land register) and sufficient technical and human resources to design and implement it • High budget resources • Sanction mechanisms
Objective	<ul style="list-style-type: none"> + Protect the environment and natural resources by promoting extensive production processes + Financial compensation for farmers providing public goods + Crop diversification, preservation of permanent grassland/ecological focus areas, protection against erosion to preserve agricultural land, promotion of closed cycles and water extraction, limiting of livestock numbers per area, careful use of fertilisers, etc.
Possible negative effects	<ul style="list-style-type: none"> – Bandwagon effects – The rapid increase in standard systems, codes of conduct and audits, each with slightly different requirements, can place an immense burden on producers which can present an existential threat to small-scale farmers and processing companies in particular.
Further information	<p>Since land rights in many developing countries are not formally secured, it is difficult to implement such a complex system of area-based direct payments. Farm-based payments are less complicated to administer.</p> <p>Tinbergen Rule: Additional costs only make sense from a macroeconomic perspective if the marginal utility of the ecological requirement is higher than the additional costs.</p>

Grants for agricultural services in respect of protecting the soil

[TOP](#)

Description	The state can swiftly counteract the risks to agricultural land from overgrazing, overfertilisation, erosion or declining humus levels by operating targeted support programmes. These provide farmers with financial support in the form of subsidies, for example for laying windbreak hedges, adapting livestock numbers to soil fertility, reducing or increasing the use of fertilisers, non-erosive cultivation on slopes, preserving grassland, and introducing water-conserving arable farming techniques. Participation by farmers in the support programmes is voluntary. The conservation effect on the soil is monitored.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Clear ecological targets for policy makers and public authorities • Knowledge of good agricultural practice in respect of agricultural land use • Adequate budget resources
Objective	+ Protect or restore soil fertility and secure the natural resource as a production base in the long term
Possible negative effects	<ul style="list-style-type: none"> – Corruption and personal gain – Country-wide monitoring of local soil protection measures could overstretch public authorities
Further information	The soil protection measures performed by the farmers must be coupled with modernisation, e.g. in irrigation and drainage systems, regional erosion protection and the overall field and landscape structure. The advisory services in China, the USA, Russia and EU member states have gained valuable experience in this area.

Defining good agricultural practice in respect of pasture management TOP	
Description	Code of good agricultural practice in respect of pasture management. Good agricultural practice forms the basis for training the next generation of farmers and is constantly being developed in line with new scientific findings and legal frameworks in a broad process of negotiation. It is not of a legally binding nature.
Requirements	<ul style="list-style-type: none"> • All relevant actors (including farmers and their interest groups, advisers, scientists, researchers and public authorities) should be included • Constant knowledge-sharing between scientists, researchers and farmers
Objective	<ul style="list-style-type: none"> + Protect or restore soil fertility and secure the natural resource as a production base in the long term + Description of the current level of knowledge and farmers' experiences in pasture management that is applicable to the whole country + Basis for education and training in sustainable land management
Possible negative effects	<ul style="list-style-type: none"> – The code could be given a law-like status, lose its guideline function and therefore fail to be accepted by farmers
Further information	International development cooperation can help formulate a national definition of good agricultural practice in pasture management by bringing in international advisers and organising knowledge-sharing and training events. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this. It can also ensure compatibility with international codes.

Conversion and retention premiums in organic farming TOP	
Description	Abandoning artificial fertilisers and chemical pesticides requires farmers to change their farming methods and increases the need for labour. Produce grown during the conversion period cannot yet be certified organic and has to be sold as conventional agricultural products. For this reason, the conversion period attracts a conversion premium of a certain amount of money per field. Once products can be sold as organic at the end of the conversion period, the premium is reduced. This is known as a “retention premium”.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy
Objective	<ul style="list-style-type: none"> + Protect or restore soil fertility and secure the natural resource as a production base in the long term + Support farms undergoing conversion + Reduce harmful GHGs by reducing the use of nitrogen fertiliser and additional feeding
Possible negative effects	<ul style="list-style-type: none"> – The conversion must be financially viable in the long term and can be supported with the premium payment – Yields falling temporarily
Further information	

Conversion bans accompanied by compensation payments

[TOP](#)

Description	Farmers receive compensation payments per field if they continue to grow a particular crop that plays a valuable role in environmental or resource protection for this particular field (known as “strategic cultivation”).
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Ongoing market surveying
Objective	<ul style="list-style-type: none"> + Protect or restore soil fertility and secure the natural resource as a production base in the long term + Reduce land consumption by urbanisation
Possible negative effects	– Inefficient allocation of resources, market distortion
Further information	In industrialised countries, the ban on conversion is often used as an environmental and resource protection measure (e.g. the ban on converting grassland to arable land). However, in developing and emerging countries this tends rather to be used as a method of controlling the market.

Establishing soil analysis laboratories and advisory services on fertilisers TOP	
Description	Establishment of a soil analysis laboratory that analyses soil samples for nutrient and humus levels, soil organisms etc. for farmers and government bodies.
Requirements	<ul style="list-style-type: none"> • Adequate budget resources • Close cooperation with scientists, researchers and advisers • Skilled specialists
Objective	+ Local soil sampling to ensure the proper use of fertilisers
Possible negative effects	<ul style="list-style-type: none"> – Discriminates against smaller farms who cannot afford soil analyses – Small-scale farmers in particular trust their local agro-input dealer more than the laboratory
Further information	International development cooperation in the areas of finance, technology and human resources can provide financial and professional support for the establishment of soil analysis laboratories. It is also important to cooperate with public and private advisory services that can provide suitable CD measures to help farmers use the services on offer and interpret the results of the analysis.

