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Bachev, Hrabrin and Ivanov, Bozhidar

Institute of Agricultural Economics, Sofia

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Composition and Measurement of Agro-food Governance¹

Hrabrin Bachev² and Bozhidar Ivanov

Institute of Agricultural Economics, Sofia, BULGARIA

Abstract

There are intense debates about the importance and quality of agri-food governance, which have not passed Bulgaria. This chapter adapts the methodology of the New Institutional Economics and offers a holistic framework for an adequate understanding of the concept and components of agri-food governance system and for assessing its quality. Agri-food governance is defined as a complex system with five components: (1) agri-food and related agents, (2) means (rules, forms, and mechanisms) that govern agents' behavior, activities, and relationships, (3) processes and activities related to making diverse managerial decisions, (4) specific social order resulting from the governing process, and (5) outcomes of the functioning of the system in terms of the realization of sustainable development goals. For a holistic assessment of the quality of agri-food governance, a multidimensional hierarchical system with good governance 11 principles, 21 criteria, and 36 indicators and reference values is presented. A first in kind comprehensive assessment of the farming component of agri-food governance system in Bulgaria, based on statistical and expert data, showed that its overall quality is at a moderate European Union level. In terms of sustainability, the quality of governance is at a good level, while for process, means, and order components, it is at a satisfactory level. The quality of agrarian governance is highest in terms of equity and solidarity and the good functioning public sector. The quality of agrarian governance is lowest in terms of stakeholder involvement and the Good Working Private Sector. In the future, in the latter two areas, combined actions of public, private, and collective agents are

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² Correspondence: hbachev@yahoo.com

needed to improve the country's agri-food governance. This study showed that particular attention is needed to improve currently inferior decision-making transparency, unacceptable lobbying, and high transaction costs for dealing with other agents, mitigate agricultural contribution to climate change, increase the significance of agriculture, match management decisions to public expectations, increase the competency and expertise of agrarian agents, and improve farm access to public support. The suggested framework for agri-food governance analysis and assessment is to be further adapted to the specificity of different agri-food systems and applied more broadly in diverse agri-food systems in a particular country and region, and international comparisons between (different EU) countries. The widespread application of the GAMPOS framework requires the systematic collection of new types of micro and macro data about the characteristics of governance agents, means, processes, order, and sustainability in different agri-food systems, including through official national, EU, and international statistical systems as well as the cooperation of all participating and interested parties in good governance.

Keywords: governance; agri-food systems; quality; principles; criteria; indicators; assessment

Introduction

The importance of governance and the efficiency of diverse governing mechanisms and modes have always been at the center of modern economic analysis of the agri-food sector. In the last few years, there have been “renewed” intensive debates on the content and role of the governance of agri-food systems involving policymakers, agro-business managers, professional organizations, interest groups, international organizations, researchers, and the public [1–13]. Simultaneously, there has been a huge growth in the number of publications by scholars in different disciplines on different aspects of agri-food governance around the globe [9,10,14–22]. All these interests have been associated with the “novel” challenges related to agri-food security and safety, inequity, power distribution, environmental conservation, climate change, and the recognized need for “food system transformation” [2,6–8,10,12,16,21,23].

Currently, there is a principle understanding that the quality of governance is the main factor that is responsible for the agri-food system state as well as its potential, challenges, and prospects of development [13,18,24]. It has also been shown that governance largely determines the ability of agri-food systems to transform in response to contemporary challenges [3,13,25]. The goals for modernization of the governance imply that governance itself can “be governed”, and it is “something” that can be improved by “someone” or “somehow”.

Nevertheless, several recent reviews on the governance of agri-food systems showed that it is under-researched, and there are multiple issues in the research in this area [1,13,15,21,25,26]. Still, there is no common approach for defining the content and components of a governance system, and an acceptable framework for a comprehensive assessment of the governance is lacking. Most agri-food governance studies are at a conceptual level and follow the unidisciplinary tradition of politics, economics, management, sociology, and law sciences in that area. Furthermore, agri-food governance studies are usually restricted to a particular level or mode of governance (public, corporate, urban, and international), a specific social (economic, environmental, and healthcare) goal, or objectives of implementing (governing, donor, and stakeholder) organizations. In addition, agri-food governance assessments are predominately qualitative, incomplete, or with arbitrarily selected indicators. In the agri-food governance assessment systems, specific indicators are used depending on the applied approach, the type of agri-food system (agri-food chain; geographical or administrative region; farming; food distribution), the functional area (inputs supply and environmental and waste management), or the critical resource (water, lands, and innovation). This can cause confusion and controversies and impede the process of understanding and improvement of agri-food governance.

This article tries to answer two important academic and practical (business- and policy-related) questions related to agri-food governance: how to define the system of agri-food governance, and how to measure how good it is. It suggests a holistic approach for an adequate understanding of the system of agri-food governance and for assessing its quality. The suggested GAMPOS approach incorporates the achievements of the interdisciplinary new institutional economics

method [27–30]. The relevance of the presented new framework is demonstrated by evaluating the quality of agrarian governance in Bulgaria.

Composition of the System of Agri-Food Governance

The term governance is widely used in multiple scenarios, from the governance of a single transaction to the governance of global affairs. The term is considered well-known, and many profound studies on agri-food governance do not define governance [31,32]. At the same time, many scholars in governance point out that it is a general, complex, multifaceted concept that is difficult to define in a precise way [33–37].

On the other hand, agri-food governance is easily defined and understood since that is the governance of agri-food system(s). Since there is not one but diverse types of agri-food systems, there is no unified agri-food governance but a system of multiple specific governances of individual agri-food systems. For instance, there is governance of a particular food chain, like coffee and fair-trade and organic Bulgarian yogurt, governance of a major component of food systems, like farming, processing, and distribution, governance of food systems in a specific geographical or administrative region, like the global North, EU, and urban areas, governance of a particular functional area of food systems like input supply and risk and environmental management. However, there are still ongoing discussions about the components and boundaries of the agri-food system itself, which additionally complicates the understanding of its governance [1,13,15,21,25].

Agri-food governance is a part of social governance and has to possess common features of governance, which first have to be identified [24]. Next, the analysis of the agri-food governance and the assessment of its quality must follow a single approach (principles, criteria, etc.) independent of the examined agri-food (sub)systems. Furthermore, the content of the term governance and its modes are also constantly evolving (determined by the development of theory and agri-business and policy practices), which has to be taken into account.

The main traditions for understanding and studying governance can be summarized in five directions, all of which have to be incorporated into the modern framework for defining and assessing agri-food system governance.

First, the political science approach understands governance as agents (individuals, agencies, and organizations) who govern and/or participate in governance—the president and the parliament [34]. Traditional narrower understanding of this approach sees it as a synonym for government (public authority and administration), while a broader understanding includes new actors such as non-sovereign and informal agents outside the state system—international and non-governmental organizations, supra-national institutions like the European Union, etc. [35].

