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How Good is the Governance of Bulgarian Agriculture?

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Summary

The governance is with rising importance and interesting topic from a scientific and practical point of view. The different schools and theories understand the governance notion from a wide perspective. By examining the vast scope of scientific theoriesa holistic structure of agrarian governance is proposed. Adopting this structural holistic approach, an assessment of the Bulgarian agricultural governance is carried out. The structural framework of governance is set up by Components - Principles – Principleaspects. By implementation of a multi-indicator estimation, the governance assessment is carried out througha good governance perspective. The integral Governance Index (GIi) of Bulgarian agriculture is measured and the estimated result allows to define the agrarian governance at a moderate level. It means that the governance of Bulgarian agriculture performs in a moderate state, very close and similar to the average EU fulfillments in the elaborated components and principles. The notion of the governance assessment is to manifest what the state of Bulgarian agriculture is and how the existing entity runs. This analysis of governance allows to look for connecting the direct outcomes of Bulgarian agriculture with the governance state and functioning as well as to identify the externalities and consequences, which emerge in the agriculture running process.

Keywords: good governance, assessment, agriculture, components, principles, ranking, Bulgaria

JEL: D23, L22, M13, 017, Q13

1. Introduction

A "new" and constantly evolving concept of "Good Governance" has been increasingly used in the last three decades by the international, public, non-governmental and business organizations (AAID, 2008; ACML. 2020; DFID, 2010; Council of Europe, 2022; FAO, 2016; IFAD, 1999; OECD, 2015; Transparency International, 2019; UNIDO, 2010; World Bank, 2022), and has been a topic of "hot" academic debates by scholars in politics, economics, organization, development studies, international politics, behaviour sciences, socio-legal studies, etc. (Ali, 2015; Aguilera and Cuervo-Cazurra, 2019; Andrews, 2008; Benz and Frey, 2005; Braun and Birner, 2017; Chhotray and Stoker, 2009; Dasgupta and Roy, 2016; Fukuyama, 2016; Higgins and Lawrence, 2005; Lobel 2012; Narzary, 2015; Ostrom, 2014; Riegner, 2012; Steffek and Wegmann, 2021; Tleubayev et al., 2019;

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Weiss, 2000; Wolman, Levy, and Hincapie, 2008). The critical role of (good) governance in facing important (economic, social, environmental, etc.) challenges and achieving organizational, business, community, and social (including global) goals has been well recognized by scientists, decision-makers, and the public at large (Coase, 1991; Bayyurt, Arıkan, 2015; FAO, 2016; Ostrom, 2014; North, 1990; Williamson, 1995, 2005; WB, 1991). Subsequently, attempts have been multiplying to specify and measure "how good or bad" that important factor of social development is. Furthermore, there is increasing acceptance that the good governance is a broader category than administration, business, economic, etc. efficiency, and (besides the Government) it is to include multiple agents and ("universal") social, environmental, etc. dimensions and goals (Chotray and Stoker, 2009; Lobel 2012; Weiss., 2000). Thus, good governance is to be studied and assessed simultaneously as a means, a goal, and a result of "sustainable" socio-economic development (Bachev, Ivanov, and Sarov, 2020).

The major principles of "good" governance were initially introduced by the World Bank and have become a benchmark related to "the manner in which power is exercised in the management of a country's economic and social resources for development" (WB, 1992). Since 1996 the Worldwide Governance Indicators have been reported annually including six governance dimensions: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption (WGI, 2022). In addition, principles of "good" Corporate governance were introduced by OECD in 1999 including Discipline, Transparency, Independence, Accountability, Responsibility, Fairness, and Social responsibility (OECD, 2015). Since its introduction, the content and principles of good governance have been specified, enriched, and widely adopted by international, governmental, business, non-governmental, and other organizations. In the EU a larger set of principles for good regional governance have been formulated, monitored, and enforced including Fair Conduct of Elections, Representation and Participation, Responsiveness, Efficiency and Effectiveness, Openness and Transparency, Rule of Law, Ethical conduct, Competence and Capacity, Innovation and Openness to Change, Sustainability and Long-term Orientation, Sound Financial Management, Human rights, Cultural Diversity and Social Cohesion, Accountability (Council of Europe, 2022). Subsequently, many of these principles have been enshrined in national laws and regulations and/or accepted as voluntary (organizational) standards of behaviour.

Despite its widespread use still, there is no consensus about the content of the good governance and a unified approach to its "measurement" (Aguilera and Cuervo-Cazurra, 2019; Chhotray and Stoker, 2009; Davis, Kingsbury and Merry, 2011; Fukuyama, 2016; Riegner, 2012). There have been suggested and applied multiple methods for assessing the compliance with the principles (standards, codes, characteristics, dimensions, best practices, etc.) of good governance at global, regional, national, corporate, NGO, sectoral scales, at different functional areas of activity (e.g. internet, R&D, environmental management, etc.), and management of major resources (land, water, etc.) and social challenges (e.g. climate change, biodiversity preservation, etc.).

Applied approaches for understanding and evaluating the system of governance

mostly depend on the objectives of involved organizations and/or incorporated "methodological" frameworks. For instance, the assessments of the World Bank and some international and national donor agencies focus predominately on the public economic governance (extent of services provision, efficiency, corruption, etc.) in beneficiary countries; the framework applied by the EU, OECD, UN, and other organizations prioritize democracy, human rights, etc. aspects as well; the corporate sector puts primary attention on safeguarding the shareholders and (increasingly) stakeholders and social interests, etc. Similarly, political scientists and political economists are mostly interested in the "model" of governance and power relations (Hufty, 2011), law scholars perceive mainly formal legal "order" (Lobel, 2012), economists primarily investigate the (program, investment, transaction, third-party, etc.) costs and benefits (Williamson, 2005), etc.