5.5.2 Instruments for protecting water

Regulatory framework for protecting water TOP	
Description	A basic water protection or water management law and associated regulations require all citizens of a country, but particularly landowners and farmers, to comply with comprehensive requirements to secure drinking water supplies and the quality of drinking water in order to ensure the proper functioning of the entire water supply system and its use as drinking and industrial water. The law regulates access to drinking and industrial water, lays down limits for hazardous substances, regulates irrigation and drainage, creates the organisational framework for water and soil associations, secures drinking water reserves and promotes the economical use of water. Technical implementation on the farm and in the processing chain is monitored regularly by state or private inspection institutions.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Good knowledge of managing good agricultural practice in respect of water protection • Close cooperation with scientists, researchers and advisers at national and international levels • Close cooperation with the various actors involved and their interest groups, e.g. farmer organisations • Reliable knowledge of water management, water quality and water users • Country-wide water monitoring • Sanction mechanisms
Objective	<ul style="list-style-type: none"> + Protect natural resources as the basis for the production of food + Secure the drinking water supply + Develop new sales markets, particularly abroad, in compliance with recognised environmental standards
Possible negative effects	<ul style="list-style-type: none"> – Environmental laws that are too strict extend beyond the economic and technical opportunities open to farmers, thus hindering the development of farming – Agriculture cannot be integrated sustainably into the water cycle
Further information	<p>The water protection or water management law must form an integral part of all of a country's key environmental laws. At the technical level, legislation on fertilisers, pesticides and soil protection and infrastructure programmes for rural areas must all be coordinated with the water management law.</p> <p>International development cooperation can help to shape the regulatory framework for protecting water by bringing in international advisers and organising knowledge-sharing and training events. In particular, it can ensure that the needs of the rural population are given equal weight and that interest groups (e.g. local water user groups) are involved. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this.</p>

Designating water and drinking water protection areas TOP	
Description	Designation of areas in which special rules and prohibitions are passed to protect surface and groundwater from harmful influences.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Clear ecological targets for policy makers and public authorities • Property/land register • Land ownership rights must be taken into account
Objective	+ Protect surface and groundwater and secure the natural resource as a production base in the long term + Secure the drinking water supply
Possible negative effects	– Farmers whose land is in protected areas receive no financial compensation payments
Further information	International development cooperation can support countries setting up a land or property register by bringing in international advisers to assist with the designation of water and drinking water protection zones. Besides the environmental goals, the social compatibility of the measures also has to be taken into account.

Defining good agricultural practice in respect of water protection TOP	
Description	<p>A code of good agricultural practice aimed at protecting surface and groundwater. This not only provides tips on cultivating the soil but also on farming in general, including livestock farming, water-conserving fertilisation methods, crop protection and the design of irrigation and drainage systems etc., while taking national and regional soil and climate conditions into account. Every farmer is required to manage their farm in accordance with this code.</p> <p>Good agricultural practice forms the basis for training the next generation of farmers and is constantly being developed in line with new scientific findings and legal frameworks in a broad process of negotiation. It is not of a legally binding nature.</p>
Requirements	<ul style="list-style-type: none"> • All relevant actors (including farmers and their interest groups, advisers, scientists, researchers and public authorities) should be included • Constant knowledge-sharing between scientists, researchers and farmers
Objective	<ul style="list-style-type: none"> + Protect surface and groundwater and secure the natural resource as a production base in the long term + Secure the drinking water supply + Provide a description of the current level of knowledge and farmers' experiences in protecting surface and groundwater that is applicable to the whole country + Provide a basis for education and training in sustainable surface and groundwater use
Possible negative effects	<ul style="list-style-type: none"> – The code could be given a law-like status, lose its guideline function and therefore fail to be accepted by farmers – Country-wide monitoring of local water protection measures could overstretch public authorities
Further information	<p>The FAO, the European Commission, farmer organisations in Europe, North America and South America and the World Farmers' Organisation have reached an understanding on good agricultural practice in respect of land management.</p> <p>International development cooperation can help formulate a national definition of good agricultural practice in respect of water protection by bringing in international advisers and organising knowledge-sharing and training events. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this. It can also ensure compatibility with international codes.</p>

Grants for agricultural services in respect of water protection

[TOP](#)

Description	The state can ensure a properly functioning water regime across the whole country by operating targeted support programmes for the agricultural, forestry, horticultural and fisheries sectors. These programmes provide financial support for those farmers, horticulturalists and fishermen and -women who use water supplies sparingly in their businesses, avoid pollution and contamination, keep irrigation and drainage systems working properly and have to comply with special operational requirements in water protection areas. Participation in the support programmes is voluntary. The effect of the water protection measures supported is monitored.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Country-wide monitoring • Clear ecological targets for policy makers and public authorities • Knowledge of good agricultural practice in respect of water protection • Adequate budget resources
Objective	<ul style="list-style-type: none"> + Protect surface and groundwater and secure the natural resource as a production base in the long term + Secure the drinking water supply
Possible negative effects	<ul style="list-style-type: none"> – Corruption and personal gain – Country-wide implementation and monitoring of measures to protect local surface and groundwater could overstretch public authorities
Further information	Farmers' water protection measures must be closely intertwined with soil and climate protection programmes. Farmers whose land is in drinking water protection areas can receive compensation payments.

