



# ENVIRONMENT AND SUSTAINABLE DEVELOPMENT A THEORETICAL FRAMEWORK

**Dr Manish Kumar Jaisal**

Head and assistant professor, School of Journalism and Mass Communication, ITM University, Gwalior, Madhya Pradesh-474001, [mjaisal2@gmail.com](mailto:mjaisal2@gmail.com)

**Raman R Tirpude**

Assistant Professor of Management, Maharashtra National Law University Nagpur, butibori, Waranga Village-441108, [ramantirpude100@gmail.com](mailto:ramantirpude100@gmail.com)

**Dr Bhadrappa Haralayya**

Professor and HOD, Department of MBA, Lingaraj Appa Engineering College Bidar-585403, Karnataka, India, [bhadrappabhavimani@gmail.com](mailto:bhadrappabhavimani@gmail.com)

**Dr. Priyanka Agarwal**

Associate Professor, Amity Business School, Amity university, Noida, Uttar Pradesh, India [pagarwal5@amity.edu](mailto:pagarwal5@amity.edu)

**Dr. Shweta Rani**

Assistant Professor, Department of Geography, Dyal Singh College, University of Delhi, Lodhi Road, New Delhi-110003, India, [shwetarani@dsc.du.ac.in](mailto:shwetarani@dsc.du.ac.in)

**Rohit Kumar**

Assistant Professor, Department of Civil Engineering, Madan Mohan Malaviya University of Technology Gorakhpur, Uttar Pradesh, India – 273010 [rohitsingh2260@gmail.com](mailto:rohitsingh2260@gmail.com)

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## Abstract

**Purpose:** Main ideas explored in this essay are sustainable development, environmental protection, and progress. The origins of SD and its basic tenets are explored. Sustainable Development Goals, also known as the SDGs, are examined, together with their trade-offs, complementarities, costs, and benefits, and the tangible measures that may be done to attain them.

**Research methodology:** The materials were found by doing various searches using SD-related keywords and concepts. Sustainable development, development, financial sustainability, social responsibility, sustainability in the environment, and development objectives all made the list. There were no limits placed on how far back in time the search might go, since the focus was instead placed on how much each piece of content contributed to the continuing discussion around SD.

**Findings:** The final findings might be far from the underlying facts, depending on how the summaries are carried out, which is a common critique of recursive abstraction as an analytical framework. Knowing that faulty final reports are a direct result of sloppy first summaries, the author meticulously kept notes explaining his or her thinking as to what should be included in and what should be left out of each successive set of summaries. While precautions were taken to mitigate the impact of this potential methodological defect on the findings of this article, the author makes no claims to absolute perfection in his work.

**Implications:** All governments should encourage "smart growth" by maximizing the productive use of land and coordinating economic activity with the rate at which natural systems can replenish themselves. The natural processes of our world require that all nations develop sustainable patterns of production and consumption. Tax and subsidy programs that reward desirable results and punish undesirable ones might accomplish this. In this sense, the polluter-pays-principle should be enforced in all nations, meaning that individuals who do environmental damage should pay for it themselves rather than passing the tab on to others or the planet.

**Keywords:** *Sustainable development, environment, smart growth, pillars of sustainability and social and economic environment.*

