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ABSTRACT

India is poised on a renewed growth path and several new initiatives are a brainchild of this vision. Programs such as Skill India, Digital India, and Make in India are certain key strategies for driving growth and sustainable socio economic development. The base of the pyramid sector is predominantly characterized by people with very low incomes; it is known that the bottom of the pyramid is the largest but poorest socio-economic group in the world. The current usage of the term 'bottom of the pyramid' refers to the four billion people living on less than \$ 2 per day, the definition was familiarized and became widely known in 1998 through the works of C. K. Prahalad and Stuart L. Hart. The wealth and revenue generation capabilities at the base of the pyramid, especially in emerging markets have been the topic of many studies and research in recent years. The potential of the customers, who live on less than \$ 2 per day, is immense. It is estimated that India accounts for close to 300 million adults and is a significant percentage of the population. If there has to be inclusive and all round growth and development it has to be aimed at empowering the poorest of the poor. This is a conceptual paper and looks at the sustained growth of India during India 2.0 period (1992 onwards) and further fuelled by PM Modi Government, aimed by the various initiatives and explores avenues to create sustained development from the BOP perspective with special focus on Economic development, Social development, Environmental protection, and Industry development.

Keywords: Bottom of the pyramid, Growth, Sustainable development, India 2.0, Model.

1. INTRODUCTION :

Indian economy is back on a growth path, after a roller coaster ride in 2017. The shocks of demonetisation and GST implementation had affected India's growth rate. There are indications that the economy is on a rebound. There are a lot of factors contributing to the global consensus that India would re-emerge as the fastest growing large economy in the world in 2018. World output is pegged at 3.9 percent for 2018-19, while the projected figures for India is 7.8, which is the best acceleration in growth. Now, until the pre 1992 days (India 1.0) Indian economy was struggling to meet its growth needs, after the economic liberalisation, India achieved 6-7 % average GDP annually making it the fastest growing economy. Most of the growth has been due to the initiatives such as digitization of the economy, movement to bring the goods and services tax within one standard ambit by the implementation of the GST being two of the predominant tools during India 2.0 period.

We would like to look at the concept of sustainable development from the perspective of the various sectors that have contributed to its growth - the services sector which is one of the fastest growing in the world with an annual growth rate above 9% and this is contributing to more than 50 % of the GDP of the nation. The agricultural sector is one of the largest employers in India's economy but its contribution to GDP is reducing over the years. The industry sector has seen a steady share of economic contribution. The retail market is also one of the largest in the world.

2. BACKGROUND :

The income pyramid or the wealth pyramid is created on the basis of the wealth or income distribution

amongst the population of the country. In India, we have seen that there is significant movement of a lot of people away from the categorization of the global poor as people living on less than \$ 2 per day. This created opportunity for many business organizations to focus their strategy to BOP segment [1-3].

