

The contribution of start-ups to sustainable development: an analytical reading and real examples

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Abstract:

The study aimed to determine the relationship between start-ups and sustainable development and how these enterprises can contribute to achieving the SDGs outlined in the 2030 Agenda. The study concluded that start-ups can play a significant role in achieving the SDGs, so that the latter open the way for start-ups to create and provide completely innovative business models, products, and solutions that are in line with the requirements and needs of the economy and the local community within a framework of sustainability; at the same time, the specificity of start-ups in their association with innovation and keeping up with the times pushes them, directly or indirectly, to pay attention to one of the axes of SD and thus contribute to achieving their goals.

Keywords: Start-ups; innovative solutions; SDGs; sustainability; Agenda 2030.

Jel Classification Codes: : L2, Q55, Q56.

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1. INTRODUCTION

Start-ups have become the new face of organizations and entrepreneurship in modern times, where they have received serious attention all over the world, either in academic and scientific research or in their creation, support, and development in reality, where they have become the key to solving many problems, gaps, and wants that the economy or society needs. At the same time, the world knows a great tendency to work towards attaining development in many sectors while trying to find a balance in achieving this development between economy, society, and environment, in an effort to meet the needs of current generations and preserve the rights of future ones, at the level of each country in itself as well as between regions and countries on the other hand, which prompted a global agreement and the formulation of an agenda for sustainable development in which various governments are working to obtain the highest performance and the best indicators in each axis of it, with the aim of realizing the desired sustainable development.

Since start-ups are characterized by providing innovative solutions to problems that can be encountered in society, the economy, and the business world, through which they aim to obtain the maximum possible benefit while realizing the greatest possible reach and availability, they play a significant role in achieving sustainable development and contribute to the implementation of the agenda set for the major goals of sustainable development

through their ability to reach and be active in all fields and sectors that allow meeting the requirements of this development and sustainability. Accordingly, "**How can start-ups contribute to achieving the sustainable development goals?**".

To answer this question, some **hypotheses** can be presented, such as:

- Start-ups contribute to achieving the SDGs through the idea of innovation that they carry to solve problems in society and the economy.
- Start-ups develop innovative solutions and business models that are in line with contemporary trends adopted in the business world, including the concept of sustainability, which means participating in achieving the SDGs.

Importance of the study: Importance of the study is shown by the increasing interest in the subject of sustainable development, where work to reach its goals has become a priority for governments and countries, and even at the level of some companies; and with the large spread of start-ups, both scientifically and practically, this required the necessity of their involvement and integration in various general issues and axes that the world seeks to achieve, including sustainable development, as they are an innovative model that can allow to provide a real and rapid addition to sustainable development, which results a mutual benefit between the success of start-ups and the achievement of sustainable development.

Objective of the study: The study aims to identify the extent to which there is a relationship between start-ups and sustainable development and the influence that exists between them, in addition to presenting realistic practical cases, if any, about some start-ups that work within the framework of achieving the goals set in the Sustainable Development Agenda 2030.

2. THEORETICAL BACKGROUND

2.1. Introduction to Start-ups:

Start-ups are considered one of the most discussed topics at the academic and practical levels in recent years, as they receive great attention from entrepreneurs, researchers, and organizations alike, despite the differences in explaining their concept.

2.1.1. Definition of « Start-up »:

“Start-ups” are one of the topics that have received great attention recently across different regions of the world, where they are treated as a form of modern entrepreneurship that will give a strong impetus to the economies and societies in which they are located. It was observed that there is a great demand for “start-ups” in terms of introducing them, promoting education and training that stimulates them, as well as trying to find the appropriate system for their establishment and success; it can be said that “start-up” is inspired by “The Social Network” young people wish to leave school to begin a multimillion dollar company (Appster, 2018, p. 01). Depending on (The-American-Heritage-Dictionary, 2020) “Start-up” means “The act or process of setting into operation or motion”, i.e. that from a linguistic point of view, term “start-up” refers to any starting in any movement or process; while “start-up” in business represents another meaning where (Forbes, 2013) defines a “start-up” as “a company working to solve a problem where the

solution is not obvious and success is not guaranteed”, as for (Ries, 2010) who indicates that “start-up” is a “human institution designed to create a new product or service under conditions of extreme uncertainty”, and (Blank & Dorf, 2012, p. 52) who say that a “start-up” is a “temporary organization designed to search for a repeatable and scalable business model”, in the same context (Rosa, Sukoharsono, & Saraswati, 2019, p. 60) added that a “start-up” is “an initiated company that is designed to find the right business model for the company in order to survive amid extreme uncertainty”.

Accordingly, although there is no agreement on a unified definition of "start-ups", the proposed definitions for this term meet at the point that these enterprises are the beginning of embodying an innovative idea in reality, where this idea arises from noticing a certain deficiency or need in the market, in the business environment, or in the general environment of the idea owner; and therefore, the innovation that these enterprises carry is often accompanied by ambiguity and a lack of clarity in the general context of the extent of the ability to implement the idea or its success, which means high risk rates.

This high risk that characterizes the "start-up" also results from several factors characterized by uncertainty, which it is obliged to confront, whether the market, the product, competitiveness, people, or financial affairs, where no business owner or entrepreneur desires to provide products and services that are not accepted when they are offered or have no need at all in the market, which is considered one of the biggest risks facing the "start-up," especially since the latter has limited economic, financial, material, and human resources, which forces it to effectively manage these resources in order to implement the idea and present the product (Bortolini & al., 2018, p. 03).

In contrast to the high risk ratio, the “start-up” is characterized by a relatively low cost of capital required to start the business, in addition to the wide open regulatory, technological, and physical frontiers, which increase the ability to scale rapidly (Appster, 2018, p. 01).