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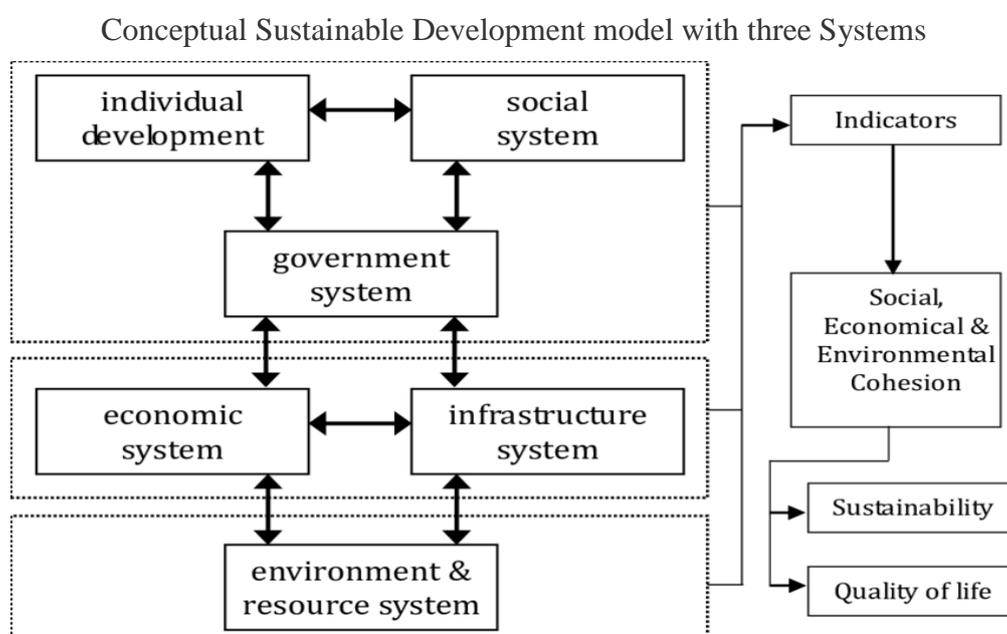
## Introduction

The study concludes and argues that the economy, society, and the environment are the three different yet interdependent pillars upon which sustainable development rests. The key stakeholders need to do more in the areas of social, economic, and environmental resource management policies, education, and regulation to ensure that everyone is aware of, cognizant of, used to, and compliant with sustainable development. All levels of government, businesses, and nonprofits in addition to the United Nations (UN) are included. Protecting and restoring ecosystems, preserving biodiversity, and promoting sustainable agriculture are all necessary steps toward finding a solution to this problem. Because of the inextricable link between environmental protection and sustainable development, the latter cannot be attained at the expense of the former. Sustainable development, lessen our impact on the planet, and provide a brighter future for all people. Sustainable development must be prioritized by governments, corporations, and people if we are to leave a habitable world to future generations. The goal of sustainable development is to achieve growth in a manner that is beneficial to all

people and the planet. However, changing our mindset regarding growth and development is essential for attaining sustainable development. Simply prioritizing economic expansion and improvement is no longer enough. A more holistic approach is required, in which we take into account the effects on society and the environment. Climate change is a major obstacle to sustainable development. The increasing complexity of modern life makes it challenging to speed up sustainable development strategies. The human system is dependent on a complex natural environment that is maintained by equally nuanced and malleable communal structures. In this sense, the goal of guaranteeing human existence is more closely related to sustainable development. Sustainability is a concept that has been extensively used too many different sectors, including environmental studies, economics, and management, engineering, medical, and engineering. Protecting the environment and enhancing people's quality of life without diminishing future generations' abilities are central to this definition of sustainability. Changes in society and the environment are accelerated by population growth, economic development, and technological

progress, all of which threaten human survival.

Figure: 1



#### Theoretical background

The term "sustainable development" (SD) has been adopted as a rallying cry for environmental and development activists, and is used by international assistance organizations, development planners, academic publications, and conferences. The SD development paradigm has also gained widespread popularity. Scopelliti et al. (2018), the notion seems to have attracted public attention where previous development ideas had failed. Furthermore, it is anticipated that this development paradigm will remain the standard for a very long time. There are rumblings of dissatisfaction despite the concept's broad adoption because of the lack of clarity around its definition, meaning, and consequences for development theory and practice. There are a lot of materials out there on SD, but a lot of people still don't understand what it is, where it came from, what it stands for, or how it relates to human advancement. Though there is a plethora of resources on SD, extra explanation of the complex topics is necessary if decision-makers are

going to understand the interconnectedness of the numerous SD pillars and principles and what this means for taking action in the interest of human development. A well-organized dialogue on sustainable development is essential for illuminating the way ahead and inspiring participation, rather than only observation. This paper seeks to provide succinct information on the meaning, evolution, associated key concepts, dimensions, relationships between the dimensions, the principles, and the implications for global, national, and individual actions in pursuit of SD in order to better understand and articulate the discourse on SD. Academics, politicians, development practitioners, and students might all benefit from more information on the paradigm for these endeavors, which this would provide.