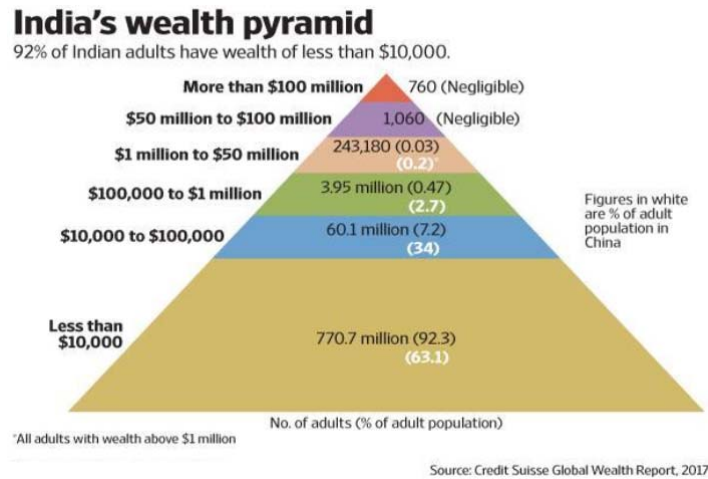


Fig. 1: India's Wealth Pyramid

Credit Suisse latest annual Global Wealth report shows that at the bottom 92.3% of adults have wealth less than \$ 10,000. This classification seems quite high by Indian standards; the report reveals that the average median in this rung is a mere \$ 1,295 per adult. When we consider the fact that a majority of this category of Indian households are a five member household and this is a very little to sustain and attain a good quality of life. Wealth differences between people occur due to a variety of reasons ranging from income earning opportunities to societal inequality and lack of skills, education etc., This variation in income is depicted as the wealth pyramid across the globe or of a specific country, the layers of the wealth pyramid are quite distinctive, it has been seen that in developed countries around 20% of the adults fall in the base of the pyramid category (figure 1). However, for a majority, the membership in this base of the pyramid could be transient. But in Sub Saharan Africa certain countries in South East Asia, South America, more than 90% of the adult population fall in this category. As per the Credit Suisse Global wealth report, 92% of Indian adults have a wealth of less than \$ 10,000.

Several macro-environmental constraints have a great impact on the day-to-day survival of consumers and firms of BOP Market. Some of the most common constraints can be defined as economic, political, infrastructural and cultural challenges. Economic constraints encompass low gross domestic product leading to business sustenance issues since the operating margins could be very low or nonexistent for some periods of time, low income of the consumer class, high inflation, import price volatility and foreign currency fluctuations [4]. Restraints in the form of price controls and price shocks in a highly regulated market can also effect on the convenience of products and firms aptitude to manufacture and properly distribute products [5]. Political instability bears a significant impact on economic failure and obstructive legislation in the form of price controls can affect the firms' performances in this market. Lack of distribution channels, logistics, and infrastructure challenges forbid consumers to get higher quality product & brand information from the various media.

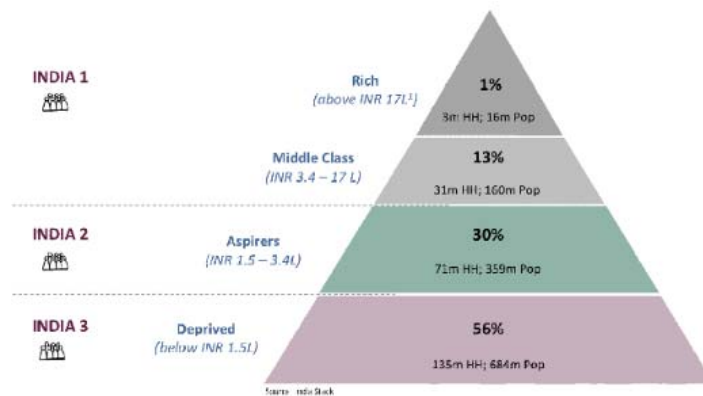


Fig. 2: Segmentation of India’s population by household income (Source: Wharton Finmart Research Report (2017))

As per a latest Wharton Finmart research study (figure 2), India still has 56 per cent of its population approximately 140 million households living in absolute deprivation [6]. They eke out a living under great constraints, poverty is multifaceted. It is not just in terms of lack of income; poverty manifests itself in poverty of information, access, affordability, information, and opportunities. If attainment of sustainable development goals have to be a reality the growth path has to ensure that the poorest of the poor have been enveloped in the phase of increasing the socio economic status in a way that is environmentally friendly and ensuring continued effective use of resources and pave the way for the improved quality of life.

3. SUSTAINABLE DEVELOPMENT IN INDIA :

According to the International Institute for Sustainable Development (IISD), sustainable development has been defined in many ways, and it states that: “Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. In the light of the global challenges faced in relation to environmental, economic and social resources sustainable development calls for a significant rethinking in the development processes.