Strengthening water user groups TOP	
Description	Water user groups take over water distribution at the local level and are also responsible for managing the water infrastructure via their members' compulsory contributions. The groups can be made up of anything from a few individuals to several hundred members, and can take the form of voluntary cooperatives or joint ventures with compulsory membership of all water users.
Requirements	<ul style="list-style-type: none"> • Legal frameworks that support water user groups and do not discriminate against other entrepreneurial joint ventures (level playing field) • Skilled personnel to man the organisation's various bodies (governance structures) • Properly functioning local monitoring system • Own initiative on the part of the local population • Landowners in the water catchment area must be involved
Objective	<ul style="list-style-type: none"> + Water distribution monitored by groups that are accepted by the local people + Irrigation infrastructure operated and maintained locally
Possible negative effects	<ul style="list-style-type: none"> – Audit structures perform poorly and members lose trust in their organisation – Overuse of the available water by individual members
Further information	International development cooperation can support water user groups by providing advisory services (e.g. on setting up governance and monitoring structures).

Field-based upper limits on livestock numbers TOP	
Description	Maximum permissible herd numbers are linked to the utilised agricultural area (UAA) per farm.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy
Objective	<ul style="list-style-type: none"> + Reduce methane and ammonia emissions + Protect surface and groundwater and secure the natural resource as a production base in the long term + Secure the drinking water supply
Possible negative effects	<ul style="list-style-type: none"> – Farmers circumvent the upper limit by dividing farms formally or for tax purposes – Livestock farms lose their development prospects
Further information	Ways must be found to secure the water cycle in the long term through effective cooperation between water utility companies (usually urban), agriculture and forestry, advisory services and research institutes.

5.5.3 Instruments for protecting climate and air quality

Regulatory framework for protecting the climate and air quality TOP	
Description	The regulatory framework for protecting the climate and air quality creates general framework conditions for preventing air pollution, reducing emissions, defining limits for airborne pollutants and long-term climate protection measures (particularly geared towards reducing CO ₂). Climate and air-related activities in agriculture and forestry are regulated by special laws and regulations. Technical implementation on the farm and in the processing chain is monitored regularly by state or private inspection institutions.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Good knowledge of managing good agricultural practice in respect of climate protection and air pollution control • Close cooperation with scientists, researchers, advisers and civil society organisations at national and international levels • Close cooperation with the various actors involved and their interest groups, e.g. farmer organisations • Regular country-wide monitoring of air quality • Sanction mechanisms
Objective	<ul style="list-style-type: none"> + Protect the natural resource as a production base + Develop new sales markets, particularly abroad, in compliance with recognised environmental standards
Possible negative effects	<ul style="list-style-type: none"> – Climate protection laws that are too strict extend beyond the economic and technical opportunities open to farmers, thus hindering the development of farming
Further information	<p>Protecting the climate and air quality is a particularly important factor in environmental protection. However, climate change not only calls for measures to protect the climate but also measures for adaptation, especially in the agricultural sector.</p> <p>International development cooperation can help to shape the regulatory framework for protecting the climate and air quality by bringing in international advisers and organising knowledge-sharing and training events. In particular, it can ensure that the needs of the rural population are given equal weight and that interest groups are involved. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this.</p>

Defining good agricultural practice in respect of climate protection and air pollution control TOP	
Description	<p>A code of good agricultural practice in respect of climate protection and air pollution control. This provides tips on reducing emissions in livestock farming and land management and on creating CO₂ sinks – for example through afforestation or increasing humus levels in the soil – taking national and regional soil and climate conditions into account. Every farmer is required to manage his or her farm in accordance with this code.</p> <p>Good agricultural practice forms the basis for training the next generation of farmers and is constantly being developed in line with new scientific findings and legal frameworks in a broad process of negotiation. It is not of a legally binding nature.</p>
Requirements	<ul style="list-style-type: none"> • All relevant actors (including farmers and their interest groups, advisers, scientists, researchers and public authorities) should be included • Constant knowledge-sharing between scientists, researchers and farmers
Objective	<ul style="list-style-type: none"> + Protect the climate and control air pollution + Description of the current level of knowledge and farmers' experiences in climate protection and air pollution control that is applicable to the whole country + Basis for education and training in climate protection and air pollution control
Possible negative effects	<ul style="list-style-type: none"> – The code could be given a law-like status, lose its guideline function and therefore fail to be accepted by farmers and processing companies
Further information	<p>The FAO, the European Commission, farmer organisations in Europe, North America and South America and the World Farmers' Organisation have reached an understanding on good agricultural practice in respect of climate protection and air pollution control.</p> <p>International development cooperation can help formulate a national definition of good agricultural practice in respect of protecting biodiversity by bringing in international advisers and organising knowledge-sharing and training events. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this. It can also ensure compatibility with international codes.</p>

Grants for agricultural services in respect of protecting the climate and air quality TOP	
Description	The state can help control climate risks and air pollution swiftly by operating targeted support programmes for its country's citizens, businesses and agricultural and forestry sectors. These programmes provide financial support for those farmers who, for example, optimise their use of nitrogen fertilisers in terms of quantities, localised application, and timing or reduce livestock ammonia and methane emissions by using adapted feed and husbandry techniques. Support can also be provided for farmers reducing nitrous oxide emissions from arable land and increasing carbon capture by improving the humus content in the soil. In addition, preserving or extending grassland (e.g. fallow land) can help reduce CO ₂ emissions. Participation by farmers in the support programmes is voluntary. The conservation effect on the soil is monitored.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Land monitoring (e.g. for fallow grassland) • Clear ecological targets for policy makers and public authorities • Knowledge of good agricultural practice in respect of climate protection and air pollution control • Adequate budget resources
Objective	+ Protect the climate and control air pollution
Possible negative effects	<ul style="list-style-type: none"> – Corruption and personal gain – Country-wide implementation and monitoring of measures to protect the climate and air quality could overstretch public authorities
Further information	Agricultural measures to protect the climate and air quality must be embedded in an adapted agri-environmental policy and the country's entire agricultural policy development strategy.

