

## **THE THREE PILLARS OF SUSTAINABILITY IN EDUCATION: THE SISTEMIC APPROACH OF SOCIAL RESPONSIBILITY**

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**Abstract.** Sustainability should be a cross-cutting theme within the curriculum as a set of essentially attitudinal teaching contents that should become part of the activities proposed in all educational areas. Their incorporation means formalizing an education in values and attitudes not sporadically but constantly throughout each course. However, it is also a poorly understood term that needs to be correctly identified to carry out more effective actions within an educational institution. A topic is transversal if it is important for development and needs, for its success, many teachers from different areas to be involved in it. Therefore, the Universidad del Atlántico in Barranquilla, Colombia is committed to this multidisciplinary project. Three students from 15 classrooms from 3 different careers have been taken to carry out this educational project. This is an analytical observational study of qualitative nature, where the researchers simply attempt to systematically describe the characteristics of categories, and phenomena, then compare constructs and postulates generated from phenomena observed in research context, as well as to discover causal relationships, but avoid assuming a priori constructs or relationships. The general conclusion of the study is that there is a need to broaden the horizons of this study to a much wider population and not only to the educational sector.

**Keywords.** Sustainability, Social Pillar, cross cutting theme, multidisciplinary project, triple bottom-line

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## 1. Introduction

In Colombia, as in many other countries, the topic of sustainable development is becoming more and more important, but not only this, but there are also many sustainable projects, programs and policies that seek to make economic development in this country more sustainable.

Colombia is a country with an enormous wealth of biodiversity, in fact the country along with 11 other countries are home to 70% of the world's biodiversity, this makes it vitally important to protect the environment in a process of economic development.

Sustainability can have different meanings to different people in the context of corporate social responsibility. One of the best definitions we have seen was outlined at the 2005 World Summit on Social Development, which presented sustainability as an integration of social, economic, and environmental factors.

The Environmental Protection Agency has echoed a similar sentiment, pointing out that:

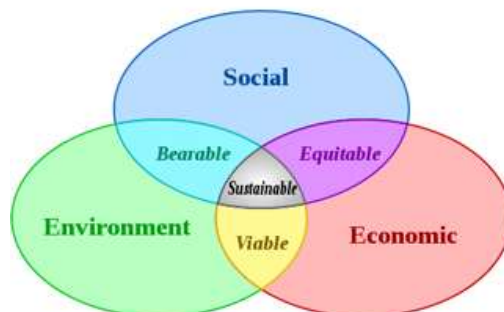
“Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony that permits fulfilling the social, economic, and other requirements of present and future generations.” [1]

At Trust, our focus on sustainability means working with educational institutions to help them develop plans that combine long term profitability with maximum social responsibility and environmental care among students for their future life as professionals. Following some basic principles of sustainability can help your school forge a path toward larger corporate social responsibility goals. The research question: How to develop a project for teaching the concepts of sustainability in social and cultural education? led the research process. If we strive for a more sustainable country, we will have a better quality of life and our next generations will have a better quality of life. Besides we help to contribute to the economic and social development of the country to be environmentally sustainable and improve the living conditions of the most vulnerable and excluded population, promoting the achievement of the 2030 Agenda for Sustainable Development.

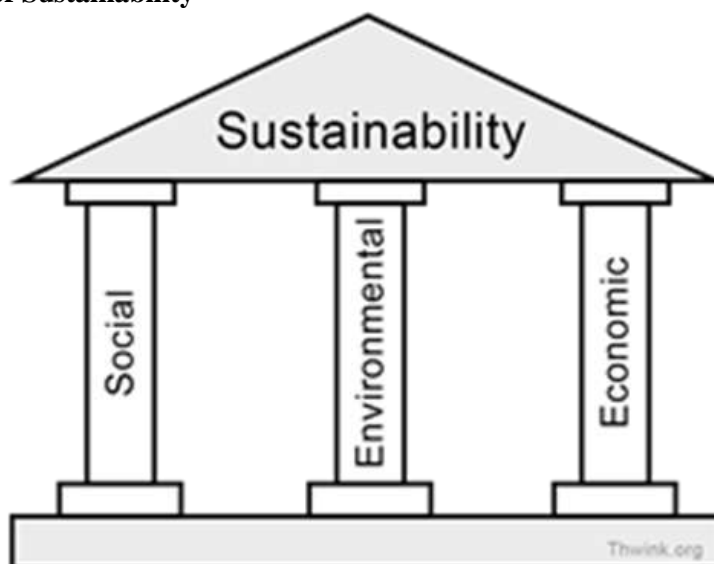
The following should be highlighted as background to this work [2] Sustainability as a policy concept has its origin in the Brundtland Report of 1987. That document was concerned with the tension between the aspirations of mankind towards a better life on the one hand and the limitations imposed by nature on the other hand. In the course of time, the concept has been re-interpreted as encompassing three dimensions, namely social, economic, and environmental. The paper argues that this change in meaning (a) obscures the real contradiction between the aims of welfare for all and environmental conservation; (b) risks diminishing the importance of the environmental dimension; and (c) separates social from economic aspects, which are one and the same. It is proposed instead to return to the original meaning, where sustainability is concerned with the well-being of future generations and with irreplaceable natural resources—as opposed to the gratification of present needs which we call well-being. A balance needs to be found between those two, but not by pretending they are three sides of the same coin. In this sense we find this work relevant and worth citing. The authors conclude that although we use up natural resources at the expense of future generations, we also generate capital (including knowledge) which raises future well-being. A major question is to what extent the one compensates for the other. This debate centers around the problem of substitutability, which has been cast into a distinction between ‘weak’ and ‘strong’ sustainability. It is argued that these two do not need to be in opposition but complement each other.

