



Article The Importance of Social Value in Agroecological Farms: Adjusting the Common Good Balance Sheet to Improve Their Sustainable Management

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Abstract: Organic farming offers the producers the possibility of focusing on their business while obtaining a competitive advantage. Nevertheless, this is centered in specific activities of the production process, thus only creating environmental value. Therefore, it is not an approach based on sustainability. As a consequence of this, it becomes necessary to enlarge this approach toward people (social value) and profitability (economic value). The objective of this work is to describe a tool based on the Economy for the Common Good model applied to the agroecological sector. We propose to adapt the Common Good Matrix to the characteristics of agroecological farms to offer a useful tool to manage and monitor Mediterranean small farms following a sustainability approach. The methodology consists of: (1) A bibliometric analysis of agroecological publications to identify sustainability indicators; (2) Delphi method application to perform a screening among the identified indicators; and (3) the establishment of peer groups of producers to carry out jointly their Common Good Balance Sheets. Eighteen experts participated in the Delphi study, and 15 companies participated in peer groups, of which seven obtained certification as companies of the common good. The bibliometric analysis shows that there is a gap of publications on agroecology and sustainability. The results obtained from peer study confirm that those agroecological companies that apply the adapted Common Good Matrix can implement corporate sustainability more easily.

Keywords: agroecology; sustainability; Economy for the Common Good; Common Good Balance Sheet

1. Introduction

Organic farming has become an important referent within the European Union. To encourage it, the European Commission has established since 2015 a European eco-label— The EU Organic logo—which is regulated by Community legislation. According to Eurostat, in 2017 (ec.europa.eu/eurostat), the percentage of the organic cultivated area over the total agricultural area in the EU-28 was 7%. On the one hand, Austria was at the top of the EU countries, with 23.4% of the organic EU area. On the other hand, Spain ranked 11th with 8.7% of the organic EU area.

Furthermore, according to a European Parliament report of 2018 developed by the Committee on Agriculture and Rural Development of the European Union (https://www.europarl.europa.eu/doceo/document/A-8-2018-0178_ES.html), the demand for products from organic farming is increasing year after year. As a proof of this, in 2016, the sales of organic food in Europe reached 30.7 trillion euros, showing an increase of sales of 47.7%, while the organic cultivated area only increased by 18.7%. Moreover, in the USA, the sales volume reached 38.9 million. Therefore, we can affirm that there is a growing market for organic products.

On the one hand, agricultural producers face a food chain dominated by large distribution and marketing organizations, which makes it very difficult to make their businesses profitable [1,2]. Most of these producers are small farms which suffer a narrow trade



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Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). margin structure: their manufacturing costs are high, while their prices are low because of the big distribution companies bargaining power. As a result, differentiation, segmentation, or focus are the competitive strategies that small farmers must follow [1]. A differentiation focus competitive strategy [3] is characterized by a high perceived value (high quality for the customer) with a higher price. In this sense, organic farming offers agricultural producers an option to focus on their business, thus obtaining a competitive advantage.

However, organic farming focuses on specific activities of the production process, thus only creating environmental value. In consequence, this is not an approach based on sustainability criteria. Therefore, this approach must be enlarged toward people (social value) and profitability (economic value) to transform agriculture into a sustainable business. In this way, a business based on the three dimensions of sustainability is achieved: economic, social, and environmental (co-creation of value).

This new business approach is known as agroecology. Such approach consists of a vision that includes the agroecological production, the sustainability of agro-ecosystems [4] and human development through the strengthening of the local economy [5].

However, it should be noted that there is a certain number of academics who question the agroecology role in respecting the environment. Such authors affirm that the alleged greater benefits of agroecology over conventional agriculture are not proven yet [6,7]. Ecological consumption is related to high prices. Such cost overrun is due to scarce production, which produces a higher negative environmental impact. Some studies indicate that there is not enough evidence that proves that agroecology generates higher benefits than conventional agriculture. If this were the case, there would not be only 40 million hectares of agro-ecological systems in comparison to 180 million hectares of transgenic crops. Furthermore, the higher resilience of agro-ecological systems is not expressed in quantitative indicators that demonstrate it. There is also a lack of comparisons in areas such as the food situation of producers and consumers, the energy valuation of farming systems, the measurement of externalities, multi-criteria analysis of environmental goods and services generated by different agro-ecosystems, nutrient cycles, carbon sequestration or capacities to promote environmental sustainability in rural areas. In the field of agricultural development, there are also questions worth mentioning: Is it possible to feed the whole population exclusively with agroecological systems? Will these alternative models be able to solve the problem of rural unemployment? Does society prioritize the production of healthy and high-quality food that allows preserving an economic system based on agro-food industries? or How this alternative system solve the future shortage of fossil fuels in territories with large tracts of land suitable for any cultivation?

On the other hand, the Economy for the Common Good (ECG) model represents a transformative economic model based on human and ethical values. This model focuses on the creation of social and environmental value through values such as human dignity, solidarity and social justice, environmental sustainability and transparency, and co-determination [8]. Therefore, the ECG can boost the commitment of the agricultural sector in defense of the SDGs. Hence, it may be of interest to integrate the ECG model into the agroecological sector [9–12]. Such integration can be conducted through a process of search, implementation, and exemplification, which values the contribution of this sector to the common good by including the three dimensions of sustainability [13].

The research question that arises in this paper is if organizations dedicated to agroecology could increase their levels of competitiveness if they would expand their social responsibility approach to the social dimension. A holistic approach to sustainability that includes the three dimensions (economic, social, and environmental) can contribute to improving the competitive capacity of agroecological farms. Besides, among the different corporate sustainability models, the ECG model is an appropriate model for these types of organizations through the application of the Matrix and the Balance Sheet for the Common Good. This model considers the environmental and social dimensions through measures focused on the different stakeholders of the company. The general purpose of this work is to describe a tool based on the ECG model that can be applied to the agroecological sector. This general goal can be divided into three specific objectives: (1) The description of a tool that enables the measurement of environmental and social contributions; (2) the description of a tool that can improve sustainability results of agroecological farming; and (3) the description of a tool that can increase competitive capacity of agroecological farming by adding social value to organic agricultural products and exemplifying its good practices.

The methodology employed consisted of a triple analysis. First, we conducted a bibliometric analysis of agricultural publications to develop a bibliographic documentation base in this field. In the second place, we have applied the Delphi method to obtain more accurate indicators of social and environmental value measurement for agroecological farms. In the third place, we carried out a peer group analysis between several organizations in the sector to develop their Common Good Balance Sheets (CGBS) jointly. The empirical study concerning peer groups has been applied to companies in the Valencian Autonomous Community because this is one of the Spanish territories where agroecology is most developed. Besides, in the Valencian Community, there is a consolidated working group of ECG consultants.

The present work has been structured as follows. After this introduction, we present a second section with the theoretical framework on agroecology and the model of the Economy of the Common Good. Subsequently, the third section describes the triple methodology that has been used. After this segment, in the fourth place, we describe the results obtained. Finally, the fifth section presents the conclusions of the work.