Emissions trading in the agri-food sector

[TOP](#)

Description	Farmers and processing companies (e.g. dairies, slaughterhouses) must provide evidence of emission allowances or certificates if they release a certain amount of GHGs within a certain period of time as a result of a certain activity (e. g. livestock farming, crop production, use of fertilisers). The GHG emissions included in emissions trading are subject to an upper limit. Farmers can also trade their emission allowances: either within the agricultural sector or outside it, if emissions trading in the agricultural sector is linked to trading in other sectors. ¹⁰⁴ Certificates can be traded in compliance or voluntary markets.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Emission registration system and monitoring procedure • Development of quality standards for the market concerned which validate and certify sink performance
Objective	+ Reduce climate damaging emissions while minimising the cost to the economy
Possible negative effects	<ul style="list-style-type: none"> – The administration and monitoring effort required could overstretch public authorities – Prevention costs could overstretch smaller farms and businesses – Fraudulent calculations, minimum thresholds exceeded – Processing production sites move elsewhere
Further information	International development cooperation can help administration institutions set up an emissions trading scheme for the agricultural sector by bringing in international advisers. It can also help farmers and processing companies use and sell certificates by providing suitable CD measures.

¹⁰⁴

See Lüneburger 2013: 13.

5.5.4 Instruments for protecting biodiversity

Regulatory framework for protecting biodiversity TOP	
Description	Basic species and biotope protection legislation with associated regulations require the citizens, businesses and, in particular, the farming and forestry sectors of a country to protect and conserve that country's species diversity and biodiversity. The greatest possible biodiversity not only stabilises the ecosystems used by humans but also provides the genetic diversity needed for breeding cash crops and livestock. Technical implementation on the farm is monitored regularly by state or private monitoring institutions.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Close cooperation with scientists, researchers, advisers and civil society organisations at national and international levels • Close cooperation with the various actors involved and their interest groups, e.g. farmer organisations • Reliable knowledge of water management, water quality and water users • Country-wide water monitoring • Sanction mechanisms
Objective	<ul style="list-style-type: none"> + Protect biodiversity and the natural resource as a production base + Secure genetic diversity in crop and animal breeding + Develop new sales markets, particularly abroad, in compliance with recognised environmental standards
Possible negative effects	<ul style="list-style-type: none"> – Environmental laws that are too strict extend beyond the economic and technical opportunities open to farmers, thus hindering the development of farming – Relocations
Further information	<p>National legislation is integrated to a significant degree with international agreements on species and biotope protection (e.g. the Washington Convention on the protection of endangered plants and animals).</p> <p>International development cooperation can help to shape the regulatory framework for protecting biodiversity by bringing in international advisers and organising knowledge-sharing and training events. In particular, it can ensure that the needs of the rural population are given equal weight and that interest groups (e.g. local water user groups) are involved. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this.</p>

Defining good agricultural practice in respect of securing biodiversity TOP	
Description	<p>A code of good agricultural practice in respect of protecting biodiversity that provides tips on securing biodiversity in the cultural landscape, designating protected areas and targeted support for individual species or biotopes, while taking national and regional natural conditions into account.</p> <p>Good agricultural practice forms the basis for training the next generation of farmers and is constantly being developed in line with new scientific findings and legal frameworks in a broad process of negotiation. It is not of a legally binding nature.</p>
Requirements	<ul style="list-style-type: none"> • All relevant actors (including farmers and their interest groups, advisers, scientists, researchers and public authorities) should be included • Constant knowledge-sharing between scientists, researchers and farmers
Objective	<ul style="list-style-type: none"> + Protect biodiversity and secure the natural resource as a production base in the long term + Provide a description of the current level of knowledge and farmers' experiences in securing biodiversity that is applicable to the whole country + Basis for education and training in the sustainable use of natural resources to protect biodiversity
Possible negative effects	<ul style="list-style-type: none"> – The code could be given a law-like status, lose its guideline function and therefore fail to be accepted by farmers
Further information	<p>The UN commissions on nature and species protection, the WFO and many non-governmental organisations have provided input for the formulation of good agricultural practice in respect of species and biotope protection.</p> <p>International development cooperation can help formulate a national definition of good agricultural practice in respect of water protection by bringing in international advisers and organising knowledge-sharing and training events. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this. It can also ensure compatibility with international codes.</p>

Grants for agricultural services in respect of protecting biodiversity [TOP](#)

Description	The state can safeguard biodiversity in a country by operating targeted support programmes for the agricultural and forestry sectors. These programmes provide financial support for those farmers who plant flower strips, game grazing fields, species-rich grassland, bird-friendly hedges etc. on their farms. In doing so they help boost the role played by protected areas and reserves in securing biodiversity in the cultural landscape.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Clear ecological targets for policy makers and public authorities • Knowledge of good agricultural practice in respect of protecting biodiversity • Adequate budget resources
Objective	+ Protect biodiversity and secure the natural resource as a production base in the long term
Possible negative effects	<ul style="list-style-type: none"> – Corruption and personal gain – Country-wide implementation and monitoring of biodiversity protection measures could overstretch public authorities
Further information	Farmers whose land is in protected areas can receive compensation payments.