Modern understanding of governance includes all interested agents (authorities, organizations, groups, and individuals) related to the agri-food system who govern it or participate in its governance [6,12]. For instance, politicians, public (state) bureaucracy, entrepreneurs and managers, recourse owners, employed labor, suppliers and buyers, professional organizations, interest groups, residents, and final consumers are all a part of agri-food governance. Accordingly,

diverse actors (governance units) involved in agri-food system governance are identified, and their vision, ideology, capability, interests, power position, relations, and importance are specified. Consequently, the governance of food systems is often described as the ability of actors to steer the system and its changes [3,25].

The comprehensive analysis includes not only formal but de facto actors of governance since a significant portion of social and agri-food system governance is dominated by special (industry, interests, and criminal) groups. Transferring multiple traditional functions from the state to private and non-governmental organizations has been the basis of the new governance paradigm and policies (known as governance without government) and includes regulations, standards, control, (self) organization, and the provision of public goods and services. The latter is a result of the realization that private and collective governance is often much more efficient than state bureaucracy both in terms of competence and costs [30]. Consequently, a diverse model of governance emerged depending on the type and importance of actors involved—more centralized, decentralized, polycentric, multilevel, and network-based [13,21,38].

There are also some strong voices for reconfiguring and renegotiating control of global food governance [2,3]. However, a challenge for food system governance research and practice is recognizing and engaging with intersectional identities within the food system [39]. The nature of stakeholders is porous and blurred since each individual holds multiple identities about gender, sexuality, class, ethnicity, age, ability, and migration status, which impacts their agency to change food systems.

The new institutional economics method studies agents' "human nature" and their capability, preferences, ideology, bounded rationality, tendency for opportunism, and risk-taking approaches. In addition, it transitions from a lack of transaction costs to the inclusion of costs of agents' transactions as a key feature of agri-food governance [27,30].

Second, the economic science (political economy) tradition approach defines governance as a means (rules, mechanisms, and modes) that governs agents' behavior, activity, and relationships [13,21,28,30,36,37]. In neoclassical economics, there are only two principal mechanisms that effectively govern (direct, coordinate, incentivize, and sanction) the overall activities of individuals and resource allocation—the invisible hand of the market (market prices and market competition) and the visible hand of the manager (managing by fiat). The old institutionalism discovered the important role of institutions (centrally introduced from above or evolved as decentralized initiatives from below) to "correct" market failures and govern the behavior of individuals.

The new institutional economics method sees governance as a humanly devised instrument or means (like law, trust, and organization) for structuring agents' behavior, activities, and relations and for minimizing the costs of transactions [29,30]. In addition to institutions (formal and informal rules of the game), it studies markets, hybrids, firms, and bureaus as alternative forms of governance [27,30]. Moreover, it demonstrates that initiation, development, maintenance, modernization, transformation, and liquidation of individual (voluntary, compulsory, and hybrid) governance structures are costly and may take a long period of time to implement. Furthermore,

contract governance (bilateral or multilateral negotiations), private governance (private ordering or hierarchy), and collective governance (collective decision-making) failure is possible. However, they are often successful. On the other hand, institutional “development” and public governance (e.g., state interventions) are not necessarily more efficient, and there are many failures in that area in general and the agri-food sector in particular [29,30].

Following this means (sometimes called hardware) of perspective of food governance, there are multiple empirical studies on dominant modes and efficiency of governance of agri-food activities in the specific institutional, economic, and technological environment of a particular region, food chain, eco-system, and country [4,23,26,31,32].

Third, the management science approach defines governance as a process of governing—the process of decision-making and the process by which decisions are implemented or not implemented in society, country, industry, and organization [4,12,23,26,33,40–43]. For instance, for the United Nations food systems, governance is the process by which societies negotiate, implement, and evaluate collective priorities while building a shared understanding of synergies and trade-offs among diverse sectors, jurisdictions, and stakeholders [12].

Following this process (sometimes called software) of perspective of the governance of agri-food systems, focus is put on the process of market inclusion, private ordering, contract or complete (vertical or horizontal) integration, collective actions, third-party (state, international, and private) involvement in market and private relations, and systems’ modernization and transformation [4,23,31,32,44].

The new institutional economics method includes the analysis of the significant costs of agent’s transactions and identifies multiple cases of market, private, and public failures (and crises) within and related to agri-food systems around the world, including widespread cases of so-called inefficiency by design [29,30].

Fourth, the legal and sociological science approach sees governance as a specific formal and informal social order and the result of a process of management—the state of being governed and conducting work by mobilizing collective resources [34,36,37,45]. Accordingly, in a given country, region, and industry, different types of social order are identified—e.g., the rule of law, rule of money, rule of force, rule of multinationals, and domination of informal and grey rules and activities [24].

In the new institutional economics analysis, the identification and assessment of the dominating institutional structure of the agri-food system and the assessment of the efficiency and costs for agents (including individual and overall transaction costs) play a major role [46]. It is well known that the same agri-food governance means and structures have quite unequal results in different countries, industries, and regions (the import of good institutions is impossible). The new institutional economics approach calls for analyzing all types of social orders dominating the agri-food sector—formal, informal, institutional, market, contract, private, public, and international.

Fifth, the most recent sustainability science approach relates governance to the (maintenance of or transition toward) sustainability of agri-food systems and the efficiency (impacts) of actions for

achieving one or higher universal sustainability goals (such as fair income, distribution, nutrition, healthcare, environment conservation, and fighting climate change) related to and (often) beyond the agri-food system [5,13,15,16,21,23]. According to this novel view of governance for implementation [34,47,48], if multiple social goals (sustainability) are being successfully achieved, there is governance (governance works well); otherwise, there is no governance (governance does not work).

This understanding is largely related to the multi-actors' efforts to improve the governance system. Diverse desired goals of development (sustainability-related states) like efficient, honest, equitable, inclusive, transparent, and democratic development are identified with the governance (including agri-food governance) [15,43,49,50]. Simultaneously, there has been a fundamental shift in policies and strategies of public, international, professional, civic society, and agri-business organizations in this normative direction [34,35,43,49,51–54]. The policies and strategies moved from “productionists” to multi-dimensional goals related to sustainability. Subsequently, the introduction of and compliance with certain good governance principles and codes of conduct are spreading widely.

In the new institutional economics method, there is always some (a good or a bad) governance, and depending on the efficiency and the quality of the specific governance different countries, communities, industries, and regions archive dissimilar results in socioeconomic and environmentally sustainable development [24]. Consequently, a comprehensive assessment of the quality of governance becomes an important part of the agri-food governance analysis. In addition, quality refers to all components of the governance system—the quality of governing agents, governance means, governing processes, governance order, and the system's sustainability.