Another work taken as research background is [3]. In which its authors stressed that sustainability is nowadays accepted by all stakeholders as a guiding principle for both public policies making and corporate strategies. However, the biggest challenge for most organizations remains in the real and substantial implementation of the sustainability concept. The core of the implementation challenge is the question, how sustainability performance can be measured, especially for products and processes. This paper explores the status of Life Cycle Sustainability Assessment (LCSA) for products and processes. For the environmental dimension well established tools like Life Cycle Assessment are available. For the economic and social dimension, there is still need for consistent and robust indicators and methods. In addition to measuring the individual sustainability dimensions, another challenge is a

comprehensive, yet understandable presentation of the results. The “Life Cycle Sustainability Dashboard” and the “Life Cycle Sustainability Triangle” are presented as examples for communication tools for both experts and non-expert stakeholders.



### The Three Pillars of Sustainability<sup>4</sup>



#### **PEOPLE: The social pillar of sustainability**

The social aspect of sustainability focuses on balancing the needs of the individual with those of the group. Every company does this in a unique way, and some of the most successful corporate sustainability programs take an approach that fits well with their corporate missions, here are some examples that were presented to enlighten students:

At Walmart, social initiatives include market-specific skills training programs, sustainable agriculture and food donations, worker safety initiatives, and women's empowerment initiatives.

Nestlé is committed to addressing community impacts that arise because of its operations, including water scarcity, the health and well-being of communities around its factories, and land management that honors the use rights of local people.

Verizon supports its social and community efforts through volunteer scholarships, matching gifts, disaster relief and recovery programs, and cause-collection efforts in which employees donate time,

<sup>4</sup> Taken from: <https://blog.temboo.com/the-three-pillars-of-sustainability/>

money, and material goods. The company also leads the introduction of energy-saving technologies in schools, medical clinics, and nursing homes.

## **PLANET: The environmental pillar of sustainability**

“Environmental sustainability occurs when processes, systems and activities reduce the environmental impact of an organization's facilities, products, and operations.”

Herman Daly, a pioneer of environmental sustainability, proposed that.

1. In the case of renewable resources, the rate of harvesting should not exceed the rate of regeneration.
2. For pollution, waste generation rates of projects should not exceed the assimilative capacity of the environment
3. For non-renewable resources, the depletion of non-renewable resources should require the comparable development of renewable substitutes for that resource

At Walmart, environmental initiatives include increased imports from green and yellow factories, zero waste target, reduction of plastic bags, and initiatives to reduce carbon footprint by managing energy consumption.

Nestlé identified four priority areas to manage its environmental sustainability: water, agricultural raw materials, manufacturing and distribution, and packaging specific to its food and beverage business.

Verizon's environmental sustainability initiatives include a record year for electronics and telecommunications equipment recycling, reducing energy use by providing employees with workplace flexibility, reducing carbon intensity, finding more efficient and environmentally friendly solutions for its fleet, greener packaging, using alternative energy sources for its mobile phone towers, and many other initiatives to reduce its impact on the environment.

## **PROFIT: the economic pillar of sustainability**

Economic sustainability is used to define strategies that promote the use of socioeconomic resources to their best advantage. A sustainable economic model proposes an equitable distribution and efficient allocation of resources. The idea is to promote the use of those resources in an efficient and responsible manner that provides long-term benefits and establishes profitability. A profitable company is more likely to remain stable and continue to operate from one year to the next.

The beauty of taking a total approach to sustainability is that if you focus on social and environmental issues, profitability often comes hand in hand. Social initiatives impact consumer behavior and employee performance, while environmental initiatives, such as energy efficiency and pollution mitigation, can have a direct impact on waste reduction.

Economic sustainability involves ensuring that the company makes a profit, but also that business operations do not create social or environmental problems that undermine the company's long-term success.

Defining sustainability and corporate social responsibility using the Three Pillars of Sustainability can help a company determine its own sustainable and successful path. Following these general guidelines and learning from the examples of other companies will allow you to determine the best path for your own company.

Following the illustration of these concepts we propose a series of questions that will drive the project phases: What is sustainability? How do we practice sustainability? What is biodiversity? What

is a sustainable business model? What is the circular economy and how does it work? What are the innovative solutions to food waste?