2. Theoretical Framework: Implementing the Economy for the Common Good to Agroecology

Agroecology is a scientific discipline that consists in applying the principles of ecology to agriculture to achieve the sustainability of agro-ecosystems. These agro-ecosystems are units of work whose objective is to create agro-structures similar to natural ecosystems where the growing space is treated as a living space [4,14,15]. Nevertheless, some authors state that this is a pluri-epistemological concept [5] since, in addition to the scientific approach described, the concept is considered as a social movement and as a peasant praxis as well.

The agroecology is part of what is known as sustainable agriculture [16–18]. The leading agroecological practices consist of [15]: (1) Plant and animal diversification, both in terms of species and genetics; (2) recycling of nutrients and organic matter, thus optimizing the availability of nutrients; (3) provision of adequate soil conditions for crop growth by using organic matter and stimulating soil biology; (4) minimization of water and soil losses, thus controlling erosion and irrigation processes; (5) minimization of losses of pathogenic insects and weeds through preventive practices; and (6) the exploitation of synergies and interrelations between species of the plant and animal kingdom.

The OECD defines agroecology as "the study of the relationship between crops and the environment." Agroecology also includes the study of the territory and the relationship with society and its influence on agriculture [19]. It should be noted that while organic farming is a production technique subject to specific regulations, mainly from the European Union; agroecology analyzes the territory and the community as well, thus combining technical knowledge and observation [20]. Concerning this topic, it must be pointed out that Olivier De Schutter's report on the right to food [21] states that "the reinvention of agriculture is the only way out of the food crisis." In this sense, the UN former Special Rapporteur on the right to food [21] also stresses that "a paradigm shift towards agroecology is needed".

Ultimately, agroecology is included within sustainable agriculture and it offers a comprehensive and integrated view of agriculture from the point of view of sustainability. It is different from organic agriculture, which refers to a formal certification system focused on organic substitutes for conventional agricultural inputs such as pesticides and fertilizers. Agroecology, in turn, is a system of food production that includes multiple aspects of human quality, and that appears as a response to a dominant intensive agricultural production model.

Agroecology tackles the main current challenges of climate change, such as the reduction of greenhouse gas emissions, the pollution affecting the biodiversity or the toxicity of chemical pesticides, among others. Moreover, at the same time, agroecology works on increasing the productivity of agriculture to achieve its economic viability. However, it is also essential to address the social and human challenges arising from the inequalities and injustices. In this sense, the principles of the Economy for the Common Good (ECG) model reflects the values of environmental or ecological sustainability and the values of social sustainability.

The Common Good Balance Sheet (CGBS) and the Common Good Matrix (CGM) are the strategic tools used to implement the Economy for the Common Good (ECG) model [9–12]. Through these instruments, we can measure the social and environmental value that an organization creates, as a complement to the economic value (co-creation of value). Moreover, the model enables the implementation and evaluation of improvement measures [10]. The CGBS measures the degree of compliance that an entity achieves in relation to the different dimensions of the model: (1) human dignity, (2) solidarity and social justice, (3) environmental sustainability, and (4) transparency and co-determination. These values are analyzed from the perspective of the different stakeholders: (1) suppliers, (2) owners and financial service providers, (3) employees, (4) customers and other companies, and (5) social environment. Through the Common Good Matrix (CGM), the four values are related to the five groups of interest. As a result of this, the Matrix suggests 20 topics that are measured numerically using different indicators. The scores that can be obtained for each one of the topics are different. That is, a different weighting is applied depending on which actors are involved. The indicators and how such scores are established are set out in the Common Good Balance Sheet manual. This manual can be found at the following link: https://www.ecogood.org/apply-ecg/companies/#evaluation-method. The maximum score that a company can get is 1000 points (50 for each topic) and, according to the score obtained, the entities will be classified into four different categories: beginner (less than 100 points), advanced (less than 300 points), experienced (less than 600 points), and exemplar (more than 600 points) [9].

The application of the CGBS to agroecological farms allows measuring the current social and environmental impact while proposing improvement measures in those aspects that are less developed. On the one hand, the environmental perspective is guaranteed through five indicators: (1) environmental sustainability of the supply chain, (2) sustainable investments and use of financial resources, (3) promotion of environmental performance among employees, (4) environmental impact of the management of waste of the entities' products, and (5) services and reduction of the environmental impact.

On the other hand, the social perspective focuses on diverse aspects with different indicators. First, this perspective focuses on human dignity at the workplace and gender equality. In this sense, we find indicators such as a people-oriented organizational culture, promotion of health and safety at work, diversity and equal opportunities, the characteristics of employment contracts and the positive impact of products and services. Second, the social perspective is based on the dignity in the supply chain value, which is measured through indicators like the characteristics of the working conditions and their social impact in the supply chain.

Transparency and co-determination are one of the four values included in the ECG model. Therefore, this must be measured and improved when analyzing the functioning of agroecological farms. The basis of these values is to provide clear and complete information to the stakeholders of the organization (transparency) while encouraging their participation in the decision-making process and activities (democratic participation). The CGM also includes indicators related to these aspects. Such indicators are transparency and co-responsibility, the participation of customers and suppliers, co-ownership between owners and employees, transparency and internal democratic participation (participation of employees in the decision-making process), customer participation and democratic participation of the social environment.

Finally, the financial structure of agroecological farms must have an ethical and sustainable orientation. To this end, organizations must collaborate with sustainable financial institutions (ethical banks, cooperative banks and other ethical and solidarity financial instruments) and they must carry out socially responsible investments [9].

3. Methodology

The methodology of the present work consists of three different steps. In the first place, we conducted a bibliometric analysis on agroecology to identify the most relevant sustainability indicators. In the second place, we applied the Delphi method to screen the indicators identified in the previous section to measure the social and environmental value of agroecological farms. After this, in the third place, by taking into account the indicators identified and evaluated through the two previous aspects, we set up peer groups of producers to carry out their CGBS jointly. Thus, the ECG model is applied to several companies in the sector, while cooperation between them is encouraged. The methodology used in each phase of the process is described in more detail below.

3.1. Bibliometric Analysis

Through a bibliometric analysis consisting of a double study, we selected the indicators to be employed. We analyzed the sustainability indicators using two methods. One method was to identify the indicators in overview reports such as the Global Reporting Initiative (GRI), the Global Compact Report, the B Corporation, and the CGM.

A second method was to conduct a search for bibliographic sources on sustainability indicators applied to agroecology. To this end, we developed a scientific publication database, including this type of indicators for the period 2010 to 2017. Moreover, the literature review has been carried out following five methodological steps [22–25]: (1) Identification of keywords and creation of search strings based on the keywords identified previously; (2) selection of relevant research studies through a database; (3) analysis of the identified documents according to an inclusion and exclusion criteria; (4) data extraction through the database used (in Excel); and (5) data synthesis and final reporting. It should be noted that the selected search string included the following terms: "index," "agriculture," "agroindustry," "green," "sustainable," "indicators," "metrics," "tools," "assessment," "ecological"; together with the different combinations between them.

