

Restructuring of global economy by attaining sustainable development goals- India's Experience

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Keywords

Sustainable development concept and goals 17, Millennium development goals, Conference of parties-21 (COP-21), (OWG) Open Working Group , Coal gasification, Blue carbon , Clean energy

Abstract

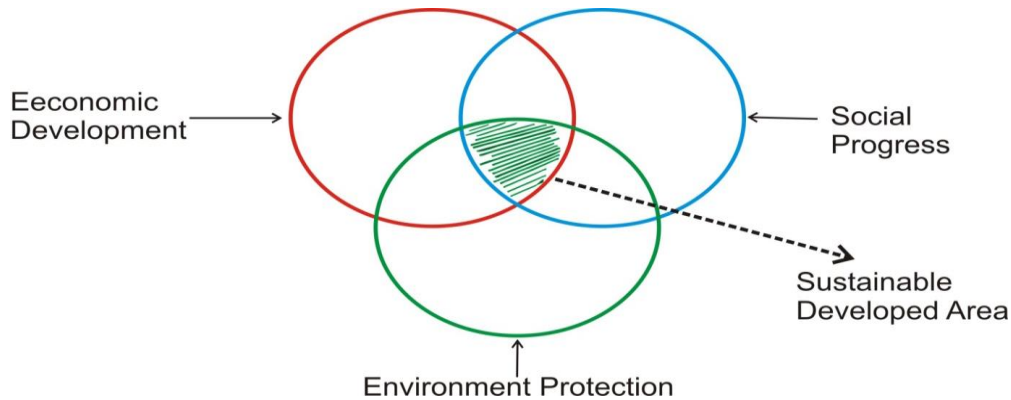
Sustainable development goals (SDGs) were born through United Nations Conference on Sustainable Development ,(UNCSD) in Rio de Janeiro in 2012 with an aim to produce a set of Universal goals, that met the urgent environmental, political and economic challenges facing our world. 17 goals with 269 targets which is to be implemented by 2030 are being the priorities of the participating nations in order to reconstruct the global economy, especially after Covid 19. India has actively participated to implement the goals in the crucial moment of economic reconstruction. This paper focuses upon India's initiative and challenges to fulfill SDGs in order to mitigate hunger and address the problems of underdeveloped.

"The Earth provides enough to satisfy every man's needs, but not for any body's greed"
Mahatma Gandhi

Introduction

The former President of India & scientist Late Dr. A.P.J. Abdul Kalam Azad aptly stated, " The fundamental ingredient in the evolution of happy, peaceful and prosperous nations and societies is laying the foundation for sustainable development." He also emphasized the prosperity of inclusion, development with equity and industrialization with environmental concern. He also stated that large-scale divides the rural and the urban areas of the world which are manifested in the income levels and the quality of human amenities – are not only loss of opportunity, but also a matter of concern as regards the sustenance of prosperity and peace. Geo-politically the world is getting polarised into two main camps i.e democratically rules states versus the states ruled by the right wing as well as left wing autocratic political system. These two antagonistic blocks are strengthening their military might to dominate each other keeping the balance of power in their respective favour, thus shifting the limited world economic resources towards war economy. Resulting in the reduction of resources required for eradication of hunger, other socioeconomic vagaries like unemployment, illiteracy, degradation etc. The poverty stricken vast population of the world and exploitation by few rich entities through controlling maximum wealth of the world through non state actors are pushing the world with a faster pace towards a dangerous uncertainty which was aggravated by Covid 19, climate changing situation and more than two dozens of active war zones. China's growing militarization on South China sea, expansionism, North Korea's atomic missile fire, Russian attack on Ukraine, Asia's Israel-Hamas crisis and various civil wars in the African and South East Asian countries have pushed the world into perilous uncertainty. This demands immediate steps to restructure the world economy to the 30 years old concept of sustainable development to mitigate the issues of multidimensional threat against humanity. The coinciding economic development, environmental protection and social progress with the 17 goals needs to be nurtured locally to have an impact globally by 2030 for the survival of vulnerable people, nature and the society.

The concept of sustainable development is diagrammatically explained below for understanding at a glance.



