

How India is moving from Self Sustaining System to Sustainable Development?

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ABSTRACT

Area wise India has seventh position in the world while population wise it will be first position by 2025 with more than 1.5 billion population. Thus it became need of time that once we should think about the population resource ratio. And in this our prior study of self-sustaining system helps us to optimize the use of resources. Next question is why we have left our self-sustaining system? Main reason behind it is our increasing population and development on the name of development we have used lots of resources without thinking about its bad consequences. But today we can see clearly worst effects of development in the form of various types of pollution, global warming and other environmental problems. Due to which we have lost various species of flora and fauna on the earth. So, that we have adopted the concept of sustainable development and what preventive measures we can take to save our mother earth and to achieve the sustainable development goals.

Introduction

As we know at the time of independence 15th August 1947, India has population of 40 cr. After independence, pace of development in India increased. Not only in India but world has attained the goal of 1 billion in 1803 and in 1700 the population was 600 million of the world today in 2018 would population is approximately 7.5 billion.

And one of the important facts not only in India but in the world, we can see before 1700 there are no pollution on the Earth. Main reason behind it was our self sustaining system which we can understand with the help of following diagram.

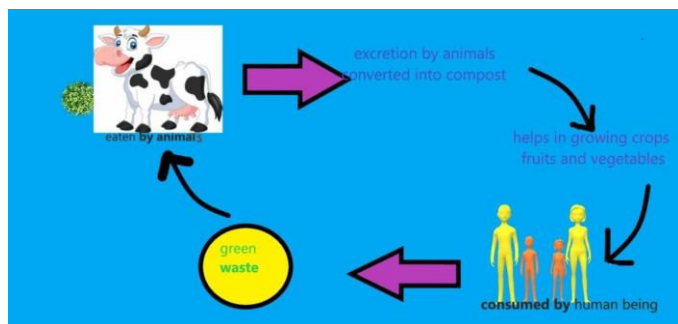


Diagram-01

Earlier basic needs of human being were food, cloth and shelter. With the above mentioned diagram we can see how with zero waste human life was possible. Shelter mainly comes in the forms of houses made of brick and wood, huts made of straw, bamboo and mud, these all substances are biodegradable.

For, transportation people used mainly bullock cart or house cart, camel cart, chariot etc. All of these were linked with animal and cart made of wood both were biodegradable.

Cloths are mainly made of cotton and wool or animal skin or fur, all of these were biodegradable. Jewellery, utensils are made of metal which could be recycled easily. Agricultural tools were mainly made of iron which could also recycled.

Paper were used for official works which were also biodegradable. Thus it was a self sustaining system but the question arises why we have left this system. Main reason behind it are shown by following diagram.

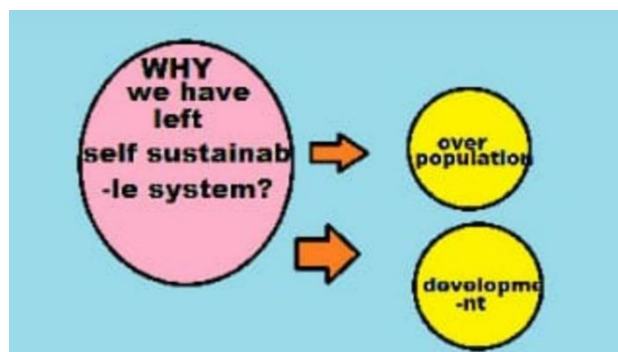


Diagram-02

Till today many tribes in the world are living their lives with creating zero waste e.g. Jarwas of Andaman and Nicobar Island, Masai of Africa, Bushman of Kalahari desert, Pygmies of Congo Basin (Zaira), Yakets of Siberia.

There are limitations of lands as we know only 29% of our Earth has land surface and this land surface cannot be created by human being and of course, India is not exception of it. Therefore, earlier human civilization deploying horizontally, people and animals can accommodate or live together happily but today for our dwellings, we are increasing our vertical height in the form of apartments, multistories buildings etc.

And to fulfil the need of this mammoth population we need packaging system for quick delivery which are creating millions of tonnes waste everyday in the form of "Mall Culture" online shopping, Home delivery of food items, packaging of milk, curd etc.

Jute package or green packaging system are used for limited areas where people are conscious and they protest against use of plastic. As per Central pollution Central Board of

India found that country generated 25,940 tonnes of plastic waste every day. According to ministry of

Environment, Forest and climate change around 31.7 lakh tonnes per annum (TPA) of plastic waste was generated by India during (2017-18) use of plastic increases in our life due to various reasons and therefore, there is increase in plastic waste also.

1. Dwellings-a house or a place to live in.
2. Apartments-a suit of rooms forming one residence

Plastic Waste		
Increase of Population	Increase Economic Activities	In the various substitute

To reduce or minimize the effect of pollution, plastic use deforestation, erosion etc. we adopted the concept of "Sustainable Development".