Sustainable development in any country is seen as a three pronged agenda that centres on building resilient cities, reducing poverty and safeguarding the natural resources of the country. It focuses on the concept of creating adaptability to changing circumstances and creating opportunities to maintain and achieve socio economic and ecological well being of the country. Rapid urbanization has resulted in an unsustainable exploitation of resources. As such poverty in developing countries has multi-dimensional facets. A recent research study also reveals a translocation of poverty from rural to urban areas with over one third of urban residents in developing countries living below the poverty line. Going by research data, today’s civilization needs 1.6 planet earths now and if the same situation of global ecological problems are not contained would need twice the size by 2030 to meet our consumption demands of resources; global warming is expected to exceed 4°C by the turn of this century, and this in turn would create potentially irreversible impact on the earth due to the exponential rise in CO₂ emission. Significant steps in the right direction need to be taken up with immediate effect and this would determine the future of the world’s climate system. In order to ensure sustainable development, it has been suggested that both supportive capacity and assimilative capacity should be built into the system. Supportive capacity is the capacity to regenerate and assimilative capacity is the capacity to tolerate different stresses. Human consumption of the various resources should always be contained to be within the supporting capacity, for instance if excess fishing is happening it should be seen that an equal amount of bio diversity is replenished into the oceans to ensure that the ecological balance of the fish breeds is maintained as created by nature, similarly the and changes to the natural resources and ecology should be controlled in a way that they do not go beyond the assimilative capacity of the system. Sustainable development should manifest itself in

marked improvement in cultural, social and economic development across various sections of the population. The UN has ratified 17 sustainable development goals (figure 3) to be achieved by 2030.



Fig. 3: Sustainable Development Goals of UN. (Source: United Nations, Dept of Economic and Social Affairs)

With a target set at 2030, the SDGs are aimed at making all countries self reliant and sustainable. This basically translates to improving life all around the world. For instance, the first goal of zero poverty requires concrete efforts of not just international and national aid agencies but of large multinationals in their efforts to create a sustainable living as an end towards the larger goal of profitability. Though global poverty has declined by more than half since 2000, one in ten people in developing countries are still living with their families on less than the international poverty line of US \$ 1.90 per day. Most people living below the poverty line belong to two regions – southern Asia and sub-Saharan Africa. As of 2016, only 45% of the world’s population was effectively covered by at least one social protection cash benefit measure. Poverty is more than just lack of resources to ensure a sustainable livelihood and lack of income, it includes lack of education, social exclusion as well as exclusion from participation in decision making. When we discuss about the aspect of economic growth for sustainable development the growth has to be inclusive so as to create a medium for provision of jobs that are sustainable. Natural disasters are another cause of great economic risks faced by countries in the background of global phenomena of climate change and its repercussions due to the huge unexpected economic losses during disasters which will negatively impact poverty alleviation measures. Social protection systems would provide the much needed support to strengthen responses to afflicted populations and disaster management pre-emptive steps which would in turn help in poverty alleviation measures. In 2017 alone, economic losses due to disasters were estimated at over \$ 300 billion.

The primary indicators of economic development in a country are standard of living, levels of poverty, security and financial inclusion and access. The UN SDGs draws forth considerable efforts on the part of every nation to reach closer to positive benchmarks on these parameters.

4. STRATEGY FOR SUSTAINABLE DEVELOPMENT IN INDIA :

The United Nations World Summit Outcome document describes sustainable development as an integrated approach that comprises of three core elements (three P’s Planet, people, profit) which inherently also translates into -

- Economic development
- Social development
- Environmental protection
- Industry development

By 2050, the world’s population will reach nine billion. Hence it is all the more essential for developed and developing countries to act to meet the challenges of sustainable development. If the envisioned goals are not met two planets would be needed to sustain the global population and its

current projected estimated population in the future. Thus today, sustainability has ceased to be a choice but a necessity for the world.

From a detailed study of secondary data, the current situation in India and the extent, usage and availability of resources we try to define the core parameters necessary to attain sustainable development which is more critical considering the Indian scenario and various governmental and aided as well as non aided agencies steps towards suggested by the United Nations.