Designating nature conservation areas TOP	
Description	Designation of areas in which special rules and prohibitions are passed to protect nature and biodiversity from harmful influences. In addition to “traditional” nature conservation areas or reserves, biotopes and species protection areas can also be designated.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Clear ecological targets for policy makers and public authorities • Property/land register • Land ownership rights must be taken into account
Objective	+ Protect biodiversity and secure the natural resource as a production base in the long term
Possible negative effects	– Farmers whose land is in protected areas receive no financial compensation payments
Further information	International development cooperation can support countries setting up a land or property register by bringing in international advisers to assist with the designation of ecological focus areas. Besides the environmental goals, special care has to be taken to ensure the social compatibility of the measures is also taken into account.

5.5.6 Instruments for protecting forests

Regulatory framework for protecting forests TOP	
Description	A basic forest protection or forest management law and associated regulations require all citizens of a country to comply with comprehensive requirements to protect the forests. The law regulates access to fire wood, secures forest reserves and promotes the economical use of wood.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement the policy • Close cooperation with the various actors involved and their interest groups, e.g. farmer organisations • Reliable knowledge of forest management and users • Country-wide forest monitoring • Sanction mechanisms
Objective	+ Protect natural resources as the basis for the production of food + Secure the wood supply
Possible negative effects	– Poor people are hindered the access to fire wood for their energy supply
Further information	<p>The forest protection or/ and management law must form an integral part of all of a country's key environmental laws.</p> <p>International development cooperation can help to shape the regulatory framework for protecting forests by bringing in international advisers and organising knowledge-sharing and training events. In particular, it can ensure that the needs of the rural population are given equal weight and that interest groups are involved. Organising multi-stakeholder dialogues play a particularly important role in this.</p>

Afforestation and reforestation programmes TOP	
Description	<p>As part of afforestation and reforestation programmes, trees are planted and seeds are sown, helping to restore forests that have disappeared due to forest clearance, fire or storm damage. If the area being planted or sown was previously covered with woodland, this is known as reforestation, otherwise it is referred to as initial afforestation.</p> <p>Standard forest systems with a high degree of credibility create incentives to promulgate sustainable forest management.</p>
Requirements	<ul style="list-style-type: none"> • Formal land rights • A properly functioning administration and monitoring system with access to detailed information about agricultural parcels and their owners (e.g. a land register) and sufficient technical and human resources to design and implement it • High budget resources • Sanction mechanisms
Objective	<ul style="list-style-type: none"> + Reduce harmful GHGs + Secure the long-term availability of resources and forest conservation
Possible negative effects	<ul style="list-style-type: none"> – Without effective sanctions or monitoring, new or restored forests could be cleared again in the future – Afforestation could take place without respecting traditional land use, thereby undermining the existence of local farmers.
Further information	<p>A mechanism for providing financial compensation for proven avoidance of emissions from deforestation and degradation has been developed as part of international climate protection negotiations (REDD+).</p> <p>International development cooperation in the areas of finance, technology and human resources can provide support for the planning and implementation of afforestation and reforestation programmes.</p>

Cultivation obligation for renewable raw materials

[TOP](#)

Description	Farmers receive an acreage-based grant if they undertake to grow a strategically important energy crop on a certain acreage within a specific period of time. It is usually up to the farmer to decide how much land to earmark for meeting this obligation.
Requirements	<ul style="list-style-type: none"> • Constant market surveying and forecasting • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design, implement and monitor the cultivation obligation
Objective	<ul style="list-style-type: none"> + Secure an alternative energy supply + Protect the environment and the resource base
Possible negative effects	<ul style="list-style-type: none"> – Where specialised cultivation systems have been set up, the sudden discontinuation of the obligation to grow a specific crop can lead to economic losses
Further information	

Investment subsidies for developing and using sustainable energy generation processes

[TOP](#)

Description	Grants for developing and using sustainable energy generation processes.
Requirements	<ul style="list-style-type: none"> • A properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design, implement and monitor subsidy payments • Adequate budget resources
Objective	<ul style="list-style-type: none"> + Reduce harmful GHGs + Diversification of the energy supply + Promote innovation in the energy sector + Improve resource efficiency
Possible negative effects	<ul style="list-style-type: none"> – Corruption and personal gain –
Further information	

5.6 Instruments for safeguarding animal health and guaranteeing consumer health protection in food

Aim	5.6.1 Safeguarding animal health and controlling zoonoses	5.6.2 Safeguarding plant health and yields
	Regulatory framework for protecting consumer health	
	Residue and contaminant analyses in foods and feedstuffs	
	Introducing quality management systems	
	Establishing a state veterinary authority	Legal framework for plant breeding
	Support for veterinarians	Promoting plant breeding
	Establishing an animal health service	Establishing a state plant health service
	Establishing animal insurance schemes	State approval of fertilisers and pesticides
	Establishing an animal disease fund	
	Setting up animal breeding organisations	