Thus, "start-up" can be a new division, a new venture, or a business unit in an existing corporation (Blank & Dorf, 2012, p. 52), it is usually designed to look for repeat and measurable businesses that can be developed into larger (scalable) ones, and the effort taken to develop the "start-up" business shall be in the form of innovation at the various stages of this development. This innovation is generally done to find answers and solutions for problems that arise in the community, so that the created products will have benefits in everyday life (Rosa, Sukoharsono, & Saraswati, 2019, p. 56).

2.1.2. Characteristics of « Start-up »:

Usually, the “start-up” is linked to the embodiment of an innovative idea in practice, resulting from the emergence of a specific need or a vacuum created in the business environment; from that, a start-up is similar to any other type of enterprise that is in the launch stage, and they are similar in several characteristics like the unclear duration of the launch phase, the need for financing, achieving simple returns or not achieving returns at all, with the possibility of operating losses and a high probability of failure (Akkaya, 2020, p. 138). However, it should be noted that not every enterprise in the launch stage is a “start-

up”, it is not enough for the enterprise to be newly created to include the characteristics of a “start-up”, also “start-up” is not a microcosm of the business (Oliveira & Zotes, 2018, p. 98).

In order to overcome this confusion, it is possible to differentiate between the “start-up” and the rest of enterprises by clarifying the most important characteristics of the “start-up” as (Rosa, Sukoharsono, & Saraswati, 2019, pp. 60, 61) & (Oliveira & Zotes, 2018, p. 98):

- “Start-up” is a new enterprise that usually has less than 03 years;
- “Start-ups” are usually associated with technology, as they are based largely on the use of technology and applications;
- “Start-up” works on virtual websites and often shows its identity through its own website, even if the services it provides are in the form of tangible and real products or services;
- “Start-up” may be a business model that aims at producing value for the customers and transforming the value created into revenue for the enterprise; i.e. that a “Start-up” is a business solution for social problems;
- The business models offered by a “start-up” are more scalable, as they are usually in the early stages of launch (the development stage);
- “Start-up” allows the ability of repetition because it is often related to products that do not have an inventory limit and are constantly available to the consumer;
- The "start-up" is characterized by working at the highest level of uncertainty and ambiguity, even if the environment and the market with its competitors, the financial and operational feasibility, and all the necessary data in the launch phase are analyzed, the success and acceptance of the project always remain inconclusive.

2.2. General framework of sustainable development:

With the increasing notice of the bad effects resulting from economic and human activities on the nature and man alike, with the constant concern about the depletion of resources and the increase in pollution, with an imbalance in living standards between the various groups in the same society and between countries and regions, the need to find practices that are more concerned with preserving the assets, whether human, material or moral, for individuals and the planet together, while guaranteeing the rights of future generations to be able to meet their requirements and needs with the same quality, or at a higher quality, and to provide the same possibilities for the existence of resources in the future as they are now. All of that has been included and taken care of in what has come to be called Sustainable Development.

2.2.1. Definition of Sustainable Development:

The beginnings of interest in the term "sustainable development" are mainly related to the ecological field; that is, it started with the idea of preserving the environment and expanded later to other aspects such as the economic and social aspects. The concern in economic growth continued as the only aspect of development until the 1970th, which led to a greater operation of the available resources and a greater volume of consumption which accompanied the population growth, the technological development and the civilization change ; all of this, negatively affected the environmental balance and increased pollution

rates that threatens the quality of life of individuals and societies, in addition to the depletion of resources, especially primary ones such as raw materials and fossil fuels, which prompted the need to rethink the right of future generations to these resources and how to sustain their use for the longest possible time in the most logical way. This was the cornerstone agreed upon by scientists, economists, environmentalists, and those interested in human development in order to aspire to improve the social, economic, and environmental situation, especially in developing countries, through the participation of all sectors, organizations, and actors in this, led by developed countries, and this prompted the holding of many conferences and seminars and the publication of many guides on "sustainable development" with the aim of adjusting its concept and making it an official global international topic within an organized and clear framework (Klarin, 2018, pp. 70, 71).

Based on that, there have been many attempts by researchers and international institutions to propose a definition of "sustainable development", and despite the similarity of the proposals presented, a unified concept has not been adopted. The absence of unanimity about the definition of "sustainable development" can be explained by the complexity of the notion of integrating the social, economic, and environmental aspects of human development, in addition to the disagreement registered between the views of different sectors, academic, political, and business, about this subject and its practically implemented implementation (Petrovich & Saeed, 2017, p. 12768).

The 1987 report « **Our Common Future** », known as the (*Brundtland Report*), is considered the true beginning of the concept of "sustainable development", where it presented a definition of this notion in the true sense and focused on the need for this concept to be able to respond to the challenges that the future brings, especially those related to the balance between economic and social development and environmental preservation, in addition to reducing pollution, environmental degradation, climate impacts, resource depletion, poverty, and hunger, and confronting other threats facing humanity (Klarin, 2018, p. 74). And since the reference to "sustainable development" in the (*Brundtland Report*), many researchers and specialists have tried to provide an alternative definition or another suggestion to define the concept of this term, but their efforts have been unsuccessful, the fact that any definition provided was in accordance with the viewpoint and circumstances of the person or institution that presented the definition and therefore cannot be generalized, so it loses its scientific quality. The difference in the specific definition of "sustainable development" stems from the clear contrast and the extreme complexity of the factors that deal with it, such as the diversity of human societies, ecosystems, and economic systems across the world, and therefore any definition of "sustainable development" will carry with it an implicit adaptation to the prevailing conditions, which means that it remains in the form of an open, dynamic idea that can be developed and changed permanently to be in line with different situations or contexts in terms of space or time (Kates, Parris, & Leiserowitz, April 2005, p. 20).

