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Multidisciplinary National Seminar on

## Sustainable Development: Issues and Challenges

(SDIC-2018)

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# MULTIDISCIPLINARY NATIONAL SEMINAR on

## SUSTAINABLE DEVELOPMENT: ISSUES AND CHALLENGES

17<sup>th</sup> February, 2018

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The Degree College enrolls students for 10 undergraduate programs – B.Com., BBI, BAF, BMM, BMS, B.Sc. (IT), BFM, BIM, BTM and BEM and 3 Post-Graduation programs – M. Com. (Accountancy), M.Com. (Management) and M. Com. (Banking & Finance). It also offers National University Students’ Skill Development (NUSSD) programme in collaboration with Tata Institute of Social Sciences (TISS), 3 years Foundation, Diploma and Higher Diploma Domain Programme simultaneously with the graduation, free of cost to all undergraduate students. The College has ample facility for advanced reading, advanced computer learning and indoor and outdoor sports segments in its premises.

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## ABOUT THE SEMINAR:

Sustainable development is undoubtedly much more than a buzzword today – a way of life and living in harmony with nature. Sustainable development is the organizing principle for meeting human development goals while at the same time sustaining the ability of natural systems to provide the natural resources and ecosystem services upon which the economy and society thrives. It's a multifaceted concept that has focused on a number of disciplines.

The biggest challenge to sustainability is the fact that the Earth has finite resources but an indefinitely growing population. By the year 2050, there will be over nine billion people on Earth whose livelihood will depend on these finite resources. This presents us with a situation where we need to rethink and rework on how to turn around the rate of degradation and depletion of the ecosystem there by conserving and maintaining the balance between demand and supply from the nature and to mankind. Thus it is absolutely important to learn how to live personally and professionally in a manner that supports ecologically, socially and economically healthy environments and living communities. This will be possible only through better awareness generation, education and understanding about sustainability and through an absolutely new approach of leadership in development.

The progress of sustainability in the coming years has laid emphasis on economic and social development followed by environmental protection for future generations. It has been suggested that the term 'sustainability' should be viewed as humanity's target goal towards human-ecosystem equilibrium (homeostasis), while 'sustainable development' refers to the holistic approach and temporal processes that lead us to the end point of sustainability. This process is not static but it rather leads to the change in the manner which resources are exploited. The modern technological advancement are taking consistent care with the present as well as the future needs of the population.

**The three pillars of sustainable development ie. economic growth, environmental stewardship, social inclusion carries across all sectors of development, from cities to agriculture, infrastructure, energy development and its use, water and transportation. The question facing countries, cities, corporations, and development organizations today is not whether to embrace sustainable development but how to do so. If any one pillar is weak then the system as a whole is unsustainable.**

If these problems can be solved, so can the sustainability problem.

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## Sree Narayana Guru College of Commerce - SDIC-2018



## Sree Narayana Guru College of Commerce



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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17<sup>th</sup> February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Impact of Kudumbasree Programme on Women Empowerment: A Study in Ernakulam District

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**Abstract:** We know that Kerala is an example for other states in many ways. In many fields like literacy, sex ratio, the state had outperformed other states. In spite of these facts, a serious matter that upsets the Kerala economy is rising unemployment. The economic survey published in 2017 shows that Kerala is the third state in India with more unemployment problem. Unemployment among women in Kerala is a serious matter of concern. This can be overcome only through the increasing women contribution to employment. In this context the present study tries to analyze the impact of kudumbasree programme on women empowerment in Kerala especially in Ernakulam District.

**Key Words:** Kudumbasree Programme, Women Empowerment, Micro Credit, Financial Literacy

#### 1. INTRODUCTION

Kudumbasree mission had played a significant role in enhancing women employment in Kerala. The term Kudumbasree means prosperity of the family. This programme, started in 1998 have been achieved many recognitions from inside and outside the country. The main aim of this mission is to eradicate poverty through women empowerment with the help of micro credit and self-help groups. The programme successfully enhanced employability of women especially in rural areas. It was structured by keeping in mind that women empowerment is possible only through economic empowerment. The fruit of women empowerment leads to a ray of hope to their children, family, society and nation. In these days many states in India and even foreign countries were eagerly adopting Kerala model of Kudumbasree programme, which has proved the global acceptance of Kudumbasree mission in empowering women.

#### 2. STATEMENT OF THE PROBLEM.

Kudumbasree is a unique programme introduced by Kerala government in 1998 with the objective of poverty eradication through women empowerment at grass root level. It is a group of women consisting 10 to 20 members with aim of starting thrift habit, micro credit and setting up of income generating activities. Women empowerment can be attained only through economic empowerment. This can be possible by thrift habit among its members and micro credit. This study tries to analyse the ground reality of benefits acquired by Kudumbasree members, after 20 years of its establishment.

#### 3. OBJECTIVES

- To study the socio economic profile of kudumbasree members.
- To analyse the loan utilization pattern of kudumbasree members.
- To understand the level of women empowerment after joining kudumbasree programme.

#### 4. RESEARCH METHODOLOGY

This paper makes use of both primary and secondary data to analyze the women empowerment through kudumbasree programme. On the basis of convenient sampling technique, the primary data had collected from two panchayats in Ernakulam district namely Eloor and Varapuzha. The sample size is limited to 50. Sample units are randomly selected from the two panchayats. Percentage method is used to analyze the objectives. The secondary data had collected from Economic Survey, articles, internet, various kudumbasree reports etc,

## 5. RESEARCH ANALYSIS

### 5.1 The socio economic profile of sample respondents

#### 5.1.1 Demographic Features

The basic socio-economic information of the sample respondents is very important, in order to study the degree of empowerment of its members. Features like social group, educational status, occupation level, household size are important socio-economic factors which have direct impact on women empowerment. Table No. 1.1 indicate the age wise classification of respondents. 48 percentage of the respondents belongs to 40-50 age category and 30 percentage were of 30-40 age category. Remaining 22 percentage are in 20-30 category.

**Table No. 1.1 Demographic characteristics of sample respondents**

Age Group	Number	Percentage
20-30	11	22
30-40	15	30
40-50	24	48
Total	50	100

Source: - Primary Data

#### 5.1.2 Social Status of the Sample Respondents

The table No. 1.2 clearly shows the social status wise classification of sample respondents. Majority of the respondents are belongs to OBC category and remaining are in the SC/ST and general category.

**Table No1.2 Social Status of Sample respondents**

Caste	Number	Percentage
General	7	14
SC/ST	8	16
OBC	35	70
Total	50	100

Source: - Primary data

#### 5.1.3 Type of Family

Regarding the family nature of sample households, about 74 percent of the sample households belong to nuclear family. But still one –fourth of the sample respondents reported are from joint families. This shows that the family structure of Kerala is rapidly changing to nuclear family system.

**Table No.1.3 Family Type of Sample respondents**

Family Type	Number	Percentage
Joint Family	13	26
Nuclear Family	37	74
Total	50	100

Source: - Primary Data

#### 5.1.4 Economic Background of Sample Respondents

The monthly income of the family helps to identify the economic background of the family. The table No.4 shows that majority (56%) of the respondents are in lower income category that is below Rs.10000. 38 percentage of the respondents belongs to the 10000-20000 category. Only 6 percentage of respondents were in 20000-30000 category.

**Table No. 1.4 Economic Background of the respondents**

Monthly Income	Number	Percentage
Below 10000	28	56
10000-20000	19	38
20000-30000	3	6
Total	50	100

Source: - Primary Data

#### 5.1.5 Education Standard of the Sample Respondents.

Education is one of the most important factors in the ladder of a society. Total figures indicate that 40 percent of them had up to SSC, 24 percent had secondary education and 36 percent comes under graduates and others category.

**Table No. 1.5 Educational Level of Sample respondents**

Education	Number	Percentage
SSC	20	40
HSC	12	24
Graduate	8	16
Others	10	20
Total	50	100

Source: - Primary Data

### 5.1.6 Occupation Level of Sample Respondents

Occupation is regarded as the most important socio-economic characteristic influencing the behavior of a person in several respects-the class of society in which one moves, the standard of living, the general conduct and to some extent even one's aspirations. The table No.1. 6 shows the occupation level of sample households. Out of total sample respondents 60 percentage are working and remaining 40 percentage are not working.

**Table No. 1.6 Occupation Level of Respondents**

Occupation	Number	Percentage
yes	30	60
No	20	40

Source: Sample Survey

## 5.2. LOAN UTILIZATION PATTERN OF RESPONDENTS.

According to the results of the sample survey the purpose of taking loan from Kudumbasree was to meet basic needs of the family. These include meeting expenses on education of children, day to day expenditure, and construction of house and Purchase of assts. As shown in Table No 2.1, over 20 percent respondents have taken loan for children's education, 40 and 26 percent for household expenses and housing respectively. While the highest priorities for taking loan by the poor women remain household expenses, children's education, housing and purchase of assets. From the collected data it is seen that main purpose of taking loan from Kudumdasree is to meet the day to day expense of the household activities.

**Table No.2.1 Loan Utilization Pattern of Respondents**

Utilization Pattern	Number	Percentage
House Construction /Repair	13	26
Children's Education	10	20
Household Expenses	20	40
Purchase of gold	4	8
Daughter's Marriage	3	6
Total	50	100

Source: - Primary Data

## 5.3. DEGREE OF WOMEN EMPOWERMENT

In this section we try to analyze the degree of women empowerment through different socio economic parameters like, family income, recognition in the family, social acceptance, employment, standard of living and financial literacy after joining this Kdumbasree Programme.

### 5.3.1 Family Income

The paramount benefit derived from this kudumbasree activity is improvement in the secondary source of family income. From the sample survey, we came to know that for 44 percent of the sample respondent's family income is moderately improved and 40 percent's monthly family income is greatly improved after joining Kudumbasree programme. 16 percent claimed that there is no improvement in their family income after joining this programme.

**Table No. 3.1 Degree of Family Income**

Family Income	Number	Percentage
Greatly Improved	20	40
Moderately Improved	22	44
Not Improved	8	16
Total	50	100

Source: - Primary Data

### 5.3.2 Recognition in the family

Another non-monetary benefit derived from kudumbasree programme is recognition in the family. The sample survey revealed that 80 percent of the sample respondents received great improvement in recognition in the family. Whereas for 20 percent, the improvement is only moderate.

**Table No. 3.2 Degree of Recognition in the Family**

Recognition in the family	Number	Percentage
Greatly Improved	40	80
Moderately Improved	10	20
Not Improved	0	0
Total	50	100

Source: - Primary Data

### 5.3.3 Social acceptance

One of the social benefits attained from this programme is social acceptance. The active participation in the kudumbasree programme, gradually leads to macro positive implications in the society. The data shows that social acceptance of 20 percent of the respondents improved greatly. While for 44 percent it improved only moderately. For rest it is not improved at all after joining this programme.

**Table No.3.3 Degree of Social Acceptance**

Social Acceptance	Number	Percentage
Greatly Improved	10	20
Moderately Improved	22	44
Not Improved	18	36
Total	50	100

Source: - Primary Data

### 5.3.4 Employment

Employment generation is the corner stone of women empowerment. The sample respondents said that kudumbasree mission provides an opportunity for employment. The table no.3.4 shows that for 30 percent the employment opportunities had improved greatly. For 60 percent get only moderate improvement in their employment opportunities after joining this programme. The rest 10 percent didn't find any improvement in their opportunities.

**Table No. 3.4 Degree of Employment Opportunities**

Status of Women Empowerment	Number	Percentage
Greatly Improved	15	30
Moderately Improved	30	60
Not Improved	5	10
Total	50	100

Source: - Primary Data

### 5.3.5 Standard of Living

An important spillover effect created by kudumbasree mission is an overall improvement in the standard of living of their family. The table no.3.5 shows that 42 percent of the respondents felt that there is a great improvement in their standard of living after joining this programme. 52 percent felt that their standard of living improved moderately.

**Table No. 3.5 Degree of Standard of Living**

Std of living	Number	Number
Greatly Improved	21	42
Moderately Improved	26	52
Not Improved	3	6
Total	50	100

Source:- Primary Data

### 5.3.6 Financial Literacy

Kudumbasree Mission helps its members to acquire financial literacy. Every member has their own bank account and are thus familiar with banking transactions. The table no.3.6 shows that 60 percentage of the sample respondents felt that their financial literacy greatly improved. And 34 percent feel that financial literacy improved only moderately.

**Table No.3.6 Degree of Financial Literacy**

Financial Literacy	Number	Number
Greatly Improved	30	60
Moderately Improved	17	34

Not Improved	3	6
Total	50	100

Source: Primary Data

## 6. FINDINGS

- The age wise classification of respondents shows that 48 percentage of the respondents belongs to 40-50 age category and 30 percentage were from 30-40 age category.
- The social status wise classification of sample respondents reveals that majority of the respondents belongs to OBC category and remaining are in the SC/ST and general category.
- Regarding the family nature of sample households, about 74 percent of the sample respondents belong to nuclear family. But still one –fourth of the sample respondents reported from joint families.
- The monthly income of respondents shows that majority (56%) of the respondents are in lower income category that is below Rs.10000. 38 percentage of the respondents belongs to the 10000-20000 category.
- The education wise information of sample respondents shows that 40 percent of them had up to SSC, 24 per cent had secondary education and 36 per cent were from graduates and others category.
- The occupation level of sample respondents shows that, out of total sample respondents 60 percentage are working and remaining 40 percentage are not working.
- The loan utilization pattern of respondents reveals that, over 20 percent respondents have taken loan for children's education, 40 percent and 26 for household expenses and housing respectively. While the highest priorities for taking loan by the poor women remain household expenses, children's education, housing and purchase of assets.
- The study shows that 44 percent of the sample respondent's family income is moderately improved and 40 percent's monthly family income is greatly improved after joining Kudumbasree programme.
- The sample survey revealed that 80 percent of the sample respondents received great improvement in recognition from the family. Whereas for 20 percent, the improvement is only moderate.
- The data shows that social acceptance of 20 percent of the respondents improved greatly. While for 44 percent it improved only moderately.
- The study shows that for 30 percent the employment opportunities had improved greatly. For 60 percent get only moderate improvement in their employment opportunities after joining this programme.
- The sample survey shows that 42 percent of the respondents felt that there is a great improvement in their standard of living after joining this programme. 52 percent felt that their standard of living improved moderately.
- The study shows that 60 percentage of the sample respondents felt that their financial literacy is greatly improved. And 34 percent feel that financial literacy improved only moderately.

## 7. CONCLUSION AND RECOMMENDATIONS

The Kerala state budget 2018-19 announced the allocation of Rs1, 267 crore (13.6 % of the total budget) for the welfare schemes for women empowerment, particularly Rs.200 crore for Kudumbasree. These kind of measures through effective implementation will definitely guarantee that women are empowered and face lesser gender disparity and can be showcased to other states and nations as "Kerala Model of Women Liberation". In this context of government allocating such a huge financial assistance for women empowerment, we should rethink how active we are supporting these schemes. We should not waste this financial allocation, because our government set apart this huge amount for women in midst of severe financial crisis. If we want to taste the very fruit of these schemes or real women empowerment, her family members and relatives should allow her to actively participate in the programmes like kudumbasree.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Environmental Accounting: Need of Hour for Sustainable Development

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**Abstract:** *Today the human race along with animals are living in fear because of environmental degradation. But only the human race is responsible for this imbalance in the environment. The urge to provide more comfort to the human being and to become economic power at individual, corporate and nation level have degraded the environment very badly. The whole world is worried about the future of the future generations. Therefore the need of sustainable development has emerged and become a vital issue for any country. Almost all the countries have made different acts and provisions for sustainable development but the question arises that how it will be ascertained that whether responsible parties are able to maintain sustainable development or not. Therefore environmental accounting becomes essential to know the status of sustainable development. The present paper discuss about the environmental accounting for sustainable development.*

**Key Words:** *Environmental Accounting, Sustainable Development*

#### 1. INTRODUCTION

##### 1.1 Sustainable Development

Sustainable development is the organizing principle for meeting human development goals while at the same time sustaining the ability of natural systems to provide the natural resources and ecosystem services upon which the economy and society depend. The desired result is a state of society where living conditions and resource use continue to meet human needs without undermining the integrity and stability of the natural systems.

While the modern concept of sustainable development is derived mostly from the 1987 Brundtland Report, it is also rooted in earlier ideas about sustainable forest management and twentieth century environmental concerns. As the concept developed, it has shifted to focus more on economic development, social development and environmental protection for future generations. It has been suggested that "the term "sustainability" should be viewed as humanity's target goal of human-ecosystem equilibrium (homeostasis), while "sustainable development" refers to the holistic approach and temporal processes that lead us to the end point of sustainability".

##### 1.2 Environmental Accounting

The term "environmental accounting" is open to interpretation. In this guideline, environmental accounting is the identification, measurement and allocation of environmental costs, the integration of these environmental costs into business decisions, and the subsequent communication of the information to a company's stakeholders. Identification includes a broad examination of the impact of corporate products, services and activities on all corporate stakeholders. After companies identify the impacts on stakeholders as far as they can, they measure those impacts (costs and benefits) as precisely as possible in order to permit informed management decision-making. Measurements might be quantified in physical units or monetized equivalents. After their environmental impacts are identified and measured, companies develop reporting systems to inform internal and external decision makers. The amount and type of information needed for management decisions will differ substantially from that required for external financial disclosures and for annual environmental reports. Organizations use environmental accounting for several reasons, including the following:

- To help managers make decisions that will reduce or eliminate their environmental costs;

- To better track environmental costs that may have been previously obscured in overhead accounts or otherwise overlooked;
- To better understand the environmental costs and performance of processes and products for more accurate costing and pricing of products;
- To broaden and improve the investment analysis and appraisal process to include potential environmental impacts; and
- To support the development and operation of an overall environmental management system.

Stakeholders are those with an interest in the environmental effects, activities, products and services of an organization. Examples of stakeholders include bondholders, shareholders, managers, Board of Directors, customers, suppliers, regulators, policy makers, employees, consumers, and community and environmental groups.

### **1.3 Different uses of the umbrella term environmental accounting:**

- National Income Accounting is a macro-economic measure. Gross Domestic Product (GDP) is an example. The GDP is a measure of the flow of goods and services through the economy. It is often cited as a key measure of our society's economic well-being. The term environmental accounting may refer to this national economic context. For example, environmental accounting can use physical or monetary units to refer to the consumption of the nation's natural resources, both renewable and non-renewable. In this context, environmental accounting has been termed "natural resources accounting."
- Financial Accounting enables companies to prepare financial reports for use by investors, lenders, and others. Publicly held corporations, report information on their financial condition and performance through quarterly and annual reports, governed by rules set by the U.S. Securities and Exchange Commission (SEC) with input from industry's self-regulatory body, the Financial Accounting Standards Board (FASB). Generally Accepted Accounting Principles (GAAP) is the basis for this reporting. Environmental accounting in this context refers to the estimation and public reporting of environmental liabilities and financially material environmental costs.

## **2. ENVIRONMENTAL ACCOUNTING FOR SUSTAINABLE GROWTH**

Accounting helps to maintain records of transactions and events. When we talk about sustainable development there is need to ascertain that whether a manufacturer is able to maintain sustainable growth or not. The accounting records will help to reveal the fact sheet of a particular organization regarding efforts, cost and benefits for sustainable development. Therefore the concept of environmental accounting has been developed.