The variation in the chosen "principles" and employed indicators for evaluating the "goodness" of governance creates confusion among different users and brings up criticism (Fukuyama, 2016; UNU-WIDER WIDER, 2012). There is also a big criticism on applying a "Nirvana" approach which compares the real situation to some (Western, ideal, etc.) norms rather than to (an)other feasible "social arrangement(s)" (governance alternatives) in the specific conditions of a particular country, sector, region, agents, etc. (Coase, 1991; Willaimson, 1999, 2005).

Another major reason for the lack of consistency in defining and assessing the quality of (good) governance is the diverse understanding of the concept of governance itself. Governance is defined in multiple ways but is generally restricted either to governing bodies, agents, or groups (Hufty, 2011), or to the system of formal and informal rules and their enforcement (Tleubayev et al., 2019; Ostrom, 2014), or to (certain) mechanisms, modes and structures of governance (Fukuyama, 2016; Weiss, 2000), or to the process of governing (Ali, 2015; Bevir, 2012; Hufty, 2011; Wolman, Levy, and Hincapie, 2008), or to the specific outcome and resulted social order (Schmitter, 2018), or to the different combination of all them. Consequently, a big diversity of approaches and indicators are suggested and employed to evaluate the studied system of governance.

In the last years, there has been a growing number of publications evaluating the governance in the agrarian sectoras well, including in certain countries, subsectors, food chains, types of farming organizations, functional areas, resources, territories, etc. (Birner and Anderson, 2015; Bitzer, Wennink and Piter, 2016;Braun and Birner, 2017;Carbone, 2017; Cheshire, Higgins and Lawrence, 2007; DFID, 2010; Dasguptaand Roy, 2011; Freidberg 2019;Herrfahrdth, 2006; Higgins and Lawrence, 2005; Gerardo Torres-Salcido and Sanz-Cañada, 2018; Jouanjeanet al., 2020; Larsen and Powell, 2013;Muluneh, 2021;Schwindenhammer, 2018; Tleubayev et al., 2021; Transparency International, 2019; Westerink et al., 2017). All these studies demonstratesimilar shortcomingsas the general system of governance assessmentsandoften are poorly specified, incomplete or contested definitions of governance, missingkey components of the system of governance, lack of a consistent framework for formulating principles and criteria for assessment,an arbitraryselection of indicatorsand references for measuring good governance, little adaptation to the specific conditions of a particular sector and level of analysis, etc.

In Bulgaria, there are very few studies and assessments on the compliance to the principles of good governance ofthe public (Katsamunska, 2010, 2016; EC, 2021; Stefanov, Yalamov, Mineva, 2016; Ganev, Popoca, and Bonken, 2020) and corporate (Dimitrov et.al.,2014; OECD, 2019) sectors. There are also several good studies onparticular types of agrarian governance - contractual, cooperative, institutional, environmental, food safety, etc. (Bachev, 2016; Boevsky and Sarov, 2017; Georgiev and Roycheva, 2017; Terzievet al., 2018).However, it is clear that governance and governments are not equal notions and that the governance concept is thought as a process addressing accountability improvement (Katsamunska, 2016). Nevertheless, up to date, there is no comprehensivestudyonthecompliance of the agrarian governance in the country to the principles of "good governance"including all components of that complex system.

Adaptation of the interdisciplinary New Institutional Economics framework (Furuboth and Richter, 2000; North, 1990; Ostrom, 2014; Williamson, 2000, 2005) allows to overcome shortcomings of traditional approaches for understanding and assessing the system of governanceasawholeandinthe agrariansector in particular. It embraces all agents involved in the governing process and all mechanisms and modes that govern (structure, coordinate, direct, affect, manage) agents'behaviour, actions, and relations (institutions, market, private, public, and hybrids). Furthermore, it applies the comparative institutional analysis in assessing and improving the existing system governanceusing not idealreference norms (standards) but practically possible in the conditions of an evaluated social system ("good governance") alternatives.

This paper tries to fill the existing gap and respond to the greatacademic and practical (policies, business,and farmingforwarded) issues suggesting a holistic framework for assessing the quality (goodness) of agrarian governance and estimating how good the governance of Bulgarian agriculture at the present stage of development and EU CAP implementation is.

2. Methodology

The holistic framework is very often applied by scholars to study the governance, as Perri et al (2002) postulate for holistic governance but they have in mind the holistic governance in public government. In this study, the holistic approach for assessing agrarian governance is applied through several steps: defining the content and components of the agrarian governance system;formulating the principles of good agrarian governance; specifying the assessment criteria for each principle; identifying the best indicators for each criterion; selecting the reference values for assessing the quality of agrarian governance for each indicator; approach forthe integration of governance indicators. Agrarian governance relates to the agricultural production and exchange,and involves all associated individuals and organizations - resource owners, entrepreneurs, farmers, downstream and upstream businesses, support agencies, communities, final, consumers, interests groups, policymakers, administrators, international bodies, etc.The system of agrarian governance consists of diverse mechanisms and modes that govern the behaviour, activities, and relations of involved agents.

Good Governance Principles are "universal" and relate to the best (desirable) state of the individual components of the governance

system and the system as a whole. They are based on the widely accepted universal principle of good governance formulated by the international organizations (EU, UN, FAO, etc.) and adapted to the specific conditions of agriculture. According to the Council of Europe (2022) and the United Nations (1997), there are general principles for good governance recognized broadly, namely: participatory process, rules of law, transparency, etc, which are immanent.Therefore, in order to assess the good governance, it is important to create the reliable and measurable logical framework, which correctly represents the governance concept and adequately decomposed its elements for appraisal. In this relation, Bachev (2022) set up an assessment of Bulgarian agriculture governance using the "Integral Governance Efficiency Index, which is calculated by multiplying the quantitative value for each type of transaction". Thus, the governance is assessed and understood as mainly a transactional concept.