Thus, the definition of the (*Brundtland Report*) remained the most accepted, unanimous, and used at the official, institutional, and academic levels, where the report

defines "sustainable development" as: « the development that ensures meeting the needs of current generations without compromising the ability to meet the needs of future generations » (WHO-Healthy-Cities-project, 1997, p. 09), this definition links development and the ability to ensure that the needs of current generations and future ones are met at the same level and possibilities and in the same circumstances. So, it must be noted that the idea and notion of protecting resources for the next generations in the future are among the main features that differentiate the sustainable development policy from the traditional environmental one (Emas, 2015, p. 02).

In other terms, the concept of sustainable development goes beyond just protecting the environment; it covers concern for the generations of the future, including the long-term safety of the environment, whereas sustainable development comprises interest in quality of life (not income growth only), equity between people in the present (including prevention of poverty), and inter-generational equity (by providing them with a good environment as currently or better), without neglecting the social and ethical aspects of human welfare (WHO-Healthy-Cities-project, 1997, p. 09). And it should be noted that sustainability, especially from a social and economic aspect, does not include maintaining the levels of production achieved once only but rather requires increasing these levels gradually in parallel with the growth of needs for these products (Petrovich & Saeed, 2017, p. 12769).

Depending on the above, the essential principles on which sustainable development is based can be deduced as follows (Klarin, 2018, p. 76) :

- Taking care of meeting the needs of the generations from the present and the future;
- Continuous improvement of quality of life and equality;
- Preserving the environment and protecting biodiversity and ecosystems;
- Preserving natural resources, renewable and non-renewable, by reducing the depletion of non-renewable resources and making rational use of renewable resources;
- Changing production and consumption patterns to more environmentally friendly and sustainable patterns;
- Strengthening the level of cooperation at the local, national, and international levels;
- Establish an institutional framework that includes various stakeholders with an interest in sustainable development and its implementation in practice.

2.2.2. Dimensions (pillars) of the Sustainable development :

Since the basis on which the concept of sustainable development is built is the idea of meeting the needs of current generations in all respects by improving their levels and quality of life and at the same time preserving the rights of future generations in achieving this through the imperative of protecting the current available resources, sustainable development is based on three basic pillars and includes work around the promotion of three important axes: the economic, social, and environmental aspects.

In this context, the European Commission has described this relationship as « the economic growth which helps social progress and respects the environment, social policy which supports economic performance, and environmental policy which is cost-effective » (OECD, 2001, p. 05), meaning that there is at the same time a mutual interest between the

economic, social and environmental aspects, and that no action, process or policy related to one of them has a negative impact on the rest of the aspects ; which signifies practically that “sustainable development” necessitates the integration of economic, environmental, and social objectives across sectors, territories, generations, cultures, practices, solutions, products... For that reason, “sustainable development” demands the elimination of fragmentation, which means the obligation of integrating environmental, social, and economic concerns in all processes to move towards a real sustainable development (Emas, 2015, p. 03) and that the three basic pillars must be thought of and promoted in a similar and parallel manner, and these pillars must support each other so that the policy established in one of them does not limit the results achieved or that can be achieved in the other axis, but on the contrary, it must reinforce it (OECD, 2001, p. 05).

The three dimensions of sustainable development can be explained below (Ongari, 2015, pp. 26, 27) & (Mensah, 2019, pp. 09, 10):

1) Sustainability at the Environmental Level (Environmental Dimension of Sustainability):

In this dimension, nature must maintain its full functions for as long as possible, so it must not be exploited or depleted faster than it can be renewed, and waste must not be emitted or produced faster than the environment can assimilate and deal with it. Therefore, it is advisable to strengthen measures that will preserve balance in the natural environment while achieving positive growth in it, while avoiding any action that may negatively reflect on nature or at least limit the expected damage to a minimum; in other words, environmental impacts must be taken into account in any decision or policy adopted. All of this aims to reduce the impact of human activities on the environment and thus preserve it for the present and the future.

2) Sustainability at the economic level (the economic dimension of sustainability):

Economic sustainability refers to the extent to which the economy is able to support a certain level of production for an indefinite period, it was previously believed that natural resources are unlimited, and that economic growth will be automatically accompanied by technological progress to renew the resources used in the production process, but the reality has proven the opposite, as the available natural resources are limited and cannot generally be renewed, which led to the need to rethink these traditional economics positions and it highlighted the necessity of controlled production and consumption, especially in light of a steady population growth and the resulting doubling of required needs such as food, clothing and housing and the corresponding decrease in available resources ; it also involves making wise decisions that take into account other dimensions of sustainability, and that these decisions are not based solely on the economic aspect. Although profit is the primary goal of any enterprise, the incorporation of social and environmental aspects into the business policies and practices of this enterprise, will lead to more positive profitability indicators in the long run. The trend towards economic sustainability can be enhanced through many incentives, including “smart growth”, tax breaks or subsidies allocated to green development, reducing unnecessary spending and other practices, but all these

mechanisms must be developed, known and promoted at the level of education and research, as well as at the public level.

3) Sustainability at the social level (the social dimension of sustainability):

Social sustainability aims to achieve progress and amelioration in society. As this dimension is based on the idea of justice between generations, where future generations have the right to enjoy the same or better quality of life as the current generations, it requires that work be done to alleviate poverty but within a safe framework for the environment and the economy; that is, poverty reduction measures do not negatively affect the environment or economic stability, so poverty is alleviated within the limits available from the environmental and economic resources of society. This dimension also includes many important issues such as human rights, work and health equality, community development through public participation, social capital, upholding justice and responsibility, cultural competence, community resilience, and human adaptation. However, it should be noted that social sustainability does not mean that the needs of everyone are met but rather seeks to provide appropriate conditions for everyone that allow them to be able to meet their needs if they wish to do so, which leads to development at the level of individuals, communities, and organizations. And this dimension of sustainability is of the same importance as the previous two dimensions, and any defect or neglect in this dimension will jeopardize the whole process of sustainable development and not reach its established goals.