#### Substances and Techniques

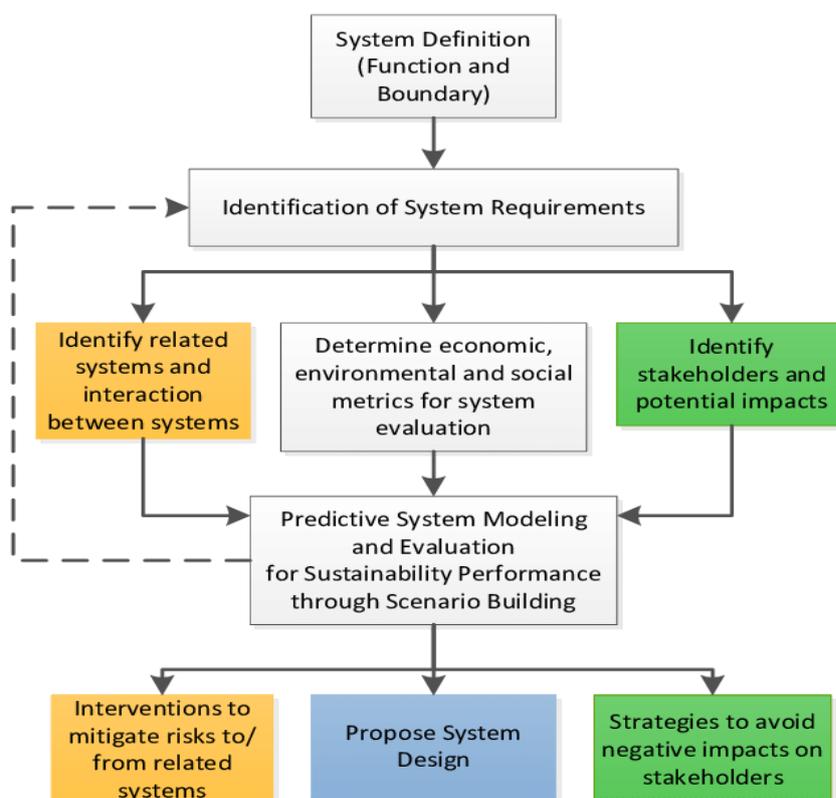
The research included materials of any age, since their importance to the ongoing discussion of SD was valued above their chronological freshness. Efforts were made to include as much up-to-date content as possible to reflect the topic's accuracy and expanding relevance.

On-sustainable development and growth-related literature was culled. The possibility of missing significant literature was mitigated, however, by searching the reference lists of selected publications for further resources on the topic at hand. During the search, the titles and abstracts of papers and other publications were reviewed. Certain elements were included in the assessment because they were relevant to the topic of study and fulfilled other inclusion and exclusion criteria. The main criteria for inclusion were the article's relevance, authority, and recentness. When determining authority, we looked at indicators such as publication by a reputable outlet, peer review, and professional editing, as well as relevance to the SD discussion. On the other hand, relevance to the SD topic, as indicated by citations, was used as a criterion for freshness. The health of the earth and its people depends on the interplay between sustainable development and

environmental protection. In contrast, the environment includes both the living and nonliving components of Earth's ecosystems and natural resources. Human activities such as burning fossil fuels, deforestation, and industrialization are major contributors to climate change, which in turn threatens global ecosystems and the lives of their people. To meet this challenge, we need to move toward a low-carbon economy and cut down on emissions of greenhouse gases. For this reason, it is crucial to put money into renewable energy sources, energy-efficient buildings, and environmentally friendly transportation. The decline of biodiversity is another major obstacle to sustainable development. The loss of biodiversity is mostly attributable to human actions like deforestation, habitat degradation, and pollution. The natural systems that sustain life on Earth are threatened by this loss of biodiversity, and so are our own food security, health, and well-being.