The theoretical comprehension of the Good Agrarian Governance and assessment approach proceeds through identification and decomposition of the key ingredients of the agrarian governance, which might be patterned as: Components – Principles – Principle Aspects with Desired State – Indicators – Assessment Criteria – Evaluation Modes – Reference Values - Computation – Outcomes. The assessment of good governance in Bulgarian agriculture is assumed to be done applying the bottom up approach, where the indicators are a primary structural observation unit. For the sake of reaching to the indicators it is necessary to structure their affiliation through top-down proceeding, where the governance components and their principles are elucidated and defined. The general principles are considered to reflect different aspects in the decomposing approach. Thus the principle aspects are introduced and those aspects are reviewed to have a desired state, which is designated to good governance understanding and goals.

In this relation, the major components and general principles of the governance system in agriculture are defined as: (1) the Institutional Environment (Good Legislation and Respectful Informal Rules); (2) Mechanisms and Forms of Governance (Good Working Public, Private Sectors and Markets); (3) the Process of Governing (High Transparency, Good Involvement, High Efficiency); (4) the Agents (Good Leadership, Equity and Solidarity) and (5) the Systemic (High Synergy). The main principles that are envisaged refer to the need and essence of agrarian governance to possess a good quality. On the other hand, the main principles are composed of principle aspects characterized with their desired state, which facilitates the assessment conduction.

It is well comprehended that governance principles comprise aspects, which are quite broad and diverse but to functionalize the research some of them are taken into account. For instance, for the contemporary conditions of Bulgarian agriculture governance 23 aspects of the formulated principles are specified and each aspect is described with a desired state. The role of the principle aspects is to specify the areas and issues that each of formulated principles may cover. The desired state is perceived to determine what is the good level and preferred position in the formulated aspects. The principle of "Good Legislation" is reviewed in two principle aspects – "Comprehensive legislation" and "Justified enforcement". Another principle in the Institutional Environment component – Respectful Informal Rules is described by "Mutual trust" and "Good manner". (Figure

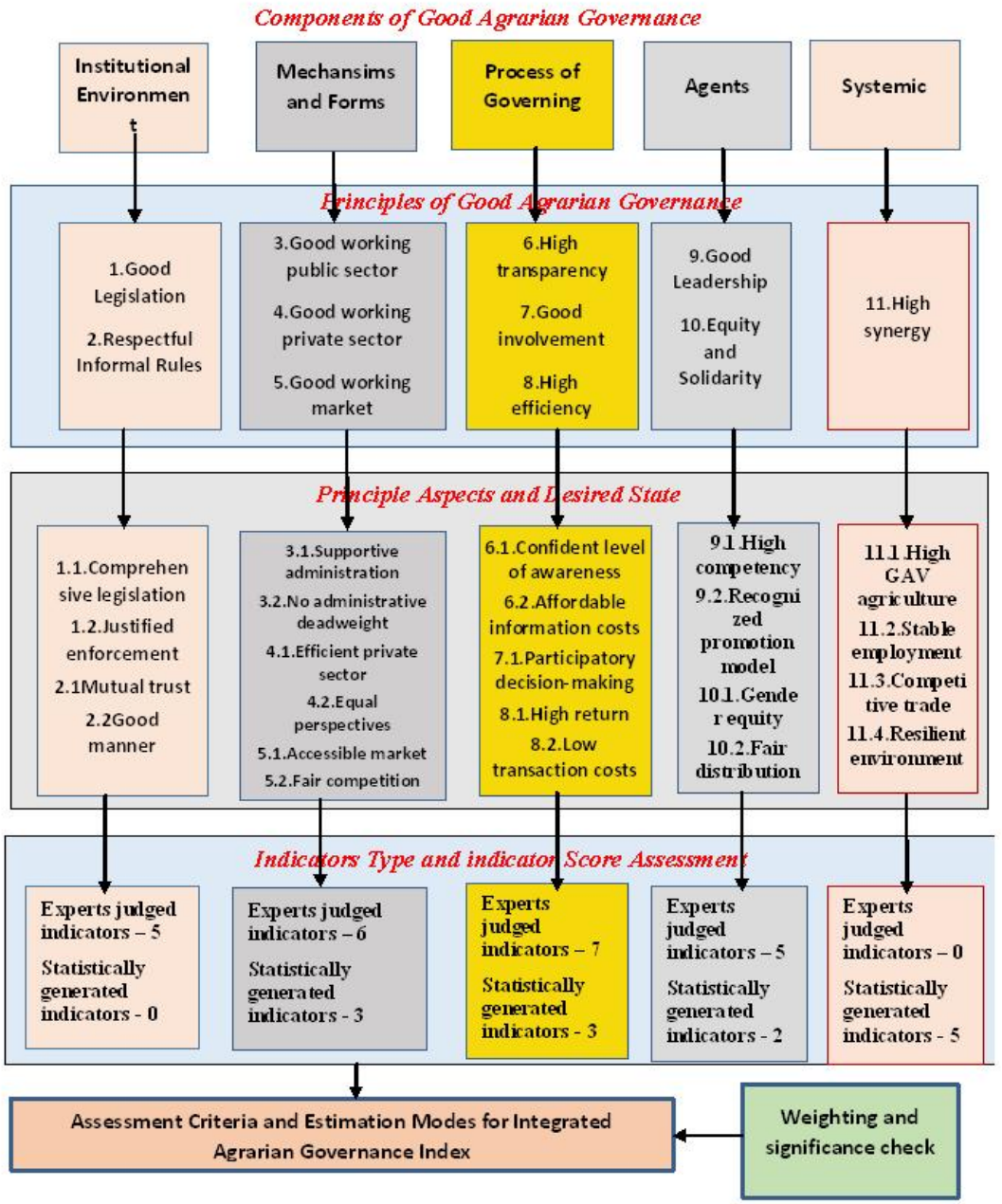

Figure 1. Framework for Assessing the Governance of Agriculture
Source: authors

1). Along with those principle aspects, the following principle aspectsare designed – "Good Working Public Sector" (Supportive administration and No administrative deadweight); "Good Working Private Sector" (Efficient private sector and Equal perspectives), "Good Working Markets" (Accessible market, Fair competition); "High Transparency (Confident level of awareness and Affordable information costs), "Good Involvement" (Participatory decision-making), "High Process Efficiency" (High return, Low transaction costs); "Good Leadership" (High competency, Recognized promotion model), "Equity and Solidarity" (Gender equity, Fair distribution); "High Synergy" (High GAV agriculture, Stable employment, Competitive trade, Resilient environment).