Environmental costs are one of the many different types of costs, businesses incur as they provide goods and services to their customers. Environmental performance is one of the many important measures of business success. Environmental costs and performance deserve management attention for the following reasons:

- Many environmental costs can be significantly reduced or eliminated as a result of business decisions, ranging from operational and housekeeping changes, to investment in "greener" process technology, to redesign of processes/products. Many environmental costs (e.g., wasted raw materials) may provide no added value to a process, system, or product.
- Environmental costs (and, thus, potential cost savings) may be obscured in overhead accounts or Overlooked otherwise
- Many companies have discovered that environmental costs can be offset by generating revenues through sale of waste, by-products or transferable pollution allowances, or licensing of clean technologies, for example.
- Better management of environmental costs can result in improved environmental performance and significant benefits to human health as well as business success.
- Understanding the environmental costs and performance of processes and products can promote more accurate costing and pricing of products and can aid companies in the design of more environmentally preferable processes, products, and services for the future.
- Competitive advantage with customers can result from processes, products, and services that can be demonstrated to be environmentally preferable.
- Accounting for environmental costs and performance can support a company's development and operation of an overall environmental management system. Such a system will soon be a necessity for companies engaged in international trade due to pending international consensus standard ISO 14001 developed by the International Organization for Standardization.2-EPA's work with key stakeholders leads it to believe that, as businesses more fully account for environmental costs and benefits, they will clearly see the financial advantages of pollution prevention (P2) practices.

### **3. OBJECTIVES OF ENVIRONMENTAL ACCOUNTING**

- Taking the total stock of assets or reserves related to environmental issue & changes therein.
- Estimation of the total expenditure protection or enhancement of environment.
- To identify that part of the gross domestic product which reflects the cost necessary to compensate for the negative impact of economic growth i.e. the so-called defensive expenditure to protect environment?
- Assessment of environmental costs & benefits
  - a. The decrease (depletion) in natural resources due to their use in production & final demand and
  - b. The changes in environmental quality resulting from pollution & other impacts of production & consumption & other natural events on one hand, & the expenditure for environmental protection & enhancement of the environment on the other.
- Elaboration & measurement of indicators, relating to environmentally adjusted product & income which are disclosed by Environmentally Adjusted Net Domestic Product (EDP), i.e., Net Domestic Product minus Environmental costs.
- Analysis of EDP: It is to plan the use of resources by squeezing them & reducing waste to attain sustainable development.

### **4. DEVELOPMENT OF ENVIRONMENTAL ACCOUNTING**

The first environmental accounts were constructed in several European countries working independently of each other. Norway was one of the first. Influenced by the publication of Limits to Growth (Meadows et al. 1972) and a burgeoning environmental movement, Norwegian officials were concerned that their natural resources, on which their economy is relatively dependent compared with other European countries, would run out. They therefore developed accounts to track use of their forests, fisheries, energy, and land. In the 1980s, they developed accounts for air pollutant emissions, which were closely tied to the energy accounts. The energy accounts were integrated into models used for macroeconomic planning, taking into consideration the roles of resource-based sectors in economic growth.

The Netherlands was also a leader in the development and adoption of environmental accounting. Dutch interest in this area originated with the work of Roefie Hueting, who developed and sought to implement a measure of sustainable national income that would take into account the degradation and depletion of environmental assets resulting from economic activity.

Although his approach was not implemented at that time, his work led the national income accountants to develop the national accounts matrix including environmental accounts (NAMEA), which builds on portions of the national income accounts by adding physical data on pollutant emissions by sector. The NAMEA approach has been adopted by Eurostat, implemented in many other European countries, and integrated into the environmental accounting procedures developed.

France was a third early adopter of environmental accounting. In the 1980s, it began developing an approach termed the Comptes du patrimoine, or patrimony accounts. These involved an integrated system structured around three distinct, but linked units of analysis.

First natural, cultural, and historical resources were to be measured in physical terms and their stocks and flows quantified. Second, places were to be organized into geographic accounts, giving physical data about assets organized by location and by ecological and land characteristics. Third, people and institutions were to be described in both physical and monetary terms in agent accounts, which were to be linked to data about how and where each agent used resources. Portions of this system were constructed, particularly those focused on forests and water, but its complexity made it difficult to implement fully (Hecht 2000).

An accounting effort that had considerable influence on the field was a study of Indonesia undertaken by the World Resources Institute (Repetto et al. 1989). The authors estimated what GDP might have been, had natural resources been depreciated in the same way as manufactured ones. They then compared trends in conventional GDP with trends in their environmentally adjusted measure over a period of 15 years. The results show that Indonesian growth rates would have been considerably lower with the adjusted GDP than in the conventional accounts. Though widely criticized on technical grounds and rejected by the Indonesian government, this study has been very influential. It was written for a lay audience and distributed widely, and did much to stimulate interest in the field.

Another early accounting project took a very different approach. In the late 1980s, US Environmental Protection Agency (EPA) undertook the development of a set of pilot accounts for the Chesapeake Bay region of the eastern United States (Grambsch et al. 1989). This work was led by an economist, Henry Peskin, who felt that the accounts should incorporate the full value of non-marketed goods and services, and that all changes in value of capital should be deducted from gross indicators to calculate net ones, rather than adjusting only for changes attributable to economic activity. Peskin also brought this approach to USAID-funded work in the Philippines. These accounts, built by the Department of Natural Resources rather than the accounting agency, added in the value of non-marketed services of the environment, subtracted harm caused by pollution, and calculated an environmental NDP by

subtracting the depletion of natural capital and adding in both the natural growth of forests and new discoveries of minerals (ENRAP 1999).

## **5. COUNTRIES ADOPTING ENVIRONMENTAL ACCOUNTING**

**NORWAY:** Norway was the first country in the world to prepare environmental accounts in the 1970s. It collected data on energy sources, fisheries, forests and minerals to address the issue of resource scarcity. Subsequently, the country had added data on air pollutant emissions in its environmental accounts. After feeding environmental accounting data into the national economy, policymakers in Norway assess the energy implications of alternative growth strategies.

**PHILIPPINES:** The Philippines Environmental and Natural Resource Accounting Project (ENRAP) have been working on environmental accounts since 1993. Treating the environment as a productive sector in the economy, they integrated the valuation of pollution impacts, non-marketed goods and services and other economic aspects of the environment into conventional accounts. Though, this method of preparation of environmental accounts different from SEEA, government agencies and researchers in Philippines get a rich array of data from their accounts for policymaking and analysis.

**NAMIBIA:** In Namibia, the SEEA approach to environmental accounting has been adopted in a phased manner. It is focused on several key natural resources sector and is designed to answer such questions, as how to allocated water among competing uses and how land degradation, affects the productivity of range land.

**NETHERLANDS:** in Netherlands, the National Accounting Matrix, including Environmental Accounts (NAMEA), are routinely constructed which is an extended from of National accounts input and output matrix. NAMEA tracks pollution emission by the economic sector and assesses the accomplishment of environmental protection objectives by the country.

**CHILE:** In Chile, the Central Bank undertook the development of environmental accounts that focused on the forest and mineral sectors. These accounts suggest that the country's forest-based development strategy may not be sustainable and hence warrants change in the strategy for sustainable development.

**USA:** The United States of America has not been a leader in the environmental accounting endeavour. In the beginning of the Clinton Administration, the Bureau of Economic Analysis (BEA) made a foray into environmental accounting in the mineral sector. Opposition from the mineral industry as well as political controversy stood in the way of operational zing environmental accounting in the country. The government then asked the National Research Council (NRC) to from a blue-ribbon panel to consider what the country should do on the environmental accounting front.

**JAPAN:** In Japan, the Ministry of Environment has issued comprehensive guidelines titled "Environmental Accounting Guidelines-2002" in March 2002, encompassing the definition, functions, roles, basic dimensions and structural elements of environmental accounting. The guidelines emphatically state that environmental management has to occupy the centre stage of management strategy and environmental accounting would work as a vital tool of environmental management. The guidelines also envisage that the environmental conservation cost benefits, including economic benefits associated with environmental conservation activities, are to be measured, Environmental accounting information, both physical as well as monetary units, needs to be disclosed in the environmental report for the benefit of management as well as the general public. According to the guidelines, environmental accounting comprises three key elements, viz., environmental conservation cost (monetary value), environmental benefit (physical units) and the economic benefits associated with environmental conservation activities (monetary value).

## **6. INTERNATIONAL INITIATIVE IN ENVIRONMENTAL ACCOUNTING ARENA**

In the international arena, work on the design of environmental accounts has been underway since the 1970s. In the 1980s, the United Nations Environmental Program (UNEP), the United Nations Statistical Division (UNSTAT) and the World Bank launched concerned international efforts to build consensus on how the SNA (System of National Accounts) might be modified to include environmental issue. As a result, in 1993, a draft titled "Handbook for integrated Economic and Environmental Accounting" was published, encompassing the preliminay methodology to be tested and refined. The approach in this document is often referred to as a system of Integrated Economic and Environment Accounting (SEEA). The SEEA tries to integrate the various methods available for environmental accounting into a single framework. This document offers a series of versions or 'building blocks' for the construction of accounts beginning with physical accounts and disaggregation of data already included in SNA. It also works towards more complex information such as calculation of depletion and estimation of maintenance costs required for



sustainable use of resources. None of the versions of SEEA encompasses the valuation of non-marketed environmental services. UNSTAT, with UNEP and other experts, is preparing a practical manual or Work Book for implementing SEEA. The SEEA is a proposed methodology and does not have official approval of the United Nations. This is to be tested over the years for bringing refinement in the methodology.

## **7. UTILIZATION OF ENVIRONMENTAL ACCOUNTING**

Environmental accounting is used to determine measures to promote sustainable environmental management. Reducing environmental impact, using measures that will lead to the creation of benefits, is crucial to promoting sustainable environmental management. The Ricoh Group uses environmental accounting to determine what measures should be taken for what processes and for what operations so that the maximum effect can be obtained. Therefore, we first identify those processes that have a high environmental impact in business operations, based on the Eco Balance. We examine a number of improvement plans to reduce the identified environmental impact, in consideration of developments in society and laws/regulations and competition. Then, using segment environmental accounting, we assess the effectiveness of each possible approach and decide what methods should be adopted to gain the best results.

## **8. FORMS OF ENVIRONMENTAL ACCOUNTING**

- Environmental Management Accounting (EMA): Management accounting with a particular focus on material and energy flow information and environmental cost information. This type of accounting can be further classified in the following subsystems:
- Segment Environmental Accounting: This is an internal environmental accounting tool to select an investment activity, or a project, related to environmental conservation from among all process of operations, and to evaluate environmental effects for a certain period.
- Eco Balance Environmental Accounting: This is an internal environmental accounting tool to support PDCA for sustainable environmental management activities.
- Corporate Environmental Accounting: This is a tool to inform the public of relevant information compiled in accordance with the Environmental Accounting. It should be called as Corporate Environmental Reporting. For this purpose, the cost and effect (in quantity and monetary value) of its environmental conservation activities are used.
- Environmental Financial Accounting (EFA): It is the Financial Accounting with a particular focus on reporting environmental liability costs and other significant environmental costs.
- Environmental National Accounting (ENA): It is a National Level Accounting with a particular focus on natural resources stocks and flows, environmental costs and externality costs, etc.

## **9. THE NEED FOR ENVIRONMENTAL ACCOUNTING AT CORPORATE LEVEL**

It helps to know whether: corporation has been discharging its responsibilities towards environment or not. A company has to fulfil following environmental responsibilities:

- Meeting regulatory requirements or exceeding that expectation.
- Cleaning up pollution that already exists and properly disposing of the hazardous material.
- Disclosing to the investors both potential and current, the amount and nature of the preventative measures taken by the management (disclosure required if the estimated liability is greater than a certain percent say 10% of the company's net worth).
- Operating in a way that those environmental damages do not occur.
- Promoting a company having wide environmental awareness.
- Control over operational and material efficiency gains driven by the competition global market.
- Control over increase in costs for raw materials, waste management and potential liability.

## **10. SCOPE OF ENVIRONMENTAL ACCOUNTING**

The scope of Environmental Accounting (EA) is very wide; it includes corporate, national and international levels. Here, the emphasis is given on the corporate level accounting. The following aspects are included in EA: -

- a. From internal point of view, investments are made by the corporate sector for minimization of losses to environment. It includes investment made into the environment saving equipment devices. This type of accounting is easy as money measurement is possible.
- b. From external point of view all types of losses to the environment either occur directly or indirectly due to business operation /activities. It mainly includes:
  - I. Degradation and destruction like soil erosion, loss of biodiversity, air pollution, water pollution, noise pollution, problem of solid waste, coastal and marine pollution.



- II. Depletion of non-renewable natural resources i.e., loss emerged due to over exploitation of non-renewable natural resources like minerals, water, gas, etc.
- III. Deforestation and Land uses.

This type of accounting is not easy as losses to environment cannot be measured exactly in monetary value. Further, it is very hard to decide that how much loss was occurred to the environment due to a particular industry. For this purpose, approximate idea can be given or other measurement of loss like quantity of non-renewable natural resources used, how much sq. meter area deforested and total area used for business purpose including residential quarters area employees, etc., how much solid waste produced by the factory, how much wasteful air pass through chimney in air and what types of elements are included in a standard quantity of wasteful air, type and degree of noise made by the factory, etc., can be used.

## 11. LIMITATION OF ENVIRONMENTAL ACCOUNTING

- There is no standard accounting method.
- Comparison between two firms or countries is not possible if method of accounting is different, which is quite obvious.
- Input for EA is not easily available, because costs and benefits relevant to the environment are not easily measurable.
- Many business and the government organization even large and well-managed ones do not adequately track the use energy and material or the cost of inefficient materials use, waste management and related issue. Many organizations therefore significantly, underestimate the cost of poor environment performance to their organization.
- It mainly considers the cost internal to the company and excludes cost to society.
- EA is a long-term process therefore to draw a conclusion with help of it, is not easy.
- EA cannot work independently. It should be integrated with the financial accounting which is not easy.
- EA must be analyzed along with other aspects of accounting. Because costs and benefits related to the environment itself depend upon the results of the financial accounting, management accounting, cost accounting, tax accounting, national accounting, etc.
- The user of information contained in the EA needs adequate knowledge of the process of EA as well as rules and regulation prevail in that country either directly or indirectly related to environmental aspects.

## 12. SCHEMATIC ENVIRONMENT ACCOUNTS

### PRODUCED ASSETS AMOUNT

Opening Stock of Produced Assets	*
Add: Gross Capital Formation of All Other Produced Assets for Environmental Protection	*
Other Accumulation of Produced Economic Assets	*
Gross Capital Formation of All Produced Assets	*

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Gross Capital Accumulation	*****
Less: Consumption of Fixed Capital of Other Than Produced Assets For Environmental Protection	*
Degradation of Produced Assets Not Reflected In Market Value of Assets	*

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Net Capital Accumulation	*****
Add: Holding Gains on Produced Assets	*
Less: Other Changes in Volume of Produced Assets Other Than Degradation	*
Holding Losses on Produced Assets	*

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Closing Stock of Produced Assets	*****

### NON PRODUCED ECONOMIC ASSETS

Opening stock of non produced economic assets	*
Add: gross capital formation of all other non Produced economic assets	*
All other increases in non-produced economic Assets	*

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Gross capital accumulation	*****
less: Depletion of non produced economic assets	*
Depletion of non produced assets reflected in market value of assets	*

Degradation of non produced assets not reflected in market value of assets	*
-----	
Net capital accumulation	*****
add: Holding gains on non produced economic assets	*
less: Other charges in volume of produced economic assets other than depletion, degradation and other accumulation	*
Holding loss on non produced economic assets	*
-----	
Closing stock of non produced economic assets	*****
<b>OTHER NON PRODUCED ENVIRONMENTAL ASSETS</b>	
Opening stock of other, non produced environmental assets	*
add: Gross capital formation of all other non produced environmental assets	*
All other increases in non produced environmental assets	*
-----	
<b>GROSS CAPITAL ACCUMULATION</b>	*****
less: Depletion of non produced environmental assets	*
Depletion of other non produced assets reflected in market value of assets	*
Degradation of other non produced assets not reflected in market value of assets	*
-----	
Net capital accumulation	*****
less: Other charges in volume of produced environmental assets other than depletion, degradation and other accumulation	*
Holding loss on non-produced environmental assets	*
-----	
<b>CLOSING STOCK OF NON PRODUCED ENVIRONMENTAL ASSETS</b>	*****

### 13. LEGAL FRAMEWORK FOR ENVIRONMENTAL ACCOUNTING IN INDIA

While industrial licensing has been abolished for all practical purposes, environmental clearance from various government authorities has now taken the center stage. Increasing concern with the protection of the environment and taking anti-pollution measures have become major concern all over the world in the last two decades. India also set up the Central Ministry of Environment with the object of coordinating among the states and the various ministries, the environmental protection and anti-pollution measures. Necessary legislation has also been passed.

(1) The various laws relevant to the environmental protection are as under:

(a) Directly related to the environmental protection:

- (1) Water (Prevention and Control of Pollution) Act, 1974.
- (2) Water (Prevention and Control of Pollution) Cess Act, 1977.
- (3) The Air (Prevention and Control of Pollution) Act, 1981.
- (4) The Forest (Conservation) Act, 1980.
- (5) The Environment (Protection) Act, 1986.
- (b) Indirectly related to the environmental protecting:
- (6) Constitutional provision (Article 51A).
- (7) The Factories Act, 1948.
- (8) Hazardous Waste (Management and Handling) Rules, 1989.
- (9) Public Liability Insurance Act, 1991.
- (10) Motor Vehicle Act, 1991.
- (11) Indian Fisheries Act, 1987.
- (12) Merchant of shipping Act, 1958.
- (13) Indian Port Act.
- (14) Indian penal Code.
- (15) The National Environment Tribunal Act, 1995.

(2) It is important to note that all new projects require environment clearance. This clearance concerns both the Central Ministry of Environment and Forests and the corresponding State Government's department of environment. Guidelines have been announced and all such projects are expected to obtain environmental and antipollution clearance before they are actually set up.

(3) The Central Pollution Control Board (CPCB) has also been set up. Wherever cases of violating of standards of water or air pollution have been detected, show cause notices have been issued to industrial units and all such units are being kept under constant surveillance.

(4) According to the Annual Report of the Ministry 1997-98, out of 1551 large and 1261 have installed the requisite pollution control facilities and 165 units are in the process of installing such facilities. 125 units have been closed down.

(5) Accounting Requirement:

a) A Gazette Notification on Environmental Audit issued by the Ministry of Environment and Forests in 1992 (amended vide notification GSR 386 (E), date, 22- 04-1993), under the Environmental (Protection) Act, 1986 has made it mandatory for all the industrial units to submit an environmental statement to the concerned State Pollution Control Boards, while seeking consent to operate under the relevant environmental norms. The Environment Statements enable the units to take a comprehensive look at the industrial operations, facilitate the understanding of material flows and help them to focus on areas where waste reduction and consequently saving in material cost, is possible.

b) Indian Companies Act, 1956 requires to include in Director's report environment related policies/problems and annexure details of energy consumption energy conservation.

c) Cost Accounting record rules for various industries made by the Central Government also require disclosing monetary and quantitative values in Cost Accounting.