2.2.3. Sustainable Development Goals (SDGs) 2030:

The Sustainable Development Goals (SDGs) of the 2030 Agenda were adopted by 193 countries in September 2015 at the United Nations Sustainable Development Summit and officially came into force in January 2016 (Thomas & Chindarkar, 2019, p. 07), the 17 Sustainable Development Goals and their 169 targets are part of this agenda (FAO, n.m, p. 00) and they were based on the lessons from the Millennium Development Goals (MDGs) (Thomas & Chindarkar, 2019, p. 07).

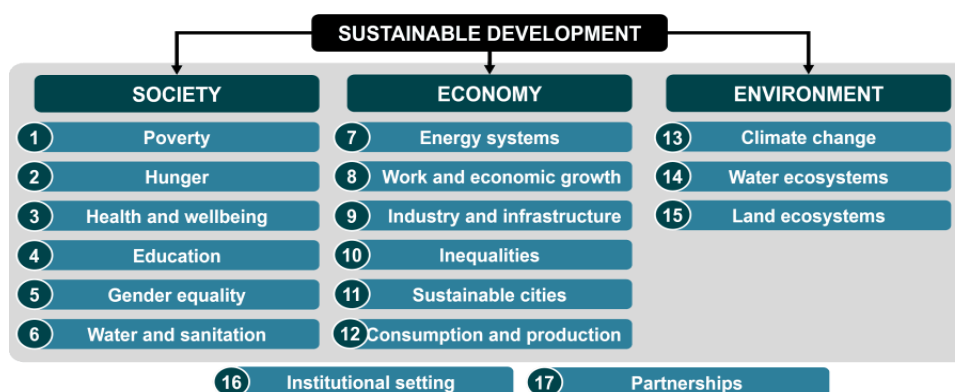
These goals were formulated through a large consultative process that included governments and citizens from all over the world to reach the final setting and formulation of the goals mentioned in the agenda (FAO, n.m, p. 00) ; they are a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030. They seek to ensure social inclusion and protect the environment when working to promote economic growth and aim to ensure that the right choices are made today to improve life in a sustainable way for future generations (Mensah, 2019, p. 11).

After the adoption of the 2030 Agenda for Sustainable Development by the countries of the world, there has become a serious need to follow up its implementation process in reality in order to reach the objectives of the agenda within the agreed time, place, and dimension; this also includes monitoring and evaluating the capacities of countries, regions, and resources of all kinds, and what accompanies the achievement of these goals are significant and serious changes in the strategies of designing institutional structures at the national, regional, and international levels (United-Nations, 2018, p. 09), which allows for achieving the following objectives (Mensah, 2019, p. 11) :

- Reducing poverty and hunger and ensuring a healthy life;
- Make access to basic services such as water, sanitation, and energy sustainable at a universal level;
- Help the generation of development opportunities through inclusive education and decent work;
- Fostering innovation and resilient infrastructure while creating communities and cities capable of sustainable production and consumption;
- Reducing inequality in the world;
- Concern for environmental safety by combating climate change and protecting the oceans and the Earth's ecosystems;
- Strengthening cooperation between social actors to promote peace and ensure responsible consumption and production.

The 17 goals identified in the Sustainable Development Agenda revolve around its main dimensions, as follows:

Fig.1. The SDG's by dimensions



Source: (The-Geography-of-Transport-Systems-website, 2015)

The previous figure shows that the main goals recorded in the sustainable development agenda revolve around its main dimensions, as the social dimension includes six (06) goals that seek to reduce poverty and hunger rates in the world while promoting and raising the level of health and education, providing infrastructure, especially water and sanitation, and achieving equality between the genders. While the economic dimension includes the goals of energy systems, work and economic growth, industry and infrastructure, sustainable cities, sustainable production and consumption, as well as confronting inequality in job opportunities and improving the standard of living, As for the environmental dimension, it focuses on climate change, water systems, and ecosystems. Whereas the goals of institutional setting and partnership are considered two general goals that are projected onto the three dimensions of sustainable development, each dimension needs these two goals to reach the expected results in each dimension.

The most important goals and targets of the sustainable development agenda can be detailed in Appendix 1. It shows that the general goals included in the sustainable development agenda were analyzed and detailed into less general goals, where they were

formulated in a way that allows for their practical and actual application in reality, which is based mainly on the local and national resources of each country, and supports developing countries in achieving these goals.

3. METHODS

The study relied on the descriptive approach in order to define the concepts related to each of the start-ups and sustainable development while clarifying the axes on which the latter is based, which were structured within a specific agenda recognized and approved by the majority of countries in the world. In addition, the inductive analytical approach was relied upon in order to deduce and clarify the relationship between start-ups and sustainable development and how these enterprises can contribute to achieving the goals outlined within the sustainable development agenda. This is done by collecting and analyzing a number of scientific articles and international reports that dealt with the issue of sustainable development or start-ups, and based on that, the existence or absence of a relationship and influence between the two variables is extrapolated and concluded, along with determining the nature of this relationship, if it exists, and how they can really interact, with a selected sample of international experiences and examples in this regard.

4. RESULTS AND DISCUSSION

Although both start-ups and sustainable development appear to be divergent topics, they meet at many points, including meeting the needs and requirements of society and finding innovative solutions to the problems it faces, taking into account the lack of waste and depletion of available resources, as well as improving existing conditions for current and future generations, which is considered a link in which they can meet each other.

