IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 12, Issue 1, December 2019
Impact Factor: 4.819

Study of Sustainable Development of Natural Resources in Economic Development of MP: Special Reference to SDGSs

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Abstract: *Sustainable development (SD) has become a popular catchphrase in contemporary development discourse. However, in spite of its pervasiveness and the massive popularity it has garnered over the years, the concept still seems unclear as many people continue to ask questions about its meaning and history, as well as what it entails and implies for development theory and practice. In the present study, an attempt has been made to establish cause and effect relationship in between different land use patterns, total population, urban population and net state domestic products (NSDPs) for entire Madhya Pradesh (MP) from the year 1990-91 to 2000-01and to make an effective policy implications for sustainable forest management. The secondary information has been collected to fulfill the requirement of objectives. The purpose of this paper is to contribute to the discourse on SD by further explaining the paradigm and its implications for human thinking and actions in the quest for sustainable development. This is done through extensive literature review.*

Keywords/Phrases: Sustainable Development Sustainable Development Goals: Economic Sustainability Social Sustainability Environmental Sustainability

I. INTRODUCTION

Sustainable development can be defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. ... The economic development brought by such organized principles and practices in an economy is called Managed Sustainable Development (MSD).

Sustainable development is an organizing principle for meeting human development goals while simultaneously sustaining the ability of natural systems to provide the natural resources and ecosystem services on which the economy and society depend. The desired result is a state of society where living conditions and resources are used to continue to meet human needs without undermining the integrity and stability of the natural system. Sustainable development can be defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability goals, such as the current UN-level Sustainable Development Goals, address the global challenges, including poverty, inequality, climate change, environmental degradation, peace, and justice.

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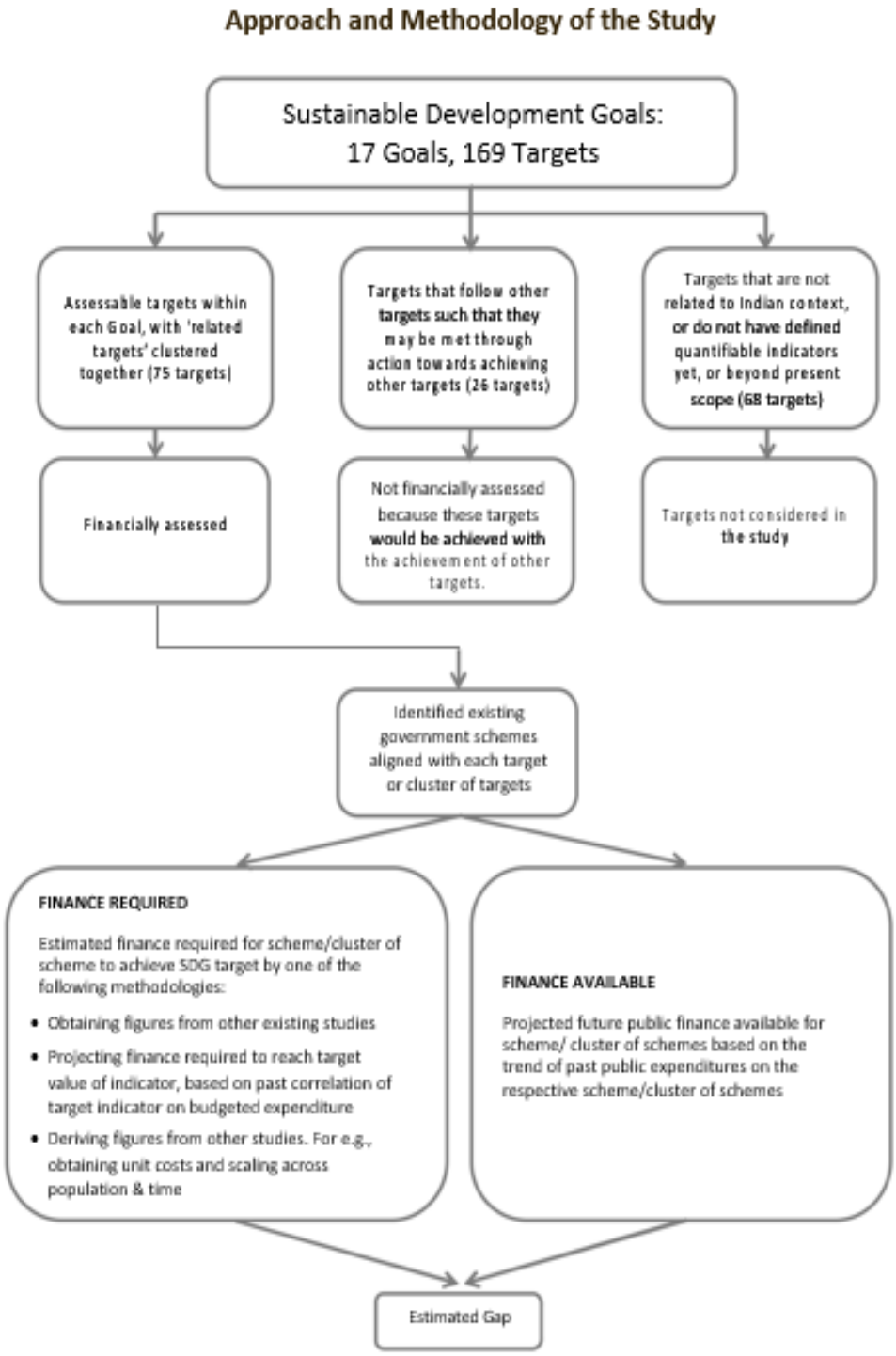

II. Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

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The 17 SDGs are integrated—they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability. Countries have committed to prioritize progress for those who're furthest behind. The SDGs are designed to end poverty, hunger, AIDS, and discrimination against women and girls. The creativity, knowhow, technology and financial resources from all of society is necessary to achieve the SDGs in every context. The 17 Sustainable Development Goals (SDGs) of the 2030 Agenda

Goal 1. End poverty in all its forms everywhere.
Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
Goal 3. Ensure healthy lives and promote well-being for all at all ages.
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
Goal 5. Achieve gender equality and empower all women and girls.
Goal 6. Ensure availability and sustainable management of water and sanitation for all.
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all.
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
Goal 10. Reduce inequality within and among countries.
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable.
Goal 12. Ensure sustainable consumption and production patterns.
Goal 13. Take urgent action to combat climate change and its impacts.
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

SOURCE: Official website: https://sdgs.un.org/goals

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Natural Resource Accounting (NRA) is a revaluation of the National Income Accounts of a country, adjusting for the values of natural resources used in various economic activities during the past 'fiscal year'. Natural resources being a part of the wealth of the nation, initiatives have to be taken to integrate the natural resource accounting along with the System of National Accounts (SNA). The Ministry of Statistics and Programme Implementation (MOSPI), being the nodal authority to release official statistics, has taken significant steps for improvement of Environment.