The central government and state government have passed various statues to contain and control the problem of environmental pollution and ecological imbalances. Some of the significant enactments relating to various aspects of environment are as follows.

#### **14. IMPORTANT ENACTMENTS RELATING TO ENVIRONMENTAL POLLUTION**

(A)Water pollution

1. Environment (Protection) Act, 1986.
2. North India Canal and Drainage Act, 1873
3. Indian Ports Act, 1908
4. River Boards Act, 1956
5. Merchant Shipping Act, 1958
6. Water Prevention and Control of Pollution Act, 1974
7. Water Prevention and Control of Pollution Cess Act, 1977

(B)Air Pollution

1. Indian Boilers act, 1923
2. Mines and Minerals Regulation and Development Act, 1947
3. Factories Act, 1947
4. Industries Development and Regulation Act 1951
5. Air prevention and Control of Pollution Act, 1981
6. Cigarette and other Tobacco Products (Prohibition of Advertisement and regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003

(C)Radiation

1. Atomic energy Act, 1962
2. Radiation Protection Rules, 1971
3. The Chemical Weapons Convention Act, 2002

(D)Health laws

1. Medical Termination of Pregnancy Act, 1971
2. Pre Natal Diagnostic (Prohibition of misuse) Act, 1994

(E) Forest and wild life

1. Indian Forest Act, 1927
2. Forest Conservation Act, 1980
3. Wildlife Protection Act, 1972
4. Biological Diversity Act, 2002
5. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006

(F) Others

1. Poisons Act, 1919
2. Factories Act, 1948
3. Insecticides Act, 1968
4. Indian Fisheries Act, 1897
5. Prevention Food Adulteration Act, 1954
6. Urban Land Sealing and Regulation Act, 1976
7. Mines Act, 1952
8. Indian Penal Code , 1860
9. Mines and Minerals Regulation and Development Act, 1957

10. Ancient Monuments and Archaeological Sites and Remains Act, 1958
11. Criminal Procedure Code, 1973
12. Indian Exclusive Act, 1884
13. Indian Easements Act, 1882
14. Public Liabilities Insurance Act, 1991
15. National Environment Tribunal Act, 1995
16. National Environment Appellate Act, 1997
17. Motor Vehicle Act, 1988

The Environment Act, 1986 also includes seven schedules laying down the standards for quality of environment and for emission or discharge of environmental pollutants, and nine notified rules on handling and management of various hazardous substances. Various schedules under environmental protection Act, 1986:

Schedule I – Industries parameters and standards of emission

Schedule II – Omitted

Schedule III – Ambient air quality standards in respect of noise

Schedule IV – Standards for emission of smoke, vapor etc. from motor vehicles

Schedule V – List of authorities who will initiate action in case the discharge is in excess of prescribed limits.

Schedule VI – General standards for discharge of environmental pollutants

Part A – Effluence

Part B – Waste water generations standards

Part C- Local based standards

Part D – General emissions standards

1. Concentration based

2. Equipment based

3. Load / mass based

4. For oil refineries

Part E – Noise standards for automobiles

Schedule VII – National ambient air quality standards

## **15. ENVIRONMENTAL ACCOUNTING PRACTICES IN INDIA**

Very few corporations give adequate information regarding environmental issue. If as per requirement of applicable law they have to prepare and submit any information relevant to environment they do so. The Environment Ministry has issued instruction in this regard to prepare environment statement. It can be observed through their accounts that mainly the following types of information are given: (i) what type of devices installed for pollution control. (ii) Steps taken for energy conservation. (iii) Steps taken for raw material conservation. (iv) Step taken for waste water and production process waste. (v) Step taken for improvement of quality of product and services, process of production, etc.

A study was conducted among 80 executives of different industries by Dr. B.B. Padhan and Dr. R.K. Bal which revealed that corporate world is fully aware of the requirements of environmental reporting. They are also aware of the environmental issue. The corporate executives have also expressed their views in favour of environment reporting by the industries. Despite their awareness and consent over environmental reporting by industries is it very poor. It is so inadequate that very little information is found in the annual report.

In the words of Jong Seo Choi, research studies have examined the extent to which companies produce social information, of which environmental information would be part. A number of general themes that emerge from this include the following: i. the proportion of companies disclosing and extent of that disclosure is low. ii. There is some variety in disclosure over time, between countries and between industries. Social disclosure in general and environmental disclosure in particulars reflects the changing business climate and social, economic and political environment in which they occur. However, the total amount of voluntary disclosure stays fairly constant over time and what changes is the subject addresses in the disclosure. iii. There is a very definite size effects in those larger companies are more likely to disclose than smaller companies. iv. Very little disclosure would qualify as information under any normal criteria and very little of it indeed will contain numbers, financial or otherwise.

Environmental reports as contained in the Directors Report of three Indian Companies are as under: i) Asian Paints (India) Ltd, (1993-94): "Ecology and Safety: Samples of treated effluents are periodically checked for Compliance with standards" ii) Goodlass Nerolac Paints Limited (1993- 94): "Pollution: The company regularly monitors measures in force in accordance with the Pollution Control Act for the protection of environment and for ensuring industrial safety. The company carries out improvements regularly to ensure full compliance with the statutory requirements." iii) Maruti Udyog Limited (1993-94): "Environment: Modification of the existing effluent treatment plant was undertaken to take care of additional effluents generated due to capacity expansion. Data on non-methane hydrocarbons in Paint Shop and Engine Testing shop, ambient air quality, stack emissions and effluents are

being regularly monitored and the parameters are maintained well within prescribed limits. Development of green belt around gas turbine and R&D areas was further augmented by plantation of 3000 additional saplings.

It was also revealed that most of the companies disclose the environment information in descriptive manner rather than to financial type i.e. no account is made for the degradation of natural capital when calculating corporate profits.

Table No. 1 Extent to which Indian Corporates Practice Voluntary Environmental Reporting

Source: Source: Asia Pacific Journal of Research February 2014

## 16. CONCLUSION

Environmental accounting is in preliminary stage in India and whatever shows in the accounts in this regard is more or less compliance of relevant rules and regulation in the Act. Actually, unless common people of India are not made aware towards environmental safety, development of accounting in this regard is a little bit doubtful. It is the call of the time that corporates prepare a firm environmental policy, take steps for pollution control, comply with the related rules and regulations, and mention adequate details of environmental aspects in the annual statements. For sustainable development of country, a well-defined environmental policy as well as proper follow up and proper accounting procedure is a must.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

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### A Critical Review of Sustainable Eco Tourism Services in Himachal Pradesh

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**Abstract:** Indian tourism industry is considered to be a positive force for the socio economic development. It is the ever growing industry in service sector. Among the various types of tourism, eco tourism is gaining the importance as it protects the assets of the region also helps the people to get involved in it and to develop socio-economically. This paper critically explores the sustainable Eco Tourism Services from Himachal Pradesh for socio-economic environmental implications, investigating dimensions of modern and traditional tourism, illustrating them through distinguishing characteristics in selected tourism products and processes and amalgamating with environmental sustainability and green marketing. Issues of environmental sustainability in tourism sector are being critically evaluated. This paper also investigates strategic perspective of Eco Tourism Services sustainability in terms of its imitation, ramification and environmental sustainability over the long run.

**Key Words :** Green tourism, Green Marketing, Eco-tourism, environmentalism, sustainability, strategy.

#### 1. INTRODUCTION

Tourism is one of the world's largest industries, with 1.2 billion annual international travellers creating almost 300 million jobs and generating nearly US\$ trillions in global GDP. The tourism industry globally generates over 250 million jobs whereas the software industry generates only 20 million jobs. The size of the tourism industry worldwide is US\$4.6 trillion whereas the software industry globally is a mere US\$500 billion. Tourism is the second largest industry in the world, producing over \$195 billion in domestic and international receipts and accounting for more than 7% of the world's trade in goods and services. There were 693 million international tourists in 2001, creating 74 million tourism jobs. See Table: *The world's top tourism earners in 2016*

As an increasing number of the world's population becomes more experienced travelers, their attitudes, interests, and behaviours are also changing. First-time visitors to a destination normally spend their time and money on traditional mass tourism products and experiences such as group tours, resort hotels, and major attractions. Repeat visitors more often go "off the beaten path" in search of what they consider more authentic travel experiences, desiring to interact with and behave like local residents. This deeper exploration of a destination is often defined in industry terms as ecotourism, adventure tourism, cultural tourism, heritage tourism, culinary tourism, agritourism, and several other niche sectors that are often focused on nonurban areas. Out of these Ecotourism is having its own niche which can comprise any environmental tourism services directly involving tourist destinations involving natural environment like the beautiful mountain, streams, beaches, and deserts etc, i.e. all form of natural landscape exists on earth.

Another global trend is accelerating the motivation of tourists to expand their travel activities into rural regions. About 51% of the world's population now lives in urban areas, and that number is expected to increase, alienating billions of people from the natural environment globally. The Earth Summit 2002 was convened to address pressing issues of poverty and global environment degradation. When these outdoor-deprived people travel, they often seek experiences that allow them to interact with the natural environment, which can be most easily accomplished in rural areas. These trends have created greater tourism development opportunities along with 'natural environmental concern' for any country. The resulting economic growth supports rising incomes and higher employment in natural landscape areas while satisfying the increasing demand for nature-focused tourism experiences. The challenge, however, for public- and private-sector advocates of nature based tourism development is organizing, planning, and funding the identification, development, and promotion of high-potential adventure and fun based tourism experiences. This process requires expertise, resources, and a high degree of collaboration among all affected stakeholders in designing and implementing an effective 'nature focused' tourism growth strategy. The hospitality and tourism industry is under pressure to become more environmentally friendly from the following forces.

- consumer demand;

- increasing environmental regulation;
- managerial concern with ethics;
- customer satisfaction;
- maintenance issues related to the physical plant; and the need for aesthetics.

MacCannell described tourism attractions as, 'empirical relationships between a tourist, a site and a marker'. The tourist represents the human component, the site includes the actual destination or physical entity, and the marker represents some form of information that the tourist uses to identify and give meaning to a particular attraction. Lew (1987), however, took a different view, arguing that under the conditions of tourist site- marker, virtually anything could become an attraction, including services and facilities. Leiper (1990: 381) further added to the debate by adapting MacCannell's model into a systems definition. He wrote that:

*A tourist attraction is a systematic arrangement of three elements: a person with touristic needs, a nucleus (any feature or characteristic of a place they might visit) and at least one marker information about the nucleus).*<sup>1</sup>

Chan and Baum (2007) as cited by Fennell (2015) gave the construct domains of service experience based on the research conducted on ecotourism:

The construct domains of service experience	
Dimension	Examples
Hedonic	Excitement, enjoyment, memorability
Interactive	Meeting people, being part of the process, having choice
Novelty	Escape, doing something new
Comfort	Physical comfort, relaxation
Safety	Personal safety, security of belongings
Stimulation	Educational and informative, challenging
Chan and Baum (2007) as cited by Fennell (2015) pg:268	

### 1.1 Sustainable Ecotourism services development

Traveller's interests and expectations applications in Ecotourism tourism services development are the fundamental foundation towards sustainable tourism development which aims at a balance between the triple bottom-line management (economy, environment, and society) and service delivery. One of the most important issues affecting the tourism industry in recent years is sustainable environmental tourism services. As noted in 'Table: I', tourism is increasingly being used as an economic development tool by many third world countries, thereby helping to generate employment as well as improve the local infrastructure. The problem arises when development is rushed, taking little or no consideration of the product's life cycle or the environment. Research on sustainability therefore seeks to address the issues that developers need to be aware of, especially in relation to environmental protection (Table:I).

Table: I		
Authors	Focus	Sub-theme
May	In tourism developers need to be more aware of the concern for sustainability and environmental protection	Sustainable tourism
Ruschmann	The need to monitor and install ecological tourism infrastructures in the Brazilian rainforest	Conservation and ecology
Klemm	When considering sustainability, there is a requirement for both public and private sectors to work in collaboration	Tourism and the environment
D'Amore	Research implies that tourist developers need guidelines to help support sustainable development	Planning and decision making
Cater	If Third World countries are to continue using tourism as a	Ecotourism
Source: Eccles (1995). Marketing, sustainable development and international tourism, International Journal of Contemporary Hospitality Management, Vol. 7 No. 7,1995, pp. 20-26		

<sup>1</sup> Manaktola et al (2007), pg367.

<sup>1</sup> Fennell, David A. (2015), Ecotourism, pg 5.

### **1.3. Tourism in India at a glance**

During the period (2002 to 2008) paradigm shift was made towards strengthening tourism infrastructure.<sup>2</sup> This was also the period when tourism was viewed as an instrument of employment creation and sustainable development. In the Indian context, the vast potential of tourism as an employment creator and wealth distributor still remains untapped. As India grows and expands its base in travel and tourism, it will generate more jobs and the sector will become a major catalyst for India's growth. Number of Foreign Tourist Arrivals in India 8.03 Million, Annual Growth Rate 4.5% which earn Foreign Exchange Earnings from Tourism, In Indian Rupees terms Rs. 135193 Crore, Annual Growth Rate 9.6%, In US\$ terms US\$ 21.07 Billion, Annual Growth Rate 4.1%. India's rank in World Tourist Arrivals 40<sup>th</sup>, share of India in International Tourist Arrivals 0.68%. Share of India in International Tourism Receipts (US\$ terms) is 1.71% and India's rank in World Tourism Receipts 14<sup>th</sup>.<sup>3</sup>

Even though the contribution is 10 % of this sector is 10% of GDP, India's share of the world tourist traffic is much blow than even 1%. The chasm between potential and performance was widened as result of various factors, the worst being the perception that tourism was an elitist activity set in the background of five-star hotels, recreation and pleasure. Somehow the actual benefits of tourism- its multiplier effect on employment, infrastructure, and community growth – all seem to have been miserably lost.<sup>4</sup> In India, environmental tourism services have enormous opportunities in the all form of natural landscape tourist destinations comprising biosphere reserves, wonderful mountains including Himalayan ranges, long coastline having numerous beaches, western desert etc.

## **2. ENVIRONMENT AND TOURISM RELATIONSHIP**

'Nature tourism' or 'nature-based tourism' is a somewhat broader term, covering all types of tourism that rely on relatively undisturbed natural environments or natural features. Nature- based tourism thus includes wildlife tourism, but it also includes tourism based on plants or vegetation and on natural scenery, as long as the principal activity is essentially observation or contemplation.<sup>5</sup>

### **2.1 Environmental tourism services in the form of Ecological attributes**

In general, the ecological attributes are the most discussed features of any environmental tourism services and therefore the most obvious ones to start with, since the environment, e.g. landscape, water quality (fresh and sea), etc., is often perceived as having an important touristic value. However, it is not stated that the ecological attributes are the most important attributes. All dimensions of sustainability should be considered as equally important. Although climate change and the related emission of greenhouse gases is one of the most relevant ecological issues related to sustainable tourism, CO<sub>2</sub>-emissions are not addressed separately, because CO<sub>2</sub>-emissions are highly correlated with other aspects considered, e.g. traffic or energy use. Traffic caused by tourism is one of the most important issues in the ecological dimension. It has a significant impact on the environment: 60 to 95% of the environmental impact of tourism is due to transport and up to 90% of energy consumption in tourism is used for the outward and return journey. Furthermore, traffic causes a number of problems: e.g. greenhouse gas and air pollutants emissions, intensified consumption of land, energy use, noise pollution or deterioration in the quality of landscapes (WTO, 2004). And traffic is the main factor in tourism which causes CO<sub>2</sub>-emissions, accounting for 75% of tourism related CO<sub>2</sub>-emissions (WTO, 2004). The energy source and the efficient use of energy as well as other natural resources are relevant for tourism. The overuse, and/or misuse of an environmental asset, has often not only ecological consequences, but also negative impacts on the tourism sector.

Ecological aspects are also often reflected from an architectural perspective. The compactness of buildings is one of the most important criteria of architectural sustainability because it facilitates energy-efficient operating concepts that react to claims for comfort and the utilised capacity. In order to manage a building in a resource-saving way, building management requires, on the one hand, an efficient management of heating and cooling energy, drinking and wastewater and, on the other hand, measures on the level of structure and building equipment such as intelligent equipment which allows the operating system to react to changing conditions. Adequacy and comfort should also be considered: Sustainable buildings provide a comfortable climate, cosiness and functionality, which is adequate to the particular context and place, e.g. a hotel in the South India (which is relatively warmer throughout the year) should not cool down its rooms to 18 degree Celsius. Based on these arguments, the following four attributes are formulated. Although the use of resources should be minimised, there will always be some amount of waste which cannot be avoided. Therefore, appropriate waste management (including wastewater) is important. This leads to an eighth ecological sustainability attribute. Finally, biodiversity is an important aspect for all forms of nature based tourism because only a functioning ecosystem can guarantee a constant tourist flow, and biodiversity is a critical

<sup>3</sup> Kant (2009)

<sup>4</sup> INDIA TOURISM STATISTICS AT A GLANCE, 2015.

<sup>5</sup> Kant (2009),pg.4.

<sup>6</sup> Buckley, Ralf (2009), Ecotourism: Principles & Practice, pp:5

component of the natural environment. Moreover, the motivation of tourists to avail and focus environmental tourism services is to observe a large variety of flora and fauna. Therefore, it is essential to maintain this diversity.

## 2.2 Ecologically sustainable tourism

The system of development known as ecologically sustainable fosters the use, conservation and enhancement of a community's resources. It favours those actions which promote ecological processes and the total quality of life, for this and future generations. This form of development is underpinned by the philosophy that the environment must be conserved if the industry is to be viable in the long term. This is very important for sustainable environmental tourism services.

### 2.2.1 Protected areas

Protected areas such as parks and ecological reserves are necessary for the conservation of biodiversity in wild, natural ecosystems. Most protected areas are established for the preservation of natural values, particularly the known habitats of endangered species, threatened ecological communities, or representative examples of widespread communities. However, many protected areas (particularly parks) are also used for human activities, as long as they do not severely threaten the ecological values that are being conserved. These uses are the integral part of environmental tourism services which include ecotourism, and in some cases fishing, hunting, and even timber harvesting. In 1993 there were about 9,000 protected areas globally, with a total area of almost two million acres (792 million ha). Of this total, about 2,500 sites comprising 1.15 million acres (464 million ha) were fully protected, and could be considered to be ecological reserves. Conceptually Costs and benefits of national parks can be:

Summary of the costs and benefits of national parks	
Benefits	Costs
Protects landscapes, wildlife and ecological communities	Unless carefully managed, recreation and tourism can pose a threat to both the landscape and wildlife that the park was established to protect
Provides a place for people to have access to and experience nature. Tourists can also provide revenues for park management, scientific research and conservation projects	Granting of national park status focuses attention on the area. This may lead to the attraction of too many tourists and overcrowding of the area
Offers employment opportunities for local people to become involved in conservation of the environment rather than destructive practices such as clearing natural vegetation for agriculture and poaching	Indigenous peoples can be excluded from their territory to protect landscape and wildlife
<i>Source: Holden, Andrew (2008), Environment and Tourism, pg:180</i>	

Fennell quoting Reynolds and Braithwaite place the wildlife tourism product into one of seven categories:

1. NBT and wildlife component, where wildlife is an incidental part of the overall NBT product.
2. Locations with good wildlife viewing opportunities, includes accommodation units that are located in wildlife- rich habitat and may attract wildlife through the provision of food.
3. Artificial attractions based on wildlife, which include, for example, man- made attractions where animals are kept in captivity.
4. Specialist animal watching, for special- interest groups like birders.
5. Habitat specific tours, which focus on areas or regions rich in animal life.
6. Thrill- offering tours, where dangerous animals are enticed to engage in spectacular behaviour for the viewing pleasure of tourists.
7. Hunting/fishing tours, in natural, semi- captive or farmed environments where animals are killed or released back into the wild.