Effort should be made to maximise the sustainable developed area by ensuring non polluted air , provision of clean water and keeping the soil without degradation for environmental protection. Also it must be ensured that economic growth with decent jobs for all, environment friendly economic activities by utilization of minimum natural resource must be emphasized. Last but not the least social progress needs to be provided with quality education, a decent livelihood, affordable quality health care and comfortable houses for all with minimum modern amenities. Pension for the old and vulnerable section of the people has to be provided along with other social security system.

Historic Perspectives

The first census for world population took place in 3800 BCE which estimated the total population of the earth as 57.7 billion, but now it is 8 billion. Post industrialization period has been witnessing tremendous human activities in terms of economic development, war and explosion of various nature including atomic ones. Rampant exploitation of natural resources, unrestricted extraction of fossil resources has now put the entire human kind & other living entities under serious threat for their sustenance. Some of their survival is in peril due to polluted air, contaminated water & degraded soil. In June 1992 at Rio de Janeiro the biggest congregation of Heads of States / Ministers/ NGOs / Scientist of the world under UN patronage took place and AGENDA21 was drafted and finalized. Afterward through various conventions/conferences/actions etc at local, regional and global level, it has been culminated into the latest Sustainable Development Goals 17 with 269 targets which is to be implemented by 2030. Sustainable Development Goals (SDGs) were born through United Nations Conference on Sustainable Develop goals, (UNCSD) in Rio-de-Janerio in 2012 with an aim to produce a set of Universal goals, that met the urgent environmental, political and economic challenges facing our world.

Development in the New Millennium

The SDGs replaced the Millenium Development Goals (MDGs) which initiated a holistic global effort in the year 2000 tackling extreme poverty and hunger, preventing deadly diseases and promoting primary education to all children amongst other development priorities. During the last 20 years plus, MDGs made progress in several important areas like reducing extreme poverty, providing much needed access to water and sanitation, driving down child mortality and considerable improvement of maternal health. It has also started a global movement for free primary education, inspiring countries to invest in their future generation. It is encouraging to observe, that the MDGs made impressive success in combating HIV | AIDS, Polio and other treatable diseases such as malaria, tuberculosis, filaria etc.

Salient Features of MDG Achievements:-

- a) Since 1990 one billion plus people have been brought out from extreme poverty.
- b) The strength of 'out of school children' has been dropped by more than half, since 1990.
- c) Child mortality has been dropped by more than half (since 1990).
- d) Since 2000, HIV / AIDS infection fell by almost 40%.
- e) The ibid achievements of MDGs provide valuable lessons and experiences to commence work on new goals, to reach out the last mile on ending hunger, achieving full gender equality, improving health

services and getting every child into school beyond primary stage. The SDGs are also an 'urgent call' to ensure the world is on a sustainable path.

Significant Breakthrough in 2015

The SDGs are on an imperative commitment to finish what it initiated and tackle some of the more pressing challenges facing the world today. All 17 goals complement each other, meaning success in one will affect success to others. Dealing with the threat of climate change impact and its management to mitigate it with the constrain of our fragile natural resources, achieving gender equality, eradication of poverty, better health treatment, fostering peace and inclusive society for meaningful social progress, will ensure betterment for future generations. The SDGs coincided with another historic agreement which reached in 2015 the Conference of Parties 21 (COP-21), also known as Paris Climate Conference, together with Sendai Framework for Disaster Risk Reduction, signed in Japan in March 2015-it focuses on adoption of measures which address the 3 dimensions of disaster risk (exposer to hazard, vulnerability and capacity and hazard characteristic) in order to prevent the new risk to reduce existing risk and increase resilience. These agreements provide a set of common standards and achievable targets to reduce carbon emissions, manage the risks of climate change and natural disasters subsequently to build it back better after a crisis.