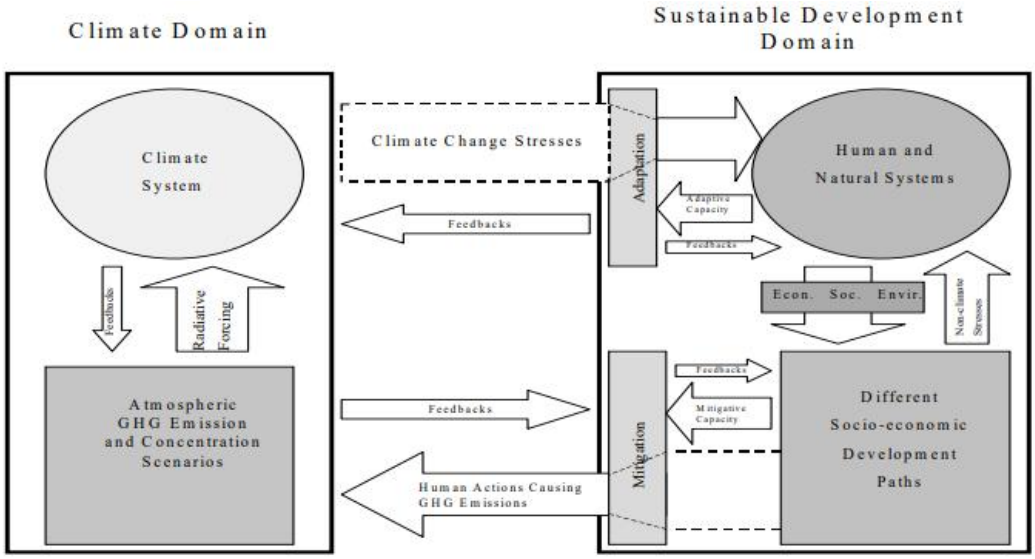
"Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. Seen as the guiding principle for long-term global development, sustainable development consists of three pillars: economic development, social development and environmental protection" (http://www.uncsd2012.org/)

Statistics and also for the development of framework for the preparation of Natural Resource Accounting in India. It is emphasized that the present system of national accounts should continue but at the same time a separate exercise for developing Green GDP should be made based on methodological frameworks being suggested in this study and similar study commissioned to various organizations. With this background, the Central Statistical Organization (CSO), in the Ministry of Statistics and Programme Implementation (MOSPI), Government of India awarded a pilot study titled 'Natural Resource Accounting for the States of Himachal Pradesh and Madhya Pradesh for Land and Forestry Sector (Excluding Mining)' to the Indian Institute of Forest Management, Bhopal, in 2003.

Rapid industrialization and accelerated economic growth in recent years has led to phenomenal environmental degradation and depletion of natural resources in many parts of the world. To respond to this problem, various national and international organizations concerned with environmental planning and management have been striving to develop an appropriate system for environment statistics. India is also not an exception in this regard, for achieving the goal of the preparation of Green GDP. The Ministry of Statistics and Programme Implementation (MOSPI), being the nodal authority to release official statistics, has taken significant steps for improvement of 'Environment Statistics' and also for the development of framework for the preparation of Natural Resource Accounts in India. It is emphasized that the present system of national accounts should continue but at the same time a separate exercise for developing Green GDP should be made based on methodological frameworks being suggested in this report.

III. The Nexus of Economics and Sustainable Development

The essence of economics is the well-being of the people, which is formulated as the maximization of social welfare function (SWF).



Integrated Assessment Modelling Framework for Analysing Climate Change and Sustainable Development linkages (Source: Adapted from IPCC 2001a.)