Figure: 2

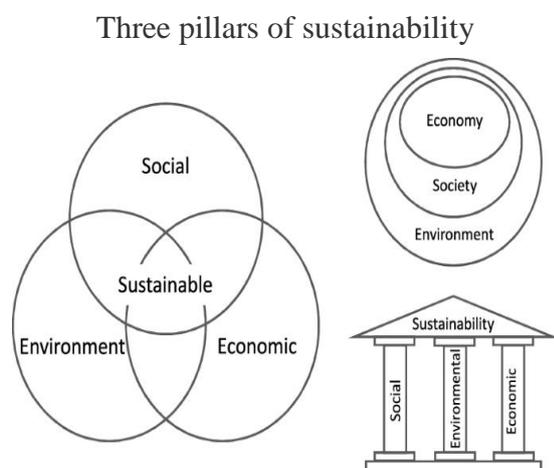
Protocol for Sustainable System Design



## The concept of Sustainable development

Researchers have defined numerous definitions, interpretations, and ideas to the concept of development. A definition of development is, "the human capacity increases in terms of initiating new structures, coping with problems, adapting to continuous change, and striving purposefully and creatively to attain new goals". (Reyes, 2001). Many different ideas have been proposed to explain these phenomena. The modernization theory of development categorizes the world's many civilizations into two broad categories: traditional and modern. Tipps (1976), suggested that the shared norms, beliefs, and values of traditional cultures act as a brake on their development. Traditional communities need to adapt characteristics of industrialization and capital accumulation since they are typical of advanced civilizations. Essentially, the goal of this strategy is to improve the economic well-being and standard of life in indigenous communities via the use of cutting-edge technology. The Dependency Theory, which has its roots in Marxism, challenges the assumptions of the Modernization Theory by arguing that industrialization in rich nation's leads to underdevelopment in poor countries because rich countries exploit the economic excess of the latter.

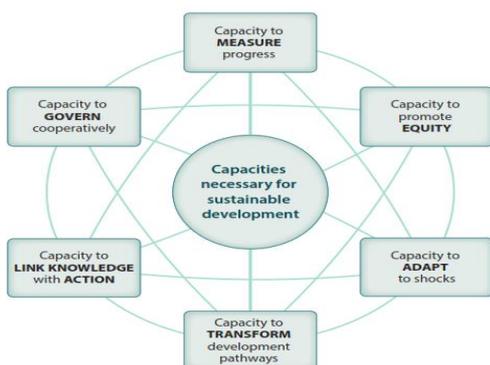
Figure: 3



Trade specialization and resource transfers from less developed countries to

the core, as proposed by the World Systems Theory, impede the development of the latter by making them dependent on the former. This stands in stark contrast to the standard Marxist theory, which posits that the surplus is generated as a result of the capital-labor relationship inherent to the "production" process. The worldwide processes that increasingly integrate international economic commerce are the foundation of the Globalization Theory, which shares much with the World System Theory. When trying to make sense of globalization and its implications for development, cultural linkages between countries are as if not more, important than economic ties themselves. Expanding technological capacities to connect people all over the globe are central to this cultural approach. This has allowed for direct and open contact across nations, leading to a united global civilization. There is no longer only a national or regional focus on political affairs. The phrase "sustainable development" has been used interchangeably in the development debate because it has been linked to many definitions, interpretations, and meanings. If we were to accept SD at face value, it would indicate "development that can be continued either indefinitely or for the given time period." Simply put, the term is constructed from the words "sustainable" and "development." Definitions of SD vary because the terms "sustainable" and "development," which together make up the concept, have been defined variously from different points of view, as has the notion of SD itself.