1. Economic Development:

Though India has for long focussed on economic development by meeting priorities of employment, education, water, food, energy and poverty alleviation, in the light of adopting the SDGs renewed strides have to be taken in the above mentioned factors while also tying it along with the need to measure natural capital stock such as soil, fertility, forests, and fisheries. The stockpile of this needs severe efforts at conservation while also being utilised extensively. The natural stockpile has to remain constant in spite of continued use which if we take the example of fishing does not mean that lesser amount of fish needs to be fished but a simple re-alignment of resource utilisation capabilities to also keep adding on to the stock pile using technological advancements. The major thrust areas of the SDGs are for basic infrastructure (roads, rail, and ports, power stations, water and sanitation), food security (agriculture and rural development), climate change mitigation and adaptation, health, and education. The total investment needed in developing countries alone for this could be about USD 3.9 trillion per year. Predominant areas where work need to be focussed as core target areas as identified as :

(1) Food - The SDG to achieve food security to every person, nutrition and sustainable agriculture by 2030, is significant and achievable given there is an intensive use of technology to drive an increase in agricultural productivity. It is essential to create planned efforts to gradually increase the agricultural productivity and incomes of small and marginalized farmers who are finding it a less lucrative occupation and moving away to other sources of income generation, also women, family farmers, fisher folk and especially where there is a lack of secure access to land and land documents and those possessing small tracts of land which make it difficult to cultivate it in the most cost effective method possible. For a small farmer who has difficulty in accessing markets and has to go through series of middlemen and his produce fetches him very low prices due to these impediments even creating an access to markets would be a significant measure to improve economic progress because they are saved of the clutches of middlemen which prevents them from obtaining fair prices for their produce. Despite rapid economic growth and gains in reducing its poverty rate, India is saddled with one of the highest levels of hunger and malnutrition in the world. India has reduced hunger only marginally over the past two decades. Food security is a challenge in India because of a large number of low-income consumers. The per capita distribution gap is projected to rise from 2.4 to 2.7 kg per capita over the next few years, which indicates that food consumption of the BOP population who are plagued with food insecurity is projected to slip further below the consumption targets. India has a unique system of providing wheat and rice at favourable prices through its Public Distribution System (PDS). Subsidised food grains are provided to the qualifying groups in rural and urban areas depending on their income status (above and below the poverty line). About 10 million persons belonging to the severe poverty group were also beneficiaries of the subsidy given under the Antyodaya-Anna-Yojana (AAY). In all, this food distribution system catered to about 30% of the Indian population. Food security by definition has several factors for its applicability, one of which is food availability — domestic food production and the capacity to import food — the other factors being access to food, as well as the process determined for distribution of food among the different segments of the population. Certain steps that are being adapted and need efforts are as follows -

1. Sustainable food production systems need an implementation of resilient agricultural practices that increase productivity and production; this should also help maintain ecosystems which would strengthen the capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters. In India, there is a very heavy dependency on the rainfall, the entire workflow of agriculture is built around the occurrence of monsoons and nature led and governed phenomena which make increase of agricultural productivity extremely vulnerable to disasters and lends itself heavily to unpredictability.

2. Try to create collaborative and scientific efforts so that there is a genetic diversity of seeds, cultivated plants and sound management of diversified seed and plant banks at a national, regional, state and district levels to ensure access to fair and equitable sharing of benefits arising from the utilization of genetic.

3. Concerted efforts have to be made to correct and prevent trade restrictions and distortions in world agricultural markets. This obviously needs policy initiatives by the government.

4. Marginalized farmers and the poorer sections are plagued with the problems of inadequate access to information on cropping, markets, and access to finances or land documents, several initiatives to create access to information using public private partnerships such as with seed manufacturers, fertilizer manufacturers and with education on using technology to retrieve such information by the farmers is needed.