## **2. Trends in sustainable development in Colombia**

The country's recent economic growth has brought great benefits to its inhabitants, reducing poverty, violence, and inequality, increasing life expectancy, improving the quality of health and education, increasing gross income per capita, etc.

Environmental sustainability is key to achieving the SDGs. In the framework of the 2030 Agenda, environmental sustainability implies, on the one hand, the reduction of environmental damage, and on the other, the role of natural resources and ecosystem services in human well-being, economic opportunities, and social and ecological resilience. Thus, for UNDP, the SDGs represent an opportunity to promote a broader approach to sustainable development in the world. Of the 169 SDG targets, 86 include the environmental dimension. These refer specifically to environmental sustainability linked to poverty, hunger, health, education, gender, water and sanitation, energy, economic growth, human settlements, sustainable consumption and production, climate change, oceans, and terrestrial ecosystems, highlighting environmental elements and their interconnections with poverty eradication, social protection, and other important aspects for society.

Colombia is one of the 17 most megadiverse countries. Although its territory is not as large as those of other countries on the list, such as Brazil and China, Colombia has 10% of the planet's biodiversity. For this reason, protected areas are a valuable tool in Colombia. The National System of Protected Areas (SINAP) is administered by Colombia's National Natural Parks and according to Article 329 of the National Code of Renewable Natural Resources and Environmental Protection, there are different types of areas according to their socio-cultural and ecological characteristics. One of these types is called "Via Parque", and the "Vía Parque Isla de Salamanca" is the only example we have today in the local area. Of the 59 areas that have been declared, this park was in sixth place.

On June 19, 2020, the Supreme Court of Justice declared Via Parque Isla de Salamanca a subject of law and ordered a strategic and effective five-month plan to reduce its deforestation and degradation levels to zero. This judgment resulted from a tutela action filed by the Litigation and Public Interest group of the Universidad del Norte on February 21, 2019. The tutela sought to guarantee the right to health and dignified life of children in Barranquilla, as they are threatened by indiscriminate burning that has been taking place for more than a decade.

The Park was declared a subject of rights<sup>5</sup> because it is considered "a living organism", "given that the environment and all forms of life that compose it are endowed, in and of themselves, with certain autonomous prerogatives", according to the sentence. This means that it has rights, and that institutions are expected to take care of the life of its ecosystem and, therefore, that of the people around it.

This is the fifth ruling of this type that protects a Colombian ecosystem. The first declared the Atrato river as a subject of rights, the second the Amazon, the third the Pisba páramo and the fourth the Cauca River. Although it is the first case in the Colombian Caribbean, and its contribution consists, as the Court said, in placing human beings, flora and fauna on an "equal and interdependent plane, in which they cohere to make the life of all on Earth bearable, from which it follows that they must strive harmoniously to avoid the degradation of the environment, air pollution, extinction of animal species, drought of water basins, collective diseases (pandemics) and all the negative impact produced by the excessive, uncontrolled, abusive and inadequate use of the so-called natural resources".

## **3. "Via Salamanca Island Park".**

Salamanca Island is on the Caribbean Coast where the Magdalena River meets the Caribbean Sea. In 1998, along with the Flora and Fauna Sanctuary of the Ciénaga Grande de Santa Marta, Salamanca was declared a Ramsar Site of global importance due to its great diversity of flora and fauna. Two years later it received the category of Biosphere Reserve by UNESCO. It was also declared an Important Bird Conservation Area (IBA).

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<sup>5</sup> <https://razonpublica.com/parque-isla-salamanca-agoniza-sujeto-derechos/>

The mangrove ecosystem occupies 80% of the total area of Salamanca Park and is among the most productive ecosystems on the planet. In the mangroves, aquatic and terrestrial species reproduce, feed and rest while migrating. It is habitat for fish, crabs, shrimp, and clams. It also sustains the artisanal fishing economy of towns such as Nueva Venecia (El Morro) and Trojas de Cataca. Mangroves protect the coasts from erosion, hurricanes, tidal waves, tsunamis and prevent flooding because they are a drainage area for the Magdalena River. This ecosystem purifies the discharges from industry, mining, heavy metals and what the river collects as it passes through. This mangrove swamp is home to nearly 248 species of birds, two of which are migratory, such as the yellow-headed warbler (*Protonotaria citrea*). For this reason, the park is known as "the international bird airport".

Despite the importance of this ecosystem, Salamanca Park has been abandoned by the state for about 60 years. The park is under the jurisdiction of two municipalities in Magdalena, Sitio Nuevo and Pueblo Viejo, which have very little administrative capacity, which is reflected in the high levels of unsatisfied basic needs.

This has led the communities to use the park's resources, such as charcoal from the yellow mangrove and clam extraction. Both resources are in demand by restaurants in Barranquilla and Bogotá. The communities also hunt wild animals for food and sale. Although these activities are illegal, they contribute to the subsistence of the territory's population.