4.1. The relationship between start-ups and sustainable development:

Sustainable development is characterized by dynamism; it is a constantly changing process that ensures that the exploitation of resources, directing investments, technological development, and changes in enterprises are consistent with the different current and future needs (Petrovich & Saeed, 2017, p. 12769). At the same time, the complexity of development resulted from the continuous changing of the physical, social, and economic environment, which led to the inadequacy of the previous solutions for a long time, so the copying and repetition of the past effective solutions (even the most successful ones) does not guarantee continued success (Thomas & Chindarkar, 2019, p. 04). This shows the need for a gradual shift towards policies, practices, and technologies that support this change, as theorists pointed out that policies adopted to conserve and save the environment, for example, could, at the same time, boost innovation and turn a profit (Emas, 2015, p. 01), and to move to sustainable development, we need a radical transformation through a lot of actions that must be done with deliberate and conscious effort and not just from spontaneous changes, like greening essential activities, changing man's mind, and creating a sustainable society, via all the socio-economic, political, and technical possible means (Petrovich & Saeed, 2017, p. 12769).

Sustainable development is based on the integration of the general strategies of development with procedures that take into consideration the effects on the environment in the long term and, as a consequence, on human welfare associated with trends in production, consumption, and behaviour (WHO-Healthy-Cities-project, 1997, p. 10); researchers also hypothesized that environmental policies that are properly designed and that make use of market advantages can promote the insertion of new technologies and minimize waste in production (Emas, 2015, p. 01).

Based on that, countries have proceeded, in the past few years, to the adoption and application of mechanisms that allow to internalize the full costs of pollution and assure stability of the environment over the long term, namely to ensure sustainable development (Emas, 2015, p. 02); in this context, the (*Brundtland Report*) stressed the need for rational and controlled use of resources to ensure a renewable and long-term use while preserving and protecting the environment, promoting environmental awareness, and several other axes, all by relying on industry and technology and developing technological innovations aimed at reducing environmental impacts. (Klarin, 2018, p. 74).

As a result of the foregoing, it can be noted that Sustainable Development offers many opportunities in the market and the business world, as it opens up new horizons and fields for companies of all kinds, including start-ups, where they can, for example, take advantage of healthy and liveable cities to develop their products and their innovations and expand their activities, especially with the expectation that more 166 million new jobs in construction, vehicle efficiency, affordable housing, and other urban opportunities, with significant energy-related jobs and revenues such as circular models, renewable energy, energy efficiency and access to clean and renewable energy, as well as improved healthcare fields that benefit from innovation technology, with the new job and investment opportunities it provides. At the same time, achieving sustainable development also requires environmentally friendly infrastructure, which needs great work to change and develop the available infrastructure with clean and environmentally friendly ones, which means greater opportunities for the integration of start-ups in providing modern innovative solutions for these domains, and so they benefit from the expected returns and revenues on the one hand, and they support and contribute to sustainable development on the other hand (Mensah, 2019, p. 13).

Sustainable development also includes the development of social movements, the organization and reorganization of enterprises, the creation and development of sciences and technologies related to sustainability, and creating a consensus between environmentalists, advocates of human development, and those who value economic development (Kates, Parris, & Leiserowitz, April 2005, p. 17).

From this standpoint, sustainable development opens many horizons for start-ups and creates many opportunities that this latter can seize to be the point of launch or expansion of these start-ups, this in the context of what is known as sustainable entrepreneurship which is referred to as “an innovative, market-oriented and character-based type of creating value at the economic and societal level through institutional or market innovations that have

benefits on the environment and the society», it appears from this that sustainable entrepreneurship is a form of entrepreneurship that is based on achieving the minimum value in the dimensions associated with sustainable development, meaning achieving economic value, social value and environmental value at the same time, and this is usually attained by relying on the innovation that is the core of start-ups while adapting it to the sustainable pattern of what is known as sustainable innovation (Bergset & Fichter, 2015, p. 120); and since start-ups are leading technological developments and shaping the modern world, being more flexible and pioneering breakthrough innovations compared to existing companies that tend to invest in safer areas given that start-ups are governed by flexibility, creativity, and pioneering thought, a new concept has emerged that pushes the establishment of this type of enterprise where the desire for profit is accompanied by the idea of "designing the society we want to live in," in the sense of generating environmental and social value as well as economic value, so that start-ups are linked to the concept of sustainability. (Pereira & Drăgan, 2020, p. 06).

Research related to the topic of the transition towards sustainability has supported this proposition, finding that start-ups, especially new ones, carry with them a radical innovation represented in providing the market with radical environmental products and services, that is, completely innovative, while existing companies are developing existing innovations towards a more environmentally oriented approach. At the same time, start-ups are of particular importance in the context of the transition towards sustainable development, whether in developing and introducing radical sustainable innovations in transformation paths or in mitigating policies and adapting to sustainability conditions such as market transformation and the environmental and social impact. (Olteanu & Fichter, 2022, p. 02). As well, many studies related to entrepreneurship indicate that there are many areas in which start-ups can contribute to sustainable development and their potential to succeed in this, based on several elements that distinguish these institutions, such as growth paths, the ability to rapidly grow in the early stages, and the ability to maintain this growth over time (Harlin & Berglund, August 2021, p. 810)

On the other hand, the business environment is witnessing a great difference and a qualitative shift in the way enterprises work, which resulted from a change in nature of the competition unit between them, which prompted them to search for innovative factors in their products or operations and work away from traditional thinking, which appears largely in start-ups and their peculiarities; so that the concept of sustainability becomes the most important topic of interest to enterprises, including the start-ups, as it relates to the continuity of these latter to the maximum possible period with a sustainable competitive ability, so that sustainability turned to a basic principle and a business model for enterprises after it was limited only to some practices that provide a contribution in society, reduce carbon emissions and provides benefits to employees, as it was understood that profit is no longer considered the only support for the enterprise or the project, but rather it must be balanced and focused with the same degree and importance on the economic, social and environmental aspects. Thus, caring for society and the environment and their development, and then the orientation towards the path of sustainability, is considered the most correct

path broader than profit alone in recent start-ups all over the world, where sustainability has become an objective for the majority of enterprises. (Chillakuri, Vanka, & Mogili, January 2020, pp. 144, 145).