(2) Health – Health status, quality of health care, access to health care are critical parameters which are measurable by the health index of the nation. As of now, India ranks very poorly in its health index, drastic measures are needed to drive access and affordability into the mainstream healthcare services where the poor population is plagued with high mortality rates, undernourishment problems. India has embarked on a achieving a universal health coverage with Ayushman Bharath, several other initiatives on financial risk protection, access to quality essential health-care services through public private partnership programs that have been planned which would create access to safe, effective, quality and affordable essential medicines and vaccines for all. Further, support in the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, where again India has been plagued with the problem of malaria, encephalitis, which are prevalent amongst the poor, this, in turn gives them lesser chances to compete with the rest of the population. With such deep set linkages between health outcomes with other goals, predictions about future health (of individuals and populations) can be notoriously uncertain. Future status of healthcare in India would rest on the overall changes in its political economy – on progress made in poverty mitigation (healthcare to the poor), in reduction of inequalities (access to healthcare for all), in generation of employment and income streams (this would ensure that the poor are in a position to facilitate the capacity to pay and to accept responsibility for one's health) and in public information (to promote preventive self-care and risk reduction through conducive lifestyles).

(3) Education and skilling the workforce – The speed and nature of globalisation, fast paced technological changes, and innovation, constant changes in work organisation, demographic trends across countries are forcing an increasing impetus on education and skill development. The transformations are affecting many traditional jobs and employment relations while creating new job opportunities in emerging economic activities. Some of these shifts risk widening existing inequalities and marginalising some groups in the labour market. Especially in the context of creating economic development and being the torchbearers of growth in society, these inequalities need to be addressed. Government policies on the labour market, as well as policies affecting the markets for goods and services, need to facilitate the required adaptation while simultaneously offering support to persons who will be directly affected by changes so as to foster employability, productivity, innovation, and enhanced growth and a better share of its benefits. Workforce employability is essential to turn structural change into an opportunity for all. World estimates indicate that only about 2 percent of the existing workforce has undergone formal skill training and about 15 per cent of the existing workforce has marketable skills, whereas 90 percent of jobs in India are skill based and require vocational training [4]. The Government of India, through the skill India initiative, has announced a target of skilling 500 million individuals by 2022. But, given the current resources available in the country the skilling capacity is projected at only 7 million people per annum, which requires substantial involvement of public private partnership initiatives in building skilling capacity. A major step in this direction in creating sustainability would be to build adaptability of the workforce – both workers and jobseekers – should be encouraged through the development of transferable skills, broader vocational profiles, and competency-based training needs to be delivered through programs that incorporate work-based learning, including quality apprenticeships. Initiatives need to work with education and training institutions to ensure the provision of relevant skills, including through apprenticeship places;

provide on-the-job training to facilitate the upgrading and adaptation of skills; and adopt forms of work organisation that make the most of existing skills. The private sector can also be a key provider of skills training, either within the firms or by offering services to other firms and individuals.

(4) Energy - India still has to build approximately 80 percent of the physical assets –infrastructure, commercial, residential estate – that it will require as per estimates in 2030. With the expectation of the country's GDP growth at a rate of 7 to 8 percent per year, India has to expand its capacity to generate electricity to contribute to the exponential growth projections in increasing industrial and residential demand; this would again impel a corresponding increase in greenhouse-gas (GHG) emissions. There is an urgent need to eventually move from a fossil fuel dominant energy mix and focus on renewable energy with reduction of carbon emission and reduced usage of fossil fuel.

(5) Employment – For our focus on the BOP perspective, for a sustained, inclusive and sustainable economic growth, the major thrust on employment can come only with an enhanced focus on its MSME sector and other labour intensive sectors. These are the sectors that would create ample employment opportunities and it would require growth strategies to generate employment opportunities for its youth. India's MSMEs are likely to be the precursor to play a greater role than before in its holistic development. MSMEs are contributing 12-13 percent to GDP of India. The projected desirable contribution to India's GDP from MSMEs is ranging from 20-25 percent. The focus of the government on creating a suitable market access, information access and finance access to the larger public by means of loan and subsidy schemes is a step in the right direction.