On the other hand, urban development and road construction have fragmented and eroded the ecosystem, which needs to be connected to function. In addition, agricultural activities, such as palm and fruit plantations in the upper basin of the rivers that feed the Ciénaga, alter the water system, divert flows, erode, and increase the risk of flooding. These activities first burn the territory. Sometimes these fires get out of control and destroy a large part of the species' habitat. In addition, the smoke from the fires is highly charged with carbon dioxide and monoxide, benzenes, and sulfur, which affect the communities in the region, especially the neighbors nearby the Magdalena River.

#### **4. Responses from the academy**

Since 2014, the Universidad del Norte's Eco campus program has been recovering the mangrove forest in the Salamanca Island Parkway (VPIS) and involving the academic community. This year due to the pandemic, the program brought together experts from different disciplines to analyze the problems of the park. The main conclusions of these meetings were presented on August 18 at a session of the Congress of the Republic during a political control debate held by the Land Use and Planning Commission.

At the Universidad del Atlántico there are several groups that work in collaboration with the Universidad del Norte, however, our work is focused on generating critical awareness and monitoring actions that threaten environmental sustainability and integrating it into industrial processes to make our country more sustainable. Not only from the economic and environmental point of view, but also in the social system where man is the vital center of the three systems.

As noted, [4] Assertive behavior is the kind of behavior we want. People who have it are among its main identity which always keep their promises, recognizing both their flaws and their virtues, they feel good about themselves and feel also well for others. They respect the other and always end up getting their goals. From the universities we must help build this behavior. From the eighteenth century, freedom began to join other faculties or virtues, such as justice and equality. Thereafter it is observed that scheduling decisions affect others' rights and ethics teaches us the choice of decent behavior. This allows men how to organize their freedoms and their moral boundaries. Men have two conditions He is a biological, but also a social and cultural being and this condition gives their human dignity. Dignity is related to excellence, gravity, and decorum of the people in the way they behave. A man who behaves with dignity is someone of high moral, ethical and honorable actions. People act unworthy guided by instinct that it is from biological nature. We suggest the need to build a *homus Ethicus*, from education in this way, each of us, by our actions, will be seeking a more sustainable and just world, promoting the common welfare rather than the particular benefit. Professional ethics seeks to regulate the activities

carried out within the framework of a profession. Arguably, therefore, that professional ethics rules binding studies collected by professional ethics. Habermas who is intended to provide a rational foundation of ethics. Habermas’s proposal would be a “screen” (screen-critical krinein). It is also a universal ethic. Through the principle of universality can aspire to the validity of those rules that get or can get the approval of all participants of all practical discourse.

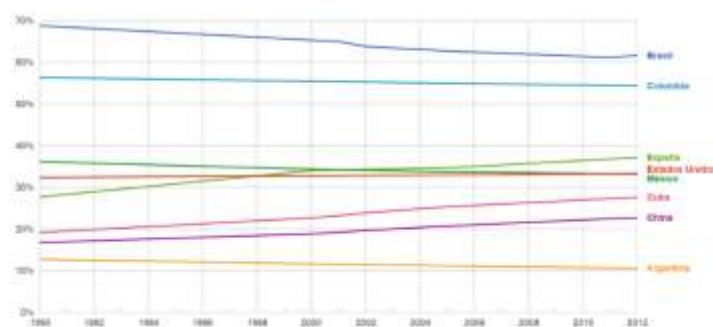
The ontology of language as noted by [5], was the one that allowed the interaction between the students of the careers of Foreign Languages, biology, and economic sciences as the one based on the union between the discursive subject, language, and action. It is an indissoluble union since language is action pure and that prevents any dissolution among them. It parted for noticing that what is said is expressed by someone, the enunciating subject always says something and that said unites him unequivocally, that is, they correspond to each other.

**Carbon Dioxide Emission per capita in Colombia and Latin America**



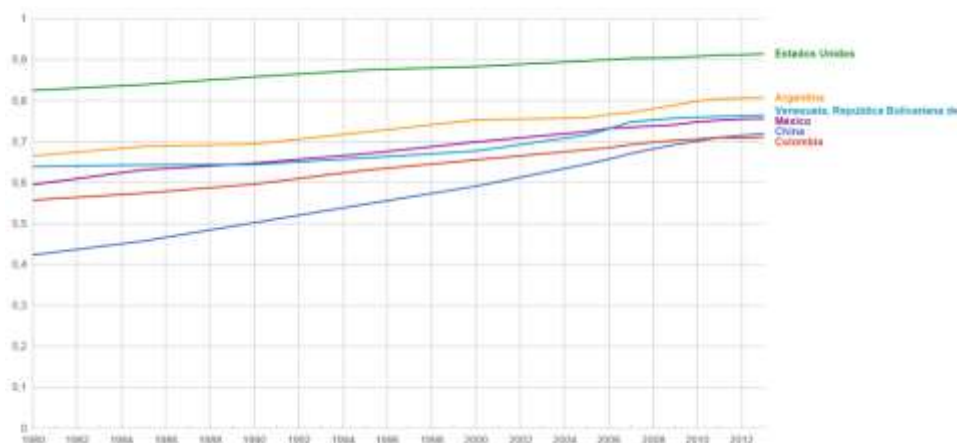
In the last 30 years, carbon dioxide emissions per capita in Colombia have decreased slightly, from 1.7 in 1980 to 1.5 in 2008, by 2010 it had another slight increase 1.6; despite the country's economic development. However, almost 60% of these emissions come from the Salamanca Island Park.