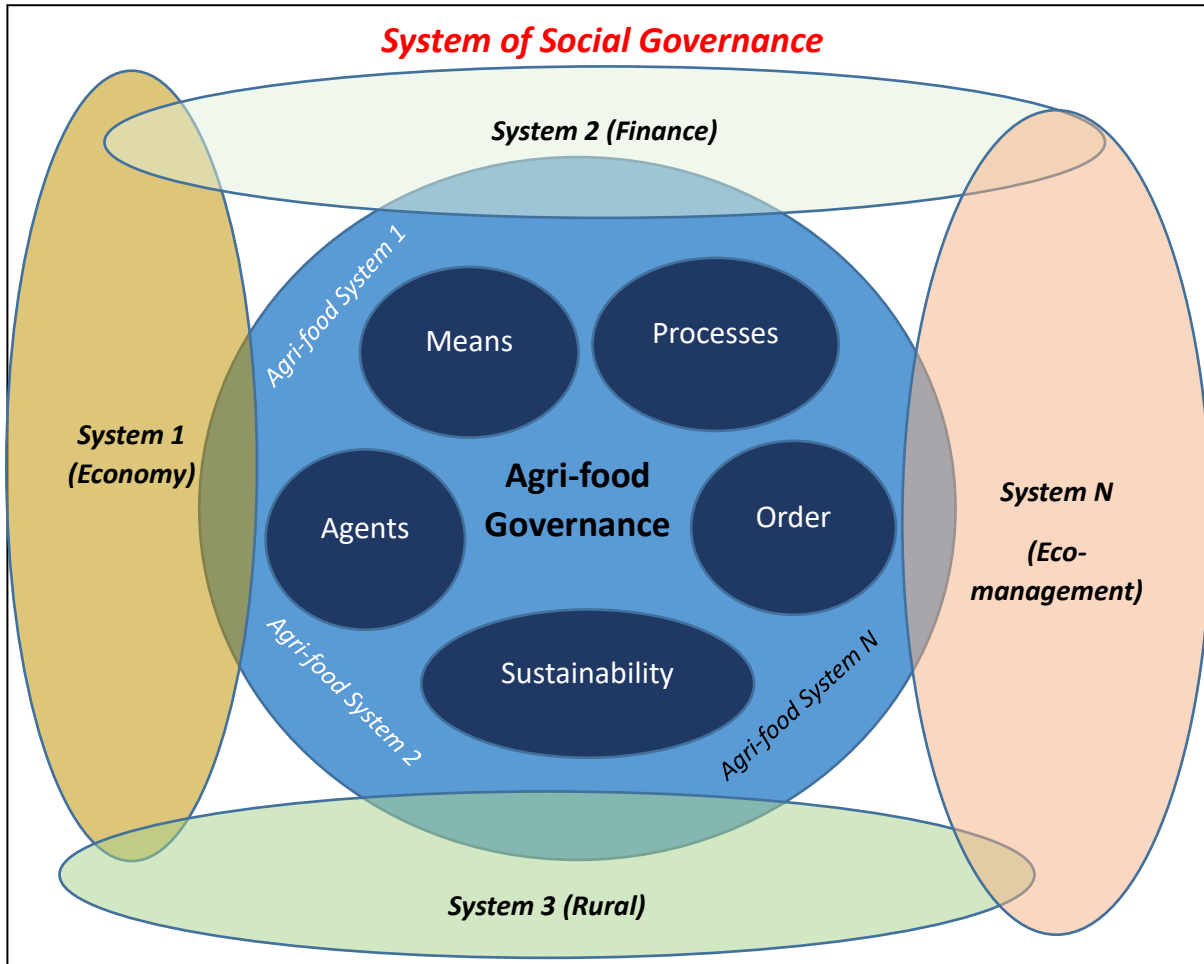
Most definitions of international, governmental, non-governmental, and business organizations combine two or more approaches (actors, processes, instruments, and outcomes) to understand governance [6,12,43]. Accordingly, good (agri-food) governance is considered as the agent, process, means, result, and goal of social development [24].

Therefore, agri-food governance is to be studied as a complex system that includes five principal components: (1) agri-food and related agents involved in the governance of decision-making, (2) means (rules, forms, and mechanisms) that govern the behavior, activities, and relationships of agri-food agents, (3) processes and activities related to making managerial decisions in the agri-food sector, (4) a specific social order resulting from the governing process, and (5) outcomes of the functioning of the system in terms of maintaining sustainability and the realization of sustainable development goals [24].

The agri-food governance system is a part (subsystem) of the social governance system and other important governance systems, such as the economy, rural or urban, ecosystem, and energy systems (Figure 1). The relationships of agri-food governance with other social systems largely (pre) determine its type and logic of development [24]. On the other hand, agri-food governance consists of different governance subsystems, differentiated depending on the type of agri-food system (farming, food processing, food distribution, and food consumption), type of product (plant, livestock, and wine), the type of resources (land, water, and finance), the functional area

(inputs supply, innovation, marketing, and risk management), geographical and administrative region (rural, urban, ecosystem, sector, national, transnational, European, and global). All of them have to be studied to highlight their specificity and role in the development of agri-food governance in general.

Figure 1. Components of agri-food governance



Source: authors

Measurement of the Quality of the Agri-Food Governance

To assess the quality of agri-food governance, we suggest a holistic GAMPOS framework (Good, Agents, Means, Processes, Order, Sustainability) (Figure 2). It includes the following steps [24]:

- defining the components of the agri-food governance system
- formulating the principles of good quality agri-food governance
- specifying the assessment criteria for each principle of agri-food governance
- identifying the best indicators for measuring the quality of agri-food governance for each criterion
- selecting the reference values for assessing the quality of agri-food governance for each indicator
- deriving the agri-food governance quality score
- determining the quality of agri-food governance

The agri-food governance system has five components—agents, means, processes, order, and sustainability.

The principles of quality governance are formulated for each of the components of the agri-food governance system. Governance quality principles are universal and relate to the best (socially desirable) state of the individual components of agri-food governance and the governance system as a whole. They are based on the universal principles of good governance, which have been formulated by international organizations (EU, UN, FAO, and the World Bank) and are widely accepted (written or unwritten social contract) by national governments, civil society organizations, and agri-businesses.