(6) Infrastructure – Infrastructure is a very critical building block of a nation sustainable development needs to focus on ensuring access to adequate, safe and affordable housing and basic services especially to the population right at the base of the wealth pyramid, marginalized labour, persons employed in the unorganized sector, who are still living out of kuccha makeshift dwellings and upgrade slums. The goal is to provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, building infrastructure that can sense and respond to natural calamities. Growth and development has to be inclusive and sustainable and India has to strengthen efforts to protect and safeguard the nation's cultural and natural heritage. It is estimated that there is a significant loss to property and lives due to disasters and the people at the base of the pyramid are the most vulnerable, there has to be a focus on protecting the poor and people in vulnerable situations.

(7) Reducing inequalities - Inequality is quite multi-faceted in nature. There is not just inequality in income; but there is also inequality in access to and attainment of education, health status, employment, access to food, access to water, access to social security and in general access to opportunities and choices. These inequalities are interlinked and superseding in the same sections of the population in most of the cases; improved access to water and sanitation may help to reduce inequality in health status and conditions, improved educational access and attainment may help people find better jobs and reduce the inequality in employment and incomes thereby leading to improved socio economic conditions.

2. Environmental protection:

(1) Protection, restoration and promotion of sustainable usage of terrestrial ecosystems, conservation and sustainable use of the oceans, seas and marine resources for sustainable development, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. India could lead to the proliferation of clean technology industries and leverage its engineering and low cost manufacturing advantage. Areas of opportunity that could be looked at would be clean coal based power plants, solar efficient building technologies, smart grids, LED, alternate power resources enabling energy efficiency and reducing the burden on energy.

(2) Conservation of terrestrial ecosystems is plagued largely by another much overlooked aspect of soil loss. Sustainable agriculture and food security in India face various challenges today, inherently, India is losing 5,334 million tonnes of soil every year due to soil erosion because of indiscriminate and excess use of fertilisers, insecticides, and pesticides over the years. About one millimetre of top soil is being lost each year due to soil erosion and the rate of loss is 16.4 tonnes per hectare. The extent of damage to river bodies created by sand lobbies and illegal sand mining has manifest itself in ecological and infrastructural imbalance leading to widespread natural

disasters resulting out of non-judicious and imbalanced development. Also, the use of inorganic fertilisers and unsustainable irrigation practices over the years resulted in deterioration of soil fertility in large parts of the productive agricultural land. This, in turn, affects small and marginalized farmers very badly, since they have limited access to information and technological advancements in agricultural production. Improved agricultural practices would lead to reduced energy and water consumption and increased availability of food and water. Agriculture consumes one of the world's largest volumes of water resources, nonetheless, this water usage is a relatively low-value, low-efficiency and highly subsidised water user. This has not only economic and social impacts but also severe environmental impacts. It is estimated that water demand from agriculture will increase tremendously and most countries will face a severe paucity of water resources, however if the goal of food security has to be met, conservation of water resources is essential.

An interesting fact that the FAO estimates is that there are roughly a quarter million plant varieties available for agriculture, but less than 3 percent of these are in use today. While there are more than 50,000 edible plants in the world, the global food supply depends on only 150 plant species. Of those 150, just 12 provide three-quarters of the world's food. More than half of the world's food energy comes from a limited number of varieties of three "mega-crops": rice, wheat, and maize (IDRC) [7].

In India, farming as a livelihood is becoming unattractive to people living in rural areas, particularly smallholder farmers and small to medium farmers, due to low priority, high input cost, no control on market, society's perception of farming as a poor livelihood option, etc. Also, about 40 percent farmer households in the country did not like farming because it is not profitable, risky and it lacks social status and felt that, given a choice, they would take up some other career. There has to be efforts in the direction of driving agriculture as an occupation which will also convert it to be a lucrative income generation.