The databases selected for the research are the Web of Science and Scopus, which have been supplemented by Google Scholar. The selection of the exclusion and inclusion criteria is based on the systematic review process collected in other papers. Such criteria have been used to undergo more effective research through the reduction of a large amount of literature available. Table 1 depicts the list of the inclusion and exclusion criteria employed. The selected academic articles correspond to those published in English between 2010 and 2017 on sustainability in agroecological farms.

Table 1. Inclusion and exclusion criteria.

Criteria	Reasons for Inclusion/Exclusion
Inclusion criteria	
 Articles published during the period 2010–2017. Articles published in English. Academic articles. Articles focused on Sustainability Indicators in agroecological farms. 	 Up-to-date bibliography. Most articles on the subject are written in English. The articles provide rigorous arguments and they are critically evaluated. Narrow the search to this particular topic.
Exclusion criteria	
 Papers and communications, working papers, technical reports, and practical manuals. 	• Peer-reviewed work ensuring the quality and consistency of analysis

Source: Authors' own creation.

3.2. Delphi Analysis

Through the Delphi Analysis, we determined the most appropriate sustainability indicators to measure the social and environmental impacts of agroecological farms. Such indicators are the ones that will be applied to the peer groups later.

The Delphi method is useful to obtain opinions on a given topic for which no prior information is available [26,27]. Therefore, this method is appropriate for our study because of the lack of empirical studies and the shortage of academic publications on sustainability indicators in agroecological farms [1].

This method is systematic and interactive (several rounds). It is aimed at collecting the opinions of a group of experts individually and anonymously. Furthermore, the method is aimed at collecting a reliable group opinion through consensus [28]. The process of the method can be divided into the following sections: (1) experts selection; (2) developing a questionnaire from a pre-test; (3) submission of the questionnaire and collection of answers, thus considering that experts will answer more than once (at least twice) to reach the greatest possible consensus; (4) statistical analysis that consists of the aggregation of individual responses to obtain a measure of central tendency (the median); and (5) consensus. The second round of the questionnaire must include the individual response initially given by the expert. Moreover, it must incorporate the median and inter-quartile range of the group for each estimate so that the expert can review his or her initial responses. The process of sending questionnaires (rounds) finishes when it is perceived that the estimates are stable; that is when the median barely oscillates, and the inter-quartile range stops narrowing. The final round will consist of the final response of the group. According to their responses, the final report will be developed [27,29–31].

The panel of experts consists of two different categories of professionals: agricultural producers and agricultural technicians. We chose the experts considering the opinion of the two entities that participated in the study. We have selected those farmers with a high level of experience in agroecology. On the other hand, we have chosen the agricultural technicians who have participated in different projects of implementation in agroecology. We have created a balanced sample within these two groups. To this end, we sent the questionnaire to 29 specialists: 15 producers and 14 technicians. On the one hand, 41.4% of them belong to the Valencian Association for the Promotion of the Economy for the Common Good (AVEBC)—an organization formed by consultants (technicians) and entrepreneurs (producers) who implement the ECG model. On the other hand, 48.3% of the sample belongs to The Union-a Valencian organization operating in the agricultural sector that groups producers, thus creating a team of technical specialists. Moreover, the remaining 10% of the sample belongs to the Committee of Ecological Agriculture of the Valencian Community (CAECV)—committee of technical experts in agroecology that offers certification in organic farming. Table 2 shows the composition of the group and the percentages of responses obtained.

Initially, 19 professionals participated in the first round and continued to do so in the second and last round as well. This fact represents a statistically significant number—thus minimizing the error of the study—since greater participation would not represent a significant reduction of the error. The total response rate of experts in the first round was 65.52%. It consisted of 67% of producers and 64% of technicians.

	Prod	ucers	Technicians		Total	Experts
Composition:	Num.	%	Num.	%	Num.	%
AVEBC	10	66.67	2	14.29	12	4138
The Union	5	33.33	9	64.28	14	4828
CAECV	0	0	3	21.43	3	10.34
Total	15	5.72	14	48.28	29	100
	Producers		ers Technicians		Total	Experts
Responses:	Num.	%	Num.	%	Num.	%
AVEBC	7	70	2	22.22	9	47.37
The Union	3	30	6	66.67	9	47.37
CAECV	0	0	1	11.11	1	5.26
Total	10	52.63	9	47.37	19	100

Table 2. Composition and experts' responses.

Source: Authors' own creation.

At first, we selected a small group of the experts' panel to design the questionnaire. We directed to this group a first draft of the test (pre-test), which was later on transformed into the final questionnaire. This questionnaire involves different topics that are rated employing a Likert scale ranging from 1 (lowest value) to 5 (highest value). Moreover, experts had the possibility of adding new variables for each topic. Once the questionnaire was developed, it was sent together with a cover letter, to the selected experts by e-mail.

This questionnaire includes two specific questions related to the participants, which will be used to weight and segment the results of the study (control variables): the year of birth of the experts and their knowledge of the three areas related to the study—agricultural sector, sustainability, and ECG. The questionnaire has been structured into two different parts. First, it consists of six questions on the importance that experts attribute to the following tools: the significance of social value, the need for a tool that measures social and environmental value, and the need for a measurement tool and differentiated certification to improve the competitiveness and relevance of the ECG and the CGBS. Second, the questionnaire includes the experts' assessment of the different sustainability indicators employing a Likert scale from 1 to 5. Moreover, it should be noted that the different issues have been grouped according to the CGM structure. The structure of the questionnaire is shown in Table 3.

Table 3. Structure of the questionnaire.

1. Control variables	 Year of birth Knowledge in the agricultural sector Knowledge in sustainability Knowledge in Economy for the Common Good
2. Overall rating	 Importance of social value in agroecological farms Need for a tool for measuring social/environmental value Need for a differentiated certification Have an adapted tool for measuring social/environmental value to improve the competitive capacity of the company Have a differentiated certification to improve the competitive capacity of the company Relevance of the EBC and BBC in measuring social/environmental value

Table 3. Conts.

 Sustainable financial investments in the use of financial resources Democratic ownership and participation Human dignity in the workplace Formality of employment contracts Promotion of workers' environmental responsibility Transparency and internal democratic participation Ethical attitude towards clients Cooperation and solidarity with other companies Environmental impact of products and services Customer engagement and product transparency Positive impact of products/services on the social environment Contribution to the community Reduction of the environmental impact on the social environment 	3. Sustainability indicators		Human dignity in the workplace Formality of employment contracts Promotion of workers' environmental responsibility Transparency and internal democratic participation Ethical attitude towards clients Cooperation and solidarity with other companies Environmental impact of products and services Customer engagement and product transparency Positive impact of products/services on the social environment Contribution to the community Reduction of the environmental impact on the social environment
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Source: Authors' own creation.

Once we had collected the responses for the first round, we designed a second questionnaire to conduct the second and final rounds. This second questionnaire includes the statistical response of the group resulting from the first round and the individual responses of the experts. In this way, this questionnaire can assess the possibility of modifying those individual responses that have remained outside the interquartile range. Therefore, experts can confirm their initial responses (justifying them), or they can modify them to get closer to the group response. This second questionnaire was sent to the 19 experts who participated in the first round, thus obtaining a 100% response.