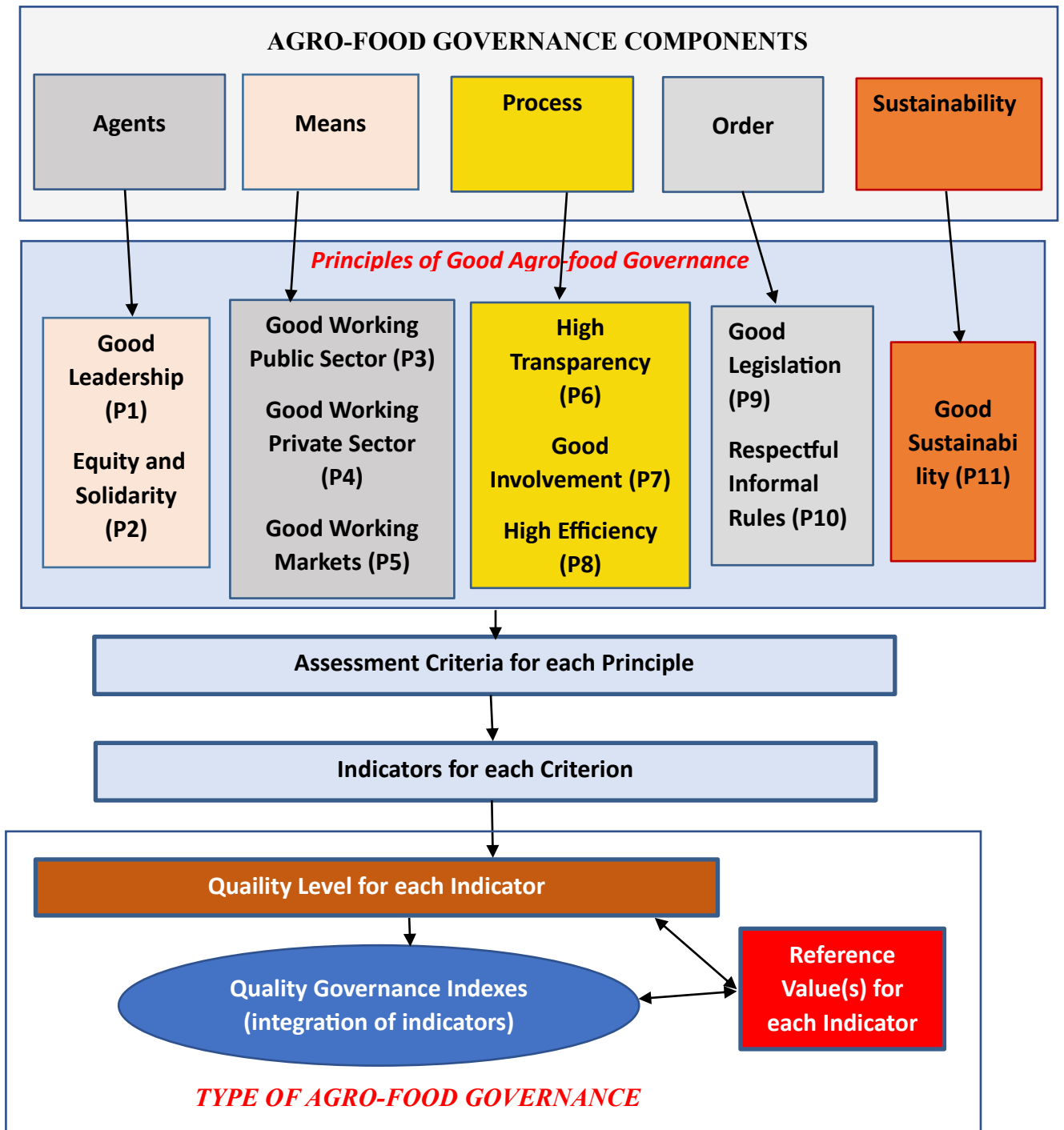
Eight leading Bulgarian experts in agrarian governance contributed to the assessment framework elaboration and calculated some of the estimates related to qualitative indicators. Three of the invited experts were internationally recognized scholars in agrarian governance from the Agricultural Academy, the University of National and World Economy, and the Agrarian University. Three experts were long-time leaders of major professional organizations of agricultural producers in the country. Two experts were experienced top officials from the Ministry of Agriculture and Food. The selected panel of experts represents all stakeholders, has good expertise on agrarian governance in Bulgaria and the European Union, and involves most of the qualified specialists in the country.

The panel of experts selected eleven equally important good governance principles related to the individual component of agri-food governance in the European Union (and Bulgaria), including (Figure 2):

- for agent component of governance: Good Leadership (P1) and Equity and Solidarity (P2)

- for means component of governance: Good Working Public Sector (P3), Good Working Private Sector (P4), and Good Working Markets (P5)
- for process component of governance: High Transparency (P6), Good Involvement (P7), and High Efficiency (P8)
- for order component of governance: Good Legislation (P9) and Respectful Informal Rules (P10)
- for sustainability component of governance: Good Sustainability (P11).

Figure 2. System for Assessing the Agro-food Governance



Source: authors

The assessment criteria of quality governance are specified for each of the quality governance principles.

Governance quality criteria are precise standards (quality measurement approaches) for each of the principles of agri-food governance. They represent a resulting state of the evaluated system when the relevant good quality governance principle is realized. The criteria are less universal and more adapted to the characteristics of analyzed (evaluated) agri-food systems. For instance, for the specific conditions of the farming component of the agri-food system in Bulgaria, for the governance quality principle of the Good Working Public Sector, two assessment criteria were selected—No administrative deadweight and Supportive administration.

For contemporary conditions of Bulgarian (and principally for the European Union) agri-food systems, twenty-one specific criteria were identified by a panel of experts (Table 1, Figure 3).

Table 1. System for assessing the quality of governance of Bulgarian agriculture

Components	Principles	Criteria	Indicators	Description of Indicators	Estimation	Units
Agents	Good leadership (P1)	Goodwill (C1)	Taking advantage at others' expense (I1)	Level of achieving own advantage at the expense of others through legal and illegal means	Expert assessment	Ranking score
			Correctness and decency in business relationships (I2)	Correctness and decency in business relationships in agriculture	Expert assessment	Ranking score
		High competency (C2)	Competency of agents (I3)	Degree of competency and expertise of agrarian agents	Expert assessment	Ranking score
			Entrepreneurship abilities (I4)	Agents' entrepreneurship abilities and self-improvement	Expert assessment	Ranking score
	Equity and solidarity (P2)	Gender equity (C3)	Level of discrimination (I5)	Level of discrimination on ethnic, religious and bigotry causes	Expert assessment	Ranking score
		Fair distribution (C4)	Fairness in remuneration of employees (I6)	Compensation of employees in agriculture/factor income	RCA method	Share