From there, and in order to support start-ups in moving towards sustainability, supporting the transition towards sustainability, and participating in achieving sustainable development goals, in the future, funding and support programs for start-ups must be designed and implemented to accompany the sustainable orientation of these institutions and the goal of profit and the market share on which they are based. In addition to providing non-financial support activities aimed at introducing and training about sustainability-oriented methods and tools, such as training start-ups to use these methods and developing business models for them, as well as training in impact management and sustainability assessment (Olteanu & Fichter, 2022, p. 14).

4.2. Examples of the contribution of start-ups in achieving sustainable development:

Entrepreneurs across the world have tried to launch many start-ups that seek to contribute to achieving the 2030 SDGs or are working within activities that allow for achieving those goals. So, among sustainable innovations, sustainable production and consumption, clean technology, and other new paths, some examples of start-ups that play an important role in achieving the SDGs can be provided, of which:

- 1) **Refurbed:** It is a start-up founded in 2017 in Vienna (Austria) and stems from the idea of producing its electronics based on recycled materials and electronic waste such as phones, tablets, computer screens, and laptops instead of resorting to new raw materials from suppliers. Refurbed has succeeded in providing electronic products that are 40% cheaper than the new products offered in the market and are 100% environmentally friendly.
- 2) **Nasekomo:** It is a start-up specialized in the production of agricultural materials. It was founded in 2017 in Sofia (Bulgaria). This start-up manufactures fodder, fertilizers, and oils from organic waste, especially from a certain type of fly. In this way, Nasekomo seeks to sustain the agricultural economy by reducing food waste, reducing gas emissions, and reducing the depletion of scarce resources.
- 3) **Notpla:** Notpla is a start-up from London (UK). It was founded in 2016, and its sustainable solution is to provide edible containers instead of plastic bottles. Notpla packages are made of seaweed extract, which makes them biodegradable quickly and naturally without harming the environment or emitting gases, which contributes to preserving the environment and reducing the use of plastic.
- 4) **Karma:** It is a Swedish start-up founded in 2016. This start-up is working to contribute to reducing food waste, as it has proposed an application that links groceries and food companies with consumers so that these companies can sell surplus food to these consumers at low prices, thus working not to throw excess food in waste on the one hand and to reduce the cost for each from the seller and buyer on the other hand.

- 5) **Watts Battery:** This start-up was founded in 2016 in Moscow (Russia). It provided solutions in the field of energy efficiency and clean energy, as this start-up proposed a model for a smart and portable battery that can store energy with the same functions as the large system, where the battery is stored and filled by solar energy to be used later when necessary to operate any machine or as an alternative to generators that operate on gasoline. The goal of this battery is efficient energy management.
- 6) **Ducky:** This start-up was established in Norway in 2014. It is an educational platform to promote awareness and sustainable thinking among people and societies, as it engages its employees and customers while providing many tools that allow measuring the carbon footprint of a person or an organization, thus educating them on how to reduce that. It also targets schools in order to raise a generation on the values, principles, and rules of sustainability.
- 7) **The sustainable Food Movement:** It is a start-up in Greece that was launched in 2017, seeking to reduce food waste and reach and promote sustainability, and the focus in this is on the field of cooking and the field of the tourism industry, where team members work to provide education, training, advice, and suggestions on ways to use sustainable innovation in both cooking and tourism, which contributes to reducing the rates of throwing surplus food or wasteful use of the materials that go into its preparation.
- 8) **Soil Grid:** This start-up is based on providing solar irrigation systems, but it also offers a platform that allows the buying and selling of energy when needed from peer to peer. This idea allows providing irrigation methods for the soil while at the same time ensuring that irrigation is done in a sustainable and environmentally friendly manner. It was founded in 2018 in Estonia.
- 9) **AquaQube:** This start-up was launched in the Czech Republic in 2016 and presented a model of a usable electrical device to purify and disinfect water for personal use through special techniques that work to get rid of harmful or unwanted substances that can be present in the water, such as antibiotics, chemical pesticides, bacteria, viruses, and others, which makes water more consumable and healthier (Valuer-website, 2020).
- 10) **Ecosia:** It is a German start-up that takes shape as a search site that directs 80% of its advertising revenue towards reforestation and tree planting projects around the world. Since launching the site in 2009, it has succeeded in financing the planting of more than 100 million trees around the world, and it aspires to achieve the goal of planting one billion trees by 2030.
- 11) **Behold.ai:** Launched in the UK in the medical field, it uses artificial intelligence techniques to reduce error rates in the diagnosis of diseases and increase their accuracy, which contributes to saving more lives by helping pathologists achieve this (Scott, 2022).
- 12) **Mosaic:** Founded in 2010 in California, it is a start-up working in the financial technology sector with the main goal of preserving the environment by linking customers who want to use solar energy instead of traditional energy with financing and consulting services that accompany their desire and needs, by directly linking them with companies active in the solar energy sector and developing homes, and by providing a convenient and affordable financing range. And through its innovations in products and

financial technology, Mosaic has been able to change the lifestyle of many homes to a more sustainable model in a simple and affordable way.

