

# Weaknesses and potential of green businesses in the Sub-regions of La Mojana and San Jorge, in the department of Sucre, Colombia

Debilidades y potencialidades de los negocios verdes, en las subregiones La Mojana y San Jorge en el departamento de Sucre, Colombia

<https://doi.org/10.15446/rfnam.v76n2.103177>

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## ABSTRACT

**Keywords:**

Compliance of indicators  
Ecological systems  
Environmental impact  
Natural resources  
Subsectors  
Sustainable development

This study was aimed to determine the weaknesses and potential of green businesses in La Mojana and San Jorge subregions in the department of Sucre. Businesses in the category of sustainable goods and services from natural resources and subsectors of the Biotrade sector were considered since they were the most representative in the area—the instrument verification sheet version 1.2 F001-2014 established by the Ministry of Environment and Sustainable Development - MADS was used to evaluate them. The fulfillment of sustainability criteria in the evaluated subsectors and between the level of business development in the study municipalities was analyzed using the Chi-square test. As a result, weaknesses in the economic component criteria and strengths in the environmental criteria for most of the businesses were evidenced, as well as significant differences between the municipalities and subsectors. However, restructuring businesses towards sustainability is a path that requires cultural, technological, and management strengthening. This is a change that should gradually happen and must be supported by government authorities.

## RESUMEN

**Palabras clave:**

Cumplimiento de indicadores  
Sistemas ecológicos Impacto ambiental  
Recursos naturales  
Subsectores  
Desarrollo sostenible

El propósito de este estudio fue determinar las debilidades y potencialidades de los negocios verdes de las subregiones Mojana y San Jorge en el departamento de Sucre. Se consideraron los negocios pertenecientes a la categoría de bienes y servicios sostenibles provenientes de los recursos naturales y subsectores del sector biocomercio, debido a que tienen mayor representatividad en la zona. Mediante el instrumento ficha de verificación versión 1.2 F001-2014 establecido por el Ministerio de Ambiente y Desarrollo Sostenible- MADS. Además, fue aplicado un análisis sobre el cumplimiento de criterios de sostenibilidad, utilizando la prueba de Chi cuadrado, en los subsectores evaluados y entre el nivel de desarrollo de los negocios en los municipios del estudio. Como resultado se evidenció la existencia de debilidades en los criterios del componente económico y fortalezas en los criterios ambientales en la mayoría de los negocios, así mismo, diferencias significativas en los municipios y subsectores. El proceso de reconversión de los negocios hacia la sostenibilidad es un camino que amerita un fortalecimiento cultural, tecnológico y gerencial, que ocurre en forma paulatina y debe estar acompañado de una asesoría por parte de las autoridades gubernamentales.

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**T**he development of societies is largely due to global economic activities. In many cases, these activities are a permanent source of pollution, with waste dumping affecting all environmental compartments (Taco-taco et al. 2017), which raises concern because of climate variability due to the continued environmental degradation (Severiche et al. 2016). Despite this situation, economic prosperity, quality of life, equity, and social welfare have been placed above the protection of natural resources (Cuartas et al. 2019; Salas and Ortiz 2018), demonstrating a lack of awareness, attitude, apathy, and harmonious relationship with the ecosystems (Ramírez 2015).

This problem, according to the Ministry of Environment and Sustainable Development (MADS by its acronym in Spanish) and the United Nations Development Program (UNDP), is driven by hydroelectric plants, the indiscriminate use of pesticides, water pollution, and depletion, loss, and degradation of elements in native ecosystems (MADS and PNUD 2014). Even though Goal 12 of the Sustainable Development Goals established by the United Nations, titled "responsible consumption and production", indicates that "achieving economic growth and sustainable development requires that we urgently reduce our ecological footprint by changing the way we produce and consume goods and resources" (PNUD 2019). Additionally, the update of the National Green Business Plan 2022–2030 proposes an approximation of the contribution of green businesses and their related actions to achieving the Sustainable Development Goals (SDGs) in each emphasis area. In the environmental dimension, SDGs 6, 13, 14, and 15, in the social dimension, SDGs 1, 2, 3, 4, 5, 7, 11, and 16, and in the economic dimension, they emphasize SDGs 8, 9, 10, and 12 (MADS 2022). Consequently, the goal of creating 12,630 new green businesses by 2030 has been linked to the objective of promoting an increase in productivity and economic competitiveness as part of the country's follow-up goals (CONPES 3934).