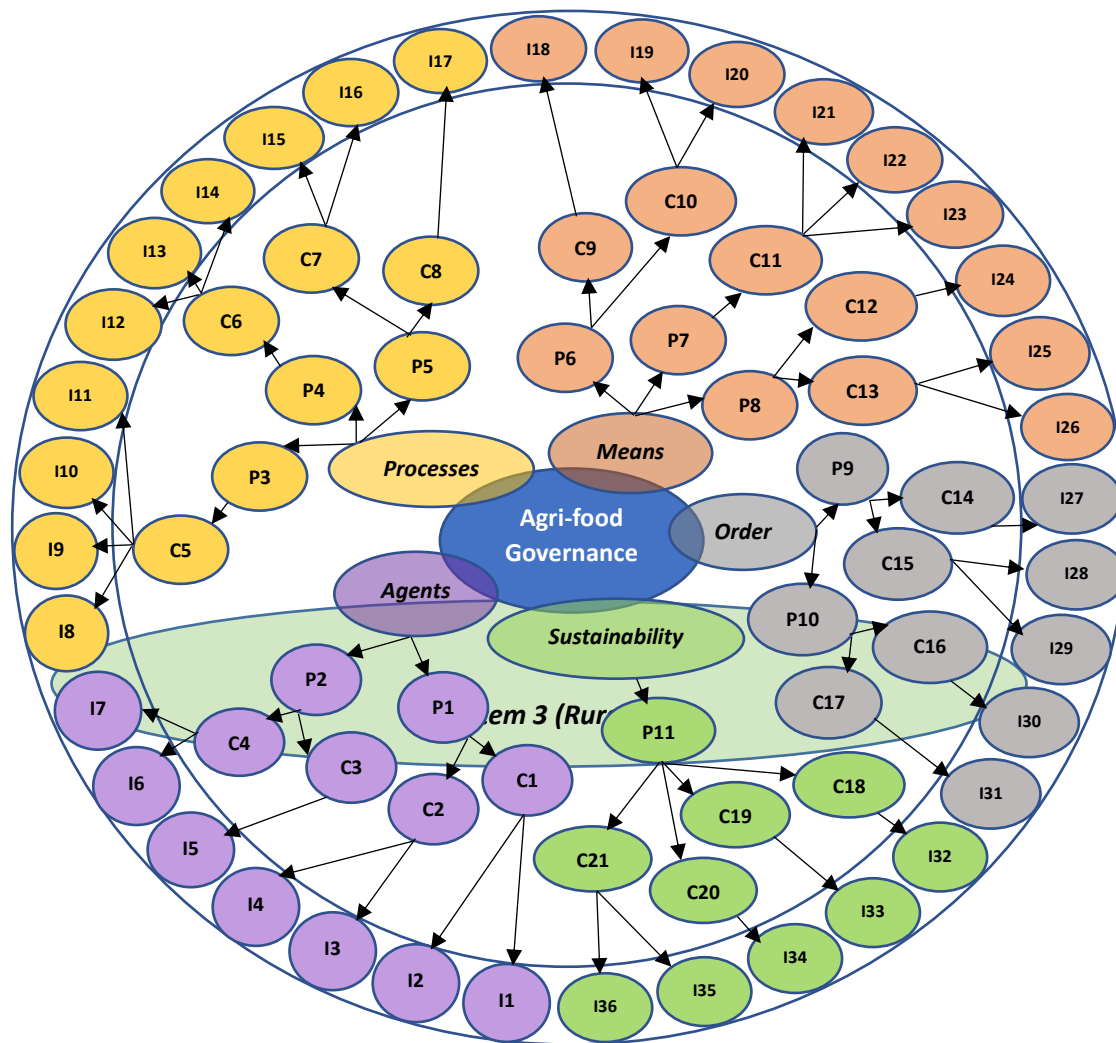
			Balance in public support (I7)	Gini coefficient	RCA method	Coefficient	
Means	Good Working Public Sector (P3)	No administrative deadweight (C5)	Unlawful payments (I8)	Level of unlawful payments and embezzlement	Expert assessment	Ranking score	
		Supportive administration (C6)	Satisfaction from administrative services (I9)	Satisfaction degree from administrative services	Expert assessment	Ranking score	
			Public spending for agrarian administration (I10)	Agri-governmental expenditure unto total governmental spending	RCA method	Percent	
	Good Working Private Sector (P4)	Efficient private sector (C7)	Effectiveness of agrarian contracting (I11)	Effectiveness of contracting among agents in agriculture	Experts assessment	Ranking score	
			Opportunities for different organizations (I12)	Equality in opportunities for the development of different organizational forms	Experts assessment	Ranking score	
			External contracting (I13)	Contractual work for the total output of farms	RCA method	Ranking score	
	Good Working Market (P5)	Fair competition (C9)	Accessible market (C8)	Market entry and exit costs (I14)	Level of entry and exit market costs	Expert assessment	Ranking score
			Competition fairness (I15)	Competition fairness and avoiding price rigging	Expert assessment	Ranking score	
			Market orientation (I16)	Farm use and farm households' consumption unto total output	RCA method	Share	
	Processes	High transparency (P6)	Confident level of awareness (C10)	Information awareness (I17)	Information awareness of agrarian agents and stakeholders	Expert assessment	Ranking score
				Costs for information access (I18)	Cost level for information access of stakeholders and agents	Expert assessment	Ranking score
				Decision-making transparency (I19)	Decision-making transparency extent	Expert assessment	Ranking score

			Symmetry of decisions to public expectations (I20)	Symmetry between decisions made and public expectations in agriculture	Expert assessment	Ranking score
Good involvement (P7)	Participatory decision-making (C11)		Plurality in decision-making (I21)	Plurality level in the decision-making process in agriculture	Experts assessment	Ranking score
			Unacceptable lobbying (I22)	Level of unacceptable lobbying impairing third parties	Expert assessment	Ranking score
			Access to public support (I23)	Share of farms with direct payment in the total number of farms	RCA method	Percent
			High return (C12)	Costs for dealing with other agents (I24)	Total efforts and costs for dealing with other private and public agents in agriculture	Expert assessment
High efficiency (P8)		Price rewarding potential (I25)	Price index outputs/price input index	RCA method	Index	
		Low transaction costs (C13)	Transaction costs (I26)	Total farm overhead costs/total input	RCA method	Share
	Good legislation (P9)	Comprehensive legislation (C14)	Completeness of legislation (I27)	Completeness of legislation	Expert assessment	Ranking score
Justified enforcement (C15)		Implementation and compliance with legislation (I28)	Degree of implementation and conformity with legislation	Expert assessment	Ranking score	
		Costs for study and enforcement rules (I29)	Level of regulation costs for acquaintance and enforcement	Expert assessment	Ranking score	
		Mutual trust (C16)	Trust in agriculture (I30)	Level of trust between agrarian subjects	Expert assessment	Ranking score
Respectful informal rules (P10)	Good manner (C17)	Conflicts in community (I31)	Conflict level and contradiction state within agricultural communities	Expert assessment	Ranking score	
	Good sustainability (P11)	Stable employment (C18)	Engagement in agriculture (I32)	Share of the population employed in agriculture	RCA method	Percent
		High GAV (C19)	Economic significance of agriculture (I33)	GAV of agriculture per capita	RCA method	Euro

Competitive trade (C20)	Trade importance of agriculture (I34)	Agricultural export/agricultural import	RCA method	Index
Resilient environment (C21)	Climate change mitigation (I35)	State of greenhouse gases from agriculture in total greenhouse gases in the country	RCA method	Percent
	Soil protection (I36)	Quantity of nitrogen fertilizer use	RCA method	Kg/ha

Source: authors

Figure 3. Multidimensional hierarchical system of principles, criteria, and indicators for assessing the quality of the farming component of agri-food governance in Bulgaria.