Investigate participants' memories of wildlife tourism experiences; there were four levels of visitor response to these types of experiences. These include:

1. Sensory impressions, such as visual, auditory, olfactory or tactile memories (e.g. 'The wonderful colours of the fish on display', and 'Being able to touch the sea creatures in the rock pools'.
2. Emotional affinity, where visitors reported emotional responses or emotional connections to animals (e.g. 'I got quite emotional when I saw the dolphins, they are so intelligent and graceful', and 'Seeing the big turtle laying was exciting, but I couldn't help but feel that we were getting in the way of nature'.



3. Reflective responses included new insights by visitors based on cognitively processing their experiences or by reflection of such experiences.
4. Behavioural responses, such as the actions visitors have taken in response to their wildlife tourism experience, including heightened awareness (e.g. 'I certainly do not use as many plastic bags and I am very careful about what goes down our drains', and 'I refuse to buy anything Japanese until they stop their senseless slaughter of whales'.<sup>6</sup>

### 2.2.2 Engaging stakeholders for collective impact

Identifying and engaging essential stakeholders; creating a common agenda; planning for mutual benefit; organizing support for effective implementation; measuring success; and public-private partnerships is the need of the hour for environmental tourism services.

### 2.3 Developing differentiated environmental tourism services experiences

Marketing focuses on Principles of product development; competitive differentiation; market segmentation; identifying high-potential environmental tourism services opportunities; development resources and processes; and creating value-added environmental tourism services products. Whereas services marketing highlights on experience creating effective promotional strategies which are highly intangible while considering environmental tourism services. Targeting; ecotourism branding; integrated marketing communications; leveraging digital media; and building brand engagement and loyalty can be multidimensional feature of environmental tourism services.

<b>Modes of experience of the destination environment</b>		
<i>Modes of experience</i>	<i>Interpretation</i>	<i>Behaviour and environmental attitudes</i>
Environment as a 'setting for action'	The environment is primarily interpreted in a functional way as a place for hedonism and recuperation. The physical environment may also pose the characteristics necessary for the pursuit of activities, e.g. rivers for rafting, snow for downhill skiing, coral for scuba – diving. The pursuance of satisfying the needs of relaxation or excitement and thrills is paramount over environmental appreciation. The destination environment is primary seen as external to one's self.	Conscious or subconscious disregard for the environment and a lack of interest in learning more about its natural or cultural history. In some cases a possible disinterest and disregard for environmental codes of behaviour, leading to negative environmental consequences. Examples would include littering, breaking of coral, frightening of animals, disregard for local customs and traditions.
Environment as a social system	The environment is seen primarily as a place to interact with friends and family.	Physical setting becomes irrelevant as the focus of the experience centres on social relationships.
Environment as emotional territory	Strong emotional feelings associated with or invoked by the environment which provide a sense of well-being. The surrounding environment is now an important part of the tourist experience in terms of personal development and is capable of producing deep-felt emotions	Sense of well-being and wonder at being in a different environment. The tourist may be moved to paint the environment, or write poetry about it, or sit or walk in contemplative wonder.
Environment as self	Merging of the physical and cultural environment with self. The environment ceases to be detachable from the person or external to them. The person's spiritual centre is now firmly located in this environment. Any damage or harm to the environment is perceived as damage to oneself. The destination environment may be experienced in an 'existential' way if physical constraints, e.g. work or family commitments, restrict the opportunity for the person to relocate there permanently.	Strong attachment to landscape(s) and culture(s) that are perceived as being 'better' than the home society. The tourist will have read extensively about their adopted cultural and physical environment and if necessary attempted to learn the language to allow them to interact with the local community in as meaningful manner as is possible.
<b>Source: Holden, Andrew (2008), <i>Environment and Tourism</i>, pp: 55-56</b>		

<sup>6</sup> Fennell, David A. (2015), *Ecotourism*, pg 51



## **2.4 Eco - Tourism at the centre stage of sustainable environmental tourism services**

Sustainability and environmental tourism services in the form of eco-tourism are complementary to each other because the basic components of eco-tourism demand the implementation of sustainability principles. The concept of eco-tourism basically comprises four fundamental components:

- a) travel has to be restricted to relatively undisturbed or protected natural areas
- b) it has to be nature based
- c) it has to be conservation-led; and
- d) it must have an educative role – which implies that eco- tourist must have a desire to learn about nature on their trips.

Eco-tourism is, therefore, a logical component of sustainable development, requiring a multidisciplinary approach, careful planning (both physical and managerial) and strict guidelines and regulations which will guarantee sustainable operations. Broadly, eco-tourism can be defined as responsible travel to natural areas that conserves the environment and sustains the wellbeing of the people. At the core of environmental tourism services, ecotourism is ecology-based tourism, focused primarily on natural or cultural resources such as scenic areas, mountains, deserts, coral reefs, caves, fossil sites, and wildlife, particularly rare and endangered species, etc. The successful marketing of ecotourism depends on destinations which have biodiversity, unique geologic features, and interesting cultural histories, as well as an adequate infrastructure. In the Himalayan ranges are perhaps the most popular destinations for environmental tourism services, particularly National Park, the Mountains etc, spreading from Jammu & Kashmir, Himachal Pradesh, Uttarakhand and North Eastern states.

Adventure tourism which includes ecotourism accounts for 10% of this market. Ecotourism is not a new phenomenon, recognizing even then the demand for experiences in nature and profiting from transporting tourists to destinations near to nature like hill-stations located in Himalayan states, e.g. Shimla, Manali, Dalhausie, Dharmshala, Masoorie, Shillong etc. However, ecotourism has recently taken on increased significance worldwide. There has been a tremendous increase in demand for such experiences, with adventure tourism increasing at a rate of 30% annually. But there is another reason for the increased significance of ecotourism. It is a key strategy in efforts to protect cultural and natural resources, especially in tribal areas who are the harbinger of the traditional knowledge, because resource-based tourism provides an economic incentive to protect resources. For example, rather than converting forests to farms which may be short-lived, income can be earned by providing goods and services to tourists focusing environmental tourism services like tiger reserves, bird sanctuaries, scenic beauty, developing picnic spot etc.

Although ecotourism tourism services have the potential to produce a viable economic alternative to exploitation of the environment, it can also threaten it. Water pollution, litter, disruption of wildlife, trampling of vegetation, and mistreatment of local people are some of the negative impacts of poorly planned and operated ecotourism. To distinguish themselves from destructive tour companies, many reputable tour organizations have adopted environmental codes of ethics which explicitly state policies for avoiding or minimizing environmental impacts. In planning destinations and operating tours, successful firms are also sensitive to the needs and desires of the local people, for without native support efforts in ecotourism often fail.

Ecotourism can provide rewarding experiences and produce economic benefits that encourage conservation. The challenge upon which the future of ecotourism depends is the ability to carry out tours which the clients find rewarding, without degrading the natural or cultural resources upon which it is based. The Quebec Declaration on Ecotourism, a United Nations (UN)-level document, lists the elements of its definition. According to this document, ecotourism is sustainable tourism that:

- contributes actively to the conservation of natural and cultural heritage;
- includes local and indigenous communities in its planning, development and operation and contributes to their well-being;
- interprets the natural and cultural heritage of the destination for visitors;
- lends itself better to independent travellers, as well as to organized tours for small groups.

Ecotourism has definitely put down roots as a political concept: over 132 countries attended the World Ecotourism Summit in May 2002, with 45 ministerial-level participants. More than 5000 practitioners were involved in its preparations and follow-up. Activities around the IYE resulted in a much stronger global network of practitioners.

## **2.5 Merger of Adventure tourism, nature based tourism, Ecotourism**

Another closely related form of tourism to ecotourism is adventure travel, which is projected by a group of scholars felt to subsume ecotourism. For example, in suggesting that ecotourism is a branch of adventure tourism. Some of the examples are Paragliding at Indru Nag, Dharmshala; Paragliding Festival at Bir- Billing; Paragliding at

Solan Nala, Kullu etc; Adventure tourism destination like Rafting at Bea River at Kullu; Boating at Pong Dam; Nature gazing like Bird watching.

### 2.6.1 Poser: Ecotourism

Significantly more than in the conventional mass-tourism sector – where multinational hotel companies and tour operators act as vehicles for the transfer of know-how and technologies – the exchange of experiences in ecotourism needs to be encouraged by international organizations and by a knowledgeable international expert in ecotourism matters.

Ecotourism companies and operations are generally of small size, and they should continue to be so if benefits are to remain with local communities and revert to conservation purposes. Indeed, the sustainable growth of ecotourism should be based on the replication of good practice in more and more territories, rather than on aggregating existing businesses or expanding their size. There are excellent examples of innovative technological or management solutions that have been developed by small companies, while other ecotourism ventures have failed because they lacked the very same knowledge available elsewhere. *Of course, the need to adapt solutions to the specific environmental and sociocultural conditions prevailing in each country should not be neglected. It is, therefore, necessary for tourism managers and other ecotourism stakeholders to use their wisdom and draw the relevant lessons.*

## 3. EXPLORATION, EXAMINATION AND EXPLANATION OF ECOTOURISM TOURISM SERVICES AS CASE STUDY

Contextual examples of sustainable Ecotourism tourism services in the form of case study using key polluter pay principle factors is investigated by exploring and examining the green taxation.

### 3.1 Green taxes: a case study insight of Himachal Pradesh

Himachal Pradesh located in Northern part of India which is geographically located at Western Himalayas comprising Dhauladhar, Shivalikranges. Environmental tourism services correlate the ecology, economics and sociology that give benefit to tourism industry. .

**3.2 Caselet Rohtang:** Only 800 petrol vehicles and 400 Diesel Vehicles are permitted to go Rohtang Daily. Permit has to be obtained online. Rs 500 Permit Fee (Applicable for those visiting Rohtang Pass for tourism purpose): This is applicable to all vehicles visiting Rohtang pass for tourism purpose. This tax is to be paid on daily basis and accordingly the permits are issued based on daily quota defined by National Green Tribunal (NGT). The tourism permit is valid for one day only (To & Fro). Mandatory Information required for Rohtang Pass Permit: Valid ID Proof, Valid Pollution Under Check (PUC) Certificate, Vehicle Registration Date (Age of vehicle not to be more than 10 yrs). No permits are issued on Tuesday as the day is marked for maintenance of Rohtang.<sup>7</sup>

**3.3 Caselet Shimla:** Shimla Municipal Corporation started imposing 'Green tax' on vehicles entering the city. Municipal Corporation recently passed a resolution to this effect recently. The Municipal Corporation is replicating similar tax being imposed by the Manali Municipal Council, which will be levied on vehicles not registered in Himachal. This mean any non Himachal registered personal or commercial vehicle will have to pay the 'Green Tax' when entering Shimla town. The tax amount would be Rs 100 for two-wheelers, Rs 200 for cars and jeeps, Rs 300 for middle segment and utility vehicles and Rs 500 for buses and trucks and would be valid for a week.<sup>8</sup>

The Corporation hopes to generate an income of Rs 6 crore annually from the tax to be collected at barriers to be set up at four entry points. The amount collected from the move would be spent on creating facilities for tourists. The Himachal Pradesh Government's move to impose 'green tax' on tourist vehicles entering Shimla the burgeoning tourism industry. Mayor of Shimla Municipal Corporation, Sanjay Chauhan claimed that "the revenue collected through the Green Tax would be at least 19 crore per annum. This would be spent on environment related activities and to improve tourism infrastructure." The Shimla Municipal Corporation would soon launch a mobile green app to facilitate vehicle owners from others state to pay green tax online. The corporation will levy a fine of 5,000 if any vehicle owner is found guilty of not paying green tax. For this, a team of municipal corporation employees and Himachal Pradesh police would be deployed to ensure that vehicle owners from other states entering Shimla pay the tax.<sup>9</sup>

### 3.4 Discussion:

<sup>7</sup> <http://admis.hp.nic.in/ngtkullu/Home/InformatoryScreen>

<sup>8</sup> <http://timesofindia.indiatimes.com/city/shimla/From-next-week-pay-green-tax-before-entering-Shimla/articleshow/54339483.cms>

<sup>9</sup> <http://www.tehelka.com/2016/10/green-tax-on-vehicles-riles-himachal-tourism-industry/>

The core concept of sustainable development is to reduce human impacts so that global ecosystems can continue to sustain human life and societies indefinitely. Together, the USA, Europe, Russia, India, China and Japan are responsible for three-quarters of the global carbon dioxide emissions. The impact, of course, is worldwide. Pollution has a cost and it must be borne by the polluter.<sup>10</sup> Polluters must not be given free rides. The person who bicycles or chooses to walk should not have to subsidize those who are determined to drive their SUVs. This requires unprecedented changes to human population, lifestyle and behaviour. The key practical issue is how to bring about such changes deliberately with minimal disruptions, so as to avoid the far greater disruptions if human consumption and contamination of natural resources continue unchecked. In short, in mainstream economic textbooks environmental problems are seen as a market failure that, in the tradition of A. C Pigou can be corrected by imposing charges on polluting and natural resources-depleting activities.<sup>11</sup>

#### **4. ECOTOURISM AND SUSTAINABILITY SIGNIFICANCE AND CONTEXT**

Environmental science and management are central to sustainable development. Land-use patterns and planning, pollution control, corporate environmental management, biodiversity conservation and protected-area systems are all essential aspects. Tourism may be either a threat or a tool in improving global sustainability. It produces both social and environmental impacts, but it can also bring income to impoverished communities, improve global awareness of social and environmental problems and contribute both politically and financially to the establishment and survival of protected-area systems.

Environmental tourism services focusing ecotourism is a potential tool to improve sustainability by modifying human social behaviour in regard to environmental conservation. Tourism is also a large-scale activity in major components of global human society, with its own detrimental impacts on the natural environment; and environmental tourism services may be able to provide models to reduce these impacts.

##### **4.1 Economic, Social and Environmental Contexts**

Ecotourism is a specialized form of tourism, so it has a context in the global tourism industry. It also has broader commercial and social contexts. The case studies outlined here need to be considered within all of these contexts if any reliable conclusions are to be drawn. Tourism is inherently a private - sector activity that capitalises on a market for the purpose of making a profit. A conflict emerges when a profit- motivated enterprise relies on the provision of supply that does not necessarily advocate the same market philosophies. Parks and protected areas, as public entities, provide the cornerstone for the ecotourism industry. At the same time Culture is said to be important in ecotourism because of the relationship between humans and nature. That is, interest in other human groups appears to emerge in relation to how they have lived as part of the fabric of the natural world, especially indigenous people. From this perspective it is not difficult to see why scholars emphasise this relationship, and even go so far as to suggest that 'Cultural tourism can be regarded as a subset of ecotourism', who contends that ecotourism is 'a form of tourism inspired primarily by the natural history of an area, including its indigenous cultures'.

Ecotourism is variously defined by different interests. Under all of these, however, it clearly lies within a broad product sector, which has been described either as nature, eco- and adventure tourism (NEAT) (Buckley, 2000a); as adventure, culture and ecotourism (ACE) (Fennell, 1999); or, most recently, as geotourism (Stueve et al., 2002). Each of these is an abstraction, an attempt to identify a general type or grouping that is useful in describing the variety of individual tourism products. NEAT recognizes that ecotourism is part of an outdoor nature-based tourism sector and that many individual outdoor tourism products combine excitement-based activities, adventure tourism, with more contemplative activities, nature tourism. ACE recognizes that many such tourism products also incorporate cultural attractions and that the same individual tourists often travel in search of culture as well as nature and adventure. Geotourism recognizes that travellers of this type are attracted by features, either natural or cultural or both, which are specific to particular geographical areas, as opposed to travellers in search of an experience that is equally available in many different parts of the world.

Sewage and human waste disposal is one of the important aspects need to be managed. The disposal of human wastes, whether mixed with water in the form of sewage or in their original raw form, is a significant environmental management issue for all segments of the tourism industry. The precise type of sewage treatment thus becomes an issue for the tourism industry only in situations where tourist constitute a significant proportion of total population in the area concerned, or where the discharge of sewage, treated or otherwise, could significantly reduce the area's amenity value as a tourism destination.<sup>12</sup>

##### **4.2 The Future of Ecotourism**

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<sup>10</sup> Annan, Kofi (2010), pg54-55.

<sup>11</sup> Diez and Straaten (1992)

<sup>12</sup> Buckley, Ralf (2009), Ecotourism: Principles & Practice, pp129

Predicting the future of ecotourism is as fraught with uncertainty as any other exercise in forecasting or fortune-telling. To judge from the case studies presented here, it seems that ecotourism is here to stay, but that it is currently still at a very early and fragile stage in its development. Both individual ecotourism enterprises and the overall concepts and principles of ecotourism are continually beset by larger-scale interests seeking to divert or co-opt them for other purposes. This is not simply a question of business competition, where successful ecotourism ventures may be undercut or bought out. Even more significantly, the term ecotourism is still widely applied to activities that certainly do not merit the name, as a means of obtaining preferential treatment either from markets or, more often, from regulators and land managers. In addition, while the best examples of ecotourism are indeed making a real and significant contribution to conservation of the natural environment and the development of impoverished communities, these instances are still extremely rare and most of them are very small in quantitative terms. Unless and until they can either grow greatly in economic terms without losing their basic principles, or exert political leverage far outweighing their size, they can do rather little to reduce the pace of environmental degradation across the planet. Realistically, however, there seem to be very few human social institutions that may have both the power and the speed necessary to change human behaviour towards sustainability. Under the right circumstances, ecotourism can indeed be one such tool, with demonstrable success. If for this reason alone, it seems worthwhile to encourage successful ecotourism ventures and endeavour to replicate them more widely.