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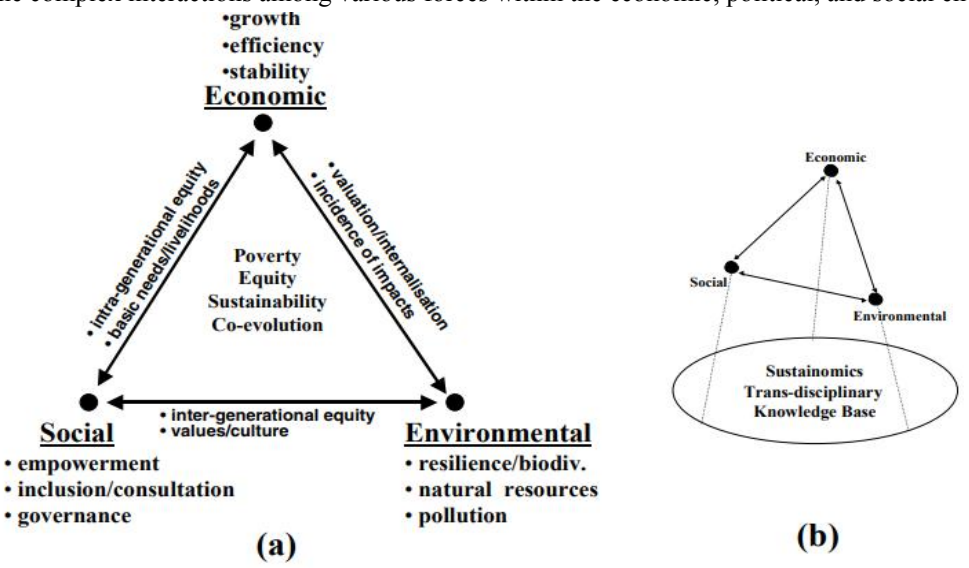
Economic activities lead to transformation of natural resources into consumable/usable goods and services, in other words, production of goods and services, create income earning job opportunities for achieving best outcomes of SWF. However, as more intense economic activities push up the SWF, it generates environmental drawbacks such as pollution that tends to affect social welfare negatively. Besides, the exhaustibility of natural resources imposes limits on the extent to which economic activities could be intensively undertaken.

Thus, economics recognizes that apart from direct welfare benefits (income, consumption, etc.), there are positive and negative externalities-unintended consequences arising from economic activities. For instance, economic activities could give rise to positive externalities such as backward and forward linkages, learning-by-doing, and technological progress. It could also give rise to environmental challenges such as pollution and associated adverse health and social adversities in form of negative externalities. Rational economic principles require that policy formulation and implementation leads to chain of economic activities to generate growth while minimizing adverse effects arising from natural resource utilization. Hence, the most critical factor in achieving sustainable development lies in the proper management of the complex interactions among various forces within the economic, political, and social environment.



Source: adapted from Munasinghe 1992, 1994.

Sustainable development triangle supported by a trans-disciplinary framework

IV. The Need for Natural Resource Accounting

Low income countries, which are typically dependent on natural resources for employment, revenues and foreign exchange earnings, use a system of national accounting and macroeconomic analyses that completely ignores their principle assets. As a result, there is dangerous asymmetry in the way we measure and hence the way we think about natural resources. For example man-made assets-buildings and equipments are valued as productive capital.

The increase in stock is recorded as capital formation. Decreases in the stock through use are written off as depreciation against the value of production. This practice recognizes that a consumption level maintained by drawing down the stock of capital exceeds the sustainable level of income. Natural resource assets are not so valued, and their loss entails no debit charge against current income that would account for the decrease in potential future production. A country could exhaust its mineral resources, cut down its forests, erode its soil, pollute its aquifers, and hunt its wildlife and fisheries to extinction, but measured income would not be affected as these incomes disappear. In resource dependent countries, failure to extend the concept of depreciation account to the capital stock embodied in natural resources is a major omission and inconsistency.

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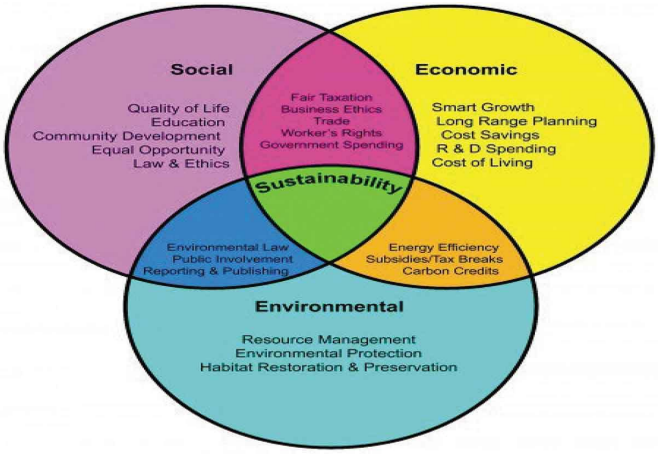
Economics, which has evolved into set of principles that define rational behavior of various stakeholders, is the fountain for achieving sustainable development-appreciable level of social and economic well-being of the people that is inter-generationally balanced. Effective governance, resource endowments, and demography are complementary factors that need to be properly coordinated based on sound economic principles to underpin the process of sustainable development. The division of economics into microeconomics and macroeconomics has gained prominence in economic theory, but the distinction is mainly about whether analysis and economic decision-making focus on individual economic agents such as households and firms (microeconomics) or activities of the overall economy relating to such indicators as national income, employment, and government policies (macroeconomics).