**Forest area of Colombia and other countries**



In 1990, 56.3% of the country's forest area was forest, but after 20 years it has decreased to 54.5%. While in some countries such as Spain, Cuba, and the United States the forest area has increased, by 2012 it reached 54.2%.

**Human Development Index in Colombia and other countries**



This index summarizes the performance in improving the quality of life in countries and not only their economic performance. The country has made significant progress, going from a score of 0.56 in 1980 to 0.72 in 2012. Although it continues to lag behind in comparison with other countries.

According to the chosen indicators, in general, Colombian economic development is sustainable. Although there are always areas for improvement, economic growth has led to an improvement in the quality of life of Colombians without greatly affecting the environment.

### Examples of sustainable development in Colombia

A great example of sustainable development in Colombia are the islands of Providencia and Santa Catalina, in the archipelago of San Andres and Providencia.

These islands are covered with extensive tropical forests and surrounded by coral reefs, considered some of the most important in the world. They also possess an enormous diversity of fauna and flora and transparent waters.

The islands are susceptible to environmental deterioration due to improper land use, deforestation, and pollution. There is also a shortage of water.

The development of the islands has been based mainly on the creation of tourism options, essentially ecotourism, and other economic activities, such as fishing. This development is transforming the island's environment; some corals and forest sectors have been affected, but in general these are preserved.

The island has been able to combine tourism and other economic activities with environmental conservation.

### The 16 Big Bets<sup>6</sup>

According to the CONPES document [6] there are 16 big bets to pay attention first. They are as follow:

#### SDG 1: End Poverty

Multidimensional poverty considers access to the most basic needs of families such as public services, housing, health, or education. With this measurement, the government started at 30.4% of the population in poverty, in total it was possible to lift 5.1 million Colombians out of poverty measured by MPI. This trend is expected to continue in such a way that by 2030 there will be a multidimensional poverty level of 8.4%.

#### SDG 2: Zero Hunger

The goal is to achieve that by 2030 the rate of deaths from child malnutrition is 5 per 100,000 children under the age of five. Efforts in this area are critical and necessary to prevent not a single child from dying from lack of food in this country.

<sup>6</sup> <https://www.dnp.gov.co/Paginas/Las-16-grandes-apuestas-de-Colombia-para-cumplir-los-Objetivos-de-Desarrollo-Sostenible.aspx>

In 2009 the rate was 9.2 deaths per 100,000 children under 5 years of age, this year the goal is to reduce it to 6.5, avoiding the death of about 80 children a year. Within the framework of the "From Zero to Always" Policy, this has been a priority, investing in early childhood in all dimensions of well-being, mainly nutrition as an engine of development, benefiting 1.2 million children under five years of age.

### **SDG 3: Health and Well-being**

The target is maternal mortality, which is an indicator measured in deaths per 100,000 live births. In this area, there are concrete advances through programs such as "Key practices that save life" and the implementation and integration of the Maternal Mortality Surveillance System into Sivigila. In 2009 the figure was 67 deaths per 100,000 live births and this year it is expected to close at 51 and by the end of 2030 decrease to 32.

### **SDG 4: Quality Education**

The goal is to expand the number of young people with technical, technological and university training. In 2009 it was at 35.7% and this year it will close at 57%, managing to train 3.3 million young people a year. An example of this is the "Ser Pilo Paga" program, which benefits more than 40,000 young Colombians. By 2030 it is expected to expand coverage in higher education to 80%.

### **SDG 5: Gender Equality**

The goal is to close the gap of women in managerial positions in the Colombian State; this year, 44.5 per cent of the highest decision-making positions in the Government are held by women. This shows a great advance since in 2009 these positions were occupied in 37.6% by women. By 2030 the figure is expected to reach 50%. It also went from 53rd to 39th place in the World Economic Forum's report on what we call the gender gap.

### **SDG 6: Clean Water and Sanitation**

Access to adequate water supply methods is an issue that directly impacts the well-being and health of all Colombians. Efforts on this front seek to bring the country to full coverage by 2030, currently at 92.9%. In the last seven years, 6.3 million Colombians have had access to drinking water for the first time and 7 million to sewerage.

### **SDG 7: Affordable and Clean Energy**

Between 2014 and September 2017, 110,289 new users have benefited from the electric power service; however, in 2009 the percentage of the country's population that had access to electricity was 94.9%. The Government's goal is to achieve 100% coverage and the entity in charge of leading this process is the Ministry of Mines and Energy.