3. Social Development :

Community outreach, reducing inequalities amongst the poorest of the poor sections, is increasing the gross enrolment ratio, skilling the workforce, child development services, ending hunger, achieving food security and financial security to the vulnerable, making their lives less risky and improving the quality of life of every section of the population. Improving the access to and status of health for all, ensuring inclusive and equitable quality education for all and promote lifelong learning opportunities.

4. Industry Development :

In all of the discussions on sustainable development, today respective country governments alone cannot succeed without the cooperation of industry. Be it economic measures, social measures or environmental protection and efforts for conserving resources, forestry, and biodiversity and so on has to involve industry participation. India has started activities such as skill development, healthcare services, health access programs, employment generation facilities and financial initiatives need to be addressed from both the industry perspective. Industry participation is the fourth pillar that can provide a greater impetus to sustainable development.

Towards a sustainable development model for India – a sustainable development model has to encompass as shown below and as put forward by the United Nations charter on sustainable development, the critical three pillars of sustainable development, economic, social and environmental. Within each will be the overlapping layers of socio economic criteria, economically environmental.

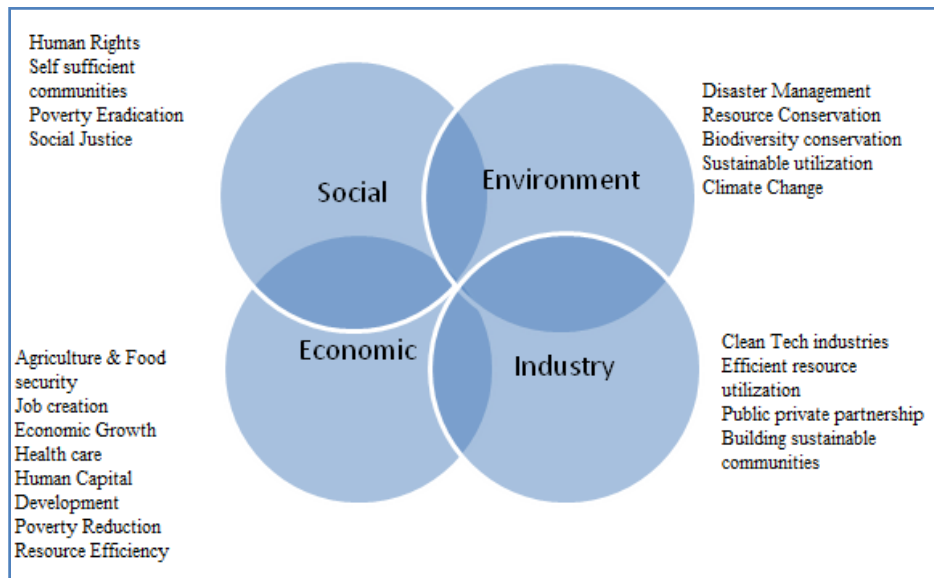


Fig 4 : Sustainable development thrust areas – Indian Perspective

Socio economic and economically efficient environmental protection measures need to be implemented that overlay the emphasis of progress on all fronts. Sustainability could be incorporated from every perceivable aspect as in urban planning (smart cities), industry growth, and transportation and so on, the discussions on the BOP sector would need a focus that takes into account the poverty alleviation, providing access and affordability and making environmentally efficient decisions. Sustainability in providing quality services to BOP sector enhances and accelerates growth opportunity of the country [8-10].

5. CONCLUSION :

India has an immense opportunity to increase its sustainability beyond its goals by 2030, a lot of action plan that needs to be implemented has already set the right path for sustainable development, when we look at this from the perspective of the BOP population, the thrust areas as identified in the figure 4 above needs to be on the income generation and poverty reduction fronts which if addressed would also take care of the quality of life and health benefits during India 2.0 period.

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