3.3. Peer Groups

Once we obtain the sustainability indicators proposed by the experts, we conduct the last phase of the study, which consists of applying the CGBS to a group of agroecological farms through peer group analysis.

Peer group analysis consists of a peer-to-peer evaluation. Organizations conduct their CGBS jointly so that they can help each other in the interpretation and scoring of the different aspects of the CGM. Although this type of evaluation cannot be considered as an audit—since an external agent does not verify the scores, companies evaluate each other, thus correcting possible deviations in the interpretation and scoring of each CGM aspect. In this way, the participating companies can obtain the Peer Certification issued by the Spanish Federal Association of the ECG, provided that a consultant accredited by the Association has participated in the process as a guide. It is worth noting that the model used in the empirical study—the Common Good Matrix and The Common Good Balance Sheet—is a model already designed that we have adapted to the sector of agroecology from the Delphi analysis. It is a model that weights the relationships between the four values of the common good and the five stakeholders, following the indicators and weights established in the application manual (https://www.ecogood.org/apply-ecg/companies/#evaluation-method).

To conduct the analysis, we selected a group of organic farming producers from the Valencian Community. This selection has been carried out with a specific selection criterion: the groups must consist of producers from different agricultural specialties. Such specialties are vines, citrus fruits, vegetables, rice, olive, and livestock. After this, three different peer groups were created according to provinces: Alicante, Castellon, and Valencia. Finally, the total number of groups of producers involved in the analysis was 15: four in Alicante, four in Castellon, and seven in Valencia. Each group was assigned an ECG-accredited consultant, who was responsible for guiding the entire process. This process took place between April 2019 and October 2019, and it consisted of different working sessions (minimum of seven sessions) of two hours.

It is worth noting that the selection of agricultural producers who have participated in peer groups has been random. Such selection is based mainly on geographical proximity and on the relationship maintained with the agricultural associations participating in the study. This factor could skew the study results, although we want to stress that the sample finally selected has been very diverse.

At the end of each session, the consultants ask the producers to develop a Report for the Common Good. Besides, the consultants must carry out a peer report with the description of the activities carried out during the sessions. After this, they must send this peer report, the producers' report, and the CG calculator to the Spanish Federal Association of the ECG. Finally, this association will decide if the group deserves the Peer Certification. It should be noted that seven of the 15 participants obtained the Certification.

4. Results

4.1. Bibliometric Analysis

On the one hand, the initial research of documents throughout the search strings employed by the Web of Science resulted in 564 documents. We discarded those documents not included in the following research domains: Environmental Science, Agronomy, Green Sustainable Science Technology, Ecology, and Environmental Studies. From this first selection, we discarded those publications that were not related to the subject under study. As a consequence of this, 115 documents remained. After that, the authors and titles of these 115 publications were downloaded and imported into an Excel. Once downloaded, each one of the texts was analyzed consciously to exclude those documents that were not explicitly related to the topic studied. Finally, we found a total of seven publications. We have dismissed the majority of the publications because they had a different focus than economics and organizational. Many of these publications had a focus on engineering, biology, chemistry, etc.

On the other hand, the Scopus database search suggested 865 initial documents. In this case, the search criteria were applied from the beginning, so that those publications not directly related to Sustainability Indicators in agroecological farms were discarded. This initial search resulted in 47 papers for Agricultural & Biological Sciences and Environmental Sciences. These 47 documents were downloaded and consciously analyzed, thus leading to four final publications.

Furthermore, the Google Scholar search resulted in 14,900 publications. Again, the search criteria were applied from the first moment, thus discarding the articles not directly related to Sustainability Indicators in agroecological farms. This research resulted in four documents. Once the documents were checked meticulously, we decided to include the four papers in the analysis, since they were significantly related to the topic under study. Finally, Table 4 shows the 15 documents that have been analyzed in depth.

Databases	Items Search in Databases	Preliminary Documents for Full Review	Articles Included
Web of Science	564	115	7
Scopus	865	47	4
Google Scholar	14,900	4	4
Total	16,329	166	15

Table 4.	Selected	documents

Source: Authors' own creation.

Throughout the previous analysis, we can observe that a small number of publications have been obtained. This fact proves the existence of an academic gap in this field of study. Table 5 shows the articles that have been analyzed and the journal in which they are published: six publications are included in five journals specialized in environmental sciences (46.7% of the total amount of articles) [17,18,32–35]; three articles are published

in two journals specialized in agronomy (20% of the total) [36–38]; and the rest of the publications (33.3% of the total) are distributed in six journals specialized in different areas of study [39–44].

Category	Journal	Number of Articles	Sum of Articles	Sum of Journals
	The Environmentalist	1		
Environmental Sciences	Environmental Impact Assessment Review	1	6	5
	Sustainability	1	-	-
	Agricultural Sciences	1		
	Ecological economics	2		
Agronomy	Ecological indicators	1	2	2
	Agronomy for sustainable development	2	3	2
	Italian Journal of Agronomy	1		
	Ecology and Society	1		
Other Journals	Irish Journal of Agricultural and Food Research	1	6	6
Outer journals	Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis	1		
	International Journal of Agricultural Management and Development	1		
	Ingeniería y Desarrollo	1		
Total		15	15	13

Table 5. Articles on agroecology	Table 5.	Articles	on agroecology.
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Source: Authors' own creation.

When analyzing the number of publications by year, we can observe that productivity is constant throughout the whole period studied (between one and three articles published per year). It should be noted that: (1) In 2012, we can find 26.7% of the total amount of publications; (2) the year 2010 concentrates the largest production of articles in the Web of Science (3 of 15); (3) the year 2012 concentrates the largest production of articles in Scopus (4 of 15); and (4) the years 2015 and 2017 are unproductive concerning this type of publications.

Therefore, to conduct the questionnaire to develop the Delphi Analysis, we have incorporated the final list of sustainability indicators concerning agroecological farms included in the previous publications. This indicators' list can be found in the final Appendices A-E of the paper.

4.2. Delphi Analysis

First, 19 experts who answered all the questions participated in the first round of the Delphi Analysis. Nevertheless, in the second round, some of the participants did not answer all the questions because they did not consider them relevant. To analyze the data resulting from the questionnaires, we have considered the following statistical criteria:

- 1. We contemplate as the median (M) the selected group answer for each one of the questions.
- 2. We determine the sample dispersion degree from the interquartile range (k), which is measured as the difference between the third and the first quartile; so that the higher the range, the greater the dispersion.
- 3. In the first round, the degree of dispersion corresponds to the degree of consensus in the responses. Unanimity takes place when k = 0. Besides, when the relative frequency of response is greater than or equal to 80% (\geq 80%) or when k is less than or equal to 1 ($k \le 1$), we consider it as consensus.
- 4. In the second round, the degree of dispersion or consensus is replaced by the stability criterion (the probability that the group's response may change in the short term). Such criterion is measured with the variation of the relative interquartile range (r),

which is defined as the difference between the relative interquartile ranges of two successive rounds (Vr = rj - ri). We consider a satisfactory level of stability in the group response when this value is between -0.25 and 0.25.