The SDGs are unique as it covers issues that affect us adversely. It re-affirms our international commitment to end poverty permanently everywhere. They are ambitious in making sure no one is left behind importantly involving all to build a more sustainable, safer and a more prosperous planet for all humanity. Actually post-2015 goals were an outcome of the Rio+20 summit in 2012, which mandated the creation of an Open Working Group (OWG) to come up with a draft agenda. Subsequently, OWG, with representatives from 70 countries, had its first meeting in March-2013 and published the final draft, with its 17 suggestions in July 2014. Member states negotiations followed, and the final wording of the goals and targets, and pre-ambule and declaration that comes with them, were agreed on Aug 2015. Alongside the OWG working discussion, the process to design the 2030 Agenda for Sustainable Development was formed by a public consultation unprecedented in UN history. It is the result of the three-year-long transparent participatory process inclusive of all stake holders and people's voices. The UN system facilitated 88 national consultations commencing in 2012 on the future that is required. 11 thematic consultations on a wide range of issues related to sustainable development, entailing 6 dialogues on implementation and door-to-door surveys. The UN also launched an on line "My World" survey asking people to prioritize the areas that they would like to see addressed in the goals. These consultations shaped the deliberations of the High-Level Panel on the Post-2015 Development Agenda and OWG (Open Working Group) on Sustainable Development Goals (SDG). They contributed to the regular reports from Secretary-General and ultimately informed the official negotiations that culminated into the member states adoption of the 2030 Agenda.

The brief Account of Sustainable Development Goals (SDG) 17 goals.

Goal 1.

No Poverty: Ending of poverty in all its forms everywhere as 55 percent of global population is devoid of social protection. More than 10% of global population with income below \$1.90/day are living in extreme poverty. In 2015 it was found that 413 million people in sub Saharan Africa along with 8% of employed workers and their families lived in extreme poverty.

Goal 2.

Zero Hunger: In order to end hunger, it must achieve food security and improve the nutrition and also promote sustainable agriculture. In 2015, 784 million were found undernourished which increased to 821 million in 2017. Sub Saharan Africa & South Asia were having 22% (149 million) children under 5 as stunted, 5.9% (40 million) of children under 5 as overweight and 7.3% (49 million) children under 5 as affected by wasting.

Goal 3.

Good Health and Well Being: To ensure healthy lives and promote well being for all at all ages with the provision of affordable quality as well as medical treatment.

Goal 4.

Education: To educate the children who are deprived of quality education. 617 million children & adolescent lack minimum proficiency in reading and doing mathematics.

Goal 5.

Gender Equality: Empowerment of women and girls with their equal rights needs to be ensured. Every one in three women have experienced either physical or sexual violence or both.

Goal 6.

Clean water & Sanitation: Avoiding wastage of water. Water scarcity affects more than 40% of the world population.

Goal 7.

Provision of Affordable and Clean Energy: Use only energy efficient appliances. 3 billion people in the world, still lack clean cooking fuel and technology.

Goal 8.

Economic Growth: Creation of decent job opportunities specially for the youth by ensuring economic growth with ample jobs for unskilled and semiskilled people with due social security instead of prevailing jobless growth. Also provision of requisite training facility to be imparted to the vulnerable youth to make them employable in our growing economy. One fifth of our youth are not educated. Adequate fund needs to be provided for employment or trading for basic infrastructure, like road, water and sanitation, industry, innovative technology etc.

Goal 9.

Industry, Innovation and Infrastructure: To build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. Nearly 3.8 billion people lack access to the internet and they form 75% of the population in least Develop Countries (LDC).

Goal 10.

Reduce Inequality Within and Amongst Countries: Supporting the marginalized segment of the population. The poorest 40% of the global population earn less than 25% of global wealth.

Goal 11.

Sustainable Cities & Communities: To ensure use of non-fuel both private and public transport, maximise greenery, effective solid waste management, and efficient sewerage functioning etc. 9 out of 10 urban residents breathe polluted air and as a result suffer from various diseases which shorten their life expectancy.

Goal 12.

Sustainable Consumption & Production: Proper recycling of plastic, glass, aluminum etc, otherwise by 2050 the equivalent of almost three planets could be required to sustain the current life style.

Goal 13.

Climate Action: Act now to stop global warming, global emission of CO₂ (Carbon dioxide) as it has increased by almost 50% since 1990 to limit the global warming to 1.5% above preindustrial levels. Emissions must decrease and needs to be cut by almost half by 2030.

Goal 14.