Colombia has a green growth approach (CONPES 3934) with the purpose of generating technological and behavioral changes in economic sectors that can contribute to environmental conservation. In this context, the Ministry of Environment and Sustainable Development created, in 2014, the National Plan for Green Businesses (PNNV), which "defines the guidelines and provides tools for

planning and decision-making that allow the development and promotion of green and sustainable businesses in the country" (MADS 2014). It includes those economic activities that incorporate good sustainable practices with a life-cycle approach that contribute to the conservation of the natural capital that supports the development of the territory (ONNVS 2014).

Researchs from Universidad de Sucre on the application of sustainable agriculture in this region report a limited potential for agricultural production and an acceptable potential for environmental supply and natural resources (Benítez 2010). In addition, it was reported that the population live off subsistence farming and complementary activities of indiscriminate hunting of wildlife (De la Ossa et al. 2011).

This multi-causal situation in the region may be associated with little knowledge about environmental problems, a lack of rigor in compliance with environmental regulations (Martínez and Sánchez 2019), little research on environmental businesses, and a lack of articulation among key actors that can encourage the establishment of connections (Acevedo et al. 2018).

## MATERIALS AND METHODS

The study was conducted in La Mojana and San Jorge subregions. La Mojana is located at the southern end of the department of Sucre. It comprises the municipalities of Sucre, Majagual, and Guaranda and has an area of 2,337 square kilometers (22.6% of the department) (Urquijo and Vargas 2013; IGAC 2018). San Jorge subregion is located in the southwest of the department, consisting of the municipalities of San Marcos, San Benito Abad, La Unión, and Caimito, with a territory of 2,934 square kilometers (28.3% of the total of the department) (Corpomojana 2019; IGAC 2018).

The study is a mixed type of research, transversal cut, not experimental. For data analysis, descriptive statistics was used. The collected information was coded and tabulated, and the study variables data were exported to R Project version 4.0.3 (2021) statistical program. A box analysis was performed based on the results of the evaluation. Likewise, a comparative analysis was made to statistically determine significant differences, using the chi-square test with a significance level of 5%

( $P \leq 0.05$ ), among the level of criteria compliance, the subsectors evaluated, and the location of the companies in the municipalities of La Mojana and San Jorge regions.

The businesses were selected from a diagnosis made for the project "Support for the Implementation of the Sustainable Green Business Window in the Jurisdiction of the Corporation for Sustainable Development of La Mojana and San Jorge - Corpomojana" provided by Corpomojana, based on the category of sustainable goods and services from natural resources, biocommerce sector, and subsectors, (Verification and evaluation guide of Green Business 2016). A total of 40 Companies were evaluated and their selection was based on the

following inclusion criteria: having a settlement in the subregions of La Mojana or San Jorge in the department of Sucre, having a chamber of commerce certificate, intending to be a green business, and having signed an informed consent.

The study used the methodology of MADS (2014) and Cerón and Lasso (2020) by applying a survey to business' owners using the tool - Form version 1.2 F001-2016 (verification sheet 2), which evaluated a set of indicators on 12 verification and evaluation criteria for green businesses as framed within the National Plan of Green Businesses (ONNVS 2014; Duarte Ramírez 2019; Martínez et al. 2020 ), as shown in Table 1.

**Table 1.** Green business criteria.

1. Economic viability of the business.	7. Efficient and sustainable use of resources to produce the finished product or service offered.
2. Positive environmental impact	8. Social responsibility within the company.
3. Life cycle approach of the good or service.	9. Social responsibility within the value chain of the company.
4. Useful life	10. Social responsibility outside the company.
5. Substitution of hazardous substances or materials.	11. Communication of attributes of the goods and services.
6. Recyclability and/or use of recycled materials.	12. Environmental or social schemes, programs, or recognitions implemented or received.

Verification and evaluation guide of Green Business (2016).

The described criteria were evaluated in the business lines found in the department of Sucre's La Mojana and San Jorge subregions. Indicators for each criterion were graded with values 0, 0.5, 1, or not applicable (N/A), according to the verification and evaluation guide of Green Business Criteria (2016). The estimate of the compliance rate was obtained using an arithmetic average, described in Equation (1):

$$\text{Criterion score } i = \sum_i^n \frac{X_i}{z} * 100 \quad (1)$$

Where  $x$  = score of sub-criteria of criterion  $i$ ;  $z$  = the number of sub-criteria of criterion  $i$ .