- 5. We have also used as complementary tools the arithmetic mean (m), the mode (Md), and the standard deviation (Dt).
- 6. Finally, the analysis of the results includes the possibility of weighting them and segmenting them according to the control variables [45].

Table 6 shows the results corresponding to the three control variables. We can observe that the majority of the experts have remarkable knowledge regarding two of the three topics (agricultural sector and sustainability). Besides, they have sufficient knowledge concerning the ECG model; aspect in which we find no consensus (high dispersion).

	Producers		Techn	icians	Total Experts		
Field of Expertise:	Median	Num.	Median	Num.	Median	Num.	
Agricultural sector	4	9	4	9	4	18	
Sustainability	4	9	4	9	4	18	
ECG	3	9	3	9	3	18	
	Producers		rs Technicians		Total E	xperts	
Gender:	Num.	%	Num.	%	Num.	%	
Male	7	70	7	77.78	14	73.68	
Female	3	30	2	22.22	5	26.32	
Total	10	52.63	9	47.37	19	100	
	Produ	icers	Techn	icians	Total E	xperts	
Age:	Num.	%	Num.	%	Num.	%	
1960–1970	5	50	3	33.33	8	42.11	
1971–1980	4	40	3	33.33	7	36.84	
1981–1990	1	10	3	33.33	4	21.05	
Total	10	52.63	9	47.37	19	100	

Table 6. Field of expertise, gender, and age of experts.

Source: Authors' own creation.

In Table 6, we can also observe the differences according to the diverse participants' profiles. In the first place, concerning gender, we can see that 74% of the experts are men, while 26% of them are women. It should be noted that the percentage of women who are producers (30%) and technicians (22%) is higher than men. In the second place, concerning the age, we can observe that the median age of the experts is 48 years. More than two-thirds of the participants (78%) are older than 40 years. Besides, 42% of them are older than 50 years. We can observe that the median age of producers is slightly higher than the technicians' age.

Table 7 shows the results of the overall assessment made by the participants. First of all, experts (producers and technicians) recognize the importance of social value and the need for an adapted social measurement tool for agroecological farms (maximum value and consensus). Second, both types of experts recognize the need for having a differentiated certification by giving this aspect a high value (4 out of 5). Third, both types of experts also agreed that there is a need for having an adapted tool and differentiated certification to improve their competitive capacity. Finally, the importance of owning a tool to apply the ECG model and the CGBS also gets a high value (4 out of 5), although there is no consensus in the case of producers.

	Producers		Technicians		Total Experts	
Topics:	Μ	К	Μ	К	Μ	К
Importance of social value		1	5	1	5	1
Need for social/environmental adapted measurement tools		0.75	4	1	5	1
Need for differentiated certification		0	4	1	4	0.5
Tailor-made measurement tools to improve competitiveness		1	4	1	4	1
Differentiated certification to improve competitiveness		1	4	1	4	1
ECG and CGBS relevance in social/environmental measurement	4	1.75	4	1	4	1.5

Table 7. General assessment of agroecological farms.

Source: Authors' own creation.

Lastly, we analyzed the sustainability indicators according to the structure of the CGM. To this end, we selected those sustainability indicators that were positively assessed by the experts, thus discarding the ones whose value was lower than 4. Appendices A–E collects the set of indicators analyzed and selected.

4.3. Peer Groups Analysis

In Table 8, we can see the results corresponding to the median of the valuations obtained from all the agricultural farmers participating in the peer groups. The total median obtained was 54%, which indicates that although there is room for improvement, the participants involved in the analysis show social and environmental sensitivity.

% Median CGM Score	Human Dignity	Solidarity and Social Justice	Environmental Sustainability	Transparency and Co-Determination	Median by Interest Groups
Suppliers	15	20	60	20	30
Owners and Financial Services Providers	50	90	10	10	55
Employees	60	60	40	25	41
Customers and other companies	60	30	70	60	49
Social Environment	60	30	50	20	50
Median by values	60	30	50	20	54

Table 8. Results of the CGBS analysis of the participating companies (the median).

Source: Authors' own creation.

On the one hand, when analyzing the median by groups of interests, we find that suppliers represent the lowest score (30%), which indicates that agroecological farms have significant deficiencies concerning their supply chains. Such deficiencies can be seen in the values of human dignity (15%); solidarity and social justice (20%); and transparency and co-determination (20%). Nevertheless, the highest score was obtained in the case of owners and financial services providers (55%), especially in terms of solidarity and social justice (90%). Besides, the rest of the stakeholders—social environment, customers, and other organizations and employees—obtained a value of 50%, 49%, and 41%, respectively.

On the other hand, when analyzing the median by values of the CGBS model, we can see that the highest score corresponds to the human dignity value (60%). However, the lowest score corresponds to the transparency and democratic participation value (20%), especially in those aspects concerning owners and financial providers (10%). Finally, the values of ecological sustainability and solidarity and social justice obtained scores of 50% and 30%, respectively.

Finally, when we analyze the average corresponding to each of the interest groups, it is observed that the highest values correspond to the owners and financing entities (55%) and the social environment (50%). In contrast, the lowest value corresponds to suppliers (30%).

5. Conclusions

This study was intended to design a tool—based on the ECG principles—to measure the social and environmental value that agroecological farms can create.

In the first place, throughout the study, we have obtained more precise and focused indicators for the agroecological sector. At the same time, we have also developed a more straightforward and consistent tool. However, a more in-depth analysis would be needed to adjust some of the indicators better, thus considering the seasonality characterizing this sector. Furthermore, the CGBS analysis could also be simplified by using fewer tools, doing more specific questions and by facilitating and simplifying the drafting of the CGBS report.

In the second place, throughout the study, a significant number of organizations in the sector have been able to prepare their CGBS to be able to implement improvement measures concerning their sustainable practices. The implementation of the CGBS allows the quantification of the social and environmental value created by an agricultural farm. Moreover, it also helps to establish an improvement plan, which allows the introduction of new measures aimed at increasing those values in the future. Therefore, with the CGBS, we are introducing a measurement tool of strategic nature.

From the peer groups analysis, we can discern that these types of agricultural farms have a significant social and environmental deficiency concerning their relationships with suppliers, as well as concerning the transparency and co-participation value. Therefore, improvement measures should be introduced regarding the relationships in the supply chain and the transparency and co-determination policies.

In the third place, several companies in the sector have been successfully certified for the first time in this field while developing their CGBS. Seven of the fifteen participating companies have obtained the Peer Certification accredited by the Spanish Federal Association of the ECG. This certificate could be the basis for creating an official certification or hallmark for agroecological organizations; a Common Good Label for this type of businesses. Besides, this certificate is acquiring greater recognition in the market, although it does not yet have official or public recognition. Employing this Label, the Public Administration could apply incentives to encourage the application of social and environmental criteria in the agricultural sector. Moreover, obtaining such certification could give access to financial support, tax advantages and preference in public procurement. It should be noted that nowadays, European agricultural farmers are demanding a certification that includes ethical aspects in the management of farms (human dignity, social justice, cooperation, etc.,), beyond the current ecological certification of the products.