In practice, the microeconomics and macroeconomics intertwine such that the conditions of the overall economy influence the decisions of individual economic agents and in turn, the performance of the economy depends on the activities of individual economic agents. Essentially, all economic agents, at both micro and macro level of economic analysis, act in accordance with rational economic principles to optimize outcomes that collectively provide the basis for attaining economic growth and sustainable development. As a demonstration of the essence of economics, in terms of both micro and macro, empirical analysis of various economic activities relating to emerging sustainable development issues, undertaken by different authors, is compiled and presented.



Relationships among social, environmental and economic sustainability.

V. Review of Literature

Sustainable development is a common agenda for global concern, which everybody agrees upon, but bringing this global concern into public policies is a difficult task. The most accepted definition of sustainable development according to the Brundtland's report is, "To meet the needs of present without compromising the ability of future generations to meet their own needs". It advocated the idea of "sustainable growth".(United Nations. Report 1987) According *to The World Conservation Strategy report (1980),* by the International Union for the Conservation of Nature and Natural Resources (IUCN), for development to be sustainable it must take into account the social and economic factors as well as the ecological ones.

India is presently emerging as an economic superpower, but in contrast, there is another profile of India. We constitute around 17% of the world's population, but account for about 35% of the poor and 40% of the illiterates in the world.*(Kurian NJ, 2007)* Experiences from the economic reform indicate that while there have been improvements in economic growth, foreign exchange, IT revolution, export growth, and so on, inequality in income distribution has been growing simultaneously (ratio of urban to rural income is 4.5).*(Kurian NJ, 2007)* Exclusion from benefits of economic revolution has been continued in terms of low agricultural growth (agriculture's share in GDP has been reduced to half, with no decrease in dependent population in the agricultural sector *(Kurian NJ, 2007)*, low quality employment growth, concentration of poverty in certain groups (SC / ST), occupation (agricultural and casual labor), and region; and inadequate development of women and children. Our sex ratio continues to remain favorable to men. Studies based on

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hospital statistics in South Delhi indicate that sex-ratio at birth is as low as 500 females per 1000 males,*(CMAI, 2007)* All the above factors have resulted in the widening of economic and social disparity, which is a threat to sustainable development. The present economic growth helps to create more opportunities for the more educated section of the upper and middle class, with a 'trickle-down' effect on a section of the poor.

In India around 700 million people in the rural area are directly dependent on climate-sensitive sectors (agriculture, forests, and fisheries) and natural resources (such as water, biodiversity, mangroves, coastal zones, grasslands) for their subsistence and livelihoods. Climate change and its effects will further reduce the adaptive capacity of dry land farmers, forest dwellers, fisherfolk, and nomadic shepherds, which is already very low.*(Sathaye J, Shukla PR, Ravindranathan NH, 2006)* Water, soil, and air, which are the vital environmental sources for maintaining life have been shrinking alarmingly. Annual per capita availability of renewable freshwater has been decreasing from 5,277 m3 in 1955 to 1,820 m3 in 2001.(Sharma S.,2005) The main reasons for the water crisis are increasing demand, zonal disparity in distribution, lack of ethical framework for use, inadequate knowledge and resources, major land-use changes, long-term water level decline, and increase in salinity and pollution. India, with a large percentage of its land under agriculture, is also prone to the vagaries of weather conditions and climate change. About 228 Mha of its geographical area (nearly 69%) falls within the dry land (arid, semi-arid, and dry sub-humid) region and 142 Mha (68% of the total cultivated area) in the country is rain fed.*(Bhandari P, Bhadwal S, Kelkar U, 2007)*