Ocean: Life below water – Avoiding of plastic bags, toxic liquid waste of ships & vessels to keep the ocean clean. Over 3 billion people depend on marine & coastal diversity for their livelihood.

Goal 15.

Biodiversity: (Life on land) Control forest desertification, by planting trees which help to protect the environment. Forests are the home of more than 88 terrestrial species like animals, plants & insects.

Goal 16.

Peace, Justice and Strong Institution: To stand up for Human Rights. Since 2018 to 2022, the number of people fleeing or displaced due to war, persecution and conflict etc. exceeded 110 million as per UN record.

Goal 17.

Partnership: Lobbying to boost development, financing to achieve the SDGs to open up "US \$ 12 trillion of Market opportunity & creating 380 million new jobs by 2030.

Having said SDGs 17 Goals very briefly, it is understood that all goals are interlinked with each other, therefore some of the salient goals will be explained as per importance to the requirement for re-structuring of global economy (ROGE) on priority. Since these goals have been ascertained by UNDP with due diligence

and approval of its members, restructuring of global economy should be planned and implemented in tandem of SDGs 17 goals with 269 targets, to achieve the desired results by 2030 for the betterment of the world population.

World scenerio

UN's observation on Hunger across the world: As per UN 2023 report, the status of Food Security and Nutrition, the number of people living in hunger is increasing. In 2017, 821 million people i.e 1 out of 9, lived with hunger which is more prevalent in South America and Africa. The slowing down of pace of action against undernourishment for the children under the age of 5yrs, has about 151 million children out of which 39% come from Africa. It is also reported that between about 691-783 million people faced hunger in 2022 (specially during post Covid period) which means an increase of 122 million people compared to 2019. 74% of Indian approximately 1 billion people were unable to afford a healthy diet in 2021.

It has also been observed that hunger is increasing in South America, Africa and parts of West Asia wherein 160 million children up to 5yrs of age are suffering from malnourishment with 50% in Africa and 40% in Asia. Other challenges to remove hunger is emerging as threat due to erratic climatic changes specially in tropical and temperate regions which experience extreme climatic conditions. Due to prevalent high temperature, it causes adverse impact on production scenario of climate resilient crops. In India it aggravated due to its dependency on rain fall for agriculture and socioeconomic exclusion of people-due to faulty Public Distribution System (PDS) and high leakages.

India's Initiative to Address 17 Goals

Zero Hunger, as in stated SDG2 which propounds, "End hunger, achieve food security, improve nutrition and promote sustainable agriculture". As per Food and Agriculture Organization (FAO) of the United Nations, the definition of hunger or under nourishment is, "The consumption of too few calories to provide the minimum amount of dietary energy that each individual requires to lead a healthy and productive life, given the person's sex, age, stature and physical activity level". Another definition is "the lack of, or the inability to achieve, a socially acceptable standard of living." As per *Niti Aayog* (National Institution for Transforming India) the definition of poverty is "the state of one who lacks the means of usual or social acceptable amount of money or material possession. Poverty is said to exist when people lack the means to satisfy their basic needs. In this context, the identification of poor people requires a determination of what constitutes basic needs"

Hunger in Indian Context: Among few Nations, India gives legal recognition to food security, 67% of its poorest people (75% of rural and 50% of urban population) through National Food Security Act 2013. We have two latest reports as follows :-

a) Global Hunger Index (GHI), 2018 was commenced in 2006 by International Food Policy Research Institute (IFPRI) and Welthungerhilfe, with joining of concern worldwide as co-publisher in 2007. IFPRI left it in 2018, while others were still publishing it every year. Global Hunger Index is based on the study of four parameters at global, regional and national level as,

1. Inadequate Food Supply (undernourishment with 1/3 weightage)
2. Child mortality (under five, mortality rate 1/3 weight age)
3. Child Under nutrition measured through two parameters of wasting and stunting with 1/6 weightage to each parameter. India with a score at 31.1 GHI was ranked at 103.

The Indian scenerio

Food and Nutrition Security Analysis India, 2019 - A joint report made by UN World Food Programme (UNWFP) and Ministry of Statistics and Programme Implementation, (govt of India) it was decided to study and assess the nutritional Standard amongst the children in India for the country's progress towards SDG-2.