These three conclusions derived from the empirical analysis connect with the theoretical framework of the work. The theoretical framework highlighted the importance of applying an integrated approach to sustainability to improve the competitiveness of agroecological farms. Companies that derive social and environmental value can significantly increase their economic value. An agricultural farm dedicated exclusively to creating environmental value is limiting its ability to generate economic value.

Finally, we can conclude that the results obtained from this study can be a starting point for proposing different types of ethical and environmental certifications. Such certifications could help the agricultural sector to move toward a management model based on the sustainable development of the territory, placing people and the environment at the center of the plan. Throughout the study, we have defined a set of social and environmental indicators adapted to the specific needs and characteristics of agroecological farms, which can be used to measure their impacts and the creation of social, environmental, and economic value. Furthermore, we have designed a set of practical application tools that can help to implement a more efficient management model for agroecological farms. The Economy for the Common Good model, with its tools, is especially useful to implement this management model. Besides, this certification can be used as an instrument of differentiation of agroecological farms in the same territory or different states. Hence, such certification would indicate which businesses in the sector operate with ecological and social quality products, thus facilitating the entrance in new growing markets. Therefore, we have obtained a comprehensive corporate sustainability application tool which can be used to improve the competitive capacity of agroecological farms. Such farms can develop a comprehensive management tool that helps to consolidate them in a growing market, such as the agroecological one. However, this study scope is limited because it has been tested in a single European territory—the Valencian Community—and considering a limited number of companies. In this sense, it could be of interest to apply the tool obtained to new companies, thus expanding the field of study. This research could be applied to other European Union territories to identify possible contingency factors, mainly the geographical factor.

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Appendix A

Sustainability indicators related to the supply chain:

A1. Human dignity in the supply chain:	М	К
A1.1. Working conditions and environmental impact in the supply chain:		
- List of products/services acquired for suppliers	4	1.5
- Percentage of each product/service refers to total purchase expense	3	1
- Percentage of products/services produced under fair condition	4	0.5
- Average period of payment to suppliers	4	0.5
A1.2. Violation of human dignity in the supplier chain:		
- Percentage of products/services purchased with social risks and without risks	4	1
A2. Justice and solidarity in the supply chain:	Μ	К
A2.1. Ethical attitude with direct suppliers:		
- Average duration of business relationships with suppliers	4	1
- Estimated percentage of the suppliers' income ratio with respect to the company	3	1
A2.2. Promotion of justice and solidarity in the supply chain:		
- Percentage of products and raw materials with the seal of solidarity and justice	4	1
- Percentage of suppliers selected with criteria of justice and solidarity	4	0
- Percentage of local suppliers	4	1
A2.3. Negative aspect: abuse of market power against suppliers:		
- Conditions of abuse (such as payments and delivery)	4	2.5
- Complaints and negative claims by suppliers	4	2

A3. Environmental sustainability in the supply chain:	Μ	К
A3.1. Environmental impact in the supply chain:		
- Percentage of products/services that are more sustainable alternatives (<i>Best in Class</i>)	4	1
- Percentage of suppliers that contribute to reducing environmental impacts	5	1
- Irrigation water recycling percentage	5	1
- Use of organic, green, and micronutrient fertilizers	4	1
- Use of crop residues as green residues	5	1
- Maximization of natural biological processes	5	1
- Minimization of non-renewable resources	4	1
- Renewal of the seed cycle	4	1.5
- Purchase criteria: fair trade, ecological, social consumption	4	1
A3.2. Negative aspect: disproportionate impact:		
- Percentage of products/services with disproportionate negative impacts	3	2
A4. Transparency and co-decision in the supply chain:	М	К
A4.1. Transparency and democratic participation of suppliers:		
- Percentage of information made available to suppliers	4	0.5
- Participation of suppliers in business decisions that affect them	3	1
- Degree of supplier satisfaction with transparency and company participation	4	1
- Resolution of conflicts over the use of water	4	1
A4.2. Promotion of transparency and participation in the supply chain:		
- Percentage of products/services acquired with transparency and participation certificates	4	1
- Percentage of suppliers selected with criteria of transparency and participation	4	0

Appendix B

Sustainability indicators related to financial owners and funders:

B1. Ethical attitude in the management of financial resources:	Μ	К
B1.1. Financial independence: self-financing:		
- Percentage of company equity	4	1
- Share of equity in the sector	3	1
- Application of company profits (profit sharing)	4	1
B1.2. External financing oriented to the common good:		
- Percentage of the company's foreign capital (external capital)	3	0
- Composition of external financing	3	1
- Percentage of external financing from sustainable banking	4	1
B1.3. Ethical attitude of the company's financial providers:		
- Percentage of the company's main funders	4	1
- Ethical and sustainable behavior of the company's funders	4	1
B2. Solidarity attitude in the management of financial resources:	М	К
B2.1. Management of financial resources in solidarity and aimed at the common good:		
- Structure of the company's expenses	4	1
- Structure of the company's income	4	1
- Contribution to the company's reserves	4	1
- Company dividend policy (profit sharing)	4	1
B2.2. Negative aspect: unfair distribution of financial resources:		
- Reduction of jobs despite obtaining benefits	3	2
- Closing parts of the business despite making a profit	3	1
- Distribution of benefits to external persons	3	1.5
- Inequality in income distribution	3	2

B3. Sustainable financial investments and use of financial resources:	Μ	К
B3.1. Environmental nature of investments:		
- Investment plan and asset replacement with environmental criteria	4	0
- Investment decision criteria with environmental impacts	4	0
- Rehabilitation and/or substitutions considering environmental aspects	4	0.5
B3.2. Financial investments oriented to the common good:		
- Percentage of projects with social and environmental impact financed	4	1
- Percentage of socially responsible investment funds (social/environmental projects)	4	1
B3.3. Negative aspect: dependence on resources harmful to the environment:		
- Use of financial resources that arm the environment	2	3
B4. Property and participation in the use of financial resources:	Μ	К
B4.1. Distribution of property oriented to the common good:		
- Distribution of own funds among the different stakeholders	3	0.5
- Percentage of participation of the owners in the company	4	1
- Ability to access property and types of participation in the company	4	1
- Transparency in company decisions	5	1
- Access to resources	4	1
- Land access and control	4	0.5
B4.2. Hostile takeover bid:		
- Carrying out capital acquisition operations of other companies	3	1

Appendix C

Sustainability indicators related to people employed:

C1. Human dignity in the workplace:	М	К
C1.1. People-oriented organizational culture:		
- Average length of service in the company	4	1
- Number of job applications	3	1
- Number and periodicity of work environment surveys	4	1
- Offer and hours of training for employees	4	1.5
- Internal learning	5	1
- Skills	4	2
- Knowledge and planning capacity of producers	5	1
- Self-organizing ability	4	1
- Functional and responsive diversity	4	1
C1.2. Promotion of health and safety at work:		
- Sick leave rate	4	2
- Number and severity of work accidents	4	2
- Training given in this matter to employed persons	4	1
- Level of stress, noise and odors	4	2
- Human health risk	4	2