### **SDG 8: Decent Work and Economic Growth**

The great challenge is to increase the labor formality rate that today stands at 52.0% and by 2030 is expected to reach 60%. Before, the concern was to create employment, but in this new framework of Sustainable Development, that employment that is created must be mostly formal.

That has been importantly advanced in this government. As a result of the reduction in formal labor costs introduced in the 2012 tax reform, of the 3.7 million new jobs that have been created, most have been formal. This allowed that since last year the rate of formal jobs in the economy was for the first time in history higher than the rate of informality.

### **SDG 9: Industry, Innovation, and Infrastructure**

Promoting universal access to the internet in homes is the thermometer to measure the deployment of ICT infrastructure, so important for innovation and development in the country. In 2009, only 15% of households had internet access. In 2018 it is expected that half of Colombian households will have this service and by 2030 it will seek to achieve full coverage with high quality standards.

**SDG 10: Reducing Inequalities**

In 2009 the GINI coefficient was 0.557; in 2018 it is expected to close at 0.520 and by 2030 the goal is to bring this coefficient to 0.480. This may seem insignificant, but while the average in the decade from 90 to 2000 for Colombia was 0.56, between 2010 and 2016 the Gini fell from 0.560 to 0.517, reaching in advance the goal established in the National Development Plan for 2018.

**SDG 11: Sustainable Cities and Communities**

In 2009 the quantitative housing deficit was 9.1%, the goal is that in 2030 it will fall to 2.7%. This Government began the construction of 1.5 million homes, of which 799,000 (53%) are rural and urban social interest housing, hence in 2018 it is expected that this rate will be 5.5%.

**SDG 12: Responsible Production and Consumption**

The rate of recycling and reuse of solid waste is an issue that requires extensive efforts by local governments and all citizens. In 2012 when the first measurements were made there was a rate of 7.2%, this year it will close at 10% and it is expected that by 2030 the country will reach 17.9%. Considering this Objective, the National Policy for solid waste management was issued in an integral manner within the framework of the circular economy, which will allow reaching the goal by 2030.

**SDG 13: Climate Action**

The reduction of total Greenhouse Gas (GHG) emissions compared to the initial scenario is an indicator that was incorporated after the adoption of the Paris Agreement in 2015. And the commitment is to advance by at least 20% by 2030.

The national government has implemented several actions in this regard, such as the promotion of average annual investments of \$ 1.75 billion between 2011 and 2016, while the carbon tax was established that taxes 5 dollars each ton of CO<sub>2</sub> emitted by the burning of certain fossil fuels, which covers about 24% of the country's emissions. In another document [7], point out that "the current economic growth model has exacerbated the environmental crisis that began to take shape from the first Industrial Revolution with the multiplication of socioeconomic and technological processes. (pág. 263).

**SDG 14: Life Below Water**

The number of hectares of marine protected areas is an indicator that will help consolidate efforts in the conservation of the extensive biodiversity and ecosystem services of the marine, coastal and inland areas that are the main source of development and well-being in the Pacific and Caribbean regions.

In 2009, the country had 7.6 million marine protected hectares, by 2018 this figure will close at 12.8 million marine protected hectares, approximately equivalent to the area of Nicaragua. The national government's goal is to increase protected areas by 13.2 million hectares by 2030. The Ministry of Environment will lead this goal.

**SDG 15: Life of Terrestrial Ecosystems**

By the end of this year there will be more than 25.9 million hectares of protected areas, which is equivalent to an extension like that of Ecuador. Between 2010 and 2018, protection in Colombia increased by 12.2 million hectares, from 13.6 million to 25.9 million. By 2030 it is expected to exceed 30.6 million hectares as protected areas in the country. Like the previous one, the Ministry of Environment will oversee ensuring compliance with this goal.

**SDG 16: Peace, Justice and Strong Institutions**

The indicator of this goal is the homicide rate measured per 100,000 inhabitants. In 2009 the rate stood at 35.2, and in the last two years the lowest rates in four decades have been obtained and it is expected to bring this number to 16.4 in 2030. The achievement of this goal will be led by the Ministry of Defense.

## **What is Sustainable Colombia?**

It is an initiative of the Government of Colombia to promote in the areas affected by violence, environmental conservation projects and sustainable productive projects, which give new opportunities to small farmers, women, black communities, indigenous, peasants, and people with disabilities, always framed by sustainable practices that promote mitigation and adaptation to climate change.

It is important to highlight that the Sustainable Colombia Fund is the main articulator of all efforts, regional, national, and international, to make the construction and strengthening of an inclusive and harmonious economy with the conservation of natural resources in the second most biodiverse country in the world a reality.

Its Main objective is to support projects and programs to maximize the environmental, economic, and social dividends of peace in Colombia, mainly in territories affected by violence and rich in biodiversity.