According to this report, the mal-nutrition among the children remain high, despite the National Food Security Act. During the same period of 2005-06 to 2015-16, the percentage decreased amongst underweight children is from 42.5% to 35.7%. Also, there are large gaps in the nutritional status of people based on income

and community affiliation. Amongst Scheduled Cast (SC) & Scheduled Tribe (ST) children, the stunting is more than 40% while amongst Other Backward Classes (OBC) it is around 38%.

"It is also to be noted that the Govt of India has a goal to bring down multidimensional poverty to below 1% and all efforts are being made in this direction." National Institute For Transforming India (NITI) Aayog (Courtyard Shelter) where a total 13 lakh govt employees are deployed in about 7lakh villages help to promote and implement the govt welfare scheme for the vulnerable section of the society. CEO VVR Subramaniam said, "India is all set to reach single digit poverty level in 2024 as over 24.8 core people moved out of poverty in India in the last years as per Niti report published in Jan 15 2024, New Delhi".

Suggested Solution for Zero Hunger in India's Context

India is having various Govt. schemes, & NGOs efforts for zero hunger objective. It specially starts from school level. Millions of children, women & men living with malnourished health, is a shameful stigma on the image of rising India that too when it is poised to become the fourth top economy with the fastest economic growth rate. In order to address the issue, two-fold initiatives are suggested to be implemented by Government and other organisations:

Combating the Problem Directly

Following measures may be adopted:

- i. Re-Organise, Reform & Strengthen with proper training with effective supervision of *Angonwadi* Infrastructure & Personnel to implement Indian Central Government "*Poshan Abhiyaan*". (mission for providing nutritious food) Meal must be provided with requisite quality, quantity, acceptable to the taste of targeted consumer without compromising the requisite calorie values and hygienic condition - Adequate budgets will have to be allocated.
- ii. Local District magistrate/District Authority being the chairperson must be responsible to provide authentic data of the consumers, fulfilling due criteria and the grid of infrastructures to procure, store, cook & distribute the foods (within the pragmatic turnaround distance) to the vulnerable school children, poor women & men, and to ensure implementation of "*Poshan Abhiyaan*" in the correct perspective.
- iii. Public - Private joint efforts should be encouraged to achieve 'zero hunger status' by 2028.
- iv. NGO & Religious Institutions with due credibility should be encouraged and incorporated for this venture to achieve zero hunger target. The Bangalore based ISKON (International Society for Krishna Consciousness) organization very scientifically & successfully is running its project "*Akshay Patro*" (eternal container of food) thus feeding thousands of vulnerable school children.
- v. Corporate Social Responsibilities should be given due priority with encouraging tax benefit for concerned corporate houses to get involved in *Poshan Abhiyaan* or any independent scheme to contribute to achieve "end hunger objective".
- vi. Above all a robust audit system, like monthly audit by the team within the organization, quarterly audit by state govt, and half yearly audit by the central govt must be instituted. All audit report must be uploaded in the public domain to make it more transparent.
- vii. Social Audit with medical checking needs to be done to record the reduction in stunting by 20 % per year and to bring down the proportion of stunted children by 25% within 2030. The same checking report should be endorsed to the individual medical card issued to the children concerned.
- viii. To reduce Anemia amongst women, adolescent girls and children by 2030.
- ix. To reduce undernutrition & low birth weight by 20 % per year.

National economy should be re-structured to give due priority to make their respective states achieve "End Hunger" status. 'Hunger' spot should be mapped to carryout pragmatic assessment duly confirmed by village Panchayat /Urban council, subdivision, district, state and all equivalent level with culmination into National Level. Budgetary allocation should be made to cater for setting up required Medium, Small, Micro Enterprising unit network for the procurement of processing, packaging and distribution of healthy, nutritious, tasty fresh meal under hygienic condition for the concerned children, women & other people within practicable turn around distance. These MSME (Micro Small Medium Enterprises) unit will also generate employment in the remote areas where other established business house would avoid to invest. Therefore, for such investment under Private-Public Partnership model or local level entrepreneurs should

be encouraged technological help, imparting training & financial assistant through various bank loan schemes available. The neglected child students living in remote & backward areas can be provided with quality and basic education through network of virtual computerized screen with artificial intelligence. Child education with healthy & tasty meal will be a success like learning with "Healthy Food".