- 13) **Laska:** It was launched in Turkey, and its work revolves around waste management, especially expired tires, by dealing with them and converting them using the most innovative, sustainable, and environmentally friendly methods to energy and raw materials that can be reused in the economy again. So Laska was able to reduce the environmental impact and carbon emissions and reduce negative impacts on the environment and society while providing a usable product to meet the need for raw materials and energy, where these tires are reintroduced again into the production cycle. Laska is considered one of the best start-ups launched in 2022 thanks to its ability to combine financial gains with environmental impact measurement.
- 14) **Cirrus Shower Ltd:** It was created in 2017 in France. It is considered one of the start-ups that are interested in solutions related to providing safe drinking water and reducing waste for daily use, so it provided several solutions, including the use of a special water spraying technology to increase water efficiency and reduce its consumption by 75% through innovative nozzles; it also presented solutions to use less energy in heating water, thus succeeding in saving water and energy at the same time (Enterprise-League, 2021).
- 15) **SDG House:** It is a start-up that works to open up areas and enhance the horizons of international cooperation and partnership in order to achieve the SDGs, and it works within the framework of Goal 17 of the 2030 Agenda for Sustainable Development. It is located in the Netherlands and can be considered a micro-community that brings together many experts, businessmen, and government organizations that seek to achieve one or more of the SDGs. SDG House is considered a regional focal point for sustainability and entrepreneurship events. The idea of this start-up revolves around the meeting between the different spectrums of society, whether specialists or the general public, to work together to unify their efforts, means, and knowledge in order to provide more effective solutions and suggestions to achieve sustainability in various regions of the world and what is needed to support achieving that.
- 16) **LetsEndorse:** This start-up is represented as a digital marketplace and social network directed to social development initiatives that correspond with the SDGs. The platform provides operational and financial efficiencies with transparency for all diverse stakeholders and also allows innovations with social impact to reach the communities and regions that need them by partnering with organizations and local governments. In addition, LetsEndorse develops and grows capital directed towards large-scale philanthropy while investing in the field of social responsibility, and this at an international funding level, not just local.
- 17) **GoNatuure:** located in Singapore, is considered one of the start-ups that support the transition towards more sustainable practices by educating the consumer on the one hand about the importance of this and, on the other hand, bringing the consumer closer to the companies that provide sustainable products, making it easier for him to acquire

these products and creating a desire to choose them instead of traditional products. Thus, GoNatuure is considered a virtual market for social commerce in which organic, natural, and healthy products are organized by companies that provide products that comply with the axes and dimensions of sustainable development and presented to consumers by creating a supply chain for the effect of the circular economy; in the same context, consumers are made aware of the impact of sustainability on their products, which motivates them in the future to search for and purchase them (StartUs, N.M).

- 18) **DOT Glasses:** It is a Czech start-up that works to support the vulnerable in society by providing low-cost eyeglasses, generally using non-scratch materials with a variety of vision tests available, all at low prices, and working towards achieving its profits in line with the sustainable development goals in poverty reduction. It distributes its products through a large network of channels, including non-profit organizations, networks of small entrepreneurs, and government agencies, allowing it to generate returns that cover its costs and generate profits while at the same time increasing the productivity and earnings of low-income people.
- 19) **Vultus:** a Swedish start-up company whose work revolves around the development of satellite solutions for precision agriculture, where the images captured from these satellites allow the start-up to accurately determine the fertilizer needs of any farm while anticipating any agricultural diseases or pests weeks before symptoms appear with the naked eye. It also provides information about plant health, weather conditions, and performance levels in farms and fields for a variety of periods ranging from weeks to several years, all within the framework of achieving the sustainable development goal of reducing hunger levels.
- 20) **Me.reka:** is a start-up from Malaysia that works to enhance education and make it available to different individuals and societies. It provides an alternative learning space for many sciences such as technology, mathematics, engineering, the arts, and others. Its offers are represented in many courses and training programs, aiming to prepare students for good jobs, especially those related to digital content, while promoting digital inclusion for disadvantaged communities. (Start-Us, N.M).

5. CONCLUSION

Start-ups have become one of the aspects of entrepreneurship in the modern era, where they have known a great spread in various countries of the world due to their peculiarities that are in line with local, national, and international needs and problems with innovative and effective formulas and solutions, despite their often high risk, and their compatibility with modern requirements in various fields, especially the business environment. In parallel, a global trend towards the sustainability of resources, practices, and activities, in the context of achieving the implementation of the SDG's Agenda 2030, is noted as a global agreement towards a more developed economy, a better society, and a better environment, with a higher quality of life for current and future generations. This study aimed to identify how start-ups can contribute to achieving the SDGs 2030; many results were reached, including:

- The 2030 Agenda for SDGs provides important opportunities for start-ups in various

sectors and activities that are within important axes of the agenda, including clean energies, energy efficiency, sustainable innovation in both production and consumption, innovation in education and health, waste management, and environmental preservation, while facilitating access and work for different segments of society to ensure access and equality, in addition to cooperation and participation, and other axes of the agenda.

- Start-ups can effectively contribute to achieving the SDGs, as these latter need high rates of innovation to be implemented on the ground, which is the most important characteristic of start-ups. Sustainable innovation, the most important success key for sustainable development, is often the focus of the work of start-ups, with the innovation component strengthened by the sustainability factor.
- Both sustainable development and start-ups play a reciprocal role, so that each can enhance the success of the other. While sustainable development opens new markets and needs for start-ups, these latter work to provide products and business models that seek to achieve SDGs, so the relationship is usually winner-winner between them.
- The world knows various and multiple models of start-ups from different countries that work within the framework of the SDGs, where they have provided innovative solutions to many local problems that are consistent with meeting the needs of the economy and society in a sustainable manner, whether in the form of products, financial technology services, digital platforms and applications, instructional and educational platforms, or many other forms.
- Despite the differences, in practice and geography, between the presented models of start-ups, they share the point of orientation towards achieving SDGs in the medium and long term, with the consolidation of this concept in the awareness and culture of consumers, whether individuals or organizations, to make it the basis and not the exception in the future.

Based on the foregoing and the results of the study, **a set of recommendations can be proposed** as follows:

- Introducing the business environment opportunities offered by the sustainable development goals at local levels, especially in developing countries.
- The need for the gradual inclusion of the factor of sustainability in the ideas and business models presented by start-ups in communities that are still far from their application and do not care about the social and environmental dimensions of projects.
- Clarify the financial benefits that can be obtained from adopting and achieving the sustainable development goals for start-ups to push them to think about it as the beginning of their work.
- Attempting to include sustainability as a daily practice and as a human activity in various aspects of life, to reach its inclusion in various business contexts and sectors, by focusing on schools, then universities, business incubators and accelerators, in order to form a society and a conscious generation that is receptive to sustainable development, in a way that facilitates the orientation of start-ups towards that.