The methodology for assessment continues with outlining the key indicators which those general principles and principle aspects might correspond with and used further to implement estimations. The implementation of this stage is done based on a deep literature analysis, where relevant solutions and ideas available in the scientific and public areaare explored. The Good Governance Indicators are quantitative and qualitative variables of different types which can be assessed in the specific conditions of the evaluated system allowing the measurement of compliance with particular Criteria. The set of Indicators provides a comprehensive picture of the state of individual components of agrarian governance and the system as a whole. For the selection of the Governance Indicators a number ofconditions are taken into account, as those conditions are necessitated to ensure the indicators are relevant, pertain to good governance principles, do not bias the assessment and bear the verification ability.

The conditions perceived to select indicators' set are complied with broadly applied criteria in the sustainability assessment literature and practices, namely: "Relevance", "Discriminatory power", "Analytical soundness", "Intelligibility and synonymity", "Measurability", "Governance and policy relevance", and "Practical applicability" (Bachev, Ivanov, Sarov, 2020). For the specific purposes to assess the Good governance of Bulgarian agriculture 36 indicators areincluded, as those indicators are categorized into two types – Expert judged indicators and Statistically estimated ones. The difference between those two types of indicators is the estimation modes, as the first ones, the Good agricultural governance is scored directly by Experts' panel, which use the 5 level ranking scale.

The total number of Experts' judged indicators in all principles and components is 23 and the ranking scale is extended from: Very low, Low, Middle, High and Very high. Each of these ranking levels is tied with a ranking score, which is stretched from 0 to 1, stepping up by an interval of 0,25. The indicator score assessment (ISA) is formed as an average ranking score yielded in the Experts' panel involving 8 experts. The assessment score of each indicator is determined by the desired state derived from the principle aspects and indicator criteria interpretation, which means that in some cases, "Very low" is equivalent of 0, whereas in other cases it might refer to 1. Whenever the "Very low" level is admitted as good governance, the formula (1) is modified:

$$ISA_{Ex} = \frac{\sum_{k=1}^{N} ISR_{EX}}{N_{EX}} \quad (1)$$

$$ISA_{Ex} = 1 - \frac{\sum_{k=1}^{N} ISR_{EX}}{N_{EX}} \quad (2)$$

The Indicators score assessment (ISA_{Ex}) in the Experts' judgment mode is obtained by

dividing the sum of experts score ranking for each indicator (ISR_{Ex}) to the total number of involved experts (N_{Ex}). When the interpretation of the indicators is assumed in a way where "Very low" is perceived as a desired state, then formula (2) is applied. Along with the Experts' judgment mode, the estimation of the governance index is implemented by a Relative Comparison Assessment Method, which is composed of the following steps drafted by Ivanov (2022). That method is implemented through following stages:

$$ARV = \frac{\sum IV_i}{N} \quad (3)$$

where

ARV – Average reference value, IV_i - sum of indicator values in the set, N – number of observations and values in the set.

$$CV = \frac{\sigma}{ARV} \quad (4)$$

$$AMS = 1 - \frac{1}{\sqrt{N-1}} \quad (5)$$

where

AMS – adjustment median score, where the median concerns the score range, CV – coefficient of variation, σ – standard deviation.

$$ISA = \frac{IV_i}{ARV+(ARV*CV*(1-AMS))} * \quad (6)$$

$$(MS + (MS * (CV * AMS - CV * (1 - AMS)$$

where

ISA – indicator score assessment and MS – median of the score scale. Equation (6) is adopted to estimate the assessment scores for all indicators, which are derived from statistical database and thereby render the way to use the RCA method. Since some of the aspects and principles of agrarian governance are considered as important and essential and it is either difficult or not enough precise and relevant to find statistical or other data, the approach for experts' judgment is carried out.

Regardless, the good governance in Bulgarian agriculture is assessed using two methods, and in both methods the assessment criteria are same. The assessment criteria is assumed as the point of view and benchmark to evaluate the indicators. The common criteria in this research is the average EU level and the medium EU situation, which is applied to provide the measurability and comparability of the assessment scores. It is very important to have those criteria not only for the RCA method, which works comparing the object with the reference value but as well as for the Experts' judgment mode, where the subjectivity and personal perception have to be controlled and managed. Once the criteria approach is set up, the reference values are sought and settled. The governance reference values are the practically observed indicatorson the counterpartEU indicators average values, used to have a basis to estimate the Indicators Assessment Scores. The EU reference values are adopted and they are also interpreted in terms of desired conditions due to each specific indicator through categorization – either "high is good" or "less is good".