Determining the weaknesses and potential of the selected businesses was based on compliance level with the green business criteria. If they are below 50%, they are considered weak criteria; if above 51%, they are considered viable. This tool uses a set of indicators

developed with the support of the German Agency for International Cooperation GIZ and validated in the field, in 2015, in different states of Colombia (Lizarazo and Contreras 2021).

## RESULTS AND DISCUSSION

### Results related to the potential and weaknesses of green businesses

In total, six subsectors of the category of sustainable goods and services from natural resources were identified with their respective economic activities, as shown in Table 2.

The analysis of compliance of the evaluated criteria shows strength in the criteria positive environmental impact; the substitution of hazardous substances or materials; recyclability and/or use of recycled materials; and social responsibility outside the company. In contrast, the analysis shows weaknesses in the criteria the economic viability

**Table 2.** Subsectors of economic activities prioritized.

Green Business Subsector	Economic activities prioritized - Study region	Participation rate (%)
Non-timber	Craft shops based on arrow cane (caña flecha)	10
Ecological, biological, and organic production systems	Agricultural businesses (aji, plantain, yucca, passion fruit, papaya, ahuyama, bocachico, beans, green beans, and vermicompost)	55
Products derived from wildlife	Beekeeping businesses	10
Ecotourism	Ecotourism - historic	2.5
Sustainable agro-systems	Nursery of ornamental plants	2.5
Food industry	Industrial businesses (popocho, panela, cashew, and cocoa)	20

of the business; social responsibility within the company; social responsibility within the value chain of the company; communication of attributes of goods and services; and schemes, programs, or recognitions implemented or received. On the other hand, the analysis showed that the subsectors of nature tourism, agro-industrial food, non-

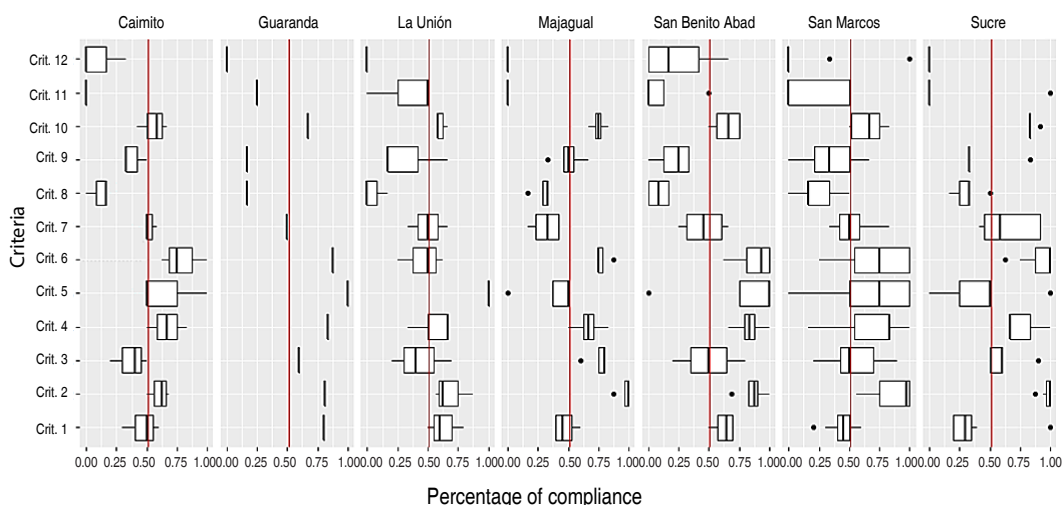
timber, and biological, ecological production systems have a more significant potential for compliance than those of products derived from wildlife and sustainable Agricultural-systems; nevertheless, it indicates that the most significant participation is in organic products, followed by the food industry. These results are detailed in Figure 1.

**Figure 1.** Comparison of the compliance of criteria by subsector.

The comparative analysis of the criteria compliance and location of the companies in the municipalities of La Mojana and San Jorge regions was able to detect that the criteria that exceeded 51% of compliance and have strengths are: positive environmental impact, useful life, substitution of hazardous substances or materials, recyclability and/or use of recycled materials

and social responsibility outside the company; and that they were located in the municipalities of San Benito Abad, San Marcos, and Sucre. It detected that the main weaknesses were: efficient and sustainable use of resources for the production of goods or services, social responsibility within the company, social responsibility within the value chain of the company, communication of

attributes of goods and services and schemes, programs or recognitions implemented or received; specifically in the municipalities of La Unión and Caimito, as shown in Figure 2.