Source: authors

The assessment indicators of quality governance are selected for each of the quality governance criteria.

Governance quality indicators are quantitative and qualitative variables of different types that can be assessed in the specific conditions of the specific agri-food system, allowing the measurement of compliance with a particular criterion. They have to be specific to the socio-economic, behavioral, institutional, agronomic, technological, and ecological conditions of a particular agri-food system. For instance, for the specific conditions of the farming component of the agri-food system in Bulgaria, for the criterion Supportive administration, two assessment indicators were selected—Satisfaction from administrative services and Level of governmental spending for agricultural administration. The final set of assessment indicators gives an all-inclusive multidirectional picture of the state of individual components of agri-food governance and the governance of the evaluated specific agri-food system.

For the selection of the best indicators from the prepared list of (all) possible governance indicators identified from the literature [4,11,15,23,25,48,55], international assessment practices [43,56,57], and experts' suggestions, a multicriteria assessment was performed by the panel of experts for Relevance, Discriminatory power, Analytical soundness, Intelligibility and synonymity, Measurability, Governance and policy relevance, and Practical applicability [58]. Consequently, thirty-six indicators were selected for the specific conditions of the “farming” component of the Bulgarian agri-food system.

To assess the quality level of agri-food governance, a system of appropriate good quality governance reference values is to be specified—one for each governance quality indicator. Reference values are the best norms, range, standards, and practices defined by science, Bulgarian and European Union regulations, practices, and social contracts related to the agri-food system. They are the desired and feasible levels for indicators for the conditions of the evaluated agri-food system. For instance, for the specific conditions of the farming component of the national agri-food system in Bulgaria, a system of thirty-six good quality governance reference values is used. The reference values are determined by the European Union levels—legislated, recommended, or average depending on the specificity of the assessment indicator. The justification for using the European Union standards as reference values for assessing the quality of agri-food governance in Bulgaria is that the European Union has the world's highest agri-food system (quality, food safety, labor, animal welfare, environmental, etc.) standards, which have also been broadly adopted in many countries around the globe.

Compliance with the good quality agri-food governance principles is evaluated for each indicator. That allows us to identify the areas where agri-food governance is of superior quality and the areas where the quality of governance is not good and improvements have to be made.

Often, levels of individual governance quality indicators for each criterion and/or different criteria and principles of governance are unequal and controversial. Therefore, a transformation of diverse values of indicators into a unitless governance index is needed, and individual estimates are integrated. Methodological details of the process of integration and interpretation of the

governance quality indices depend on the specificity of the evaluated agri-food system. One effective approach for this is demonstrated in the following section of this paper.

Quality of Agrarian Governance in Bulgaria

The suggested GAMPOS framework of quality governance principles, criteria, indicators, and reference values have been adapted to the specific (socio-economic, institutional, international, and natural) conditions of contemporary Bulgarian agriculture and experimented upon to assess the quality level of its major components and the governance system as a whole.

The agrarian (farming) sector of the agri-food system in Bulgaria is an important part of the national economy and employed resources, accounting for four percent of the Gross Value-Added Product, six percent of the overall employment, seventeen percent of the export, and forty-seven percent of the total land area in the country in 2022 [59]. While in other parts of the agri-food system (food processing, distribution, and transportation retailing), the modern European Union governance standards prevail (due to the domination of multinationals, high competition and mobility of resources, stricter and easier external control from the EU), farming governance is still quite specific (due to tradition, path dependency, domination of local modes and informal institutions, and the Bulgarian way of implementing CAP of EU) [24]. That is the main reason to assess the farming component of the agri-food governance in Bulgaria separately.

The first-in-kind evaluation of agrarian governance was performed in the beginning of 2023 using data from European and national statistical and other official sources as well as assessments of an eight-member panel of experts including leading scholars and representatives of governmental and major farmers' organizations in the country. The quality of agrarian governance is relatively stable in short periods of time [24]. The goal of this study was to assess the quality of agrarian governance for the period before the introduction of the new EU Common Agricultural Policy (2023–2027). The available statistical data used in this assessment were for 2019–2021. The experts were instructed to use the same period in their estimates.

For the calculation of some quality governance indicators, the Relative Comparison Assessment (RCA) Method [58] is employed—e.g., Government spending for agricultural administration and Degree of market orientation. Eurostat and FADN statistical data were used and averaged for three years.

The calculation of the remaining governance quality indicators was based on expert estimates from a five-level ranking scale—very low, low, middle, high, and very high.

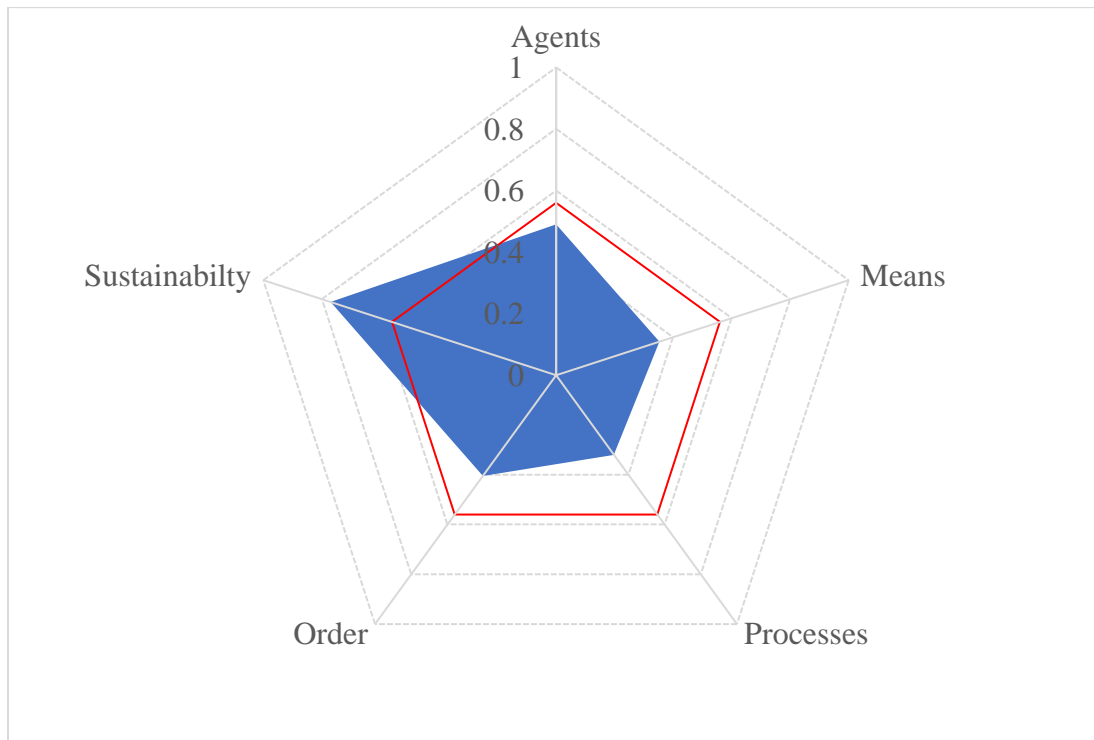
The common reference values used in this assessment are the average EU level and the medium EU situation, which provides the measurability and comparability of the assessment scores.