The assessment of agrarian governance is represented by the Governance Index (Gli), which encompasses the Principle score assessments derived out of Indicators score assessments of all indicators pertaining to each principle. This assessment is feasible because the ISA obtained by Experts' judgment estimation and the RCA method stands for normalized ranking scores, which allows the integration of diverse quantitative and qualitative types of indicators. The Integral Governance Index is computed through the weighting Principle score assessment based

on the principle number and component count.

$$WPSA_K = PSA_K * (\frac{\frac{1}{N_{PR}} + \frac{1}{N_C}}{2}) \quad (7)$$

$$PSA_K = \frac{\sum_{K=1}^{N} ISA_K}{N_I} \quad (8)$$

$$GI_I = \sum_{K=1}^{N} WPSA_K \quad (9)$$

The Governance Index of Bulgarian agriculture (GI_I) is obtained by weighting the principle score assessment (PSA).The weight of PSA is carried out through taking into account the number of principles and components. Thus the weighted principle score assessment ($WPSA$) is estimated by multiplying the average score from principle indicators by the weight coefficient derived from considering the number of components and principles. Through this approach, the weight for each principle in a component is always the same but different principles among the components may have distinct weight. Otherwise integration of indicators to estimate the Governance Index (GIi) will be partial because they will not cover all constituting ingredients of the agrarian governance theoretical framework.

The integral Governance Index (Gli) of Bulgarian agriculture is represented by a qualitative score, which ranges from 0 to 1 that might be converted into a qualitative assessment. For the purpose of this research five categories that Governance Index (Gli) implies are formulated: “very good’, “good”, ‘moderate”, “satisfactory” and “bad” governance. These qualifications are linked to:

Index range 0,81-1 for a “Very Good” governance; Index range 0,56-0,80 for a “Good” governance; Index range 0,46 – 0,55 – “Moderate” governance; 0,21 – 0,45 – “Satisfactory” governance and Index range less than 0,20 – referring to ‘Bad or Unsatisfactory” agrarian governance. The assessment of indexes is a function of the national performance or experts judgment ranking of selected indicators, which is juxtaposed with the EU level and whenever the national indicators’ values or ranking score surpasses the counterpart EU average, the ISA and PSA will have higher score bends to good governance and vice versa. The statistically generated data is adopted from different databases on a macro and farm level, including Eurostat, FADN database, as the period of observation is 3 years on average. The reference period for statistically generated indicators in most cases is the period 2018 – 2020, whereas the experts’ judgment ranking of indicators is also done having in mind the recent years.

3. Results

It should be noted that Bulgarian agriculture, which is in the condition of implementing the Common Agricultural Policy and is a member of the EU to great extent is characterized with an acquired governance in terms of *acquis communautaire*. Besides, Bulgarian agriculture is thought to grow in recent years slowly compared to other economic industries and services (Ivanov, 2021) and it raises the question if it can be attributed and to what extent to the governance in agriculture. However, the convergence of Bulgarian agriculture per capita is at a higher level than the convergence of the Bulgarian economy (Ivanov, 2021), but the difference here is that the positive dynamics are absent. When examining the convergence coefficient in Bulgaria’s agriculture with that of the EU, it can be seen that the level to the average EU-27 values is around 0.7 (Ivanov, 2021) and along with economic, organizational,

external factors, it is relevant to search for explanations of this performance from a governance point of view. The governance is not only an economic implication even though many authors interpret it in that way (Liu and Lio, 2008; Mandemaker, 2011).

Table 1. Indicators Score Assessment in the principle compound

Principles	Indicators	Estimation mode	Measure units	Indicator values or ranking score	Indicator Score Assessment
Good Legislation	Completeness of the legislation	Experts' judgment	Ranking score	0,50	0,50
	Degree of implementation and compliance with legislation	Experts' judgment	Ranking score	0,42	0,42
	Level of regulation enforcement costs	Experts' judgment	Ranking score	0,50	0,50
Respectful Informal Rules	Level of trust between subjects in agriculture	Experts' judgment	Ranking score	0,33	0,33
	Conflict level and contradiction state within the agriculture community	Experts' judgment	Ranking score	0,42	0,42
Good Working Public Sector	Level of unlawful payments and embezzlement	Experts' judgment	Ranking score	0,42	0,42
	Satisfaction degree with administrative services.	Experts' judgment	Ranking score	0,29	0,29
	Level of governmental spending for agricultural public administrating (agri-governmental expenditure to total governmental spending)	RCA method	Percent	2,2	1,00
Good Working Private Sector	Effectiveness of contracting among agents in agriculture	Experts' judgment	Ranking score	0,54	0,54
	Equality in the opportunities for development of different organizations forms	Experts' judgment	Ranking score	0,25	0,25
	Propensity to external contracting (contractual work to total output)	RCA method	Share	0,053	0,12
Good Working Market	Level of entry and exit market costs	Experts' judgment	Ranking score	0,42	0,42
	Competition fairness and avoiding price rigging	Experts' judgment	Ranking score	0,42	0,42
	Degree of market orientation (farm use and farmhouse consumption to total output	RCA method	Share	0,003	0,51
High Transparency	Information awareness of stakeholders and agents in agriculture	Experts' judgment	Ranking score	0,46	0,46
	Costs level for information access of stakeholders and agents	Experts' judgment	Ranking score	0,42	0,42
	Decision-making transparency extent	Experts' judgment	Ranking score	0,38	0,38
	Symmetric between decisions taken and public expectations in agriculture	Experts' judgment	Ranking score	0,33	0,33