For tourism to make useful contributions to conservation, its enormous revenue-generating power must be channelled and focused through a conservation framework. Such frameworks may be established either by law, as in the case of public lands, or by private convictions, as in the case of private reserves, such as those established by Earth Sanctuaries Limited and CCA. As the ecotourism sector continues to grow, the continuing vigilance of organizations such as the United Nations Environment Programme and the United Nations Educational, Scientific and Cultural Organization, the Sustainable Tourism Division of the World Tourism Organization and international conservation organizations, such as Conservation International and the World Wide Fund for Nature, will become increasingly important. And finally, as the debates of the International Year of Ecotourism and the World Summit on Sustainable Development move into their implementation phase, perhaps it is time to reconceptualise ecotourism in post-2002 jargon: ecotourism is geotourism with a positive triple bottom line. As the major player in the tourism system, the private sector has a major influence in determining the extent to which impacts from tourism upon the environment will be either positive or negative. Consequently, a proactive approach to environmental management is of critical importance for natural resource conservation

## **5. DIMENSIONS NEED TO BE WORKED UPON, WHICH CAN HELP TO IMPROVE SUSTAINABLE TOURISM**

- Sustainable tourism is characterised by a good provision of public transport to and from, and at the destination.
- Sustainable tourism compensates the CO<sub>2</sub>-emissions caused by the outward and the return journey through the support of climate protection projects which help to reduce CO<sub>2</sub>-emissions.
- Sustainable tourism encourages people travelling from far away to stay longer at the given destination.
- Sustainable tourism is characterised by the use of renewable energy sources.
- Sustainable tourism has an operational concept for its infrastructure and buildings which ensures that resources, especially water and energy, are used in an efficient way, avoiding the unnecessary waste of resources.
- Sustainable tourism optimises resource use (energy, water, building materials, etc.) necessary for the construction and deconstruction of infrastructure.
- Sustainable tourism minimises waste output and ensures appropriate waste management and sanitation.
- Sustainable tourism offers products with a level of comfort (food, heating, etc.) which are adapted to the local conditions (climate, sea level, etc.).
- Sustainable tourism takes the preservation of biodiversity into account.

## **6. DIMENSIONS NEED TO BE EXPLORED, EXAMINED AND QUANTITATIVELY VALIDATED**

- Should the environment be used in an 'instrumental' way to maximise economic benefits and financial profits of tourism?
- Can environmental management and technologies solve the environmental problems that can be created through tourism?
- Do we need to have a stronger environmental ethic that recognises an independent value of nature?
- Can environmental tourism service enterprises expand their economic scale without losing the features that established them as environmental tourism services?

'Responsible tourism is about enabling local communities to enjoy a better quality of life, through increased socio-economic benefits and an improved environment. It is also about providing better holiday experiences for guests and



good business opportunities for tourism enterprises.’ This should be the underlying mandate of any Environmental tourism services.<sup>13</sup>

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Impact of Migration on Sustainable Urban Development

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**Abstract:** In the last few decades Indian cities have witnessed a high volume of migrants. The city administration is faced with the challenge of providing basic urban infrastructure and services to meet the needs of the migrant population. This includes affordable and social housing, quality education and health services, drinking water, electricity, proper roads for local transportation etc. In Metropolitan cities like Kalyan-Dombivli where the migrant population is fast increasing, the challenges in the way of sustainable development is far more daunting. In order to achieve sustainable development in economic and social infrastructure and at the same time maintain environmental balance in the town, a study on the impact of the ever increasing population of the metropolis vis-à-vis urban migration becomes very significant. This paper aims at discussing some of the important issues relating to the impact of urban migration on the process of sustainable urban development with reference to Kalyan-Dombivli Municipal Corporation. This paper is based on the study of the available literature and secondary data on urban migration and sustainable urban development.

**Key Words:** Urban migration, sustainable development, infrastructure, Kalyan-Dombivli Municipal Corporation (KDMC) etc.

#### 1. INTRODUCTION

Migration refers to the movement of people from one place to another. The place from where a person migrates is called as the 'origin' and the place of new settlement is called as the 'destination'. Migration in the Census of India is of two types – Migration by Birth place and Migration by place of last residence. When a person is enumerated in Census at a place, i.e., village or town, different from her/his place of birth, she/he would be considered a migrant by place of birth. A person would be considered a migrant by place of last residence, if she/he had last resided at a place other than her/his place of enumeration. The Census also captures the reasons for migration. Many favourable, unfavourable or neutral factors cause migration. The favourable factors are the pull factors, which attract a person, for instance higher wages, better education, better living conditions etc. The unfavourable factors are the push factors, which force or compel a person to move away, for instance unemployment, political unrest, inflation, lack of basic facilities etc. Both pull and push factors at the place of origin as well as at the destination cause migration. Sustainable development means attaining a balance between environmental protection and human economic development and between the present and future needs. It requires an integration of economic, social and environmental approaches towards development. Sustainable urban development refers to attaining social equity and environmental protection in urbanization while minimizing the costs of urbanization. Cities are finding it challenging to integrate and offer services to migrants. They can use the skill of the migrants or suffer the cost and consequences of their unemployment. By involving private sector cities can ensure positive outcomes for migrants. In an effort to pave a path towards more sustainable development, the UN agreed the Sustainable Development Goals (SDGs) with 193 member states in September 2015. The SDGs recognize that well-managed migration will play an integral role in achieving sustaining development and SDG is specifically dedicated to cities, with the objective to "Make cities and human settlements inclusive, safe, resilient and sustainable".

#### 2. OBJECTIVES OF THE RESEARCH

- To study the nature of migration in the twin towns of Kalyan-Dombivli since 2001.
- To study the significance of sustainable economic development.
- To study the impact of urban migration on sustainable economic development and ecological balance in fringe cities like Kalyan-Dombivli.

### 3. HYPOTHESIS

“Migration impacts the nature and course of sustainable urban development”

### 4. BACKGROUND AND LITERATURE REVIEW

- UN General Assembly convened a conference on the “human environment” at Stockholm in June 1972, which came out with guiding principles on “human environment”. It emphasized that man has the fundamental right to environment of quality and also that he has a responsibility towards protecting the environment for present and future generations. It also maintained that natural resources of the earth must be safeguarded for the benefit of present and future generations.
- The World Commission on Environment and Development was created in 1983. Popularly known as Brundtland Commission (1983), it described sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. After twenty years of Stockholm Declaration, the UN Conference on ‘Environment and Development’ (also known as ‘Earth Summit’) was held at Rio-de Janeiro in 1992 that adopted an action plan, popularly known as ‘Agenda 21’. The agenda 21 promised to reduce poverty, provide clean water and health care, and protect the natural resources and so on.
- “If migration is to be properly managed in our cities and sustainable development realized, it will require the cooperation of all stakeholders at the national, regional and global levels. Cities must identify the main legal and administrative priorities they need to address in order to enable the integration and adequate protection of migrants, particularly those not eligible for the same legal entitlements as refugees. They need to collaborate with national governments and with other stakeholders, including the private and non-governmental sectors, to overcome existing and future barriers to migrant integration,” said Louise Arbour, Special Representative of the Secretary-General for International Migration, United Nations.
- Cities are under pressure to provide affordable and social housing for their population; the wait time in many cities is over 10 years. The health services of most cities also require personnel and infrastructure improvements, while the education sector faces challenges related to multi-lingual migrants. Migration is overtaking fertility as a main driver of population growth in some of the key regions of the developing world. In addition, the number of migrants in the developed world has grown at an average of 3.0% annually since 2000, far more than the 0.6% annual population growth there. (McKinsey Global Institute, 2016)
- Globally, migration tends to flow towards cities that have a large population. The volume of movement decreases as the distance between the place of origin and the place of destination increases. Moreover, migration and urbanization are often interlinked processes. Migrants tend to remain in cities once they have arrived in their destination country, and become significant drivers of economic and urban population growth. As many as 92% of immigrants in the United States, 95% in the United Kingdom and Canada, and 99% in Australia live in urban areas. Immigrants are more likely to integrate when they join large numbers of fellow immigrants in communities where a familiar language is spoken and support groups can be found. (McKinsey Global Institute, 2016).
- The world’s metropolitan areas — those with a minimum population of 1.5 million — will be home to seven out of every 10 urban residents and 24% of the world’s population by 2030. Metropolitan areas attract an inflow of new residents, especially young people. In recent years, most areas have demonstrated a net migration gain along with a comparatively low demographic load (the ratio between people of working and nonworking age). Migration growth, on average, is higher in these cities – 3 migrants per 1,000 people – than in countries. In most of the metropolitan areas, population growth from migration is higher than the national average. When looking at migration growth separately for metropolitan areas and core cities, migrants mainly choose to live in peripheries of metropolitan areas. The average migration growth in core cities is much lower than in metropolitan areas as a whole. This suggests why population growth rates of metropolitan areas are higher than the population growth in their core cities. (PwC, Size Matters, 2017)
- India is home to one-fourth of the 100 fastest-growing cities in the world, and Mumbai, Delhi and Kolkata are among the 10 most populous urban areas worldwide. One of the principal drivers of this growth is rural-to-urban migration as people search for better economic prospects. The percentage of immigrants in Cities like Faridabad, Ludhiana and Surat is over 55%, whereas the rate in Agra and Allahabad is below 15%, demonstrating the significant variation among Indian cities regarding in-migration. (International Organization for Migration, 2015, World Migration Report 2015).

### 5. OBSERVATIONS AND EXPLANATIONS

#### A. Demographic characteristics of Kalyan-Dombivli :

- KDMC has a population of 12, 46,381 lakhs (2011 census) spread over a geographic area of 67.65 square kilometres.
- Density of population: 63,000/km<sup>2</sup>(160,000/sq mi) Males constitute 6,50,075 (52%) of the population and females 5,96,306 (48%)

- Kalyan-Dombivli has an average literacy rate of 93.06%, higher than the national average of 74.04%: male literacy is 96.11%, and female literacy is 89.73%. In Kalyan-Dombivli, 9.47% of the population is under 6 years of age. Total literates in Kalyan and Dombivli city are 1,050,798 of which 565,304 are males while 485,494 are females. Average literacy rate of Kalyan and Dombivli city is 93.06 percent of which male and female literacy was 96.11 and 89.73 percent.
- The sex ratio of Kalyan and Dombivli city is 917 per 1000 males. Child sex ratio of girls is 892 per 1000 boys. Total children (0-6) in Kalyan and Dombivli city are 117,167 as per figure from Census India report on 2011. There were 61,919 boys while 55,248 were girls. The children form 9.40 % of total population of KDMC.

#### **B. Magnet for Migrants :**

- Hailed as the Satellite towns of Mumbai City, Kalyan-Dombivli has fast developed as the counter magnet of Mumbai. The high cost of living and overcrowding in Mumbai has drawn migrants to KDMC in search of better opportunities in all walks of life. It is now a preferred destination for many citizens in the Mumbai Metropolitan Region for job opportunities, education, healthcare services, real estate investment and better quality of life.
- Due to new developments in the KDMC metropolitan region, large number of migrants are getting attracted here. The migrant population is over 25% of the total population comprising of skilled and unskilled labourers who are either permanent or temporary migrants. The proportion of migrants into KDMC from within the state of Maharashtra is 62% while those coming from other states constitute the remaining 38%. The proportion of migrants from northern states of Rajasthan, Uttar Pradesh, Bihar etc is more than from southern states of India.

#### **C. Impact of Migration on Social and Economic infrastructure :**

- Housing – The old areas of Kalyan-Dombivli form the city's core, with traditional dwellings (wadas and chawls) as the predominant style of housing. The old city primarily has mixed land use areas, where the city's major trade and commercial activities take place along with residential use. In the last 25 years, KDMC has seen massive growth in its housing industry, mostly because of the migration from districts like Mumbai, Thane etc. This led to increased demand for housing of skilled labour inside the city. The demand from higher- and upper-to-middle-income groups is normally being met by private builders, leading to manifold increases in organized housing and townships. For those in the lower-income group, the lack of affordable housing has led to the growth of slums, which are spread across the city. Further, squatting (encroachment of government land) is also a common phenomenon observed throughout KDMC. Migrants who remain in cities for longer period become permanent residents and they significantly drive growth in both the urban population and the economy.
- Education and Employment – Rapidly increasing immigration directly affects the availability of places in primary school which in turn pushes schools towards increasing class sizes and adding classrooms. Migrants in KDMC range from unskilled labour to highly-skilled workers, and have become a key driver for matching the skill demand and supply ratios in the city. There has been an 118% increase in the number of schools and colleges in KDMC since 1991 mainly to cater to the children of migrant population.
- Health – In KDMC with a significant migrant population of 42% (census 2011) living in slums, migrants' living conditions and other social determinants aggravate the physical, mental and social health risks. The migrants find it difficult to adapt to the changes resulting from new social and political environments and from language barriers.
- Transportation – Migrants rely on transportation to move from one place to another, creating increased demand for such facilities. KDMC's public transport has not yet properly evolved to cater to its rapidly growing population. Hence, auto rickshaws along with private transport (two- and four-wheelers) is the main mode of transportation. It has resulted in increase in traffic jams and road accidents.
- Utilities – Water / Energy/ Communication /Sanitation :
- The steady flow of migrants places an increasing demand on water resources, followed by an associated increase in sewage generation which, in turn, creates demand for wastewater treatment facilities. Migration affects energy consumption and CO2 emissions in great quantity. Energy consumption estimates are lower when a city population has increased due to rural-to-urban migration than through urban-to-urban migration and natural population growth. The growing speed of information and communication has intensified migration flows and increased the potential for mass arrivals in a short span of time, thus affecting the destination city. Migration has exacerbated the challenges of managing sewage given the faster rate in the migrant population, but KDMC has failed to meet the ever increasing demand due to insufficient capacity.

## **6. METHODOLOGY ADOPTED**

I have relied upon various sources like published reports of the UN Conference on 'Environment and Development' (also known as 'Earth Summit') held at Rio-de Janeiro in 1992, Census data of 2001 and 2011 on Kalyan-Dombivli, published articles, internet websites, newspaper articles, journal extracts etc for assimilating secondary data on the subject.

## **7. LIMITATIONS OF THE RESEARCH**

The research is confined only to the study of urban migration with respect to Kalyan-Dombivli and the impact of migrant population on some of the social, economic and environmental aspects of the city.

## **8. CONCLUSIONS**

Trends in the increase in the population of KDMC since 2001 show that the population has increased by a compounded rate of 3.8%; of which migration forms a significant 3.2%. Migrant population has forced expansion and spread of residential buildings and complexes into areas which hitherto were open spaces or agricultural or forested areas. This has adversely affected the air quality and large number of people are suffering from air borne diseases. The increase in total population of KDMC vis-à-vis increased migrants has resulted in water shortage and problem of solid waste disposal. Higher rate of migration in KDMC is posing serious challenges in achieving 'inclusive development' and large proportion of population is getting deprived of even basic facilities. Development in social infrastructure like education, medical care etc and economic infrastructure like roads, transportation, power supply, water supply etc and also improvement in environmental conditions like better tree cover, more open spaces, more play grounds, better air and water quality etc can be achieved only when the pressure of migrants population on resources is properly understood and judiciously considered while framing policies and taking measures towards achieving 'Sustainable Urban Development'

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### ICT towards sustainable development-Teaching & learning in higher education

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**Abstract:** Information and Communication Technology is a tool of technology with communication aids such as audio, video, LCD projector with a combination of hardware and software. The researcher has studied about the role of Information and Communication Technology (ICT) in higher education towards sustainable development and analyzing the skills towards teaching and how it is helpful towards creating motivation for the students in the arts, commerce and science streams. The purpose of this paper is to know the purpose of using ICT into academic activities by the faculties and its effect on learning. Research was conducted in Navi Mumbai in the colleges of arts, commerce and science affiliated to University of Mumbai. The study is conducted using surveys and interviews among the faculties and students.

**Key Words:** ICT, Sustainable development, teaching and learning

#### 1. INTRODUCTION

Information and Communication Technology (ICT) is a process of input, processing and output. Resources that can be used as communicator or medium are eBooks, internet, intranet, interactive whiteboard, Overhead projector, Microsoft applications, smartphones etc. Technology is always advancing which can be utilized to execute the subject material to the students by the teachers anytime and anywhere. ICT makes easy to explain complex instructions, makes class interesting and improve the memory of the students. Experts contribute through their studies that ICT motivates students and enhance instructions, also teachers work more productively helping students to learn and sharpen their skills towards learning.

Sustainable development helps in transforming learning and training by integrating s principles in daily activities such as empowering and mobilizing youth today, boosting the implementation of sustainable solutions, empowering and creating capacities in educators and trainers. Education for sustainable development is a equally new concept in different parts of the world. According to various points of view and literature about sustainable development, according to the Brundtland report from the World Commission on Environment and Development it could be defined, as “meeting the needs of the present without compromising the ability of future generations to meet their own needs”.

The term became noticeable after Rio Earth Summit in 1992 which focused worldwide eco-friendly discussions and enhanced towards the framework introduced at the United Nations Conference on the Human Environment, Stockholm in 1972. The resulting Rio Declaration on Environment and Development, however, advocated the role of education in preventing ecological degradation (Cleveland & Kubiszewski, 2007).

Higher education plays important role to promote sustainable development and it is vital to do so. Hopkins and McKeown (2005) categorize the challenges faced by teachers which are: institutional awareness, support and resources; prioritizing sustainability in the educational community; reforming education systems and structures; establishing and sustaining partnerships. Many learning outcomes that support sustainable development should be lectured in the programs of higher education related to critical reflective thinking, understanding case studies, systematic way to think, planning and managing change, participating in decision-making, negotiating and building, researching skills and applying learning in a multiplicity of education frameworks.

UNESCO (2004) identified two unique opportunities for HEIs to engage in sustainable development. First, “Universities form a link between knowledge generation and transfer of knowledge to society for their entry into the labor market. Such preparation includes education of teachers, who play the most important role in providing



education at both primary and secondary levels. Second, they actively contribute to the societal development through outreach and service to society.”

As noted earlier, the concept of sustainable development was originally introduced at the first Earth Summit in 1972 in Stockholm. During this meeting of government representatives and nongovernmental organizations, education was identified as fundamental to the successful achievement of sustainable development, and a point that has been reiterated by numerous governments and practitioners in the intervening years. Since then, progress has been variable and generally unsatisfactory. However, a badly needed injection of urgency was administered in 2005, when the UN adopted a Decade of Education for Sustainable Development (DESD) (UNESCO, 2005).

A number of universities incorporated the goal to educate with a global vision for the present and the future into their traditional functions; such a vision is implicit in sustainability (Cortese, 2003, Gough & Scott, 2007).

In a related vein, Barth, Godemann, Rieckmann, and Stoltenberg (2007) argued that education and learning are key pieces for achieving sustainable development (SD). In this regard, participative methods are most effective for change in values among university members (Ferrer-Balas et al., 2010), also for the instigation of social norms that influence the adoption of sustainable lifestyles, and the promotion of universal values, anticipation of future consequences, responsibility, and even intelligence (Juárez-Nájera, Dieleman, & Turpin-Marion, 2006)

## 2. Objectives of the study

1. To analyse the purpose of using ICT for teaching.
2. To find out the sustainable development towards learning through ICT.