Regulatory framework for protecting consumer health TOP	
Description	<p>The Codex Alimentarius provides the basis for statutory minimum hygiene and impurity criteria which must be observed at all stages of the value chain, including on farms, particularly when handling perishable products.</p> <p>The WTO Agreement lays down the rules for applying SPS measures which WTO members must comply with in their food safety and animal and plant health regulations. The measures that apply in the various countries should not unfairly discriminate between different WTO members.</p> <p>In Germany, for example, the main laws and ordinances on consumer health protection include the Foodstuffs and Commodities, Feedstuffs, Food Hygiene, Animal Diseases, Plant Protection, Animal Breeding and Medicines Acts, as well as the Drinking Water, Food Hygiene, Zoonotic Diseases and Milk Hygiene Ordinances.</p>
Requirements	<ul style="list-style-type: none"> • Regulatory framework, food laws • List of enterprises and an appropriate data management system • Independent institutions for food monitoring and analysis (laboratory-supported and certified) • Regular farm and business inspections • Properly functioning veterinary and health authorities
Objective	<ul style="list-style-type: none"> + Ensure a minimum quality requirement to protect consumers + Traceability and transparency
Possible negative effects	<ul style="list-style-type: none"> – Domestic businesses that cannot meet the standards could be forced out of the market – Non-listed companies could be marginalised (nepotism) • Trade barriers could be set up that discriminate against third countries – Suspicion of non-compliance could be used as a trade barrier
Further information	<p>In light of the international flows of goods and the constant development of products, manufacturing processes and forms of distribution, the food safety system needs to be worked on on an ongoing basis. The legislator can delegate these inspection tasks to approved service providers.</p> <p>The auditing of food companies (checking the inspections) takes the form of risk-based company inspections and targeted sampling with varying analysis criteria. Sensitive products (e.g. dairy products) are generally monitored more often. Special monitoring plans are in place for some product groups. In Germany, for example, inspections focus on microbiological compliance, residues, contamination, sensory consistency, composition, correct labelling and the presence of other undesirable substances. The Batch Identification Ordinance (<i>Loskennzeichnungsverordnung</i>) only permits food that can be clearly allocated to a specific batch (the quantity of all products produced in one production run) to be sold on the market. Penalties for infringements are imposed by the regulatory and judicial authorities.¹⁰⁵</p> <p>International development cooperation can help to shape the regulatory framework for inspections and the exclusion of contamination by bringing in international advisers and organising knowledge-sharing and training events. In particular, it can ensure that the needs of the rural population are given equal weight and that interest groups are involved. Organising multi-stakeholder dialogues and value chain platforms plays a particularly important role in this.</p>

¹⁰⁵

See BMEL 2016: 1.

Residue and contaminant analyses in foods and feedstuffs TOP	
Description	Establishment of analysis laboratories that examine food- and feedstuffs for hazardous residues on behalf of farmers and government bodies.
Requirements	<ul style="list-style-type: none"> • Adequate budget resources • Close cooperation with scientists, researchers and advisers • Skilled specialists
Objective	<ul style="list-style-type: none"> + Safeguard animal health and control zoonoses + Set up a country-wide safety standard for consumer health protection
Possible negative effects	<ul style="list-style-type: none"> – Discriminates against smaller businesses who cannot afford the analysis
Further information	International development cooperation in the areas of finance, technology and human resources can provide financial and professional support for the establishment of analysis laboratories. It is also important to cooperate with public and private advisory services that can provide suitable CD measures to help farmers use the services on offer and interpret the results of the analysis.

Introducing quality management systems

[TOP](#)

Description	<p>The introduction of quality management systems entails introducing quality assurance and quality management measures to preserve a product's properties throughout the supply chain and to effectively exclude potential contamination. The user of a quality management system must use the system without restrictions and must submit voluntarily to inspections. As a rule, it is not the product itself but the manufacturing, storage and handling processes that are inspected.</p> <p>QMSs generally encompass various steps, such as the risk analysis, identifying critical control points, establishing certain limit values, introducing a monitoring system, implementing corrective measures in case of discrepancies, carrying out evaluation measures and producing documentation.¹⁰⁶</p> <p>In fully integrated supply chains, quality assurance and quality management should preferably be interlinked throughout the entire supply chain so as to ensure that appropriate measures are implemented at all stages from the production of the agricultural product to marketing the product to consumers. This is already the case in most industrialised countries. In developing countries and in some emerging countries, however, QMSs are usually only the preserve of actors in the first or second rural "world".</p>
Requirements	<ul style="list-style-type: none"> • All levels of the value chain must be willing to take responsibility for quality assurance • Technical operational measures in respect of hygiene and processes • Externally inspected in-house quality assurance system as a precondition for contingency insurance • Training opportunities for inspectors and users • If applicable, acceptance of in-house quality assurance systems at state and public administration level
Objective	<ul style="list-style-type: none"> + Secure standards for consumer health protection + Promote the integration of agriculture into the food value chain + Mutual transparency throughout the value chain to guarantee high quality, safe food (consumer protection) + Guarantee traceability in case of claims and recalls + Increase producer prices by differentiating payments according to generally applicable, comparable criteria
Possible negative effects	<ul style="list-style-type: none"> – Multiple competing/incompatible systems (between producers and their buyers) – Higher costs for farms implementing the systems – Strong dominance of individual stages in the chain (e.g. traders, see chapter 4.2.5) – Insufficient resources for regular and effective inspections by external inspection bodies
Further information	<p>The quality assurance system is only effective if heavy penalties are imposed on "black sheep" in the production chain. Voluntary quality assurance systems can help to improve the image of agriculture among consumers.</p> <p>International development cooperation can support the development of QMSs for government authorities and external inspection bodies by bringing in international advisers. It can also help introduce and implement QMSs by providing training, e.g. in collaboration with farmer organisations or the private sector.</p>

¹⁰⁶ See BMEL 2016: 3.