**Figure 2.** Comparison of the compliance of criteria by the municipality.

Regarding the economic viability of the businesses evaluated, the highest averages were found in the companies of San Benito Abad, and La Unión municipalities, showing significant differences with those located in San Marcos and Sucre municipalities, which have the lowest averages.

The Chi-square test showed that “life cycle approach of the goods or services”, “useful life”, “recyclability and/or

use of recycled materials”, “social responsibility within the company”, “social responsibility within the value chain of the company”, and “communication of attributes of the goods and services” criteria statistically present significant differences ( $P < 0.05$ ) with regards to the evaluated sub-sectors. The remaining criteria showed no marked statistical differences, as shown in Table 3.

**Table 3.** Chi-square test, comparison of the compliance of criteria regarding the subsectors.

Criteria	Chi2	Df	P Chi2
Economic viability of the business.	1.184	3	0.757
Positive environmental impact and contribution to the conservation and preservation of ecosystem resources.	1.429	3	0.699
Life cycle approach of the good or service *	16.520	3	0.001
Useful life *	8.540	3	0.036
Substitution of hazardous substances or materials	0.893	3	0.827
Recyclability and/or use of recycled materials*	9.408	3	0.024
Efficient and sustainable use of resources for the production of goods or services	5.363	3	0.147
Social responsibility within the company*	9.571	3	0.023
Social responsibility within the value chain of the company	11.662	3	0.009
Social responsibility outside the company	3.818	3	0.282
Communication of attributes of goods and services*	9.328	3	0.025
Schemes, programs or recognitions implemented or received.	6.424	3	0.093

\*Significant differences.

Findings indicated that agro-industrial and non-timber businesses had higher averages than businesses with products derived from wildlife and ecological production systems, regarding essential aspects of sustainability in the life-cycle approach criteria. Businesses in the ecological production systems subsector showed the highest averages on recyclability and use of recycled materials criteria, showing statistically significant differences with non-timber and businesses with products derived from wildlife, which had the lowest scores.

Concerning the social responsibility within the business criteria, the agro-industrial food production businesses have the highest scores. In contrast, the lowest scores were obtained by businesses with products derived from wildlife and ecological production systems. In the communication of attributes of the goods and services criteria, there is a marked difference among businesses with products derived from wildlife, which have the highest scores, and those with ecological production systems, as shown in Table 4.

**Table 4.** Multiple comparisons according to company subsectors and green business criteria.

Criteria	Subsectors	n	Min	Max	Mean	SD	Groups
Economic viability of the business	Non-timber	4	0.400	0.500	0.475	0.050	A
	Products derived from wildlife	4	0.300	0.500	0.450	0.100	A
	Eco. Org. and Bio. Prod. Sis.	21	0.200	0.800	0.457	0.163	A
	Agro-industrial food	9	0.200	0.800	0.411	0.220	A
Positive environmental impact and contribution to the conservation and preservation of ecosystem resources	Agro-industrial food	9	0.812	1.000	0.938	0.077	A
	Non-timber	4	0.688	1.000	0.891	0.148	A
	Products derived from wildlife	4	0.750	1.000	0.891	0.107	A
	Eco. Org. and Bio. Prod. Sis.	21	0.500	1.000	0.833	0.188	A
Life cycle approach of the goods or services	Agro-industrial food	9	0.600	0.800	0.722	0.097	A
	Non-timber	4	0.500	0.900	0.700	0.163	A
	Eco. Org. and Bio. Prod. Sis	21	0.200	0.800	0.476	0.151	B
	Derivatives of fauna	4	0.200	0.700	0.400	0.245	B
Useful life	Products derived from wildlife	4	0.833	1.000	0.875	0.083	A
	Agro-industrial food	9	0.500	0.833	0.759	0.121	Ab
	Eco. Org. and Bio. Prod. Sis	21	0.167	1.000	0.683	0.166	B
	Non timber	4	0.167	1.000	0.458	0.370	B
Substitution of hazardous substances or materials	Products derived from wildlife	4	0.500	1.000	0.750	0.289	A
	Eco. Org. and Bio. Prod. Sis	21	0.000	1.000	0.595	0.407	A
	Agro-industrial food	9	0.000	1.000	0.556	0.300	A
	Non-timber	4	0.000	1.000	0.500	0.577	A
Recyclability and/or use of recycled materials	Eco. Org. and Bio. Prod. Sis	21	0.250	1.000	0.863	0.205	A
	Agro-industrial food	9	0.625	1.000	0.778	0.121	Ab
	Non-timber	4	0.333	1.000	0.625	0.285	B
	Products derived from wildlife	4	0.250	0.875	0.531	0.258	B