Principles	Indicators	Estimation mode	Measure units	Indicator values or ranking score	Indicator Score Assessment
Good Involvement	Plurality level in the decision –making process in agriculture	Experts' judgment	Ranking score	0,42	0,42
	Level of unacceptable lobbying impairing third parties	Experts' judgment	Ranking score	0,38	0,38
	Scope of farm access to public agricultural support (percent of farms with direct payment to all farms)	RCA method	Percent	29,7	0,30
High Efficiency	Total spending of means and efforts for dealing with other economic agents and administration in agriculture	Experts' judgment	Ranking score	0,38	0,38
	Price rewarding potential (price index outputs to price input index)	RCA method	Index	0,97	0,48
	Level of transaction costs in the agriculture (total farm overhead costs to total input)	RCA method	Share	0,19	0,40
Good Leadership	Level of achieving own advantage at the expense of others through legal and illegal means	Experts' judgment	Ranking score	0,42	0,42
	Correctness and decency in the business relationships in agriculture	Experts' judgment	Ranking score	0,50	0,50
	Degree of competency and expertise of agents in agriculture	Experts' judgment	Ranking score	0,33	0,33
	Entrepreneurship abilities and level of self-improvement of agents	Experts' judgment	Ranking score	0,42	0,42
Equity and Solidarity	Level of discrimination on the ethnical, religious and bigotry causes	Experts' judgment	Ranking score	0,88	0,88
	Fairness in the remuneration of employees in agriculture (compensation of employees to factor income)	RCA method	Share	0,22	0,45
	Balance in the public support distribution in agriculture (Gini coefficient)	RCA method	Coefficient	0,70	0,44
High Synergy	People engagement in agriculture (share of population employed in agriculture)	RCA method	Percent	17,3	1,00
	Significance of agriculture in the economy (GAV of agriculture per capita)	RCA method	Euro	289	0,34
	Importance of agriculture in the trade (agriculture export to agricultural import)	RCA method	Index	1,3	0,63
	Contribution of agriculture to climate change mitigation (share of greenhouse gases from agriculture in total GHG)	RCA method	Percent	13,6	0,38
	Soil protection and control of nitrogen pollution (quantity of nitrogen fertilizers use)	RCA method	Kg per ha	96,9	0,41

Source: authors on Eurostat, FADN databases and interviews survey

In the Synergy Principle are included indicators , which are assumed to display economic, social and ecological aspects of agriculture.The research and assessment of good governance is elaborated based on 36 indicators, which are covered out of that, only two of them have an Indicator Score Assessment (ISA), which is measured at the score of 1. These are the indicators for “People engagement in agriculture”, which is part of the Synergy principle and “Level of governmental spending for agricultural public administering” belonging to the Good Working Public Sector principle.

It should be noted that the application of the RCA method positions the indicator score in the range of 0 to 1, but in the raw calculations, the result score can exceed 1 but for the sake of the assessment mode, the indicator score range is topped up to 1. For both indicators, the primary indicator score is above 1, as the reason for this is in the methodology itself, which works with the average indicator values for Bulgaria and the EU, and when the local levels significantly exceed the European ones, then the ISA may in the primary calculations be above 1, but it is extended up to 1 for the interpretation needs.

From the analysis and estimation of the indicator result scores, it can be seen that only one indicator “Propensity to external contracting”, which falls under the Good Working Private Sector principle part of the Component “Mechanisms and Forms” has a score that can be classified as bad and unsatisfactory in terms of agrarian governance. The indicator itself tries to demonstrate to what extent the agricultural farms are partial for external contracting, which gives benefits related to specialization in economy and competition. The desired state in terms of good governance is those provisions to have a bigger share in the total output. It turns out that farms in Bulgaria, based on FADN data, are less oriented to contracting and only about 0,3% of the total outputs are accounted for contracting spending, whereas in EU agriculture the average is 2%.

Regarding the results of the Indicators Score Assessment, it is visible that the majority of the selected indicators are ranged in the score scope of 0,21 to 0,45. The total number of indicators that pertainto this group is 24, which accounts for 67% of the entire indicators’set. These indicators are almost evenly distributed across all principles and show that the assessment distribution itself is skewed to the lower score scale. It means that the assessment distribution is not normal, where most indicators are positioned around the Governance Index mean. The indicators that fall into this assessment group can be determined with a satisfactory assessment, but with a negative and adverse implication, which shows that there is an existing gap between the state of those indicators in Bulgarian agriculture taking into account the level in the EU.

Although the ISA covering indicators with a score between 0,21 – 0,45 make up the majority of the included indicators, it is important to note that most of them are positioned in the segment of the 0,40-0,45 evaluation scale. This is an adjacent area between two qualitative assumptions of governance “Satisfactory” and “Moderate” and it is sensitive to underline unconditional interpretations on this close Indicator scores. What is useful about the evaluation methodology and the scale chosen is that the median of the evaluation scale corresponds to the reference values adopted by the criteria, which in this case is the average European agriculture level. If another criterion is chosen,

with other reference values, a different result can be obtained, which allows flexibility and at the same time discretion of the evaluation due to the criteria.

The next level of the agrarian governance score scale is defined as moderate and covers indicator estimated with a score between 0,46 and 0,55. There are 7 such indicators, and this is the next most numerous group even though the differences in the size with the previous ranking group is significant. The indicators that are assessed within this range are considered andperceived as indicators with a positive, gravitating to EU average levels, stable state. Therefore the definition of this score range corresponds with the criteria set up in average EU level. The indicators "Completeness of the legislation", "Level of regulation costs for getting acquainted and to be enforced", "Effectiveness of contracting among agents in agriculture", "Information awareness of stakeholders and agents in agriculture", "Level of achieving own advantage on expense of others through legal and illegal means"are estimated by the Experts' judgment, whereas those concerning "Price rewarding potential", "Degree of market orientation" are derived by the RCA method.

It is important to note that the two indicators whose ISA assessment is in the range 0,46-0,55are obtained throughthe RCA method and are part of the Good Working Market principle - (Degree of market orientation) and the Process principle - (Price rewarding potential). Those indicatorspossess scores of 0,51 and 0,48 respectively, in terms of primary values juxtaposed to EU average criteria for the counterpart indicators values. The scale of market orientation of households and farms is an important characteristic for the state of the market performance and the competitiveness of agriculture, which is also assumed as a very important goal of the good governance. Bulgarian agriculture is distinguished by a relatively higher percentage of farms with a self subsistent and household use, but the data for this assessment is based on FADN, where those households are excluded, due to the threshold of over 2 Standard Output units. Thus, in the measurable scope, farms with limited market orientation and high subsistence pattern are set aside.