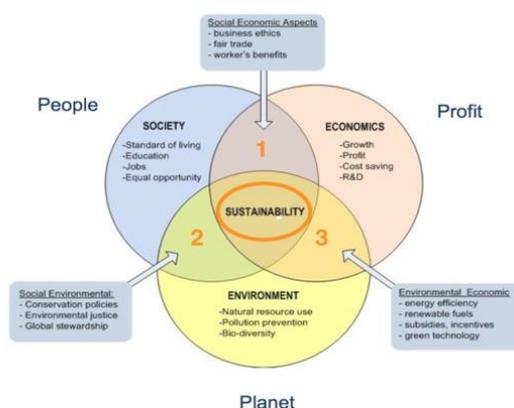
Figure: 4



### The multilevel perspective of SD

The goal of sustainable development (SD) is to preserve existing resources for future generations. Evers (2017) makes the connection between the economy and society's reliance on natural resources and ecosystem services and the organizing principle for accomplishing human development objectives. When regarded in this light, SD is an effort to better society, the environment, and the economy. Ukaga et al. (2011) investigated what is needed for SD and emphasized the need of shifting away from harmful socioeconomic activities and toward those that have positive impacts on the environment, the economy, and society. Hák et al. (2016) explored that the globe has long worried about maximizing the use of available resources to ensure that current generations' demands are met without compromising those of future generations. This implies that sustainable development prioritizes equitable growth with ecological preservation and economic prosperity. This may be achieved via decision-making processes that take into account economic, environmental, and social factors. People often confuse sustainability and SD, however there is a difference between the two concepts. Diesendorf (2000) explored that achieving sustainability is the ultimate goal of sustainable development. Gray (2010) argued that "sustainable development" (SD) is a process to achieve this condition, whereas "sustainability" is a destination.

Figure: 5



### History of sustainable development

Changes in society and the environment are accelerated by population growth, economic development, and technological progress, all of which threaten human survival. The increasing complexity of modern life makes it challenging to speed up sustainable development strategies. The human system is dependent on a complex natural environment that is maintained by equally nuanced and malleable communal structures. Therefore, the word "sustainable development" here more accurately refers to the goal of ensuring the continued existence of the human race. The research called for a more sustainable approach to development and highlighted the environmental, social, and economic challenges the world is now facing. This research brought to light the interconnected nature of the world's environmental, social, and economic problems and advocated for a more long-term strategy for development. A new paradigm of development was proposed to guarantee environmentally safe, socially just, and economically productive expansion. In order to alleviate poverty, safeguard the environment, and advance sustainable development, Agenda 21 advocated for a coordinated international effort. Since then, sustainable development has risen to prominence on the international stage. The SDGs are a set of guidelines for how governments, businesses, and citizens may collaborate

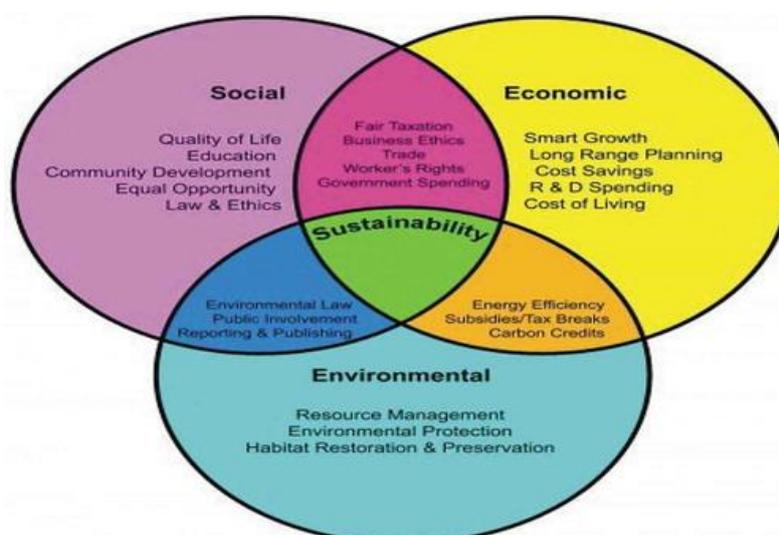
for a better future. In conclusion, sustainable development is a notion that has matured over many years. It was developed further by the Brundtland Commission in the 1980s, although its origins may be traced back to the environmental movement of the 1970s. The adoption of the SDGs in 2015 gives a framework for attaining a sustainable future, and since then, sustainable development has become a major worldwide problem.

Human, environmental, and economic indices of SD interactions

The indicators for sustainable development are based on the system components that help structure the search for indicators. As we've seen in the preceding sections, the pressure, state, and response components make up the bulk of the system in the PSR model. This article is based on Bossel's sustainable development model framework, which scientists have used for years to get access to sustainable development indicators for different regions, countries, and the whole planet. The conceptual sustainable development model (Bossel, 1999), which aggregates the six major systems into the three main subsystems. The human system

is comprised of personal development, social progress, and institutionalized governance. Increasing one's standard of living or maturing as a person are both aspects of "individual development" that are impacted by social indicators and the capacity of government institutions to deliver necessary services. The same is true for human systems; progress is possible only with helpful contributions from both the natural and support systems. The extent to which economic activity and infrastructure have developed characterizes the available framework. Indicators of quality of life and sustainability are reliant on the mechanisms of the support system because they determine the methods or processes an economy utilizes to conserve its natural resources and environmental system. All aspects of the human, social, and ecological system contribute to the sustainable development indicators. The sustainability and quality of life in an area are determined by a number of indicators that work together to foster social, economic, and environmental cohesion. It also explains how the subsystems, compass, and indicators all work together toward the goal of sustainable development.