The official definition of sustainable development was developed for the first time in the Brundtland report in 1987²

"Sustainable Development is the idea that human societies must live and meet their needs without compromising the ability of future generation to meet their own needs."³

"United Nations conference on Sustainable Development Rio+20, Rio de Janeiro, Brazil, 20- 22 June 2012⁴. In India to attain the goal of sustainable development various steps has been taken:

- India has a market for bio plastic with several manufacturing plants at Bengaluru and Chennai.
- Develop bio-based and biodegradable plastic which utilize starch, cellulose, polylactic acid as raw materials for short-term use products.
- Recycling is good-every ton of plastic waste recycled results in saving of approximately 3.8 barrels of petroleum.
- Technologies are available in India that can convert 1 Kg of plastic into 750 ml of automatic grade gasoline.
- Shredded plastic can be used in laying road.
- "Jambulingam Street in Chennai was one of India's first plastic road build in 2002"⁵.
- In 2015-16 the National Rural Road Development Agency laid around 7500 km of roads using plastic waste.
- Co-Processing of plastic in cement kilns offers a sound, environmentally viable mechanism to process non-recyclable combustible plastic waste.
- Thermocol respond very slowly to bacterial decomposition in the soil, thus making the soil infertile.
- Recycling - Be empowered to tackle one of the industry greatest challenges sourcing recycled resins ensure future security of recycled plastic supply for product and packaging by making strategic decisions

with a comprehensive view of the sector and transparent connection with suppliers.

- Country's first net zero energy building-
 - Indira Paryavaran Bhavan- was organised in NCR- situated in South Delhi.⁶
- TERI (Tata Energy and Research Institute).
- Adarsh- (Association for development and research of Sustainable habitats).
- The Acreage under paddy cultivation has fallen significantly over the years in Goa. The fallow fields have become prime targets of land Shark for building construction. Local communities are resisting this. For the grass roots Co-operative rice farming movement to take roots in the state, Goa needs many more service providers for mechanised seeding and transplanting.

"Father George Quadros"⁷ hit upon the idea of collective farming almost by accident. The collective farming concept started because the machinery is costly but is economical over large areas. In November 2015, when Quadros deployed Japanese made rice nursery and transplanting machine on 3000 square metres of paddy fields.

Following companies in India came with sustainable standards:

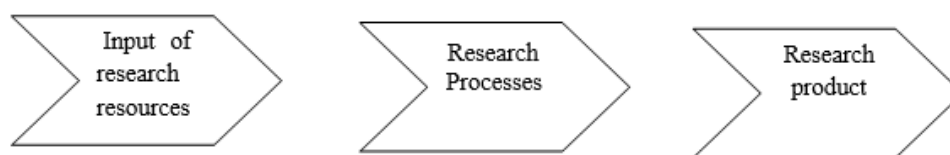
1. LG- LG India has been pioneer in making electric gadgets that are eco-friendly. Recently it has launched LED E60 and E90 series monitor for the Indian market. Its USP is that it consumes 40% less energy than conventional LED monitors.
2. HCL has recently launched HCL ME 40 notebooks. These notebooks do not use any polyvinyl chloride (PVC) material or other harmful chemicals and the Bureau of Energy Efficiency already given it a five-star rating.
3. Haier- Eco branding is a part of Haier's new green initiative and they have launched the Eco life series.
4. Samsung – Samsung India have come up with eco-friendly LED backlight.
5. Tata Consultancy Services (TCS) has a globally recognised sustainability practice and has already topped the Newsweek's top world's greenest company title.
6. Oil and Natural Gas Company (ONGC) India's largest oil producer is all set to change the way with the inventions of green crematoriums.
7. Indus Ind Bank- One of the first banks in India to discourage the use of paper for the counterfoils in ATMs, and sending electronic messages.
8. ITC-ITC has adopted a low carbon growth path and a cleaner Environment Approach.
9. Wipro- It has not only helped in the creation of technology that helps in saving energy and preventing wastes but its corporate headquarter in Pune is the most eco-friendly building in this sector all over India.
10. MRF TYRES – "MRF has launched the ZSLK series and this is all about creating eco- friendly tubeless tyres made from unique silica-based rubber and also offers extra fuel efficiency to those who drive their vehicles"⁸

The Top ten (10) most sustainable companies with sustainability scores:

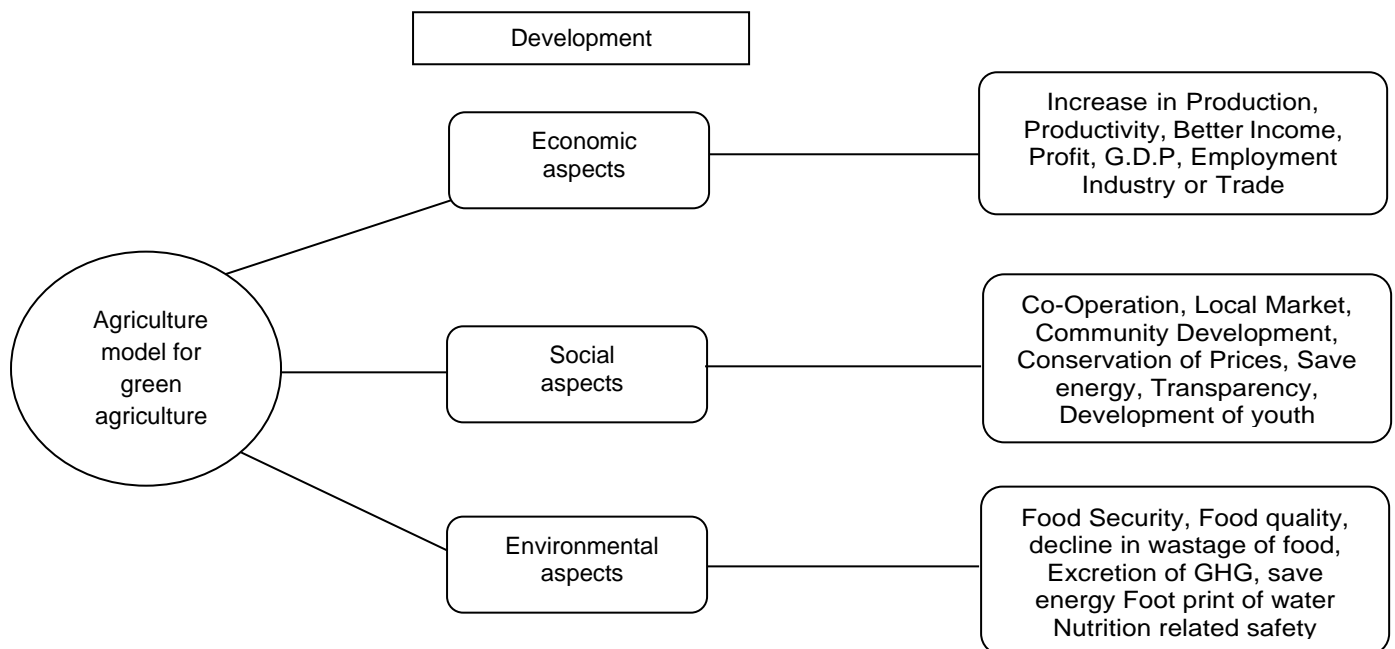
1	Dassault Systems	France	Software	86.1 %
2	Neste	Finland	Oil gas & consumer able fuel	85.2%
3	Valeo	France	Auto companies	83.6%
4	UCB	Belgium	Pharmaceuticals	79.5%
5	Outotec	Finland	Construction Engineering	78.3%
6	Amendi	France	Capital Market	77.8%
7	Cisco System	U.S	Communication equipments	77.0%
8	Auto Desk	U.S	Software	76.9%
9	Siemens	Germany	Industrial Conglomerates	76.7%
10	Samsung SD1	S.Korea	Electronics instruments components	75.8%

Table -01

“Jalinga Tea Estate”⁹ of Assam is 100% green Tea estate. Not only in the case of tea everywhere. We should go for green Agriculture with smart villages and following chart help us to follow it.



Decrease in quality of land Reach to Social development



“The project launch of the green “Agriculture” project jointly organised by the Ministry of Agriculture and Farmers Welfare (MOAFW) and the Food and Agriculture Organisation of the United Nations (FAO) took place (17th September 2018) at New Delhi.”¹⁰

Main barriers in attaining the sustainable development goals are following:

- i. Increasing Populations

- ii. Substitute which are used as plastic, thermocol, styrofoam chemicals which are not biodegradable.
- iii. Lack of political support.
- iv. Various types of corruption especially regarding enforcement of environment friendly rules or law and order.
- v. Lack of awareness among general people etc.

Chart :02 Shift of practices for sustainable development:

Plastic	Bioplastic
Village	Smart Village
City	Smart City
Energy	Green Energy
Development	Sustainable Development
Use	Optimum Use
Mass Production	Optimum Production
Bazaar	Smart Bazaar
Green Revolution	Rainbow Revolution
Urbanization	Green Urbanization
Agriculture	Green Agriculture
War	Peace

1. Green urbanization- it is sustainable urban design that creates eco friendly cities that cut waste and emissions , use sustainable construction materials and promote electrified mobility.
2. Rainbow Revolution –is an integrated development of crop cultivation, horticulture, harvesting, fishery, poultry, animal husbandry and food processing industry.

Conclusion:

Now, we are living in the age of after effects of development. Therefore we should shift from present practises to above mentioned practises. Word which we have mentioned in the chart should be used by every person to protect our earth “Green Earth for great tomorrow and glorious future”. For this we need effort of everyone to uplift the condition of Earth. So that we can save our Earth from present chaos and hazardous conditions which are occurring today due to mass level production without taking care of coming tomorrow.

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