The integral governance index of Bulgarian agriculture is computed by weighting the principal score, number, and components and is represented by a qualitative score ranging from zero to one. Five categories for governance index are distinguished: very good, good, moderate, satisfactory, and bad governance, linked to range eighty-one hundredths to one, fifty-six hundredths to eight-tenths, forty-six hundredths to fifty-five hundredths, twenty-one hundredths to forty-five hundredths, and less than two tenths, respectively. The justification for the suggested approach for

the calculation, integration, and interpretation of indicators is presented by Ivanov and Bachev [58].

The holistic assessment has found that the overall quality of agrarian governance in Bulgaria is at a moderate level, with an integral governance quality index of forty-seven hundredths (Figure 4). There is a significant differentiation in the quality of individual elements of the governance system. Only in terms of sustainability, the agrarian governance in the country is at a good (European) level. At the same time, for the process, means, and order components, the agrarian governance is at a satisfactory level.

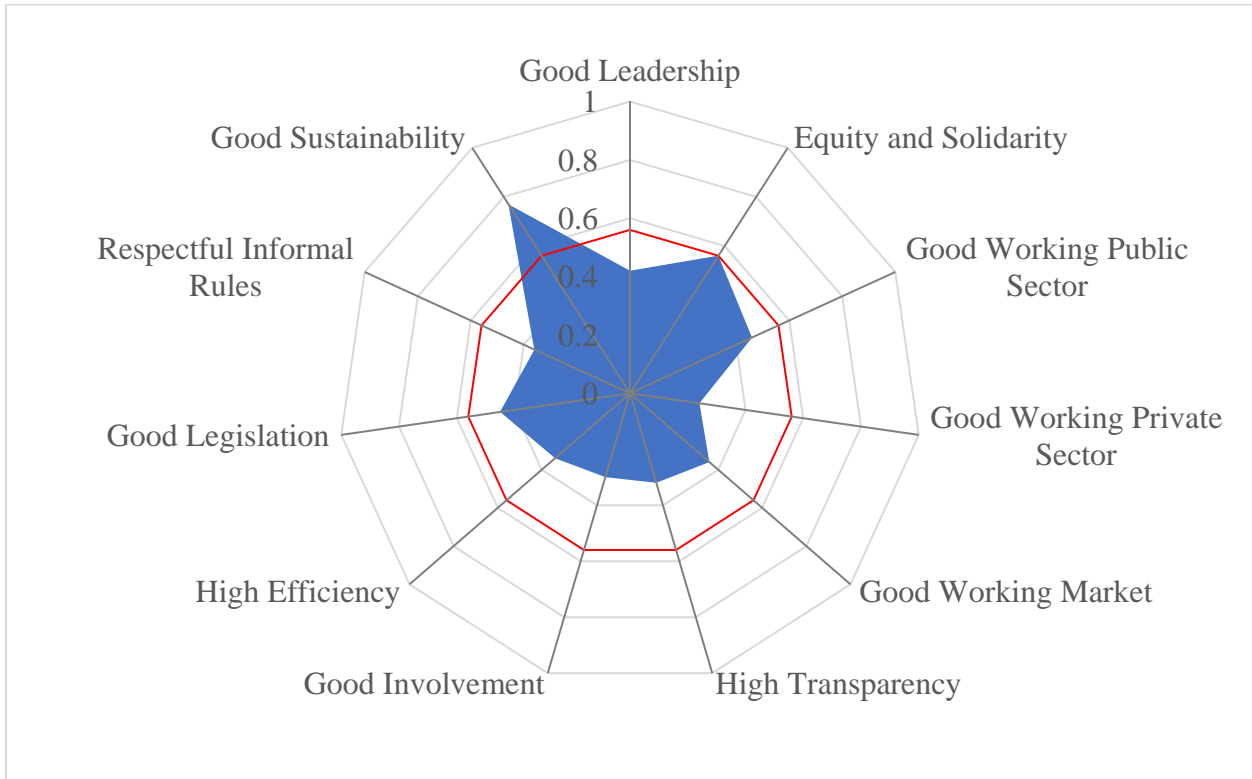
Figure 4. Quality of agrarian governance in Bulgaria. Blue line is the actual level of the quality of governance, while red line is the border for the good quality governance.



Source: authors calculation based on statistical and experts data

The quality of agrarian governance in Bulgaria is highest in terms of equity and solidarity (good European level) and the Good Working Public Sector. In terms of the functioning of the public sector, agrarian governance is at a medium level, while for all other principles, it is at a satisfactory (European) level. The poorest performance of agrarian governance in the country is for the stakeholder's involvement and the Good Working Private Sector (Figure 5).