Other Measures

As all sustainable goals are interlinked, so considering SDG12, the forest management point of view, today India is amongst the top countries of the world in terms of total area under forest cover. With variable characteristic depending on local climatic condition right from mountain forest to wet tropical and from desert vegetation to mangroves. Presently it is around 23% and as per National Forest Policy (1988) the target is to achieve 33% forest cover for India by 2050 through Agro Forestry which is defined as land-use system with integration of trees and shrubs on farmland and rural landscapes to enhance productively, profitability, diversity and sustainable ecosystem. For this purpose Forest Right Act (FRA), Panchayat's Extension to Scheduled Area Act (PESA) 1996 are already in vogue to empower the concerned Panchayat Self Govt. The Department of Agriculture and co-operative is designed as the nodal agency for all issues including the promotion of Public-Private Partnership for Agro Forestry. The restructuring of global economy to this aspect should be considered for sustainable development specially for the developing & least developed countries.

One of the most important issues referred in SDG 12 is the "Responsible Consumption and production" concerning energy resources used in terms of fossil fuel, causing huge emission of carbon dioxide, carbon monoxide etc. thus rendering global warming and other pollution related hazards. In order to address such dangerous issues, the substitute to fossil fuel specially like coal, can be considered to restructure the global economy with allocation of required funds to third world countries for the following ventures with due priority.

India also raised Territorial Army Units (part time soldiering of men between age of 18 to 45) who are from various govt or private sectors. They assist the regular army for rear area jobs at the time of war/emergency. The first Ecological Task Force (ETF) battalion was raised on First December 1982. As of now there are 10 ETF units working on afforestation activity in rugged and ecologically degraded areas, like *Aravali* Range near Delhi, Uttarakhand, Rajasthan, Assam and other ecologically fragile places. They did a commendable job to stabilize and contain the ecological degraded situation. In 2018 the Composite Ecological Task Force (CETF) also called *Ganga* Task Force was raised as part of the *Namami Ganga* Programme of the National Mission for Clean Ganga (NMCG) The unit comprises of ex-service men also, whom the central pollution control board trains to test the river water. The ETF Battalion TA planted 2.5 core saplings over 49000 acres of land in Pithoragarh hill station in Uttarakhand, Bikaner and Jaisalmer in Rajasthan, Chambal in Madhya Pradesh. As of 2021 ETF has planted 6.9 crore saplings covering 1lakh 79 thousand acres of land. This organization is very useful for environmental protection. This concept can be tried all over the world. There are a total of two lakh twenty five thousand forest service personel deployed all over India who protect the forest as well the bio-diversity. In addition to this ETF, TA units are found to be force multiplier to perform ecological protection task. (Ref- Such. en.m.wikipedia.org).

Indian National Policy on Bio Fuels, 2018:

Fossil fuels though serving as the major solution to our energy and mobility cause a serious environmental cost. India has the 6 most polluted cities amongst the world top 20. Since India being the fastest-growing economy of the world, it is bound to have burgeoning needs of energy and mobility. National Bio Fuel Policy 2018 has been made to make India more energy secured from price and supply fluctuation, price hiking & serious dependence on fuel imports.

Bio Fuels are derived from renewable biomass resources. Ethanol produced from fermentation of sugar / starches / cellulose, biogas produced by anaerobic digestion of organic material or biodiesel produced from vegetable oils, like *jatropha*, sunflower, mustard etc. which as a liquid or gaseous fuel are used in place of or in addition to diesel, petrol or other fossil fuels for transport, stationary, portable and other applications. It is produced by plantation of trees bearing non-edible oilseeds on Govt. waste lands, degraded lands in the forest and non -forest areas. It is cheaper and much less pollutant. Global economy

can give due importance on this aspect to spread it all over third world countries and developing nations. It would not only reduce pollution in large scale but also generate lot of employment for unskilled or semiskilled people to cultivate and process, the biofuel raw material.