Its specific Objectives are:

1. To promote the conservation and sustainable use of biodiversity.
2. To forging and supporting resilient, low-carbon rural development.
3. To support local capacity building in areas affected by violence.
4. To end climate change into the development agenda as a cross-cutting issue.

The main challenges are:

1. Promoting the conservation and sustainable use of biodiversity.
2. Forging and supporting resilient, low-carbon rural development.
3. Support local capacity building in areas affected by violence.
4. Ending climate change into the development agenda as a cross-cutting issue.

## **Material and Methods**

### **Participatory workshops: A tool for planning, deliberating, and reaching consensus together.**

This study was done through participatory workshops [8] in which the students were divided into groups of five students up to 12 groups. Thus, there were 20 students for each program the total population were 60 students conformed by 20 per program.

Participatory workshops are a collaborative tool used to promote collective and individual learning while generating valuable information and workspaces that empower people's participation on equitable terms in most community development projects. worked with the material previously described and summarized in this article.

What do we understand as a participatory process?

To participate means to take part and to be part, to live the processes appropriating the process, is to learn and make joint decisions to transform reality. To participate is to share experiences and points of view to seek solutions together.

A participatory process active in an equitable way to all the people who participate, valuing all their points of view, establishes mechanisms to reach consensus or negotiate in the best way the issues on which they do not agree, so that each one wants and can contribute to the discussions and in the decision making.

Strengthening a participatory process requires creative openness and critical vision that contributes to the analysis of reality, the construction of knowledge and decision-making from different points of view, incorporating and mixing previous experiences, new ideas and possibilities.

Participatory workshops are a very useful tool to promote participation if carried out properly

Why carry out participatory workshops?

Participatory workshops facilitate decision-making, the generation of consensus and the framing of projects and organizations in an atmosphere of informed negotiation, which motivates the appropriation of concepts, methodologies, attitudes, and actions necessary for local development.

During the workshops, formulas and playful materials are used that facilitate the horizontal integration of the actors and stimulate both critical reflection and emotional and sensory understanding of the issues raised, to ensure that the results of the sessions are meaningful and functional.

Participatory workshops have advantages and disadvantages. Analyze if it is the right formula for what you want to achieve.

Advantages and disadvantages of participatory workshops

Among the main advantages of carrying out participatory workshops are the following:

They create an atmosphere of informed negotiation and allow deliberation, negotiation, and generation of agreements to frame projects and make decisions in consensus.

It facilitates that each participant contemplates and intervenes in the process, knows that they are beneficiaries of the knowledge and co-responsible for the agreements reached.

They motivate the knowledge and appropriation of concepts, methodologies, attitudes, and actions necessary to implement the projects.

They generate skills to handle shared planning, management, and evaluation tools.

They increase the possibility of recognizing common needs, resources, and goals to establish strong partnerships and networks that have the potential to promote debate, negotiation, and the creation of mutually acceptable proposals on how tourism should develop.

They allow to know the ideas and perceptions of the participants in a direct way.

Among the main disadvantages are:

It requires more time and didactic resources than a simple exhibition.

It needs the participation of experienced, flexible, non-automated facilitators who can generate a participatory environment, adapt, and transform the challenges and gaps that the group finds into opportunities for learning and consultation.

The results of the sessions depend not only on a trainer, but on the group.

It is necessary to evaluate if a participatory workshop is the best option and if you have the time and experience necessary to achieve it. A participatory workshop that turns out to be a manipulative session is often frustrating for everyone involved.

How were workshop participants convened?

Clearly establish the topic of discussion on sustainability that they are expected to participate in based on the objectives that are sought to be achieved with the workshop.

Analyze the most convenient topics for certain students.

Consider the time available to the participating students. they must not have classes in the following time slot.

Communicate in time the topic, the relevance of the workshop and the importance of people's participation through personalized invitations, face-to-face social networks and cyber to motivate people to attend.

Send advanced material to make learning more agile during the sessions.

Confirm attendance.

How do students participate?

There are basically two alternatives for selecting the groups:

In the first they are predetermined by the objective and organization itself even before deciding to use a workshop format. Also, for a portfolio of topics that the groups discuss and pre-approve.

In the second you could select the participants within a predetermined universe. it is attended according to the different sampling techniques and if a convenience sample can be assembled, the three teachers must ask themselves if a homogeneous group or a mixed group suits them and who is worth attending. For example:

Students from the same program or from different programs related to your goals.

students who are already working.

Participants with some level of English B1+

Age groups, gender, ethnicity, socioeconomic status, region of origin or current residence.

Cultural, sociological, medical, physical, psychological aspects, etc., are also consider when conforming the groups.

Each teacher must know the profile of their students, their expectations, and desires. He can use archetypal characterizations to imagine those who will work with in every circumstance.

The three teachers together set the objectives based on what the project they seek to develop requires, also considering their own expected expectations and what you expect to be the desires, motivations and needs of the students who participate. teachers should be prepared to adjust those goals before and during sessions. Once they convene, the workshop ceases to be theirs to become ours.