## 3. Research Methodology

Present study is based on the primary data collected from arts, commerce and science faculties surveyed was 100 and students surveyed was 100 in the selected colleges of Arts, Science and Commerce colleges affiliated to Mumbai University which is selected for the study. A questionnaire is used as the instrument of data collection. For arriving at meaningful conclusion the study uses percentage analysis

## DATA ANALYSIS AND INTERPRETATION

Table 1: ICT for academic activities into teaching

Sr No	ICT for academic activities	Once	More than once	More than four times
1	Use Microsoft PowerPoint for presentations	10.9%	8.9 %	10.5%
2	Create own digital learning materials for students	12.7%	8.2%	6.7%
3	Prepare exercises and assignments for students	11.0%	11.3%	6.3%
4	Provide feedback and or assess students' learning	11.5%	7.6%	7.8%
5	Download material from websites (University/ other educational websites )	7.5%	11.8%	15.2%
6	Upload learning material for students	10.9%	7.9 %	6.9%

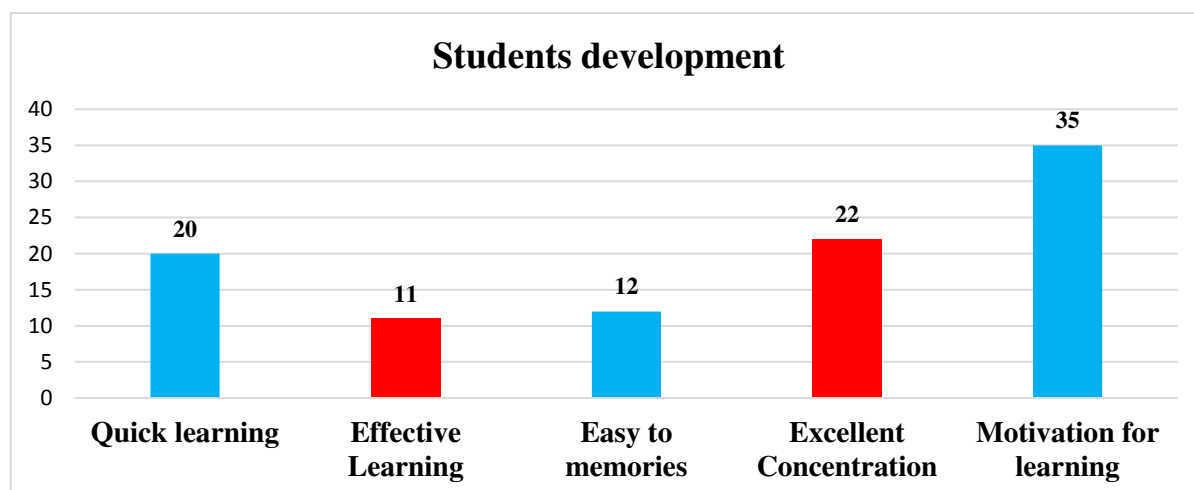
Table 1 shows that the faculties of arts, commerce and science are using ICT in academics for education purpose. Microsoft PowerPoint. for presentations is used once a week 10.9 per cent, 12.7 per cent create own digital learning materials for students, more than once which is 11.3 per cent prepare exercises and assignments for students, once a week they provide feedback or assess students learning which is 11.5 per cent, more than four times which is 15.2 per cent faculties download material from websites (University/other educational websites) and in a week Upload learning material for students which is 10.9 per cent.

Table 2: Kruskal Wallis Test for ICT into teaching

Chi-Square	77.272
Df	9
P value	.000

Above table 2 shows that since p-value for the Kruskal-Wallis test is less than that of 0.05 indicates that all the activities related to ICT are not equally practiced in the target class with equal frequency. The highest score indicates most frequently practiced activity by the faculties.

Figure 1: Effect of ICT on Students development in learning



Above figure 1 shows the effect of ICT on students learning. With the use of ICT into teaching there is motivation for learning in students which is 35 per cent, 22 percent students find excellent concentration, 20 per cent find quick learning, 12 per cent find ICT which makes easy to memories and 11 per cent find it effective into learning.

#### 4. FINDINGS & CONCLUSIONS

It has been found that ICT is critical for sustainable development. In effect, many respondents agreed that sustainable development cannot be without ICT's support. Faculties of arts, commerce and science are using ICT for their academics for education purpose. 10.9 per cent use once a week Microsoft PowerPoint for presentations, 12.7 per cent create own digital learning materials for students, more than once which is 11.3 per cent prepare exercises and assignments for students, once a week faculties provide feedback or assess students learning which is 11.5 per cent, more than four times which is 15.2 per cent faculties download material from websites(University/other educational websites ) and in a week Upload learning material for students which is 10.9 per cent. As per Kruskal-Wallis test p-value is less than that of 0.05 which indicates that all the activities are not equally practiced in the target class with equal frequency and the highest score indicates most frequently practiced activity.

It is found that the effect of ICT is there on students learning. There is motivation for learning which is 35 per cent, 22 percent students find excellent concentration, 20 per cent find quick learning, 12 per cent find ICT which makes easy to memories and 11 per cent find it effective into learning. The use of ICT in teaching enhance the learning as they find it motivational learning with concentration.

#### 5. SUGGESTIONS

In higher education faculties must adopt ICT practice in the form of training. There should be motivation among faculty and students to use the technology. ICT's can also help in decision quality, knowledge sharing, inter-organizational links which can lead to the growth of the education system and widen the network of academics. E-learning should be more into practice as it has the potential for challenges for accessing information, distance inputs during teaching and learning. Students should be made more familiar with the modern method of teaching and learning as traditional method is mostly used. This type of enhancement into teaching and learning will also help in sustaining the success of teachers with changes in the working environment.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Smart Cities – the Drivers of Economic Growth & Sustainable Development

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**Abstract:** In today's world, cities are the fundamental building blocks of all mankind. Although they make up just 2% of our world's surface, cities hold half of the global population, consume 75% of our energy resources, and emit 80% of the carbon that is harming our environment. [8]

Indian cities are urbanizing at an unprecedented scale and rate. Recent research estimates that by the year 2030, nearly 40% of Indians would be living in cities. Rapid rise in urbanization in India is leading to a plethora of related problems like Overcrowding, Unemployment, Slums, decreasing standards of living, environmental damage, pressure on resources & so on. On the other hand, Indian cities are estimated to generate 80% of the country's economic growth. There is henceforth a pressing need for cities to get smarter so as to be able to keep up with this massive urbanization. An Integrated approach with a consistent and sustainable planned strategy is the need of the hour, if India is to keep up to the pace of growth of the economy and urbanization. This paper examines the need for smart cities; some problems Indian cities are grappling with, few global success stories and how India could adopt learn and adopt some of the innovative projects which have been successful abroad. Extensive research is required to customize some globally successful ideas to the Indian context. The paper has attempted to come with a list of the factors which can make a city SMART.

**Key Words:** Governance, urbanization, integration, sustainability, citizen engagement.

#### 1. INTRODUCTION

Massive Urbanization is proving to be a major challenge for the economy of a developing country specially India. The census of 2011 estimates that about 31% of Indians live in urban areas and they contribute nearly 63% of India's GDP. These numbers are expected to go up substantially and cities are going to be the drivers of economic growth of the nation. In order to attract large investments and human talent into the city, there has to be a comprehensive development of infrastructure at all levels – Physical, Technological, Social and Economic along with improvement in the quality of life of the city-dweller. With this vision in mind Prime Minister Narendra Modi's "Digital India" envisages building 100 smart cities which will be fully equipped to manage complexities, operate efficiently providing a better quality of life. The Govt of India's "Smart Cities Mission" which is an urban renewal and retrofitting program with a mission to develop 100 cities (revised -109 cities) all over the country making them citizen friendly and sustainable. So far 20 cities have been selected though a "Smart City Challenge"

#### 2. LITERATURE REVIEW

Smart cities have been the subject of various research and studies. A short review of the literature is given below:

1. Hafeedh Chourabi, Taewoo Nam, Shawn Walker, J. Ramon Gil-Garcia, Sehl Mellouli, Karine Nahon, Theresa A. Pardo & Hans Jochen Scholl, "Understanding Smart Cities: An Integrative Framework." Hawaii International Conference on System Sciences, 2012.

The paper has identified 8 critical factors of smart city initiatives: - management and organization, technology, governance, policy context, people and communities, economy, built infrastructure, and natural environment. The paper further has drawn out an integrative framework to explain the relationships and influences among these factors.

2. *The Smart City Cornerstone: Urban Efficiency* by Charbel Aoun (2013)

This research paper advocates a step-wise approach to building smart cities namely:

- Vision and road map

- Right technology
- Integration
- Tapping innovation
- Driving collaboration

The paper advises the setting a smart city vision & moving towards it with a bottom-up, systems-based approach so as to ensure resource efficiency, & maintenance of socially inclusive growth

3. Belissent, J. (2011). *The Core of a Smart City Must Be Smart Governance*. Cambridge, MA: Forrester Research, Inc.

According to Forrester Research, smart governance is the core of smart cities initiatives

4. *Smart cities: Researches Projects and good practices for the cities* by Rocco Papa, Carmela Gargiulo, & Adriana Galderisi (2013)

The authors advocate that urban planners could provide the necessary advice and guidance for making cities smart by using smart devices and smart concepts.

5. *The Vision of A Smart City* by Robert E. Hall (2000)

The smart city concept was in a planning stage since late 1998, but it received its first funding in January 2000. The future will require rethinking of the relationships between government, city managers, business, academia and the research community

6. Toppeta, D. (2010). *The Smart City Vision: How Innovation and ICT Can Build Smart, Livable", Sustainable Cities*. The Innovation Knowledge Foundation.

This research has identified a taxonomy of the ICT and innovation role in the SMART city as Info-Mobility, Smart People, Smart Economy, Ecosystem and edemocracy as the success factors for the same.

### 3. RESEARCH METHODOLOGY

This current study is descriptive and conceptual in nature. Information has been studied and gathered from Secondary Data from sources like journals, research studies, papers presented at various international conferences, magazines, publications by Government agencies and websites.

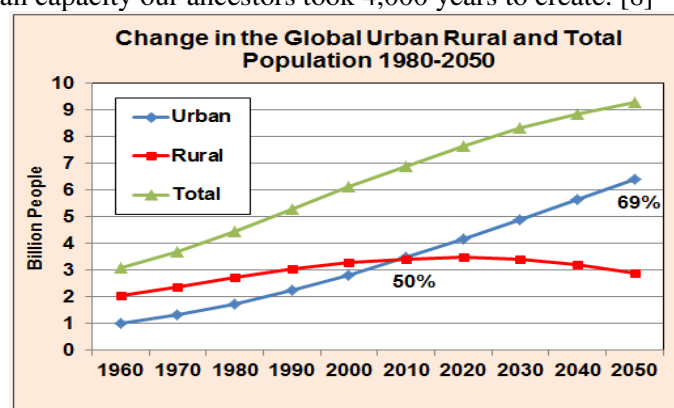
### 4. OBJECTIVES OF THE PAPER

- Analysing why smart cities are the need of the hour
- Presentation of a conceptual framework for smart cities.
- Examination of globally successful smart cities.
- Identification of Key areas which make a city become smarter.

### WHY THE NEED FOR SMART CITIES?

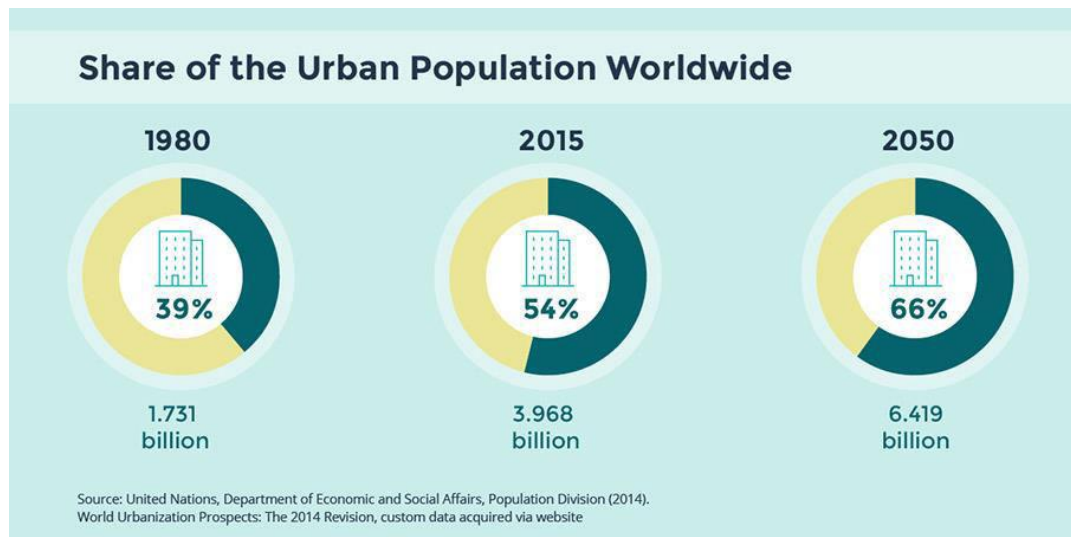
#### I. Unprecedented Urbanisation:

Cities are going to house nearly 70% of the world's population by the year 2050 [8] this means the urban areas are going to need infrastructure on a much higher scale. To accommodate this boom, in the next 40 years we must build out the same amount of urban capacity our ancestors took 4,000 years to create. [8]

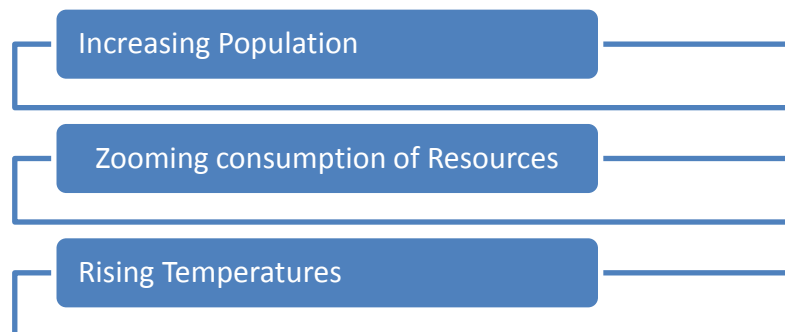


(source: <http://climatechange4fork.blog.brooklyn.edu/>)



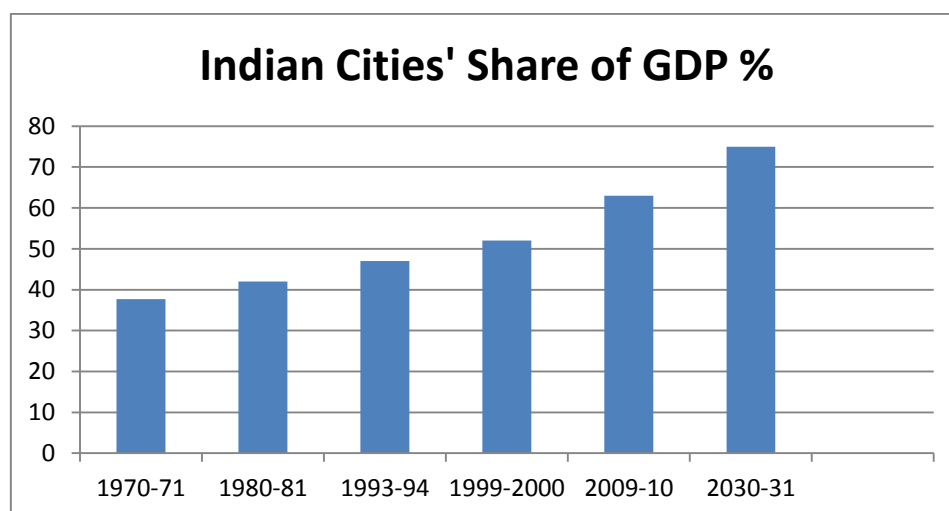


## II. Three-fold problem faced by cities:



Urban infrastructures will need to meet the challenges of city environments: energy and water scarcity; pollution and emissions; traffic congestion; crime; waste disposal; and safety risks from ageing infrastructures. [8]  
Climate change impacts like severe weather events, rising temperatures (about 6 Degrees Centigrade higher in cities), soil erosion, flooding, etc. are serious problems looming large.

## III. Cities are drivers of economic growth.



Source: Ministry of Urban Development

Indian Cities are expected to contribute nearly 75% of the Indian GDP in the next 12 to 15 years.

According to the findings of a World Economic Forum survey, included in the recently published in “Reforms to Accelerate the Development of India’s Smart Cities” report,

“Cities in India face a range of challenges to meet demand and supply gaps in urban regions, in areas such as water, waste management, energy, mobility, the built environment, education, healthcare and safety and if timely and adequate action is not taken, these challenges may worsen and could derail India’s growth.”

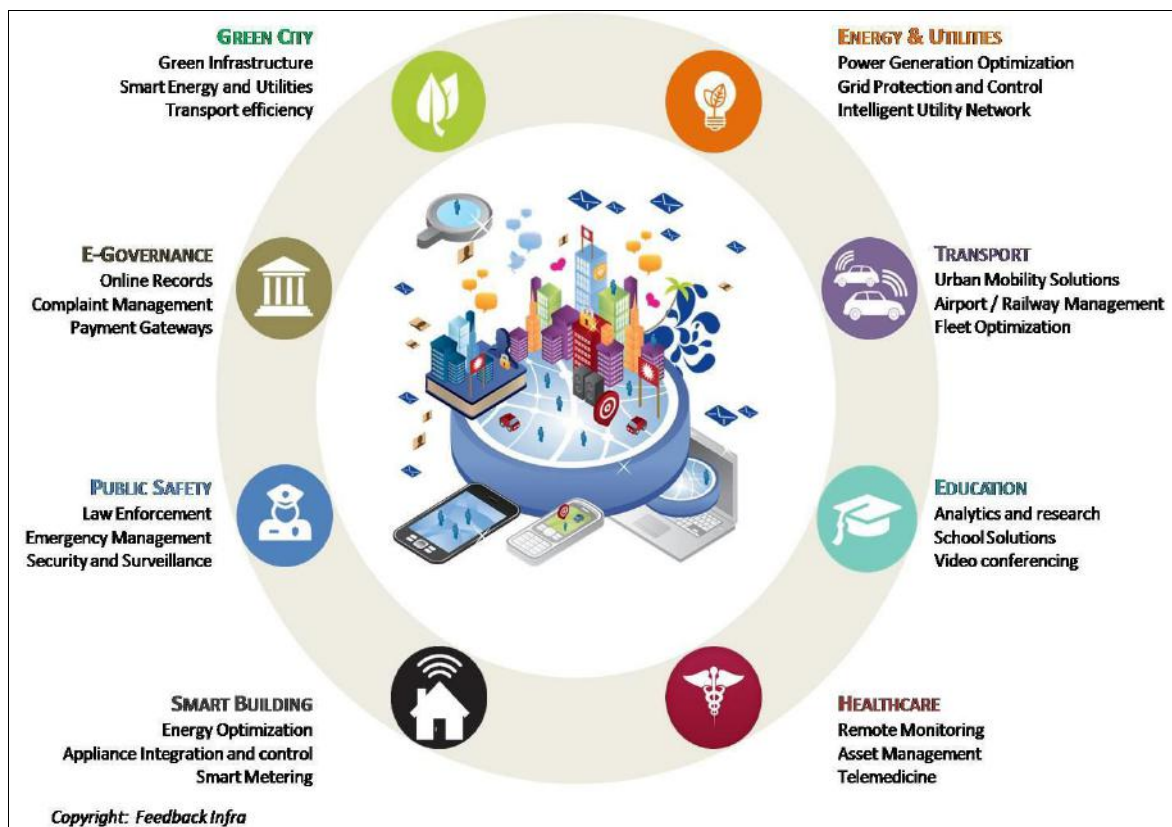
India’s animal products export prices has declined from 2013 to 2017. The reasons behind the decline are rejection of Indian animal products due to excessive use of chemicals banned by America and European Unions and lack of good storage, processing and packaging facilities. Many developing countries have increasingly become competitors of India in export of animal products in international market. And also the Indian nodal agency for food safety, Food Safety and Standards Authority of India (FSSAI), can regulate domestic market and imports but cannot regulate exports and does not have any jurisdiction over the people involved in the business of animal products. (<http://agriexchange.apeda.gov.in>, 2018)

Indian exports of animal products have dropped lacking demand and the negative impact is being felt through decline in the value of animal products in International market. (Mridul Mohan and Geethanjali Nataraj, 2015) Thus the present research paper aims in analyzing the price fluctuation of exported animal products in recent years. It will also attempt to uncover various means to improve the export and accordingly the value of the animal products in the international market.