Gasification of Coal:

World wide 36% and in India 55% coal is used for burning to produce electricity. Gasification of coal would cause less pollution and reduce cost of transportation and storages. Process of gasification of coal can be designed with due latest scientific efforts to make it economically viable. In 1980, at Talcher in Orissa and at Ramagundan in Andhra Pradesh in India these projects were tried and continued successfully till 1999. However at a later stage due to excessive ash emission the process was chocked. Owing to lack of fund for modification the project was closed down.

India aims to gasify 100 million tons of coal by 2030 as part of its coal gasification mission. The govt. has approved financial allocation for public and private sector projects. Gasification technology produced syngas (Synthetic gas mixture of hydrogen and carbon monoxide), which can be converted into clean and economically attractive fuel. India has abundant reserves of coal, which is naturally used to meet a major part of our energy requirement. In the last Indian interim budget in 2024, aim has been set to gasify 100 million tons of coal by 2030, a step in the right direction. The byproducts like urea and ammonia are useful for agriculture. China, South Africa is also working on this venture.

India's Action Plan on Climate Change (NAPCC)

The government of India on 30/06/2008, released the above action plan to address climate change while bringing various national plans on water, renewable energy, energy efficiency, agriculture, waste management etc. under the one common goal of fighting climate change with eight national missions. The Prime Minister's council on climate change was made in charge of the overall implementation of the plans with the State and Union Territories (UT) government, joining the efforts of NAPCC (National Action Plan Climate Change) through State/Union Territory action plan on climate change in their respective areas. India voluntarily pledged under the NAPCC that India's per capita greenhouse gas emission "will at no point exceed that of developed countries even as India pursues her development objectives" The eight missions under this plan are as follow:

- I. National Solar Mission - 1000 Mw/ yr.
- II. National Mission for Enhanced Energy Efficiency
- III. National Mission for sustainable habitat
- IV. National Water Mission
- V. National Mission for Sustaining the Himalayan Ecosystem
- VI. National Mission for a green India
- VII. National Mission for sustainable Agriculture.
- VIII. National Mission on Strategic Knowledge for climate change

In view of the above organizations, India could achieve renewable energy and share only 23% approximately in our total energy production, which means 81Giga Watt. It needs to be enhanced in the fastest possible speed as India has tremendous potential to generate energy through wind power (coastal area), solar power (desert area), and micro hydro-electricity specially in hilly and mountainous areas.

As it has been discussed in Sustainable Development goal 14, very recently two more serious concern have been raised by the environmentalists. Describing it can cause significant damage not to just marine life but life on earth too. The concerns are :-

Melting of Subsea Methane Hydrates:

Methane is amongst the six gases which cause global warming. Various parts of the sea floors of the world have witnessed, huge amounts of methane stored in the form of solid methane hydrates where suitable temperature and pressure condition exists. These hydrates can help the world by serving as large energy reserves for the benefit of humanity. At the same time, the increasing sea temperature can trigger the process of these frozen methane hydrate to destabilize and release large amounts of methane from the ocean bottom rendering accelerated climate change. Therefore, large scale extraction of methane hydrate

can be carried out till sea temperature becomes normal. It is a win win situation since Methane Hydrate can provide the requisite energy to humanity & reduce the vulnerability of sea or ocean to become unduly warm. Restructuring Global economy should give due consideration as it involves huge investment and also gives scope to employment & revenue generation .

Scrapping and polluting sea floor by deep sea Mining :-

Massive mining in deep sea to extract terrestrial deposits of metals such as silver, gold, copper, nickel, aluminum, manganese, zinc, lithium, cobalt etc can shift the focus of world toward polymetallic nodules from the ocean surface. These minerals are important for 4th industrial revolution and renewal energy perspective as these metals are used to produce high-tech electronic devices like smartphones and green technologies such as wind turbines, solar panels and electric storage batteries. International Seabed Authority (ISA), an international organization established by United Nation Convention Law of Sea (UNCLOS) was formed to regulate activities in area beyond national jurisdiction. Presently under ISA contract, India has been exploring the Central Indian Ocean Basin for polymetallic modules. All these activities must be within the given limit to avoid dangerous impact on the seafloor.