According to Simova (2013),"semi-subsistent households have almost no role in Western European countries" but it is found that in Bulgaria and Hungary their share in the total number of farms is high (83% and 70% respectively).Although the particular study is made in a period towards the end of the first decade of the XXI century, it remains quite relevant, as in the New Member States, family semi-subsistent farms continue to have a non-negligible share. The formal regulatory rules are also important for governance. From the assessment of the indicators "Completeness of the legislation" and "Level of regulation costs for getting acquainted and to be enforced" ranked at 0,50, it can be judged that both national and transposed European legislation in the field of agriculture is symmetrical to the European middle one.

Because it is difficult to evaluate the European legislation environment in terms of agriculture, it is assumed the received moderate indicator scores are explainable. In a dozen of studies it is underlined that some of CAP objectives look prima facia as counter-productive, they fail to be met (Reiff et al., 2016; Fusco et al., 2018), which illustrates that the EU policy in agriculture is far from perfect. In the assessment score class of 0,56 – 0,80 out 2 indicators "Level of discrimination on the ethnical, religious and other bigotry causes", "Importance of agriculture in the trade"are

found, which pertains to different principles and components. The first one of those indicators is estimated by Experts' judgment and represents the Agent Component of the governance.

In a study of Kirman and Teschl (2010), it is assumed that it is wrong to say that the economic agent is "by nature" selfish, whereas the welfare economics is completely antagonistic denying the acceptance of making individual benefits to be on costs of social welfare. At the same time, the Synergy Principle also includes an indicator for agricultural trade. In a research carried out by Bachev et al (2017) on the Bulgarian agricultural sustainability, a similar indicator ("Share of imported product in the total agricultural production") is also considered and the evaluation for sustainability to this indicator is given as very good. Thus, it is demonstrated that the obtained assessment score is quite relevant and the selected indicator is inherent for reflecting the economic aspects of the agricultural governance outcomes.

Prior to proceeding with estimating the Governance Index of Bulgarian agriculture (Gli), the estimation on the principle level of the selected indicators is done through yielding the average result. The Principle score assessment (PSA) is obtained to continue with grouping and integrating PSA into the agrarian Governance Index. In the predominant part of the principles, each of those principles is composed of three indicators, which are linked in most cases to two separate principle aspects. It is noted that seven of the principles consist of 3 indicators, 4 indicators are found in two principles and 5 indicators are included in the High Synergy principle and only Respectful Informal Rules principle is built up by only 2 indicators. In order to assess how reliable and significant the obtained results are having in mind the included indicators, a study was made to check statistical significance and deviation from the obtained average Principle score assessment.

This assessment is carried out on the basis of the ISA standard deviation at level of principles and it shows that for five of the principles, the Indicator score assessments are characterised with adequate low deviation of the results below 10% of the average score for the principle. Meanwhile in four of the principles it is ascertained that the standard significance is below the critical level, which may raise the question of the importance and soundness of the assessments. The principles with an undermined statistical significance are Good Working Public Sector, Good Working Private Sector, which are part of Mechanism and Forms component and Equity and Solidarity principle belonging to Agents component along with the High Synergy principle consisted of Systemic component.

The Good Working Private Sector and Agent principles are represented by 2 principle aspects whereas 4 principle aspects are identified in the High Synergy principle, which to a great extent may explain the low statistical significance of the Indicators Score Assessments. It is very likely that bigger disparities between Indicators Assessment Scores in each of those four principles are due to different aspects covered. If the 'benefit of doubts" is assumed that the lower significance check in those four principles is attributed to different principle aspects which are considered, in case of the principle "Working Private Sector" regarding the same principle aspect "Efficient private sector" there are two indicators and their assessment scores are under the significance level. The likely explanation for the low statistical significance

of the principle indicator assessment could be the complexity of efficiency, which anticipates to have very different results depending on the indicators. However, such finding points out that when efficiency is formulated, it is necessary to be concretely tied to the aspect.

Table 2. Estimation of Agrarian Governance Index (Gli)

Components	Principles	Principle score assessment (PSA)	Weight of PSA	Assessment of Governance Index (Gli)
Institutional Environment	Good Legislation	0,47	0,095	0,045
	Respectful Informal Rules	0,38	0,095	0,036
Mechanism and Forms	Good Working Public Sector	0,57	0,08	0,046
	Good Working Private Sector	0,30	0,08	0,024
	Good Working Market	0,45	0,08	0,036
Process of Governing	High Transparency	0,40	0,08	0,032
	Good Involvement	0,37	0,08	0,030
	High Efficiency	0,42	0,08	0,034
Agents	Good Leadership	0,42	0,095	0,040
	Equity and Solidarity	0,59	0,095	0,056
Systemic	High Synergy	0,55	0,14	0,077

Source: authors calculation on Eurostat, FADN databases and interviews survey

Once the indicators that pertain to particular principles with underestimated standard significance is found out for example under theEquity and Solidarity principle, where the Fair distribution principle aspect is elaborated, the included indicators are with very close Indicators Score Assessments – 0,44 and 0,45. Similar results are observed in the Good working public sector, where in the Supportive administration principle aspects are selected two indicators with estimated results of 0,42 and 0,29 and the low statistical significance of principle level might be ascribed to the already mentioned reason of comprising different principle aspects.

In Table 2 is shown the integrated results of the Governance Index (Gli) of Bulgarian agriculture. This evaluation is based on the PrincipleScore Assessment (PSA) aftermaths weighted, which is done taking into account the number of principles and components. Thus the principles which are three in one component (MechanismandForms as well as ProcessofGoverning) have a weight of 0,08, whereas those components (Institutional environment and Agents) by two principles are marked with a weight coefficient of 0,095. In the Systemic component, where only the High Synergy principle is covered, the weight coefficient is set up to 0,14. The components with 2 included principles have

a weight coefficient of 0,19, whereas those with 3 principles partake in the Governance Index estimation with 0,24.