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7. APPENDICES

Appendix 01: Goals and Targets of the Sustainable Development Agenda 2030

The goal	Demonstration	Targets
GOAL 1 : No Poverty	End poverty in all its forms everywhere	<ul style="list-style-type: none"> • Eradicate extreme poverty for all people everywhere. • Reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions • Implement nationally appropriate social protection systems and measures for all, including floors, and achieve substantial coverage of the poor and the vulnerable. • Ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance. • Build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.
GOAL 2 : Zero Hunger	End hungry, achieve security and improved nutrition and promote sustainable agriculture	<ul style="list-style-type: none"> • End hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round. • End all forms of malnutrition, especially for the special groups as stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons. • Double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment. • Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality. • Maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge. • Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries. • Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect. • Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.
GOAL 3: Good Health and Well-being	Ensure healthy lives and promote well-being for all at all ages	<ul style="list-style-type: none"> • Reduce the global maternal mortality ratio and end preventable deaths of newborns and children under 5 years of age, and make an end for many diseases. • Reduce premature mortality from non communicable diseases through prevention and treatment and promote mental health and well-being and reducing the global deaths and injuries from road traffic accidents. • Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all. • Support the research and development of vaccines and medicines for the communicable and non communicable diseases? provide access to affordable essential medicines and vaccines. • Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries. • Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction, and management of national and global health risks.
GOAL 4: Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	<ul style="list-style-type: none"> • Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes. • Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university. • Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship. • Eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations. • Ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy. • Ensure that all learners acquire the knowledge and skills needed to promote sustainable development through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.
GOAL 5: Gender Equality	Achieve gender equality and empower all women and girls	<ul style="list-style-type: none"> • End all forms of discrimination against all women and girls everywhere and eliminate all forms of violence against them in the public and private spheres. • Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. • Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. • Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws. • Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.

GOAL 6: Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all	<ul style="list-style-type: none"> • Achieve universal and equitable access to safe and affordable drinking water for all, also the access to adequate and equitable sanitation and hygiene for all. • Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. • Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity. • Implement integrated water resources management at all levels, including through transboundary cooperation as appropriate. • Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
GOAL 7: Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable and modern energy for all	<ul style="list-style-type: none"> • Ensure universal access to affordable, reliable and modern energy services. • Increase substantially the share of renewable energy in the global energy mix and double the global rate of improvement in energy efficiency. • Facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology. • Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all
GOAL 8: Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	<ul style="list-style-type: none"> • Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors. • Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services. • Improve progressively, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation. • Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. • Devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products. • Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.

GOAL 9: Industry, Innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	<ul style="list-style-type: none"> • Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all. • Promote inclusive and sustainable industrialization and, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries. • Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets. • Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes. • Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, including encouraging innovation and substantially increasing the number of research and development workers and public and private research and development spending. • Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities. • Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries.
GOAL 10: Reduced Inequality	Reduce inequality within and among countries	<ul style="list-style-type: none"> • Progressively achieve and sustain income growth and empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status. • Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality. • Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations.
GOAL 11: Sustainable Cities and Communities	Make cities and human settlements inclusive, safe, resilient and sustainable	<ul style="list-style-type: none"> • Ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums. • Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons. • Enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries. • Strengthen efforts to protect and safeguard the world's cultural and natural heritage. • Reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management. • Provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities. • Support least developed countries through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.

GOAL 12: Responsible Consumption and Production	Ensure sustainable consumption and production patterns	<ul style="list-style-type: none"> • Achieve the sustainable management and efficient use of natural resources • Halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses. • Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment. • Substantially reduce waste generation through prevention, reduction, recycling and reuse. • Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle. • Promote public procurement practices that are sustainable, in accordance with national policies and priorities. • Support countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production. • Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products. • Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts.
GOAL 13: Climate Action	Take urgent action to combat climate change and its impacts	<ul style="list-style-type: none"> • Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries. • Integrate climate change measures into national policies, strategies and planning. • Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning. • Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
GOAL 14: Life Below Water	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	<ul style="list-style-type: none"> • Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution. • Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans. • Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels. • Effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans. • Conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information. • Increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism. • Increase scientific knowledge, develop research capacity and transfer marine technology, in order to improve ocean health and to enhance the contribution of marine biodiversity. • Provide access for small-scale artisanal fishers to marine resources and markets and enhance the conservation and sustainable use of oceans and their resources.
GOAL 15: Life on Land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss	<ul style="list-style-type: none"> • Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services in particular forests, wetlands, mountains and drylands. • Promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally. • Combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world. • Ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development. • Introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species. • Integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts. • Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.
GOAL 16: Peace and Justice Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	<ul style="list-style-type: none"> • Promote the rule of law at the national and international levels and ensure equal access to justice for all. • Significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime. • Substantially reduce corruption and bribery in all their forms. • Develop effective, accountable and transparent institutions at all levels. • Ensure responsive, inclusive, participatory and representative decision-making at all levels. • Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements. • Promote and enforce non-discriminatory laws and policies for sustainable development.
GOAL 17: Partnerships to achieve the Goal	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	<ul style="list-style-type: none"> • Strengthen domestic resource mobilization to improve domestic capacity for tax and other revenue collection, in addition to mobilizing additional financial resources for developing countries from multiple sources. • Adopt and implement investment promotion regimes for least developed countries. • Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism. • Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms. • Fully operationalize the technology bank and science, technology and innovation capacity building mechanism for least developed countries and enhance the use of enabling technology, in particular information and communications technology. • Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system. • Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries. • Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries.

Source: (UNITED-NATIONS, 2015) & (FAO, n.m)