Table 4

Criteria	Subsectors	n	Min	Max	Mean	SD	Groups
Efficient and sustainable use of resources for the production of goods or services	Eco. Org. and Bio. Prod. Sis	21	0.167	0.917	0.587	0.212	A
	Non-timber	4	0.333	0.833	0.542	0.220	Ab
	Products derived from wildlife	4	0.250	0.583	0.438	0.172	Ab
	Agro-industrial food	9	0.333	0.583	0.444	0.072	B
Social responsibility within the company	Agro-industrial food	9	0.167	0.500	0.315	0.100	A
	Non-timber	4	0.167	0.333	0.250	0.096	Ab
	Products derived from wildlife	4	0.000	0.333	0.167	0.136	B
Social responsibility in the company's value chain	Eco. Org. and Bio. Prod. Sis.	21	0.000	0.333	0.159	0.123	B
	Non-timber	4	0.500	0.667	0.625	0.083	A
	Agro-industrial food	9	0.167	0.500	0.333	0.144	B
	Products derived from wildlife	4	0.000	0.333	0.208	0.160	B
Social responsibility outside the company	Eco. Org. and Bio. Prod. Sis.	21	0.000	0.333	0.153	0.153	B
	Agro-industrial food	9	0.667	0.833	0.750	0.072	A
	Non-timber	4	0.667	0.833	0.750	0.068	A
	Products derived from wildlife	4	0.583	0.750	0.646	0.080	A
Communication of attributes of the goods and services	Products derived from wildlife	4	0.000	0.500	0.375	0.250	A
	Non-timber	4	0.000	0.500	0.250	0.289	Ab
	Agro-industrial food	9	0.000	0.500	0.139	0.220	Ab
Schemes, programs, or recognitions implemented or received	Eco. Org. and Bio. Prod. Sis.	21	0.000	0.500	0.048	0.150	B
	Products derived from wildlife	4	0.000	1.000	0.417	0.500	A
	Non-timber	4	0.000	0.333	0.083	0.167	Ab
	Agro-industrial food	9	0.000	0.000	0.000	0.000	B

Significant differences were found among the companies in the municipalities of San Benito Abad and La Unión regarding the compliance of economic viability of the business criteria, having the highest averages, compared to the municipalities of San Marcos and Sucre, which had the lowest averages. However, the businesses located in the municipalities of Sucre, Majagual, and San Marcos, although they showed the highest scores in the positive environmental impact criteria, did not register statistically significant differences, as is shown in Table 5.

The findings determined that greater participation in ecological, biological, and organic production systems could suggest that La Mojana and San Jorge sub-regions have greater potential for land use activities. These may be due to the conditions of the regions, which are suitable for agriculture, with a variety of ecosystems represented by swamps, rivers, natural channels, streams, swamp forests (Flooded forests with low trees and scrub), patches of primary and secondary forests, Macrophyte marshes, and a warm and humid tropical climate with constant temperatures close to 28 °C (Benítez 2010).