Blue Carbon :

It is the carbon stored in these coastal ecosystems with a significant amount of carbon being stored by mangroves from the atmosphere and ocean. It plays an important role in limiting global warming with reduced ocean acidification and weakens the threat of methane release. As per International estimates, it suggests that up to 67% of the mangroves, 35% of the tidal marshes and 29% of sea grass meadows have been respectively lost. Mangroves of 80 types are very important as preserver of the Indian coast line. It survives and grows in tropical and subtropical areas and are among the most carbon rich forest in the tropics. During the last tsunami onslaught, it played as a robust protector of the coastline wherever it was strongly existing. Restoring coastal ecosystem is an effective and important intervention not to just help in preserving the life below water but also to achieve many other SDGs like- SDG1 & 2, (eliminating hunger & poverty) SDG8, (economic growth), SDG13, (action against climate change impact) and SDG15 (stopping biodiversity loss). Apart from environmental protection it would provide huge employment for local and poor people & revenue generation.

Recommendation and Conclusion:

Achievement of Sustainable Development 17 goals with 269 targets by 2030 is a huge challenge for India as well as other nations. It can be achieved with profound co-operation, and co-ordination to address the serious issues with due priorities by all stakeholders, like political leadership, irrespective with a political will. Scientists and technocrats need to provide expeditious requisites, innovation / modification / discoveries as per various local needs through adequate financial grant and involvement of real talent, by MSME & big industries right from the depth of the ocean and surface of the earth to height of the space. All out efforts must be put in to make the nations hunger free. India is now capable to do it within 3yrs as India has already brought approx. 25 crore of population out of poverty as per *Niti Aayog* report 2024. Maximum effort within the ambit of sustainable development of 17 goals to provide decent jobs with social security in terms of health care, living shelters, houses, quality education, pension at old age for one all must be ensured through inclusive growth under collective leadership preferably under democratic governance. Imposition of green tax on all working place, transport, living places to generate green fund at the same time provide incentives to encourage optimum utilization of limited energy resource and stop leakage and wastage. Getting together of the scientists, students and civil society, with business houses & govt to create a deeper understanding of the problems about climate change wherein we all have to "Act locally, Think globally". Enough priority must be given in MSME to remove poverty and employment. Due priority of technological innovation for the venture of coal gasification or blue economy to extract carbon Hydrate for clean energy & use artificial intelligence network needs to be used to spread education & knowledge to remote and neglected children & poor people. Maximum exploitation of abundant resources needs to be done for the non-conventional energy within sustainable energy norms

The United Nation Development Programme (UNDP) is a part of the SDGs implementation. It has come out with the SDG (Sustainable Development Goals) impact, an initiative which focuses on generating and leveraging private sector capital in delivering the Sustainable Development Goals (SDGs). It was launched in Sep. 2018 (as a startup) with an aim of providing the investors, business houses and others with unified standard, tools. The services were required to authenticate their contributions to achieving SDGs and to identify SDG investment opportunity in emerging economics in developing countries. It focuses on developing prototype products and services that will be tested, refined and brought in a relatively short time frame. Total SDG gap of 2.5 to 3 trillion per yr. in developing countries and the private sector can help in filling this gap significantly with an investment opportunity between \$1-2 trillion per year. Restructuring the global economy must be oriented to address all 17 goals with 269 targets of sustainable development programme by 2030 to make this Earth worth living for everyone healthy, happy and with due dignity and security.

References

- Ahlawat Ajay (2019) Sustainable Development Goals .1st edn. India, Notion Press p36 p69 pp76-77 pp120-121 p137
(Egwasi Princewill I. Et al)(2020) School Environment and Sustainable Development Goals Beyond 2030 4th edn. Bloomington. Author House pp17-20
Gates Bill (2021) How To Avoid Climate Disaster .1st edn. New York .Penguin Random House p73
Kalam APJ Abdul and Pal Srijan(2011) Target 3 Billion 1st edn. India. Penguin Lydia p vii
Kalam APJ Abdul and Rajan Y.S. (2014) India 2020-A Vision For New Millennium 1st India, Penguin p84
Leigh Andrew (2024) The Shortest History of Economics 1st edn India Picador India (Pan MacMillan Publishing India Private Limited) p155