C1.3. Diversity and equal opportunities:		
- Percentage of people employed with diversity criteria	4	1
- Training given on diversity to employees	4	1
- Social diversity of the environment	4	0.5
 Amount of paternity and maternity leave per months 	4	2
- Rotations and new hires by diversity criteria	4	1
- Gender balance of work	4	1
- Diversity of social organization	4	0.5
- Level of studies	3	1
- Producer age	3	1
 University graduates in science and technology 	4	1
- Number of female workers	4	1
- Number of women in senior management	4	1.5
- Number of women on boards of directors	5	0.5
- Prevention in workplace harassment	4	1
- Use of non-discriminatory language	4	1
C1.4. Negative aspect: unworthy working conditions:		
- Official statement organizing committee on unworthy work	4	2
- Legal proceedings on violation of labor law	$\frac{1}{4}$	1.5
- Complaints and claims received about unworthy jobs	4	2
* **	M	K
C2. Formality of employment contracts:	IVI	K
C2.1. Remuneration:		
- Highest and lowest remuneration in the company	4	1
- Average remuneration	4	1
- Worthy remuneration according to location	5	1
- Salary scale	4	1
- Part of salary in social currency	3	1.5
- Salary differences by gender	4	4
C2.2. Working hours:		
- Number of weekly hours of work	4	2
- Number of overtime hours performed	4	2
- Flexibility in working hours	5	1
C2.3. Work conditions and conciliation:		
- Percentage of types of employment contracts used	4	2
- Percentage of temporary contracts and permanent contracts	$\frac{1}{4}$	1.5
- Percentage of full-time vs. part-time contracts	4	1
- Internship training contracts	4	1
- Number of people employed with contracts adapted to their needs	4	1
- Conciliation measures	5	0
- Total employment vs. seasonal employment	4	0
- Work-life balance	4	1
- Work times, workload (including health), and manpower	4	0
- Working conditions	$\frac{1}{4}$	1
- Degree of absenteeism	3	1.5
- Percentage of employees who voluntarily leave the company	3	2
- Jobs creation	4	1
C2.4. Negative aspect: unfair employment contracts:		
- People employed without individual conditions	3	2
- People employed with temporary contracts	2	1
- People employed with unworthy wages	4	3.5
- Irregular employeed with unworthy wages	3	3.5
- Moonlighting	2	1
	<u> </u>	T

C3. Promotion of the environmental responsibility of workers:	Μ	К
C3.1. Food during the working day:		
Organic food percentage	4	2
Existence of dining room service	4	2
Buy from local suppliers and organic stores	4	1
C3.2. Sustainable mobility to the workplace:		
Percentage of journeys with own vehicle or public transport	4	1
Percentage of journeys by car, bicycle or on foot	3	1
C3.3. Sustainable organizational culture and awareness with the environment:		
Percentage of employees who know the company's environmental policy	4	1
Training for employees on environmental issues	4	1
Use of renewable energy and energy saving	5	0.5
Reduction of CO_2 emissions	5	0.5
		2
Calculation of the personal ecological footprint Producer's personation of the importance of the environment	4	0.5
Producer's perception of the importance of the environment	5	
Use of natural resources	5	1
Generation of electricity from renewables	4	1
High degree of self-regulation and ecological awareness	4	1
Number of environmental education campaigns	4	1
3.4. Negative aspect: promotion and tolerance in the face of an irresponsible		
nvironmental attitude:		
Company vehicles with high emission factor	3	2
Waste treatment is neglected	3	3.5
Use of unsustainable products	2	2
C4. Internal transparency and internal democratic participation:	Μ	К
C4.1. Internal transparency:		
Degree of transparency of critical company information	4	1
Degree of accessibility to critical company information	4	1
Internal communication channels (notice board, magazine, bulletin,)	4	0.5
Transparency in company wages	4	1
24.2. Legitimacy of the staff management:		
Percentage of managers legitimized by workers through	4	2
onsultation/dialogue/participation		
Independence of the members of the board of directors	4	1.5
Remuneration of the members of the board of directors	4	1
Gender diversity in company management	4	1
Type of organizational structure (hierarchy)	т Л	1.5
Composition of the managements board	т Л	1.5
	4	
Characteristics of the board of directors (number of meetings, participation)	4	1.5
24.3. Participation of workers in decision-making:	4	1 -
Percent. of decisions made by consultation/dialogue contribution/participation	4	1.5
Types of decisions in which workers participate	4	1
Co-ownership of working people	3	1
	4	0
Distribution of company profits among working people	4	
Distribution of company profits among working people 24.4. Negative aspect: impediment of the works council:	7	
Distribution of company profits among working people	3	0.5

Appendix D

Sustainability indicators related to clients and other organizations:

D1. Ethical attitude towards clients:	Μ	K
D1.1. Transparent communication with customers:		
- Percentage of budget allocated to marketing, sales, and advertising	4	1
- Payment system for workers for sales (fixed-variable)	4	1
- Existence of sales targets	3	1
- Meetings/customer reviews	4	1
- Customer service and handling of claims	4	1
- Real information and labeling	5	0
D1.2. Accessibility:		
- Percentage of turnover that comes from vulnerable groups	4	1
- Products/services tailored to customers	4	1
- Ethical selling application	4	1
- Participation of clients in decisions that affect them	4	1
- Valuation and ethics system	4	1
D1.3. Negative aspect: misleading advertising and unethical business actions:		
- Unethical sales	4	3
- Money laundering	4	4
D2. Cooperation and solidarity with other companies:	Μ	К
D2.1. Cooperation with other organizations:		
- Percentage of time and resources dedicated to collaborative product/service development.	4	1
- Cooperation with other companies in the same sector, market segment, and place	4	0
- Cooperation with other companies in the same sector but in a different place	4	0
- Long-term cooperation with civil society	4	1
- Cooperation to improve the legal regulations of the sector	4	1
- Work on organizational initiatives to improve environmental/social standards in the sector	5	1
- Globally autonomous and locally interdependent	4	1
- Care for local traditions and cultures	4	1
- Youth Interest in Innovative Sustainable Agriculture Systems	5	1
- Attempt to protect and enhance biodiversity and natural resources by related organizations and	5	1
farmers - Agro-ecotourism	4	1
- Types of soil shared by agriculture	4	0.5
D2.2. Solidarity with other organizations:		
- Number of employees and short-term hours dedicated to other organizations	3	0.5
- Number of orders assigned to other organizations	3	0
- Financial resources assigned to other organizations	3	1
- Well-being of producers and their families	5	1
D2.3. Negative aspect: abuse of market power against other organizations:		
- Issue communications that harm other organizations	4	2.5
- Use the dumping strategy	2	3
- Make secret agreements with other companies to fix prices	3	3.5
- Seeks to capture market share or clients of other companies to maximize economic benefits	3	1.5
- Holds patents to block the development of other companies	2	1.5