## WHAT EXACTLY ARE SMART CITIES?

- The most effective definition of a smart city is that “IT is a community that is efficient, livable, and sustainable— and these three elements go hand-in-hand.” [8]
- “Smart cities are those who manage their resources efficiently. Traffic, public services and disaster response should be operated intelligently in order to minimize costs, reduce carbon emissions and increase performance.” Eduardo Paes
- Smart Cities target a reduction in the problems that cities face such as scarcity of resources, healthcare, water, housing, deteriorating infrastructure, climate change
- CISCO defines smart cities as those who adopt scalable solutions that take advantage of information and communications technology (ICT) it increases efficiencies, reduce costs and enhance the quality of life”

A graphical representation of smart city model is given below:



## WHY EFFICIENT SMART CITIES ARE THE SOLUTION TO A VARIETY OF PROBLEMS

- Smart Cities would solve the problem of migration of people to cities in search of employment and improvement in living standards.
- Problem of Lop-sided development of the country would be reduced gradually.
  - This would lead to more widespread growth of the economy.
- The massive investment and employment generation through creation of Smart Cities will create a multiplier effect on the economy and hasten the rate of GDP Growth.
- Creating smaller planned cities in tier-II of tier III cities and thereby reducing the migration of people and talent to the already pressurized metros.
  - **Eg:** If Nasik can become a smart city, then people staying in Nasik can work with a corporate headquartered in Mumbai. Thereby they can enjoy staying in a spacious property in Nasik with better amenities as compared to Mumbai which is already bursting at the seams. Video-conferencing can be used to conduct meetings and only personal visits occasionally requiring travel. Professionals and their families can enjoy a better quality of life in the lesser crowded and more spaced out city of Nasik.
- Smaller city units can be better managed and made more accountable to citizen groups and the centre. They can function with more autonomy and probably far better than the Municipal Corporations of today which are struggling to manage large cities which are expanding at an uncontrolled rate.
- Smart cities can reduce the carbon footprint considerably. By using green energy sources for lighting, transport etc. they can take care of environmental concerns well.

By having lots of open and green areas inside the city itself, smart cities would score higher on quality of air and other parameters, thereby improving the health of the people and the overall quality of their lives.

## A FEW SMART CITIES OF THE WORLD AND SOME SMART SOLUTIONS THEY HAVE IMPLEMENTED

- ✓ **Barcelona –**
  - Barcelona's bus transport system recently started a bus network on horizontal, vertical and diagonal lines. It has smart bus shelters using solar panels and screens providing waiting times.
  - The concept of Bicing, wherein 6000 bicycles are in circulation and can be used by paying an annual fee, operating through a bicing app.
  - Smart parking spaces, where drivers get real-time information using an app to locate a free parking space.
  - Pneumatic waste management systems- where compact drop-containers have an underground vacuum network through the pipes sucking up the trash below the ground. This eliminates the need for garbage trucks and keeps the public space clean and stench-free.
  - Efficient Lighting using LED technology which activates on detecting motion and which also collects environmental information, humidity, temperature, pollution and noise.
  - In 2000, the Barcelona Solar Thermal Ordinance stipulated that all new large buildings such as hotels, hospitals, gyms, or swimming pools have to produce their own domestic hot water, lowering emissions.
  - Barcelona is Mobile World Capital. Citizens can use various urban mobility apps like those to check out traffic.
  - Participatory citizens and responsive govt.
- ✓ **New York city –** New York is using technology to transform itself into a smart city. High-tech materials, new science and sensor networks are leading the way. Some spectacular projects which are the pipeline are:
  - *The Lowline*: which is the world's first underground park, with solar energy illuminating the underground area.
  - *LinkNYC*: this is a municipal initiative providing fast free Wi-Fi network, widespread hotspots, in order to improve internet access.
  - *CitiBike*: here thousands of bikes are stationed at hundreds of stations around the city, which are all available for use 24/7, 365 days per year. The bike fleet is on the Citi Bike app, which helps pedestrians easily access the bikes as a form of transportation
  - The subway, NYC Connected communities to increase computer centers are some other projects,
- ✓ **Vienna –** Here public buildings and houses are provided electricity & heating facilities from the largest bio-mass plant in Europe at Vienna. Bio-mass is basically fuel developed from organic materials such as scrap lumber, forest debris, manure, waste residues etc. Biomass is a renewable & sustainable source of energy.

- ✓ **Seattle** – A smart city that gives tax rebates to citizens who make use of green technology. It is reported that Seattle Energy Code results in buildings that are 11% more energy efficient

## SOME KEY SUCCESS FACTORS & SOLUTIONS IN THE INDIAN CONTEXT

### 1. Infrastructure:

Infrastructure holds the key to the success of SMART city projects. Infrastructure is the foundation on which the entire model of smart cities would rest. Govt., industry and all other participants in these projects would need to take the level of automation in the networking and communications infrastructure to a whole new advanced level.

### 2. Smart Governance:

Today's situation is such that the pressing needs of India's mega cities are lost in the labyrinth of local and state bodies, municipal corporations, urban development agencies, corruption and political will. There has to be a better co-ordination between the various agencies responsible for urban development and planning.

Smart cities require good, smart governance and the processes and technological tools that will enable it. Good governance requires data capture, integration, analytics, and tools to help the city leaders to use this data to better serve the citizens. [9]

### 3. The Humane Angle:

A smart city is a city with a heart. It is a city that gives multiple opportunities to its people to exploit their potential and lead a creative and fulfilling life. A smart city improves the quality of life of its citizens by incorporating green spaces, reduction in commuting time, better air quality and so on.

### 4. Planning before growth & planning for growth:

It has been the bane of Indian cities that growth has always preceded planning. Planning must take into account the growth in population and economy and accordingly plan for the infrastructural needs. To explain this:

A smart city can be planned to have an equal amount of space under the ground for parking taking into account the rapid rise in vehicles and need for parking spaces. Huge underground spaces can be created at the initial stages of development of the smart city.

### 5. Use of the Right Technology:

Implementation of ICT infrastructure is the key to smart city's development. ICT infrastructure includes Wi-Fi networks, hotspots and other wireless networks.

### 6. Integration of Systems:

The key first step in the integration process is deployment of sensors throughout city infrastructure to collect raw data, which is then transmitted through communications networks. Once the data is collected and available, real-time systems can use the data to automate management of city infrastructure, resulting in significant performance and cost advantages. [8]

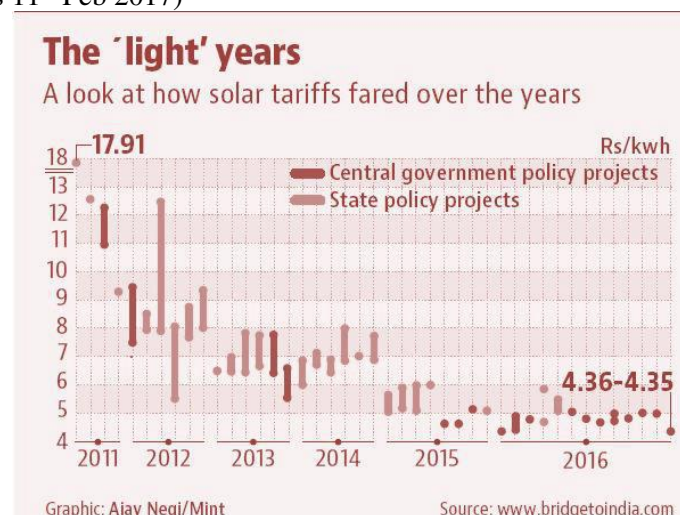
The city of Rio de Janeiro is a classic case to understand how integration of systems works. The city has 11 different control centers to manage the city's critical areas namely electricity, water, oil, gas, public transportation, urban traffic, air quality and airports.

The various systems such as water distribution system, CCTV surveillance for safety, and a traffic management system – all these are controlled by the IOC (Intelligence Operations Centre).

### 7. Emphasis on use of Solar Energy:

Recent reports say that Indian solar power tariff has touched an all-time low of Rs. 2.97 per unit.

(source: Hindustan Times 11<sup>th</sup> Feb 2017)





Compare this to the traditional electricity tariff of approx Rs. 6 to 7 per unit. It therefore makes abundant sense to tap this source on a large scale in a country like ours where the sun shines almost throughout the country and throughout the year.

New residential buildings, offices, hotels, educational complexes must have a mandatory solar panel setting to take care of at least a part of their heating needs.

8. Sustainable Community:

A core ingredient to a smart city is the use of technology to increase sustainability and to better manage natural resources. A sustainable community is one that reduces the environmental consequences of urban life. Cities have the highest carbon footprint. They are the highest contributors to carbon and other gas emissions. Rain-Water harvesting, Wet Garbage management through large-scale composting, are some of the measures which are easy to implement.

Water Management involves smart meters and management, leakage identification, preventive maintenance and water quality monitoring.

Waste management includes conversion of waste to energy and fuel, waste to compost, waste water treatment and recycling and reduction of construction and demolition waste.

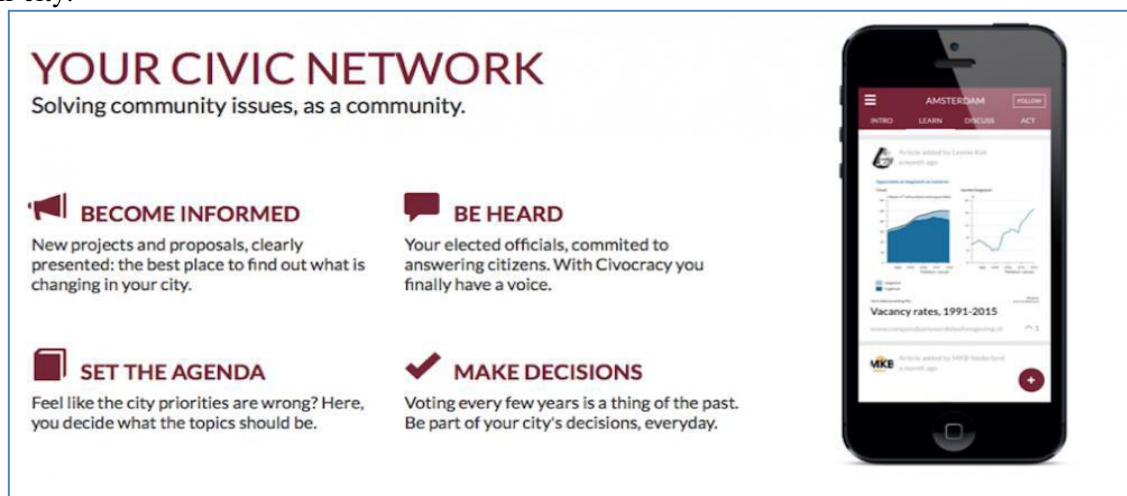
9. Citizen Awareness and Engagement :

Ashwin Mahesh says “A smart city is one in which citizens are co-managers of their city along with the public officials”. [3]

Citizen engagement using mobile as a tool—for accessing information and services, and complementing it with reporting through visuals and locations—is very important

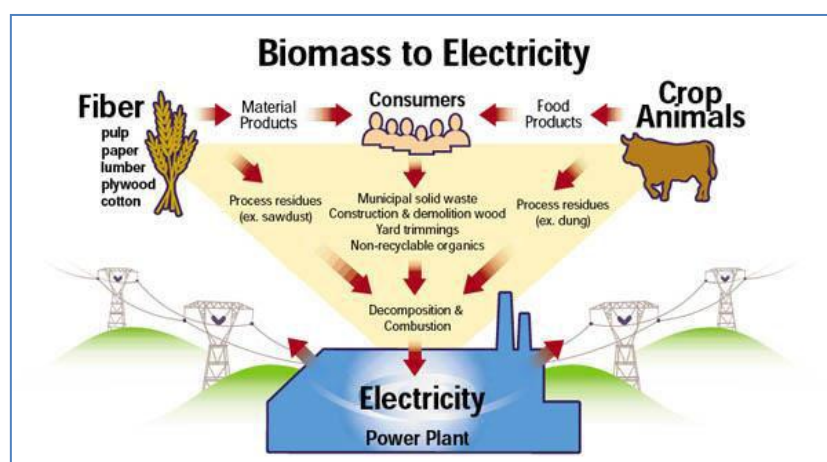
Community engagement means that the Community as a whole takes ownership for the cleanliness, resource conservation and other measures initiated by the Govt. to make the city cleaner and greener.

Massive Education and awareness campaigns must be invested into in order to ensure citizen’s responsibility for their city.



Source: [www.civocracy.org](http://www.civocracy.org)

10. Increase of Bio-Mass Energy Projects and usage.

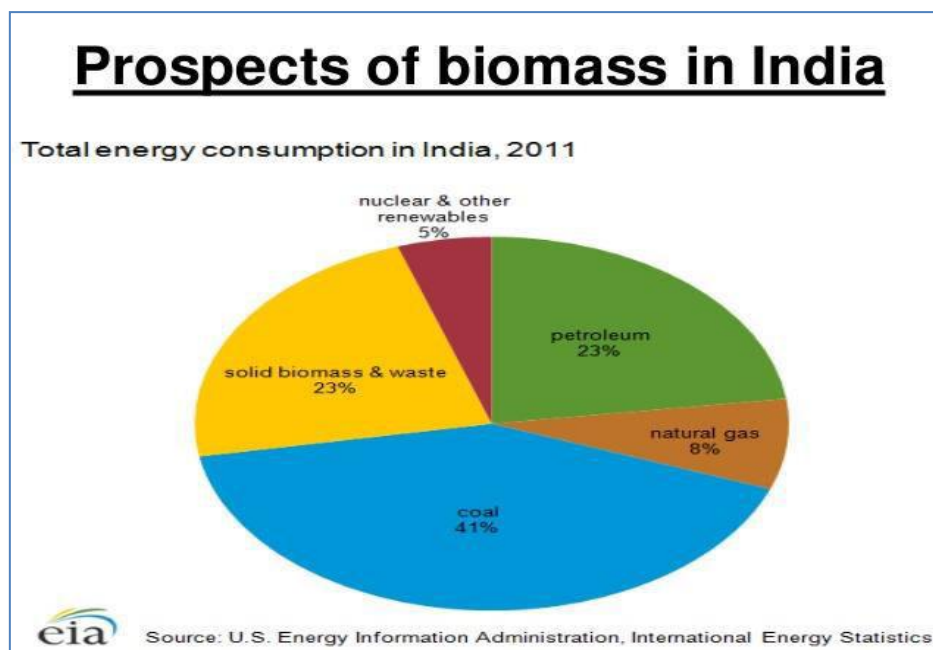




Biomass is a renewable energy resource derived from the carbonaceous waste of various human and natural activities. It is derived from numerous sources, including the by-products from the timber industry, agricultural crops, raw material from the forest, major parts of household waste and wood. [14]

Biomass does not add carbon dioxide to the atmosphere as it absorbs the same amount of carbon in growing as it releases when consumed as a fuel. Its advantage is that it can be used to generate electricity with the same equipment or power plants that are now burning fossil fuels. Biomass is an important source of energy and the most important fuel worldwide after coal, oil and natural gas. [14]

In the developed world biomass is again becoming important for applications such as combined heat and power generation. In addition, biomass energy is gaining significance as a source of clean heat for domestic heating and community heating applications. In fact in countries like Finland, USA and Sweden the per capita biomass energy used is higher than it is in India, China or in Asia. [14]



#### 11. Backing of the Schemes by Stringent Govt. regulations:

Most of the smart city initiatives need to be backed by appropriate regulatory framework. Mandatory compliance of green initiatives like waste management, Solar energy panels, rain water harvesting, smart parking etc. must be ensured by office buildings, residential complexes, hotels, educational institutions and corporate complexes.

### 5. CHALLENGES & LIMITATIONS

- Financing a Smart city project is the biggest challenge. Many governments in this global financial crisis find financing such huge investments in infrastructure a very big challenge. Paradoxically, smart city solutions actually lead to a reduction in costs by reducing the requirement of investing in new infrastructure capacities.
- Complex Chain of organization – with many departments working, foreign and local business partners – all of whom may have differing levels of understanding and expertise. To actually get all these teams to work together effectively and cohesively is a big challenge in itself.
- The success will lie in the ability to match end user needs to practical technology and sustaining the same.
- Threats of hackers, intruders, viruses and losing privacy of personal data are all a challenge for public Wi-Fi networks.
- Education of the citizens is a challenge since many of the projects require active citizen involvement such as water conservation, waste segregation etc. Enlightened and aware citizens are the tallest challenge for the success of smart city initiative.

### 6. CONCLUSIONS & SUGGESTIONS

- Any city can become a smart city. It requires a strong vision, policy backing, massive investments, citizen involvement and technology.
- The challenges before cities are going to increase at an unprecedented rate and cities have to gear up quickly and smartly to face them.

- It is the need of the hour to make the Indian common man more aware of his responsibilities towards his environment and his society by reducing his carbon footprint.
- It is expected that the concepts analysed in this paper will contribute to the literature on this subject. A technological approach with a humane angle is needed taking into account social and human factors.

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**Multidisciplinary National Seminar on  
Sustainable Development: Issues and Challenges**

**17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,**

**A Study on the Preference of People towards Using Public Transport in  
Mumbai With Respect To Chembur Area**

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**Abstract:** Public transport is the backbone of any country. It is the passenger transit system which is shared by mass public and which is available for use by the common mass. Increased usage of public transport system can offer a solution to various energy and environmental related problems of a country. This paper attempts to study about the preference of people in Mumbai towards using public transport. Many factors like comfort of transport, frequency, speed, cost, safety etc. are discussed here. The more the use of public transport, the less the number of private vehicles on the roads. The study also attempts to seek the response of the public of Mumbai towards a pollution free environment which is a major aspect of sustainable development.

**Key Words:** Public transportation, Environment, Vehicles, Pollution

## 1. INTRODUCTION

Public transport plays a very crucial role in the economic development of a country. It can rightly be called as the system which brings people and materials closer and together. Transport increases mobility of workforce and capital. It is crucial to all the sectors of the economy. An affordable and efficient public transport system is an asset to any country. On the other hand transport sector is considered as a major contributor to the pollution problems which are faced all around the world. The environmental effects of transport can be reduced encouraging electric and hybrid vehicles, motivating the people to walk and improve the cycling environment in cities, and by enhancing the role of public transport.

## 2. OBJECTIVES OF THE STUDY

- To study on the preference of people towards using of public transport in Mumbai with respect to Chembur area.
- To understand whether the commuters are aware of the environmental benefits of using public transport.