Integrated development of drought-prone areas can be done by long-term preventive measures like afforestation, pasture development, and livestock management, (by growing better top feed species, which can survive annual droughts and provide rich fodder). Contingency crop planning can be implemented by growing various combinations of crops, fruits, trees, and grasses, to minimize the risk of crop failure and to provide stability to farm income. Efficient land management and irrigation technologies like sprinklers and drip systems should be popularized, which aim at maximizing the production per unit of irrigation water. Other measures like human and livestock population management and generation of alternate ways of non-farm employment can go long way. A study titled, "Comprehensive Assessment of Watershed Programmes in India" by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, has identified the reduction of wastelands by about 8.58 Mha during 2000 and 2005, by using various techniques of integrated development of the drought prone area.(7) The National Rural Employment Guarantee Act (NREGA) is presently one of the most credible programs that deals with chronic poverty and improving sustainable development in rural areas. Under NREGA, up to two-third of the activities are for water conservation (52%) and land development (14%), a step toward sustainable development.*(MoRD. Annual report 2007-08)*

VI. Objectives

- To study of sustainable development of natural resources.
- To study of sustainable development of natural resources in economic development of MP : special reference to SDGs
- To understand the Sustainable development goals.

VII. Research Methodology

This study is Conceptual in nature and tries to highlight concept and Literature of sustainable development of natural resources in economic development of MP. Secondary data has been collected from extensive research through E-library, different available published articles, journals, books, internet, magazines, and seminar papers and the world-wide web.

VIII. Findings

The 17 Sustainable Development Goals (SDGs) with 169 targets are broader in scope and go further than the MDGs by addressing the root causes of poverty and the universal need for development that works for all people. The goals cover the three dimensions of sustainable development: economic growth, social inclusion and environmental protection.

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In India, forests have been the most important natural resources. Right from providing timber, wood for fuel, and fodder to a wide range of non-wood products, forests play a critical role in environmental and economic sustainability. Natural resources, both renewable and non-renewable, and ecosystem services are a part of the real wealth of nations. They are the natural capital out of which other forms of capital are made. They contribute towards fiscal revenue, income, and poverty reduction.

Building on the success and momentum of the MDGs, the new global goals cover more ground, with ambitions to address inequalities, economic growth, decent jobs, cities and human settlements, industrialization, oceans, ecosystems, energy, climate change, sustainable consumption and production, peace and justice. The new Goals are universal and apply to all countries, whereas the MDGs were intended for action in developing countries only.

A core feature of the SDGs is their strong focus on means of implementation—the mobilization of financial resources—capacity-building and technology, as well as data and institutions. The new Goals recognize that tackling climate change is essential for sustainable development and poverty eradication. SDG 13 aims to promote urgent action to combat climate change and its impacts.

IX. Conclusion

On 1 January 2016, the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development — adopted by world leaders in September 2015 at an historic UN Summit — officially came into force. Over the next fifteen years, with these new Goals that universally apply to all, countries will mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind.

The paper finds and argues that the entire issue of sustainable development centres around inter-and intergenerational equity anchored essentially on three-dimensional distinct but interconnected pillars, namely the environment, economy, and society. Decision-makers need to be constantly mindful of the relationships, complementarities, and trade-offs among these pillars and ensure responsible human behaviour and actions at the international, national, community and individual levels in order to uphold and promote the tenets of this paradigm in the interest of human development. More needs to be done by the key players—particularly the United Nations (UN), governments, private sector, and civil society organisations—in terms of policies, education and regulation on social, economic and environmental resource management to ensure that everyone is sustainable development aware, conscious, cultured and compliant.

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