D3. Environmental impact on the use of waste management of products/services:	Μ	К
D3.1. Environmental cost-benefit ratio of products/services (efficiency and consistency):		
Environmental impact of the products/services of the company	4	2
Control of polluting emissions	4	1
03.2. Moderate use of products and services (sufficiency):		
What products/services of the company aim at moderate consumption	4	0
Measurement of water consumption in m3 or in liters	4	0.5
Measurement of energy consumption	4	1
Control of energy consumption (renewable)	4	1
Measurement of polluting emissions (tons CO_2)	5	1
Control of polluting emissions	5	1
Emission compensation program (CO ₂)	4	1
Measurement of waste generated, hazardous and not (tons)	4	1
Measurement of managed waste/total generated waste	4	1
Measurement of reused waste	5	1
Reduction of containers and packaging	5	0.5
Prevention in waste generation	5	0.5
Measurement of waste eliminated (tons)	4	1
Control of hazardous waste	5	0.5
Product recycling percentage	5	1
03.3. Negative aspect: tolerance for disproportionate and conscious environmental impact:		
Disproportionate consumption of resources	3	3.5
94. Customer participation and transparency in products/services:	Μ	К
4.1. Customer participation in decision-making, product development and market research:		
Percentage of product innovation that has been developed in collaboration with customers	4	1
Percentage of product innovation that has been developed in collaboration with customers to educe environmental and social impact	4	1
Customers can participate in company decisions that affect them	4	0.5
Participation of clients in decision-making bodies of the company	3	1.5
04.2. Transparency of the product/service:		
Percent. of products that have information on their ingredients and components	5	1
Percentage of products/services with published prices	4	0.5
Dimension of costs externalities of products/services	3	1
4.3. Negative aspect: no declaration of dangerous substances:		
The products contain hazardous substances for the customer or the environment	4	4
The use of the products has side effects	4	3
Products containing dangerous substances or side effects are not reported		3.5

Appendix E

Sustainability indicators related to the social environment:

E1. Purpose and positive impact of products/services:	Μ	K
E1.1. Products/services that cover basic needs and improve quality of life:		
- Percentage on billing of products that cover basic needs	4	1
- Percentage on turnover of products that serve the development of people and planet	4	1.5
- Percentage billing of products that solve social and environmental problems as SDG	4	2
E1.2. Social impact of products and services:		
- Numbers and types of actions that generate social impact	4	0.5
- Number of people who benefit	4	1
E1.3. Negative aspect: products and services that violate human dignity:		
- Products/services that generate negative impacts on people and the planet	3	3.5
- Loss of organic matter	3	2
- Isolation risk	3	2.5
- Risk of leaving the field	3	3.5
- Loading of hazardous waste for the environment	3	3.5

E2. Contribution to the community:	Μ	К
E2.1. Taxes and social benefits:		
Net tax contribution share	3	1
Aid received by de community company	3	1
Tax contributions of the company to the community	4	0
Agri-environmental subsidy areas	4	1.5
2.2. Voluntary contribution to the community:		
Voluntary monetary contribution to the community	3	1
Long-term impact of the actions carried out on the community	4	0.5
Tree and plant biodiversity	4	1
Tree density	4	1
Air quality	4	1
Knowledge of the field's environment	4	1
Presence of fauna	4	1
Effect on nearby ecosystems	4	1
Landscape quality	5	0.5
Build human capital	5	1
- Aesthetic/cultural value	4	1
- Semi-natural habitat areas	4	1
- Sloped topography	3	1.5
- Irrigation water quality	4	1
- Specialization	4	1
- Soil fertility	4	1
- Economic independence of agricultural activity	5	1
- Demographic viability	4	0.5
Prosperity level	4	1
- Charitable giving practices	3	1
- Promotion of volunteering	3	1.5
E2.3. Negative aspect: tax avoidance and evasion:		
- Be part of multinational group, an international network or a digital economy	3	2
- Has business partners in tax havens	4	4
- Carry out international financial transactions	4	1.5
- Business opacity	3	4
E2.4. Negative aspect: lack of prevention against corruption:		
- Donation to political parties	3	3
- Opaque lobbying activities are carried out	3	4
E3. Reduction of the environmental impact on the social environment:	Μ	К
-	111	K
E3.1. Absolute impact and management and strategy:	4	3.5
Greenhouse gas emissions	4	
Transport	3	1.5
Fuel consumption: gasoline, diesel	3	1.5
Gas, electricity and water consumption	4	1
Use of chemicals	4	3
Paper consumption	3	1.5
Emissions of hazardous substances and other impacts	3	3.5
Potential contamination of groundwater	4	4
Pollutant adhesions to the main water sources	4	4
Use of pesticides and herbicides	4	1.5
Use of fertilizers	4	1
CO ₂ emissions from machinery and transport	3	2
Implement conservation/protection activities for water resources and the environment	5	1
Efficiency in water management	4	1
Garbage and waste management	4	1
Final energy consumption	4	1
Technological change for the management of water for irrigation	4	1

E3.2. Relative impact:		
- Greenhouse gas emissions	3	2.5
- Transport	3	1
- Fuel consumption: gasoline, diesel	3	1.5
- Gas, electricity and water consumption	3	0.5
- Use of chemicals	3	2
- Paper consumption	3	1
- Emissions of hazardous substances and other impacts	3	2.5
- Potential contamination of groundwater	3	3
- Pollutant adhesions to the main water sources	3	3
- Use of pesticides and herbicides	3	2
- Use of fertilizers	3	2
- CO ₂ emissions from machinery and transport	3	2
- Implement conservation/protection activities for water resources and the environment	4	1.5
- Efficiency in water management	4	2
- Garbage and waste management	4	1
- Final energy consumption	4	1
- Technological change for the management of water for irrigation	4	2
E3.3. Negative aspect: violation of environmental regulations and disproportionate		
impact: - Existence of infractions and claims	4	2
	4	3
- Actual damages	3	3
- Risk of stagnation	3	1.5
- Food risk	3	2
- Potential risk of soil erosion	3	2
- Soil salinity	4	2
- Threat of water resources due to hydro-climatic events	3	1.5
- Vulnerability to climate change	3	2
- Conflicts over the use of water	3	2
- Heavy metals from soil	4	3
E4. Transparency and participation in the social environment:	Μ	K
E4.1. Transparency:		
- Publication of a report for the common good or similar	4	1
- Report verification/audit	4	1
- Ease of access to the report	4	1
- Which stakeholders have access to the report	4	0.5
- Equal access to resources and support services	4	0
E4.2. Participation of the social environment in decision-making:		
- Percentage of relevant decisions made in a participatory manner with stakeholders	4	0.5
- Mechanisms for dialogue, collaboration, and participation in business decisions	4	0
E4.3. Negative aspect: manipulation of information and lack of transparency:		
- The dissemination of false or manipulated information is tolerated	3	3
*	4	
- False or manipulated information is spread Relevant information on ricks and negative impacts is emitted	± 1	4
- Relevant information on risks and negative impacts is omitted	-± 4	4
- Information on holdings or subsidiaries is omitted	4	4
- Information on flows from subsidiaries to lobbies is omitted	4	3.5

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