**Table 5.** Multiple comparisons according to the compliance of criteria by municipality.

Criteria	Municipality	N	Min	Max	Mean	SD	Groups
Economic viability of the business	San Benito Abad	4	0.500	0.700	0.625	0.096	A
	La Unión	3	0.500	0.800	0.633	0.153	A
	Majagual	4	0.400	0.600	0.475	0.096	Ab
	Caimito	3	0.300	0.600	0.467	0.153	Ab
	San Marcos	14	0.200	0.600	0.429	0.107	B
	Sucre	11	0.200	1.000	0.336	0.234	C
Positive environmental impact and contribution to the conservation and preservation of ecosystem resources	Sucre	11	0.875	1.000	0.972	0.051	A
	Majagual	4	0.875	1.000	0.969	0.062	A
	San Marcos	14	0.562	1.000	0.879	0.156	A
	San Benito Abad	4	0.688	1.000	0.859	0.129	Ab
	La Unión	3	0.562	0.875	0.688	0.165	B
	Caimito	3	0.500	0.688	0.604	0.095	B
Life cycle approach of the goods or services	Majagual	4	0.600	0.800	0.750	0.100	A
	Sucre	11	0.500	0.900	0.591	0.114	Ab
	San Marcos	14	0.200	0.900	0.557	0.217	Ab
	San Benito Abad	4	0.200	0.800	0.500	0.258	Ab
	La Unión	3	0.200	0.700	0.433	0.252	B
	Caimito	3	0.200	0.500	0.367	0.153	B
Useful life	San Benito Abad	4	0.667	1.000	0.833	0.136	A
	Sucre	11	0.667	1.000	0.742	0.115	A
	San Marcos	14	0.167	1.000	0.679	0.281	A
	Caimito	3	0.500	0.833	0.667	0.167	A
	Majagual	4	0.500	0.833	0.667	0.136	A
	La Unión	3	0.333	0.667	0.556	0.192	A
Substitution of hazardous substances or materials	La Unión	3	1000	1.000	1000	0.000	A
	San Benito Abad	4	0.000	1.000	0.750	0.500	Ab
	San Marcos	14	0.000	1.000	0.643	0.413	Ab
	Caimito	3	0.500	1.000	0.667	0.289	Ab
	Sucre	11	0.000	1000	0.409	0.302	B
	Majagual	4	0.000	0.500	0.375	0.250	B
Recyclability and/or use of recycled materials	Sucre	11	0.625	1000	0.909	0.159	A
	San Benito Abad	4	0.625	1.000	0.875	0.177	A
	Caimito	3	0.625	1.000	0.792	0.191	Ab
	Majagual	4	0.750	0.875	0.781	0.062	Ab
	San Marcos	14	0.250	1.000	0.732	0.258	Ab
	La Unión	3	0.250	0.625	0.458	0.191	B
Efficient and sustainable use of resources for the production of goods or services	Sucre	11	0.417	0.917	0.667	0.220	A
	Caimito	3	0.500	0.583	0.528	0.048	Ab
	La Unión	3	0.333	0.667	0.500	0.167	Ab
	San Marcos	14	0.333	0.833	0.506	0.133	Ab
	San Benito Abad	4	0.250	0.667	0.458	0.198	Ab



Table 5

Criteria	Municipality	N	Min	Max	Mean	SD	Groups
Social responsibility within the company	Majagual	4	0.167	0.417	0.312	0.125	b
	Sucre	11	0.167	0.500	0.303	0.101	A
	Majagual	4	0.167	0.333	0.292	0.083	A
	San Marcos	14	0.000	0.500	0.226	0.140	Ab
	Caimito	3	0.000	0.167	0.111	0.096	Bc
	San Benito Abad	4	0.000	0.167	0.083	0.096	C
	La Unión	3	0.000	0.167	0.056	0.096	C
Social responsibility within the value chain of the company	Majagual	4	0.333	0.667	0.500	0.136	A
	Caimito	3	0.333	0.500	0.389	0.096	Ab
	San Marcos	14	0.000	0.667	0.357	0.215	Ab
	Sucre	11	0.333	0.833	0.379	0.151	Ab
	La Unión	3	0.167	0.667	0.333	0.289	Ab
	San Benito Abad	4	0.000	0.333	0.208	0.160	B
Social responsibility outside the company	Sucre	11	0.833	0.917	0.841	0.025	A
	Majagual	4	0.667	0.833	0.750	0.068	B
	San Benito Abad	4	0.500	0.750	0.646	0.125	Bc
	San Marcos	14	0.500	0.833	0.643	0.115	C
	La Unión	3	0.583	0.667	0.611	0.048	C
	Caimito	3	0.417	0.667	0.556	0.127	C
Communication of attributes of the goods and services	La Unión	3	0.000	0.500	0.333	0.289	A
	San Marcos	14	0.000	0.500	0.214	0.257	A
	San Benito Abad	4	0.000	0.500	0.125	0.250	A
	Sucre	11	0.000	1.000	0.091	0.302	A
	Caimito	3	0.000	0.000	0.000	0.000	A
	Majagual	4	0.000	0.000	0.000	0.000	A
Schemes, programs, or recognitions implemented or received	San Benito Abad	4	0.000	0.667	0.250	0.319	A
	Caimito	3	0.000	0.333	0.111	0.192	Ab
	San Marcos	14	0.000	1.000	0.119	0.281	Ab
	La Unión	3	0.000	0.000	0.000	0.000	Ab
	Majagual	4	0.000	0.000	0.000	0.000	B
	Sucre	11	0.000	0.000	0.000	0.000	B