5.6.1 Instruments for safeguarding animal health and controlling zoonosis

Establishing a state veterinary authority TOP	
Description	State-employed veterinarians organise animal disease control and prevention at local, regional and national levels. They safeguard animal health by inspecting feedstuffs on import and export and organise approvals of veterinary drugs and food inspections. It is advantageous to carry out checks of in-house inspections.
Requirements	<ul style="list-style-type: none"> • Sufficient veterinary training opportunities at state universities • Good range of training and degree courses for public employees • Regulatory powers for the veterinary authority, e.g. in the event of an epidemic or where penalties are imposed for misconduct by companies in the food production chain • Residue and contaminant analyses
Objective	<ul style="list-style-type: none"> + Safeguard animal health and control zoonoses + Set up a country-wide safety standard for consumer health protection
Possible negative effects	<ul style="list-style-type: none"> – Over-regulation of food production along the whole supply chain from farm to store
Further information	<p>The state veterinary service prescribes systematic inoculations, e.g. against bovine tuberculosis or brucellosis. Animals offered for sale by breeders who do not participate in these programmes may not be traded on the market.</p> <p>The state veterinary service depends on close collaboration with farmers, food enterprises and private veterinarians.</p> <p>International development cooperation can help set up the authority by bringing in qualified advisers. This support is provided as part of a locally adapted CD strategy and generally includes training measures for public employees.</p>

Support for practising veterinarians TOP	
Description	Providing support for practising veterinarians, e.g. at local surgeries, helps set up a network of veterinary practices in the countryside that can support farmers, slaughterhouses and food enterprises in issues relating to controlling animal diseases and food hygiene.
Requirements	<ul style="list-style-type: none"> • Sufficient veterinary training opportunities at state universities • State-approved fee structure, if necessary
Objective	<ul style="list-style-type: none"> + Safeguard animal health and control zoonoses + Reduce veterinary costs + Constant monitoring of livestock numbers + Consumer protection
Possible negative effects	– Excessive vets' fees reduce farmers' economic strength
Further information	<p>Practising veterinarians organise regular livestock health checks, either with individual farmers or through breeding cooperatives, provide advice on feeding and housing and ensure high hygiene standards in egg, meat and dairy production.</p> <p>Where an animal health service exists, the burden on the state veterinary authority can be reduced by bringing in practising veterinarians.</p>

Establishing an animal health service TOP	
Description	In analogy to the plant protection service , the animal health service provides livestock farmers with advice and support on minimising the use of veterinary drugs and housing-related problems in animal production. This service team should be set up by state and private veterinarians and livestock farmers. The state can provide financial support for animal health services.
Requirements	<ul style="list-style-type: none"> • Initiated by the actors involved • Administrative bodies • Sufficient veterinary training opportunities at state universities • Regular exchange of information between the various actors
Objective	<ul style="list-style-type: none"> + Safeguard animal health and control zoonoses + Increase efficiency in animal health care + Improve the general hygiene status
Possible negative effects	– Reticence on the part of the state to intervene in the veterinary system
Further information	<p>The susceptibility of livestock to epidemics requires systematic action on the part of all concerned to protect consumer and animal health.</p> <p>The production of sensitive products is an area in which compliance with strict hygiene rules is particularly important. The animal health service can produce practical tips and concrete support to ensure compliance with these rules (e.g. via community refrigeration facilities). Where participation in these measures by farmers is widespread, the animal health service can also organise the disposal and processing of fallen animals and animal carcasses, thus helping to confine animal diseases and epidemics to a limited area.</p> <p>International development cooperation can help set an animal health service by involving all relevant actors, e.g. by bringing in qualified advisers or holding multi-stakeholder dialogues.</p>

Establishing animal insurance schemes TOP	
Description	A statutory or private animal insurance scheme protects owners, farmers and keepers against livestock losses caused by disease or epidemics.
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources • Adequate budget resources • Neutral registration of livestock numbers and the risk of disease (e.g. via an animal health service)
Objective	<ul style="list-style-type: none"> + Prevent existential crises on farms + Reduce and improve the predictability of the risk of animal losses caused by disease or epidemics
Possible negative effects	– Farmers neglect precautionary measures
Further information	International development cooperation can support the development of social security systems adapted to the specific needs of the country concerned.

Establishing an animal disease fund TOP	
Description	<p>An animal disease fund pays compensation and provides subsidies for animal losses caused by epidemics (including notifiable diseases) or other transmittable animal diseases. Financial compensation is usually paid for animals slaughtered by order of the authorities and sometimes also for animals who are discovered <i>post-mortem</i> to have been infected with a notifiable animal disease. The animal disease fund is financed from the insured parties' regular premiums but may also be subsidised by the state.</p> <p>The loss of income that arises until the herd is re-established can be partly compensated for with private loss-of-revenue insurance.</p>
Requirements	<ul style="list-style-type: none"> • Public authorities with sufficient technical and institutional resources • Adequate budget resources • Neutral registration of livestock numbers and the risk of disease (e.g. via an animal health service) • Animal disease legislation, if necessary
Objective	<ul style="list-style-type: none"> + Safeguard animal health and control zoonoses + Reduce and improve the predictability of the risk of animal losses caused by disease or epidemics + Prevent existential crises on farms
Possible negative effects	<ul style="list-style-type: none"> – Farmers neglect precautionary measures – Personal gain, corruption – Animal disease funds financially overstretched
Further information	<p>Membership of an animal disease fund is usually compulsory for farmers. Compensation payments can be subsidised by the state.</p> <p>International development cooperation can help the public authorities set up an animal disease fund adapted to the specific needs of the country concerned.</p>