Figure: 1



## Pillars of sustainable development

1. **Economic Development:** Economic development is an essential pillar of sustainable development, which aims to create economic growth and development that is environmentally sustainable and socially equitable. Sustainable economic development involves creating jobs, fostering innovation, promoting entrepreneurship, and developing infrastructure that supports economic growth.
2. **Social Development:** Social development is the second pillar of sustainable development, improve the quality of life of people by ensuring that they have access to basic needs such as education, health care, housing, and employment opportunities. It also aims to promote social justice, gender equality, and inclusive societies.
3. **Environmental Protection:** Environmental protection is the third pillar of sustainable development, which aims to preserve natural resources, reduce pollution, and protect ecosystems. This involves sustainable management of natural resources, reducing greenhouse gas emissions, promoting renewable energy, and protecting biodiversity. These three pillars are interdependent and mutually reinforcing.

## The sustainable development goals

By 2030, the world's population should ideally be living in a state of peace and prosperity thanks to the SDGs' efforts to eradicate poverty. To achieve sustainable development, it is necessary to meet the objectives outlined in each goal. The SDGs are interrelated; progress toward one might facilitate progress toward others. The SDGs are crucial

because they lay out a plan of action for how nations, businesses, and citizens can collaborate for a better future. We can combat issues like poverty, inequality, climate change, and environmental degradation by concentrating on the SDGs. In conclusion, if we want a sustainable future, we need to work toward the Sustainable Development Goals. They provide the groundwork for cooperation and inspire governments, groups, and people to act in concert. Together, we can achieve the SDGs and build a world where everyone can thrive and thrive for generations to come.

## Dimensions of sustainable development

Sustainable development is the practice of serving the demands of the present without sacrificing the capacity of future generations to do the same. Economic, social, and ecological factors all have a role.

1. **The Economic Dimension:** The question of choosing, funding, and upgrading industrial practices in the realm of the use of natural resources is brought up by the economic dimension of sustainable development, which symbolizes the past, present, and future consequences of the economy on the environment. This refers to the economic well-being of individuals and communities, which involves promoting inclusive economic growth, creating employment opportunities, and reducing poverty. Sustainable economic development also involves the efficient use of resources, such as reducing waste and promoting resource efficiency.
2. **The Environmental Dimension:** Environmentalists emphasize the idea of "environmental boundaries" in their approach to sustainable development, which states that each natural ecosystem has specific

limits that cannot be exceeded by consumption or depletion, and that any encroachment on this natural capacity results in the degradation of the ecosystem. Setting limitations on consumption, population expansion, pollution, unsustainable production practices, water depletion, deforestation, and soil erosion is therefore always sustainable from an environmental standpoint.

Sustainable environmental development also involves reducing pollution and waste, promoting sustainable land use, and protecting the oceans and other natural resources

3. **Economic dimension:** Social dimension: This dimension of sustainable development focuses on promoting social inclusion, reducing inequalities, and enhancing the quality of life for all individuals. This involves promoting access to education, healthcare, and basic services, ensuring social protection, and promoting social cohesion and cultural diversity. It's important to note that these dimensions are interconnected and interdependent, and progress in one dimension can have both positive and negative effects on the others. Therefore, achieving sustainable development requires a holistic and integrated approach that balances the needs of the economy, society, and the environment.