The incipient development in the ecotourism sector is evident. However, among the ecosystem potentials stands out the sighting of birds, especially of exotic species in the lower part of the San Jorge River basin, which are directly related to the ecosystem of the marshes and natural ecosystems (CSB 2019).

This study shows agreement with an analysis of the situation of green business initiatives and biocommerce

in the department of Amazonas, which found that no marketing studies, strategic plans, and business plans are implemented, in addition to a lack of knowledge of profitability (Cerón and Lasso 2020), that is to say, that the majority of prioritized economic activities show non-compliance with the management of financial and accounting statements.

The possible causes for these weaknesses are related to low levels of schooling, high levels of poverty, lack of

promotion of business culture, and lack of assertiveness by the community to create development alternatives and non-intervention of government agencies, which agrees with those proposed by Otero and Salazar (2017). Therefore, there is a need to strengthen or create business plans, marketing strategies, and budgets and implement monitoring and control plans in the regions (Garay and Contreras 2020) through training processes adapted to meet the needs of the population and its level of education so that it is easy to understand and can help them to build skills in the economic area.

The results show that, although businesses show strengths in compliance with environmental criteria, they should reinforce indicators that are partially met, such as the communication of attributes and description of the product, in each production link, which results in marketing difficulties by not showing its differentiating components in the market. Compliance with environmental criteria is of great importance for the future of the green market in La Mojana and San Jorge sub-regions considering that there is a growth of consumers at a national and international level that wants to contribute to the preservation of the environment and the so-called "responsible consumers" who are interested in supporting natural production processes.

Regarding criteria of the economic viability of the business, companies from the municipalities of San Jorge subregion presented higher averages, indicating a higher organizational level than those from La Mojana subregion. The above demonstrates the need to educate on business training and entrepreneurship subjects.

In the subregions focus of this research, there have been few studies on companies' sustainability practices projected for the green market, making it necessary to encourage research in this field, promote environmental education, and strengthen infrastructure, skilled labor, and consumer culture in order to achieve sustainable development (Granados 2018). Subregions need to continue strengthening the joint efforts between companies and government agencies to turn their weaknesses into strengths, given that producers benefit from the strategies designed in the Green Business Windows, which help them strengthen their economic activities.

Finally, the challenge for the Corporation for the Sustainable Development of La Mojana and San Jorge - Corpomojana, as the authority in charge of strengthening this type of business, is to continue leveraging and strengthening businesses focusing on sustainable development. To achieve these objectives, it must generate innovative training proposals that meet the new challenges faced by our community to achieve sustainable development by applying interdisciplinary and transdisciplinary approaches (CIN 2010), which would represent a significant strength and opportunity for green businesses in the sub-regions of La Mojana and San Jorge.

## CONCLUSIONS

It was determined that La Mojana and San Jorge subregions of the department of Sucre have greater participation in the green business subsector "systems of biological and organic ecological production," with a high development potential, which could promote a new market line in the area, considering the sustainability criteria established by the Ministry of Environment and Sustainable Development - MADS. On the other hand, the main strengths of the businesses evaluated were found in the criteria related to environmental aspects. In contrast, the main weaknesses were focused on the economic and social sector criteria. These findings suggest that La Mojana and San Jorge subregions have more potential for land use activities and nature tourism. However, it is necessary to prioritize these sectors through investment, and technical and financial support, contributing to achieving the country's goals proposed in CONPES 3934 and the SDGs.

## ACKNOWLEDGMENTS

The manuscript was derived from the thesis "Evaluation of the offer of existing green businesses in the La Mojana and San Jorge Subregion in the department of Sucre- Colombia," by the author Linda Estefania Rios Monterroza, submitted to be awarded her master's degree in Environmental sciences at Universidad de Sucre- Colombia.

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