Support for animal breeding organisations and associations		TOP
Description	Animal breeding organisations and associations generally run breeding programmes that aim to improve or preserve a particular breed. They also issue breeding permits, keep herd books and carry out performance checks and genetic value assessments.	
Requirements	<ul style="list-style-type: none"> • Constant registration of data at the individual animal level (e.g. milk performance, longevity, susceptibility to disease) • Good education and training for farmers, private and state veterinarians and breeding managers 	
Objective	<ul style="list-style-type: none"> + Improve performance and resistance in the livestock breeds used in a country + Systematic breeding enables economic advantages to be achieved very swiftly by improving feed conversion, increasing resistance to animal diseases and improving milk, meat and egg production. 	
Possible negative effects	– To narrow focus on just a few breeds or breeding targets	
Further information	International development cooperation can help public authorities and farmer organisations set up or professionalise animal breeding organisations and associations adapted to the specific needs of the country concerned.	

5.6.2 Instruments for safeguarding plant health and yields

Legal framework for plant breeding TOP	
Description	In order to improve production in arable farming and grassland use, it is not only important to preserve existing bred species but also to further develop them. Regulating the process of breeding and certification of species in law can help to target and adapt these measures to the country's specific circumstances.
Requirements	<ul style="list-style-type: none"> • Properly functioning country-wide administration and monitoring system with sufficient technical and human resources to design and implement it • Close cooperation with scientists, researchers, advisers and civil society organisations at national and international levels • Close cooperation with the various actors involved and their interest groups, e.g. farmer organisations • Sanction mechanisms • Clear objectives for policymakers and public authorities concerning the use, protection and further development of genetic resources
Objective	<ul style="list-style-type: none"> + Safeguard plant health and yields + Improve performance in arable farming + Neutral inspection of yield and performance data in plant breeding
Possible negative effects	<ul style="list-style-type: none"> – Plant breeding rules that are too strict hinder innovation transfer and therefore the development of arable farming – Bureaucratisation
Further information	<p>Good cooperation between state research and breeding organisations and private plant breeders can provide intensive support for the maintenance of varieties and advances in plant breeding.</p> <p>International development cooperation can help public authorities formulate statutory regulations on plant breeding that are adapted to the specific needs of the country concerned.</p>

Promoting plant breeding TOP	
Description	Intensive plant breeding not only safeguards quantities of food supplies but also the quality of the ingredients going into the food and, therefore, its suitability for storage and processing. Supporting plant breeding is a low-cost way of improving the country's nutritional status and also serves to improve soil fertility and animal health.
Requirements	<ul style="list-style-type: none"> • Close cooperation with scientists, researchers, advisers and the private sector • Skilled specialists • Sufficient budget resources • Access for farmers to genetic resources in their region (and from abroad) • A secure supply of high-yielding and highly resistant species
Objective	<ul style="list-style-type: none"> + Secure regional species diversity + Rapid adaptation to changing climatic conditions and markets + Improve efficiency in agriculture
Possible negative effects	<ul style="list-style-type: none"> – The research results of state breeding institutions do not include private plant breeding activities – Advances in breeding could be abused for reasons of nepotism
Further information	Plant breeding was originally in the hands of the farmers themselves. It is only in the last 200 years that systematic breeding has come about. This is largely undertaken by private companies, many of which have evolved from farms.

Establishing a state plant health service TOP	
Description	In analogy to the animal health service , state-employed plant doctors monitor the health of crops (including water supplies and plant protection measures) at local, regional and national levels. The plant health service provides tips and information on the use of pesticides in specific soil and climatic conditions, carries out residue inspections and notifies farmers and the public authorities at all levels. The state plant health service also inspects plant-based foods on import and export and on the domestic market.
Requirements	<ul style="list-style-type: none"> • Initiated by the actors involved • Administrative bodies • Regular exchange of information between the various actors (particularly with public and private advisory services, scientists and researchers) • Training of experts in arable farming, grassland management, plant breeding and plant protection at state universities
Objective	<ul style="list-style-type: none"> + Safeguard plant health and yields + Ensure consumer health protection and productive crop cultivation
Possible negative effects	– Nepotism caused by giving individual groups preferential advice and support
Further information	

State approval of fertilisers and pesticides

[TOP](#)

Description	A state-run, independent scientific approval body for fertilisers and pesticides has two main tasks: firstly, it checks the effectiveness of fertilisers and pesticides taking the country's soil and climatic conditions into account, and secondly, it identifies any potential risks to health and the environment.
Requirements	<ul style="list-style-type: none"> • Regulatory framework • Public authorities with sufficient technical and institutional resources (approval body) • Close cooperation with scientists, researchers, advisers and civil society organisations at national and international levels
Objective	<ul style="list-style-type: none"> + Safeguard plant health and yields + Consumer protection
Possible negative effects	<ul style="list-style-type: none"> – The duration and cost of the approval procedure can overstretch smaller-scale fertiliser and pesticides manufacturers in particular
Further information	Controlling harmful insects and fungi in crops demands effective pesticides. The development of pesticide resistance can only be prevented if new ingredients are regularly tried out. What is needed, therefore, is an approval body staffed by environmental and agricultural experts. State approval bodies should work together intensively at the regional and international levels in order to limit risks and open up the market to new fertilisers and pesticides.

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