The teachers also establish the times, topics, objectives, tools, and materials necessary for each segment of the workshop in a descriptive letter. Use a simple and clear format that accommodates and allows students to sort out what is expected without taking away flexibility from the process.

There are continuous breaks that motivate mobility, ensure fresh brains, and allow informal interaction of those who participate. Formality is not always the best friend of creativity and new didactic methodologies bet on the so-called learning in the corridor, encouraging free conversations outside the classroom.

Within the activities games are developed. Play is a skill that we have developed through evolution, it has allowed us to learn, adapt and communicate. The boring models that distance and isolate us are outdated, while the models that amuse us attract and motivate us test and check their advantages every day in all areas of relationship.

The activities took place in the coliseum of the university which is a bright and ventilated and well-equipped space. In Identity and Development, we have workshopped under a group of trees, sitting on the beach under a palm tree and in rooms with artificial climate, automatic screen, and high-definition projector. as adequate spaces to think and make decisions.

Each session is evaluated, so you have feedback, and you can continue to improve.

Five didactic and concertation techniques for the participatory workshops used are:

- Focus analysis
- Exhibitions
- Brainstorming
- Exercises
- Dynamic

### 1. Focus analysis

Focus analysis allows participants to frame their objectives by identifying consensus and differences. In addition, it is a technique to help people express and limit their needs, their desires, and their perspectives.

### 2. Exhibitions

The exhibitions of conceptual, methodological, and practical information supported with high-impact visual material question paradigms and allow the continuous intervention of the participants, promoting the appearance of doubts that encourage critical thinking and the respectful participation of people.

The most important thing for good exposure is to be genuine, believe in what you say, and have your words be consistent with your beliefs and body language.

### 3. Brainstorming

Brainstorming motivates innovation and the emergence of new ideas on a given topic in a relaxed environment.

This technique works when we manage to flow by postponing the judgments without valuing the comments of the participants to let the mind of each one relates ideas and express them without blockages.

### 4. Exercises

Practical exercises designed to facilitate the learning and practical application of what has been learned according to the experience and needs of each group.

The great challenge of the exercises is that they are, represent an interesting challenge, and fun for those who participate in them.

### 5. Participatory dynamics

Participatory dynamics foster integration, facilitate the analysis of individual and collective resources, and promote reaching productive agreements for every one of the participants.

Playing is a natural way to learn. Our mind is programmed to identify patterns, assimilate them, and make them our own during the game. Playing in community makes us community.

## Conclusions

The research question of this study: How to develop a project for teaching the concepts of sustainability in social and cultural education? it was answered from the consensus reached in the discussion groups (CIPAS) (Research Circle, Participatory, Academic and Social) for the acronym in Spanish.

The general conclusion of the study is that there is a need to broaden the horizons of this study to a much wider population and not only to the educational sector.

It can be concluded by pointing out that the above aspects are almost never solved in the university environment, for this reason the developed is part of an educational innovation within Colombian higher education. It is necessary, then, to address this issue in Colombian higher education. The following are the evidence in the results that corroborate it:

- students through discussions were able to confirm that sustainability is an integrated system of intimately related subsystems that affect each other.
- each pillar rests on a foundation that sustains it if people, planet, and profits fail; the pillars crack and there is no sustainability.
- For the above reason, attention should be paid to the different subsystems and their containment bases.
- It is important to study the trends in sustainable development in Colombia, to know where the country is going and much more if we approach it in a transdisciplinary way in the educational field
- Our work is focused on generating critical awareness and monitoring actions that threaten environmental sustainability and integrating it into industrial processes to make our country more sustainable.
- The study of the 16 big bets was another study within the investigation of factual facts necessary to achieve authentic sustainability in the country
- This gave the research meaning and social relevance and led to the following aspects:
- Social relevance and institutional benefits (in case of being applied and technological research) and benefits in the advancement of knowledge on three area of science (in the case of being a theoretical applied- research). What is important for the Colombian society. Colombian population in the university level will benefit from the results of these research first.
- The research has an enormous social reach for the relevant way that will guarantee the development of the country attending to local and global needs and trends
- Feasibility: feasibility to carry out research with material, human and time resources available now. This has been crucial in deciding on the approval or refusal of a preliminary draft. A study on the availability of financial and human resources, and material resources to determine the ultimate feasibility, scope of research. While suggesting how best studying the university population.
- The theoretical value from this research rests on the fact that research fills in some empty knowledge, as it consequently did in students. These studies can generalize the results to broader principles. The information obtained may be used to comment, develop, or support other theories that support the study of sustainability from other perspectives.
- The practical implications of the study will help to solve a real problem in relation to the cultural knowledge that the Colombian has of far-reaching implications for a wide range of

practical problems in the case of sustainability seen from professional education that must imply transcendence in the educational environment and be related to the training obtained from the main subjects of the curriculum.

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