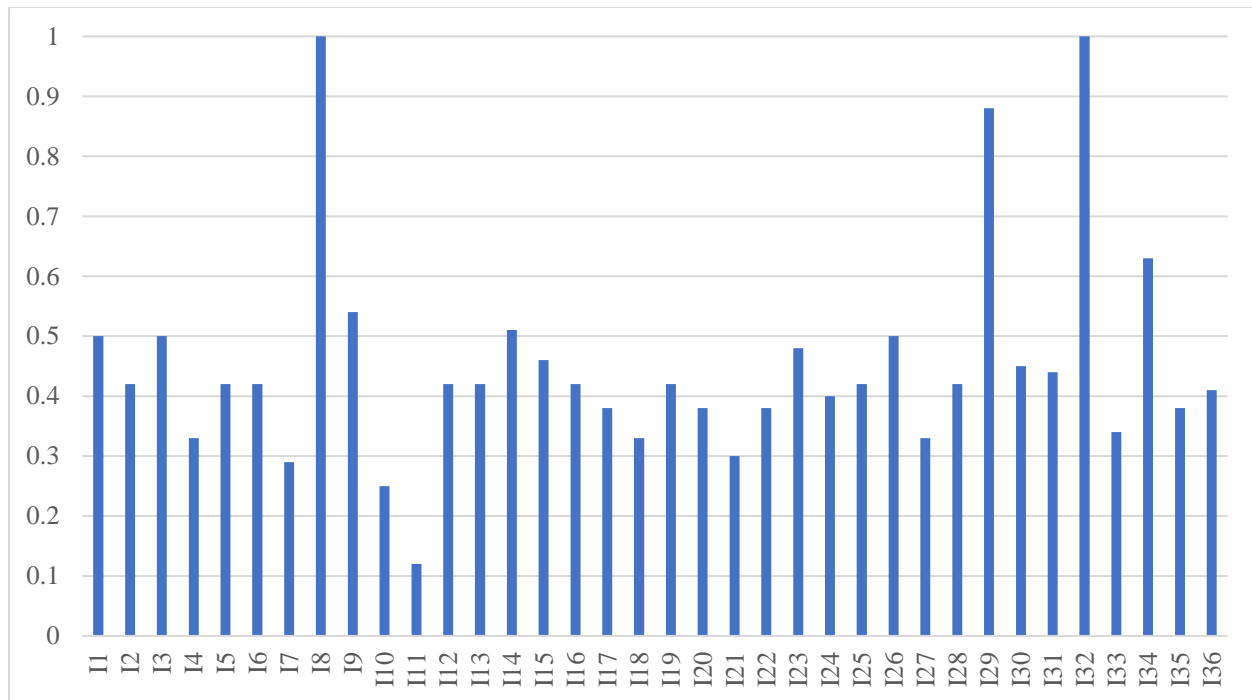
Figure 5. Quality of governance of Bulgarian agriculture for good governance principles. Blue line is the actual level of the quality of governance, while red line is the border for the good quality governance



Source: authors calculation based on statistical and experts data

The strongest points of the agrarian governance system at the present stage of development are people's engagement in agriculture, the level of discrimination, and the importance of agriculture in trade (Figure 6). These three areas show the comparative potential and advantages of Bulgarian agriculture and agri-food systems in terms of good (European) quality level of governance, and they have to be maintained and further enhanced.

Figure 6. Quality of Agrarian Governance in Bulgaria for Individual Indicators



Source: authors calculation based on statistical and experts data

There is a moderate quality of agrarian governance in terms of market orientation, correctness and decency in the business relationships, price rewarding potential, and information awareness of stakeholders and agents in agriculture. In these areas, the quality of governance is to be enhanced, and the existing potential for improvement must be explored.

In all other areas, the quality of governance is at a satisfactory level but is especially weak in decision-making transparency, level of unacceptable lobbying, costs and efforts for dealing with other private and public agents in agriculture, the contribution of agriculture to climate change mitigation, the significance of agriculture in the economy, symmetry between decisions taken and public expectations in agriculture, competency and expertise of agents in agriculture, and farm access to public agricultural support.

In all these inferior quality areas, the efforts of agribusiness managers, public officers, and interested agents have to be directed in the future to improve the governance of the agrarian and agri-food sectors in the country. The latter can consist of new efficient policy support and regulation measures, restructuring of public organizations and administration, improvement of the governance of agricultural farms, contracts and organizations, adequate assistance from non-governmental and international organizations, or fundamental institutional reforms [44]. Here again, the comparative institutional analysis of the new institutional economics method could assist enormously in the process of the identification of feasible governance options (including the designing of new forms), assessment of their comparative and absolute efficiency, and selection

of the best modes for the specific (socio-economic, institutional, technological, and natural) conditions of a particular agri-food system.

Comprehensive assessments of the quality of agrarian governance are new for Bulgaria and internationally. The results of this study confirm the conclusions of previous studies based on qualitative assessments of agri-food governance in the country [19,44,60]. The assessments in this study are also similar to general assessments on the quality of governance of the public sector and corporate sector in Bulgaria by international organizations, such as the European Commission [58], European Bank for Reconstruction and Development [59], and World Bank [60], as well as research studies [55,61,62,66].

The application of the suggested GAMPOS framework adds value to existing official and scholarly assessment systems, including a more holistic understanding of the system of governance and a more systematic evaluation of the quality of all its components (agents, means, processes, order, and sustainability). Therefore, the suggested framework is to be further adapted to the specificity of the agrarian system and tested in major subsectors of agriculture (crop, livestock, and horticulture) and other agri-food systems in Bulgaria.

The precise measurement of the quality of a complicated and dynamic system like agri-food governance is unlikely to be performed by a single framework. Therefore, the GAMPOS framework is to be applied regularly along with other experts, qualitative, and more sophisticated approaches for the evaluation of the quality of governance of diverse agri-food systems in the country and internationally.

Conclusions

This study demonstrated that the interdisciplinary new institutional economics framework gives a more realistic understanding of the content, components, and driving factors of agri-food governance at the current stage of development. The agri-food governance is studied holistically as a complex system consisting of agri-food and related agents, diverse means directing their actions, multiple processes of decision-making, resulting social order, and outcomes in terms of sustainability. The analysis is comprehensive and embraces all forms and mechanisms of agri-food governance (institutions, market, private, public, formal, and informal) and their total (private and social) costs and effects.

Furthermore, a more precise assessment of the quality of governance of the agri-food system as a whole and its diverse subsystems is possible using the holistic multidimensional hierarchical system GAMPOS. Figures 3–5 show the precise measurement of the quality of governance in Bulgarian agriculture.

GAMPOS consists of systematically and well-defined good governance principles, criteria, indicators, and reference values, avoiding the arbitrary selection of measurements of the quality of agri-food governance. At the same time, this framework allows calibration according to the specificity of the evaluated agri-food system and judgment according to the best feasible standards.

The first-in-kind testing of the new GAMPOS system in this study has found that the governance of the farming component of the agri-food system in Bulgaria is far beyond the desirable European Union level. The integral governance quality index is forty-seven hundredths, corresponding to a moderate European Union level of governance quality. Therefore, in the future, combined public, private, and collective efforts are to be made to improve the farming component of agri-food governance in the country.

The GAMPOS results are similar to previous assessments on the quality of governance of Bulgarian public and corporate sectors by international organizations and research studies. This study showed that particular attention is needed to improve currently inferior decision-making transparency, unacceptable lobbying, and high transaction costs for dealing with other agents, mitigate agricultural contribution to climate change, increase the significance of agriculture, match management decisions to public expectations, increase the competency and expertise of agrarian agents, and improve farm access to public support. The suggested framework for agri-food governance analysis and assessment is to be further adapted to the specificity of different agri-food systems and applied more broadly in diverse agri-food systems in a particular country and region, and international comparisons between (different EU) countries. The widespread application of the GAMPOS framework requires the systematic collection of new types of micro and macro data about the characteristics of governance agents, means, processes, order, and sustainability in

different agri-food systems, including through official national, EU, and international statistical systems as well as the cooperation of all participating and interested parties in good governance.

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