According to the European Commission "no matter which method is used, weights are essentially value judgments and have the property to make explicit the objectives underlying the construction of a composite" there are different methods for weighing composite indicators, which altogether are particularized into statistical and expert opinion determined. The equal weight is the most widespread way to handle the integration indicator objective and it is adopted in the study made of two vector equal weighting by principle and component.

The sum of the weighted Principle Assessment Scores applied to calculate the Agrarian Governance Index (GIi) is tallied up to 0,456. This assessment score of Bulgarian agrarian governance can be defined at the edge between satisfactory and moderate assessment interpretation meaning. It means the weighted integrated Governance Index (GIi) of Bulgarian agriculture is qualified closely to a moderate level, related within the average EU performance in the agricultural governance and met by a balanced structure under this holistic comprehension of the governance. The Governance Index (GIi) reflects the performance and situation of the governance of Bulgarian agriculture, taking into account the identified components and related to them principles evaluated on the outcomes point of view and states perspective. The Governance Index (GIi) is important to integrate the comprehensive assessment approach and renders opportunities to make further conclusions and researches about Bulgarian agriculture. The Governance Index (GIi) is estimated in a particular time period (2018-2020) and can be judged as rather moderate and balanced, which makes Bulgarian agriculture not lagging behind the average EU counterpart level.

In a review of other sources measuring the governance index, which definitely cannot be accepted as a benchmark or comparative standard but might be used as relevant sources in terms of comparing some conclusions and judgments. The Governance Index calculated on 6 main indicators (voice and accountability, political stability, government effectiveness, regulatory quality, rule of law control of corruption) compiled by the World Bank in the period 2016 and 2021 for Bulgaria is estimated up to 85% of the average EU level. Converted to the ranking scale of the current research, it means to have governance index (GIi) up to approximately 0,42-0,43, which is in the result range of this study for the Governance Index (GIi) of Bulgarian agriculture.

In a research of Bachev (2021) dedicated to governance sustainability of Bulgarian agriculture it is manifested that "multicriteria evaluation of governance sustainability of Bulgarian agriculture shows that the index of integral sustainability is 0,51", which resembles to a great extent the obtained Governance Index (GIi) in this research. Although all those researches are carried out by different methodology and assessment approaches, aiming at different purposes, the similar results and conclusions posed are important arguments that the ranked Governance Index (GIi) of Bulgarian agriculture might be accepted as relevant and robust. It can be also underlined that without weighting of the principles in estimation of Governance Index (GIi), the GIi is ranked with a score of 0,447. It is a bit lower than the weighted integral Governance

Index (GIi) of Bulgarian agriculture, as the difference is attributed to applying not an equal share of each principle in the integral GIi. The interpretation of these results of the Governance Index is that Bulgarian agrarian governance is at a satisfactory level, distancing a bit from the EU average criteria and characterized with some weaknesses in the majority of governance principles.

4. Concluding remarks

The governance is characterized with rising importance in recent decades and is becoming an important concept for the successful and sustainable development of governments, states, private organizations and other transnational and international institutions. In order to evaluate the governance of Bulgarian agriculture, it is elaborated and studied through the perspective of good governance.The main assumption in the conceptualization of the research thesis and study approach is that the economics of governance is connected to good rules and efficient and beneficial performance. In this regard, the agricultural governance is elaborated and overviewed in a comprehensive and holistic way, both in terms of the constituted mechanisms and structure that make it up as well as with respect to the dimensions and properties it fulfills.

In order to assess the agrarian governance, an in-depth review of the governance understanding and states of the art study are made, used to depict and demark the governance concept. The identified pattern of governance includes Components - Principles - Principle aspects, which further are revealed and represented by separate indicators. Through implementation of a multi-indicator estimation approach the governance assessment done through good governance perspectiveis carried out. The Indicators Score Assessments are done through the expert assessment mode and statistical data and quantitative methods of analysis (RCA) mode. The purpose of this assessment is to demonstrate the state of agrarian governance. The assessment results are obtained and those ones refer to a specific period of time, which covers the years 2018 – 2020 for the statistical estimation mode and the last few years for the experts' ranking, integrated to estimate the Governance Index.

The integral Governance Index (GIi) of Bulgarian agriculture is measured and it can be qualified to a moderate level, very close and similar to the average EU fulfillments in the elaborated components and principles. The results obtained for the Governance Index (GIi) for the period covered by the study show that there are better performing countries in the EU, as well as those that eventually have worse outcomes and achievements in relation to selected indicators and elaborated principles. The evaluation of the agrarian governance itself is not done for the purpose of making a comparison of Bulgarian agrarian governance with the EU counterpart one. The assessment of governance of the European agriculture is not implemented, thus it is not weighed and explored how good or not it is, but the EU reference values and levels are used as a criterion to make the specific national evaluation.The approachapplied in this study bringsbenefits because it offers a solution, how to integrate and combine together so complex and multifaceted concepts in terms of structure and performance effects.

The benefit of making such an analysis and assessment is viewed from both a

scientific and a practical perspective because it compiles findings of many scholars and researchers studying the governance notion, as well as elaborates and introduces the methodology for assessment. At the same time, implementing evaluations at the level of indicators, principles and integrating all this in Governance Index provides opportunity for wrapping up interesting conclusions, facts and findings. The notion of the governance assessment is to manifest what the state of Bulgarian agriculture is and how the existing entity runs. Through this analysis of governance, it is possible to look for connecting the wide outcomes produced in Bulgarian agriculture as well as to identify the hidden effects and consequences which emerge in the agriculture functioning. The issue of the relevance and robustness of the yielded governance assessment is also important and the literature review carried out shows that the estimated Governance Index (GIi) of Bulgarian agriculture is in close connection with other related investigations, which justifies the approach and quality of the results.

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