### Sustainable Development Paradigm

Sustainable development seeks to protect future generations from adverse effects while satisfying current needs. As a reaction to mounting worries about environmental deterioration and socioeconomic injustice, the idea first surfaced in the 1980s. Since then, the concept of sustainable development has gained widespread acceptance among

governments, corporations, and non-governmental organizations (NGOs) worldwide. Understanding that economic growth, social development, and environmental preservation are all interconnected and mutually reinforcing forms the basis of the sustainable development concept. It acknowledges that social and environmental considerations, in addition to economic progress, are necessary for securing long-term prosperity and well-being. The need to strike a balance between economic, social, and environmental factors is central to the concept of sustainable development. To achieve this, we need a comprehensive strategy for growth that considers the interdependencies across various economic, political, and social actors. For instance, a development project may not be sustainable if it generates employment but also causes environmental damage or forces locals to relocate. Involvement and autonomy are also essential to sustainable growth. Local communities, civil society organizations, and underrepresented groups must all play an active role in order for sustainable development to be achieved. Formulating development policies and initiatives, and for decision-making processes to be open and collaborative.

A third principle of sustainable development is the need for integration and coherence. Sustainable development requires a coordinated approach that integrates economic, social, and environmental policies and programs. This means that policies in one sector must be aligned with policies in other sectors, and that there must be coherence between national, regional, and global levels of governance. Sustainable development also requires a focus on long-term thinking and planning. This means that short-term economic gains must not be pursued at the expense of long-term sustainability. It requires a shift away from a linear, growth-oriented model of development towards a circular, regenerative model that

prioritizes resource efficiency, waste reduction, and the protection of natural ecosystems. Various scenarios involving market access, human well-being, environmental degradation, energy consumption patterns, environmental balance, sustainability, and quality of life can be investigated with the help of the paper's coherent system dynamic model for evaluating sustainable development indicators. To better plan for sustainable development, policymakers and other decision-makers may use this theoretical framework. In addition, this method will provide policymakers, professionals, academics, and researcher's greater opportunity to investigate the interconnectedness of sustainable development indicators and their potential in the global future.

Discussion: The theoretical framework of sustainable development

Concept analysis reveals that the "sustainable development" theoretical framework is founded on seven basic tenets. Each idea serves as a concrete illustration of many fundamental principles and outcomes in the field of sustainability philosophy. In other words, sustainable development rests on the unresolved and fluid contradiction of sustainability, which may concurrently occupy a number of environmental beliefs and practices that are fundamentally at odds with one another. As a result, SD welcomes a variety of perspectives, from "light ecology," which encourages participation from a large audience, to "deep ecology," which promotes minimal interference with the natural environment. The practical considerations of sustainability are represented by natural capital. Ecological and natural resource-related investments are referred to as "natural capital." According to the sustainability paradigm, natural capital should be kept untouched for the sake of future generations. The concept of equity stands for the social dimensions of SD.

Social, economic, and environmental justice, as well as quality of life, freedom, democracy, participation, and empowerment, are all a component of it. Distributional fairness, or the fair allocation of resources and opportunities for the benefit of current and future generations, is a common definition of sustainability. Cities and communities that are good for the environment often adopt an eco-form. In order to preserve the stock of natural capital, or to achieve ecological integrity, it is believed that we need all-encompassing management systems. What is meant by the term "political global agenda" is a new, long-term global discussion of politics and the environment. Since the Rio Summit, the topic of discussion has broadened to include issues of security, peace, trade, heritage, food, shelter, and other requirements for human survival.

Conclusion

The sustainable development paradigm is a sea change in the way we conceive about progress. It highlights the need of a holistic, inclusive, and integrated approach to development, recognizing the interconnection of economic, social, and environmental variables. It calls for a paradigm change toward a cyclical, regenerative model of development and an emphasis on long-term thinking and planning. Finally, the future of Earth and its people depends on environmental protection and sustainable growth. For progress to be done in a manner that benefits everybody, a paradigm shift toward growth and development is necessary, and we must put environmental preservation and conservation at the top of our list of priorities. This concept highlights the most desirable characteristics of urban, rural, and neighborhood settings for human settlement. Long-lasting and environmentally friendly eco-forms are the end result of "sustainable" design. Its common ideas might be described by the

term "time-space-energy compression," which advocates for reducing both time and space to cut down on energy use. Social, economic, and environmental progress are all addressed in an integrative management plan. A more secure future for all people by making sustainable development a top priority.

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