## 3. REVIEW OF LITERATURE

John Disney (1998)<sup>1</sup> identified top service quality factors in the quality of transport services. These are reliability, frequency of services, friendly services, clean bus interiors, comfort of vehicles, value for money, easy access, reasonable fares and easy to understand and remember time table.

Dhingra et al., (1986)<sup>2</sup> revealed that the accessibility, travel – time ratio, waiting time, bus density, occurrence of accidents and breakdowns, frequency and crew behaviour are the most significant and vital parameters of quality of transport services.

Panduranga Murthy (1995)<sup>3</sup> evaluated the customer service in bus passenger transportation. He identified the importance of price, quality, product features to increase the customer satisfaction in bus services. The important features identified by him are punctuality, safety, reliability, regularity and customer service.

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## 4. RESEARCH METHODOLOGY

## AREA OF THE STUDY- CHEMBUR, MUMBAI

SOURCES OF DATA- Primary and Secondary. The primary data was collected using random sampling method and the secondary data was collected from various websites, newspapers etc.

SAMPLE SIZE-50

## 5. ANALYSIS OF THE DATA

The data was analyzed using percentage method and ranking method.

### DATA ANALYSIS AND INTERPRETATION

#### 1. Have you used any kind of public transport?

RESPONSES	NUMBER	PERCENTAGE
YES	50	100%
NO	0	0
TOTAL	50	100%

**INFERENCE:** - All the respondents have used one or the other kind of public transport.

#### 2. If yes, which one?

RESPONSES	RANKING
BUSES	2
LOCAL TRAINS	1
AUTOS	3
TAXIS	4

**INFERENCE:** - Majority of the respondents are preferring local trains in the first place and then buses.

#### 3. How often do you use public transport?

RESPONSES	NUMBER	PERCENTAGE
DAILY	45	90%
SEVERAL TIMES IN A WEEK	5	10%
WEEKLY	0	0
ONCE IN A MONTH	0	0
TOTAL	50	100%

**INFERENCE:** - Around 90% of the respondents travel daily using public transport. And the remaining 10% use public transport several times in a week.

#### 4. On an average how much amount do you spend on your travelling per month?

RESPONSES	NUMBER	PERCENTAGE
LESS THAN 500	10	20%
500 TO 1000	15	30%
1000 TO 1500	20	40%
MORE THAN 1500	05	10%
TOTAL	50	100%

**INFERENCE:** -40 % of the people spend between 1000 to 1500 Rs per month for travelling. 10% each spend less than 500 Rs and more than 1500 Rs per month whereas 30% spent between 500 to 1000 Rs per month.

#### 5. What do you think about the safety aspect in public transport services?

RESPONSES	NUMBER	PERCENTAGE
SAFE	5	10%
MODERATELY	15	30%

SAFE		
NOT SAFE	30	60%
TOTAL	50	100%

**INFERENCE:-** Regarding the safety aspect most of the respondents feel that public transport is not safe. 60% say they are not safe. Only 10% opined that it is safe. Remaining 30% felt that it is moderately safe.

6. What is your opinion about frequency of public transport in your area?

RESPONSES	NUMBER	PERCENTAGE
FREQUENTLY AVAILABLE	40	80%
FREQUENTLY NOT AVAILABLE	10	20%
TOTAL	50	100%

**INFERENCE:-** 80% of the respondents have said that public transport is frequent in their area. Remaining 20 % opined negatively.

7. Are you satisfied with the comfort factor in public transport?

RESPONSES	NUMBER	PERCENTAGE
SATISFIED	10	20%
MODERATELY SATISFIED	10	20%
NOT SATISFIED	30	60%
TOTAL	50	100%

**INFERENCE:-** Only 20% of the respondents are satisfied with the comfort factor. Another 20% are moderately satisfied and the remaining 60% are not at all satisfied with this.

8. What is your opinion about the cost aspect in public transport?

RESPONSES	NUMBER	PERCENTAGE
EXPENSIVE	2	4%
MODERATE	8	16%
AFFORDABLE	40	80%
TOTAL	50	100%

**INFERENCE :-** Regarding cost aspect 80% have opined that it is affordable to the public. Only 2% have felt that it is expensive and 8% have opined that it is moderate.

9. Are you satisfied with the speed of the public transport service?

RESPONSES	NUMBER	PERCENTAGE
YES	30	60%
NO	20	40%
TOTAL	50	100%

**INFERENCE:** - 60% of the respondents are satisfied with the speed of public transport. And 40% are not satisfied in this aspect.

10. What is your opinion about the cleanliness inside public transport?

RESPONSES	NUMBER	PERCENTAGE
CLEAN	5	10%
NOT CLEAN	45	90%
TOTAL	50	100%



**INFERENCE:-**Regarding cleanliness in the public transport system, 90% of the respondents are unhappy. Only 10% do not have any problem regarding this.

11. Are you aware that usage of public transport is more environmental friendly?

RESPONSES	NUMBER	PERCENTAGE
YES	40	80%
NO	10	20%
TOTAL	50	100%

**INFERENCE:-** Regarding the environmental benefits, 80% of the respondents are aware that the usage of public transport is more friendly. 20% are unaware in this regard.

12. What changes do you think should happen in public transport services?

RESPONSES	RANKING
BETTER ENVIRONMENTAL BENEFITS	1
INCREASED ACCESS FOR DIFFERENTLY ABLED	2
MORE PUNCTUAL AND RELIABLE	4
BETTER CLEANLINESS AND HYGIENE	3

**INFERENCE:-** The respondents have opined that better environmental benefits have to be there in public transport and also better access for differently abled people.

13. In your opinion which would be an effective advertising method to promote the usage of public transport among the people?

RESPONSES	RANKING
Newspapers/ Magazines	1
Social media platform( Face book, Watsappetc)	3
Pamphlets/ Notices	4
Mobile phone SMS	2
Televisions / Radio/ Cinemas	5
Posters / Banners	6

**INFERENCE:-** Respondents opined that using newspapers/ magazines are an effective way of promoting the usage of public transport.

## 6. FINDINGS

- All the respondents have used one or the other kind of public transport. Local trains are the most sought after public transport. Majority of them are daily commuters.
- Most of them spend between 1000 to 1500 Rs per month for their travelling.
- The public transport is preferred mainly because it is affordable, frequent in their area, has good speed and people know that it is less polluting than private vehicles.
- The respondents are unhappy with the comfort factor, safety and cleanliness in the public transport.
- It was also found that providing advertisement regarding usage of public transport and its environmental benefits through newspapers, magazines and mobile phone SMS could be an effective advertising method to promote its usage among the public.

## 7. LIMITATIONS

- The study was conducted among the residents of Chembur area only. So the results are applicable to only this area and not the entire universe.
- The data collected through secondary sources are mainly based on the authors' viewpoint. So it carries its own limitations.
- The residents were less responsive as they are all busy in their respective activities.

## 8. CONCLUSION

The study regarding the preference of public transport among the people in Chembur area was undertaken to know the various factors contributing to the usage of public transport. The increase in fuel prices day by day, the polluting environment through carbon emissions from vehicles, the increase in traffic and congestion on roads etc have a major role in making the citizens shift from private vehicles to public transport. There have been several suggestions in order to reduce the harmful effect of vehicles in the environment like shifting to CNG, reduce unnecessary honking to lessen noise pollution, using more of electric vehicle, using car-pool system etc. It is very much encouraging to know that people are aware of the environmental benefits of using more public transport. This can contribute in the sustainable development of the country.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Comparative Analysis of Liquidity and Profitability within the Company and Industry: An Evidence from Indian Hotel Industry

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**Abstract:** In this paper we have studied and analyzed whether there exists any relationship (correlation) between the liquidity and profitability position within the company and industry over a period of time by taking a sample of the five leading companies falling within the Hotel Industry in India. The result of the study shows that the overall relationship of current ratio, quick ratio, total debt/equity ratio and long term debt/equity ratio with the different profitability ratios, i.e. operating profit ratio, gross profit ratio, net profit ratio, return on capital employed ratio and return on net worth ratio, 'does not significantly exists',

**Keywords:** Liquidity Ratios, Current Ratio, Quick Ratio, Total Debt/Equity Ratio, Long Term Debt/Equity Ratio, Profitability Ratios. Operating Profit Ratio, Gross Profit Ratio, Net Profit Ratio, Return on Capital Employed Ratio, Return on Net Worth (Proprietors Funds) Ratio

#### 1. INTRODUCTION

##### Liquidity of Company

The liquidity of the company is the ability to generate cash for short term survival of the business which depends upon the management of current assets and current liabilities. For short term success, proper management of liquidity position is necessary. It covers efficient management of cash, bills receivables and other receivables, inventories and individual component of current liabilities and thereby maximizing the profitability of the company, which in turn maximizes the returns in the hands of the owners i.e. shareholders of the company.

##### Profitability of Company

Profit is the most important aspect for any company. Each company exists with an object to earn profit. Lord Keynes says, "Profit is the engine that drives business." The task of management is to maximize the profits. The profits of the company may be measured by computing the profitability of the investment in business. Profitability is the ability of the given investment to earn return from its use.

Therefore the study and analysis of the liquidity ratios of a company with its effect (if any) on the profitability of the company is of vital importance to comment upon the stability, progress and achievement made by a particular company, over a period of time. It also forms the basis to researcher and scholars for their further studies.

Ratio technique is very important in the area of liquidity and profitability analysis. It is used for measuring past performance and for projecting future trends. In modern analysis, ratio analysis is an integral part as final conclusions are drawn on the basis of ratio analysis.

The various factors studied under the present study as a (possible?) relationship of liquidity with the profitability of a company and its industry are grouped as under:

Liquidity Ratio:

- Current Ratios (CR)
- Quick Ratios (QR)
- Total Debt/Equity Ratios (TD/E)
- Long Term Debt/Equity Ratios (LTD/E)

**Profitability Ratio:**

- Operating Profit Ratio (OP)
- Gross Profit Ratio (GP)
- Net Profit Ratio (NP)
- Return on Capital Employed Ratio (ROC)
- Return on Net Worth (RONW)

The Indian Tourism and hospitality sector is among the top 10 sectors to contribute highest Foreign Direct Investment (FDI). According data released by Department of Industrial Policy and Promotion (DIPP), the hotel and tourism sector attracted around USD 9.2 billion of FDI between April 2000 and March 2016. Tourism in India accounts for 9.6% of GDP and is 3<sup>rd</sup> largest foreign exchange earner for the country. Indian Hotel Industry has set up to grow by 15% a year. So we have chosen the companies from Hotel Industry in India, to study the possible (?) relationship of liquidity and profitability of these companies within themselves and with respect to the Hotel Industry as such.

The five major business houses from Hotel Industry (subject to the availability of the data) namely, Indian Hotels, EIH, Mahindra Holidays, Taj GVK and Asian Hotels (West) are selected from the Hotel Industry in India, as a sample of the study, on the basis of Market Capital.

**List of Companies from Hotel Industry (on the basis as on 31.03.2017)**

Co. No	Name of the Company	Market Capital as on 31.03.17 Rs. in Crores
01	Indian Hotels	13171.19
02	EIH	8756.44
03	Mahindra Holidays	4583.26
04	Taj GVK	1052.76
05	Asian Hotels (West)	318.83

For the understanding and analysis of the following objectives we have assembled a comprehensive tabulation of liquidity and profitability ratios (as given herein above) for the years 2012-13 to 2016-17 of the given five prominent companies, as said herein above to measure the possible (?) relationship of liquidity and profitability of the these companies.

## **2. OBJECTIVES**

1. To study and analyze the relationship of liquidity and profitability of the companies, in the Hotel industry in India.
2. To study and analyze the impact and significance of the liquidity factors on the profitability of the companies, in the Hotel industry in India

## **3. HYPOTHESES OF THE STUDY**

- H1: The impact of current ratio, on the profitability is not significant and not significantly different for the companies in Hotel industry in India.
- H2: The impact of quick ratio, on the profitability is not significant and not significantly different for the companies in Hotel industry in India
- H3: The impact of total debts and equity, on the profitability is not significant and not significantly different for the companies in Hotel industry in India
- H4: The impact of long term debts and equity, on the profitability is not significant and not significantly different for the companies in Hotel Industry in India

## **4. RESEARCH METHODOLOGY**

To study and analysis liquidity management efficiency of the company and its possible (?) impact on the profitability of the company, one has to study the financial factors which are responsible for the same. This includes the current assets and current liabilities management, quick assets and quick liabilities management, total debts and equity funds management and long term debts and equity funds management of the company.

So for the measurement of the liquidity management efficiency as seen herein above, we calculate the following liquidity management efficiency ratios of the companies selected under the study for the given period.

#### Liquidity Ratios

1. Current Ratio = Current Assets/Current Liabilities
2. Quick Ratio = Quick Assets/Quick Liabilities
3. Total Debt/Equity Ratio = Total Debt/Equity
4. Long Term Debt/Equity Ratio = Long Term Debt/Equity

#### Profitability Ratios

1. Operating Profit Ratio (OP) = Operating Profit \* 100/Net Sales
2. Gross Profit Ratio (GP) = Gross Profit \* 100/Net Sales
3. Net Profit Ratio (NP) = Net Profit \* 100/Net Sales
4. Return on Capital Employed Ratio (ROC) = Net profit before Interest & Tax\*100/(Debt + Equity)
5. Return on Net Worth Ratio (RONW) = Net profit after Interest & Tax\*100/Equity

#### • Sources of Data Collection:

As the study is specific in the nature, only secondary sources of data has been collected from the research papers and dissertations of the scholars, books of references, standard publications by institutes and organizations, financial reports and communications of authorities engaged in the study related to the topic under the study, in magazines, periodicals, newspapers, internet etc. Also Annual Reports of the companies (under the sample of the study), published and submitted to Bombay Stock Exchange are tapped.

#### • Sample Framework:

The financial data i.e. income statements, balance sheets and ratios of the five years i.e. 2012-2013 to 2016-2017, of the five prominent business houses from Hotel Industry (subject to the availability of the data) namely, India Hotels, EIH, Mahindra Holidays, Taj GVK and Asian Hotels (West) are selected from the Hotel Industry in India, as a sample of the study.

#### • Methods of Data Analysis and Use of Statistical tools and techniques:

##### (A) Use of Statistical tools and techniques

For the purpose of the data analysis, various statistical applications and tools are used such as mean, standard deviation, correlation and co-variance etc.

##### (B) Ratio Analysis

Here to study and analyze the liquidity factors and their impact (?) on the Profitability of the companies over the period under the study, different ratios are calculated as mentioned herein above.

These ratios, so computed for five years under the study, are then averaged out for every company and then compared with the averages of the every other company under the study. Then the Mean Differences (i.e. standard deviations-SD) are calculated for each ratio of each company, in comparison with such ratios of other companies under the study. Finally the correlation coefficients (r values) are calculated for each ratio of each company, in comparison with such ratios of other companies under the study.

The results of the same are tabulated herein below

## 5. DATA ANALYSIS, INTERPRETATIONS, FINDING, CONCLUSIONS AND TESTING OF HYPOTHESES: CURRENT RATIO AND PROFITABILITY

### 5.1 Current Ratio and Profitability

#### Correlation Analysis -

##### (a) Within the Company

CORREL	INDIA HOTELS	EIH	MAHINDRA HOLIDAY	TAJ GVK	ASIAN HOTELS (WEST)	AVG
CR-OP	13.46	12.10	14.98	14.90	16.43	14.33
CR-GP	9.11	5.98	10.63	8.73	9.91	8.87
CR-NP	5.58	4.21	8.26	1.00	1.39	4.09
CR-ROC	4.34	3.98	15.67	3.77	3.07	6.17
CR-RONW	3.92	1.90	10.14	0.56	1.00	3.50

### 5.2 Quick Ratio and Profitability

#### Correlation Analysis

##### (a). Within Company



CORREL	INDIA HOTELS	EIH	MAHINDRA HOLIDAY	TAJ GVK	ASIAN HOTELS (WEST)	AVG
QR-OP	13.44	11.85	14.78	14.84	16.40	14.27
QR-GP	9.10	5.73	10.63	8.67	9.89	8.80
QR-NP	5.60	3.96	8.26	0.94	1.42	4.04
QR-ROC	4.32	3.73	15.68	3.71	3.05	6.10
QR-RONW	3.93	1.65	10.14	0.50	1.02	3.45

(b) Between the Company and the Industry

Ratio	Ratio	INDIA HOTELS	EIH	MAHINDRA HOLIDAY	TAJ GVK	ASIAN HOTELS (WEST)	CORREL
QR-OP	QR	1.00	1.24	0.85	1.02	0.90	High
	OP	20.01	18.00	21.75	22.01	24.10	-0.81
QR-GP	QR	1.00	1.24	0.85	1.02	0.90	High
	GP	13.86	9.35	15.88	13.28	14.88	-1.00
QR-NP	QR	1.00	1.24	0.85	1.02	0.90	No
	NP	-6.92	6.85	12.53	2.35	-1.10	-0.03
QR-ROC	QR	1.00	1.24	0.85	1.02	0.90	Some
	ROC	7.11	6.52	23.01	6.26	5.21	-0.53
QR-RONW	QR	1.00	1.24	0.85	1.02	0.90	No
	RONW	1.00	1.24	0.85	1.02	0.90	-0.31

The above analysis of long term debt/equity ratio with profitability of the companies within the companies and between the company and industry shows that:

- there is 'negative definite significant correlation' of long term debt/equity ratio with return on capital employed and return on net worth ratios of all the five companies and the Hotel industry over a period of five years under the study and
- there is 'negative high correlation' of long term debt/equity ratio with net profit ratios of all the five companies and the Hotel industry over a period of five years under the study and
- there is 'poor correlation' of long term debt/equity ratio with operating profit of all the five companies and the Hotel industry over a period of five years under the study and
- there is 'no correlation' of long term debt/equity ratio with gross profit of all the five companies and the Hotel industry over a period of five years under the study

So the hypothesis H4, that, 'The impact of long term debt/equity ratio, on the profitability is not significant and not significantly different for the companies in auto mobile industry in India is disproved as the alternate hypothesis that, 'The impact of total debt/equity ratio, on the profitability is definitely significant (except for gross profit and operating profit) for the industry as such but is significantly different for the companies among themselves in Hotel industry in India', is proved.

## 6. CONTRIBUTION OF THE STUDY

The contribution of the study indicates that there is 'significant definite correlation i.e. relationship' that exist between the liquidity ratios with the profitability as regard to return on net worth ratios of all the companies in the Hotel Industry and to some extent it is applicable to return on capital employed for some companies. More studies for different companies from different industries need to undertake to establish the 'probable relationship (correlation) between the liquidity position and profitability of the companies within the industries existing in the market of the country.

## 7. LIMITATIONS OF THE STUDY

- The results of the study are based upon the companies under the sample of the study. It might be different for the sample of the different companies taken from the same or different industries in India.
- The period of the study is only five years, i.e. from 2012-13 to 2016-17. The results of the study might differ for the different periods even taken for the same companies under the sample of the study.
- The study only includes the financial factors of the liquidity efficiency and not the other factors like human resources etc., which might have given the different results of the study.

## **8. SCOPE FOR FURTHER RESEARCH**

Research scholars and students of research could take different companies from the same industry or different period for the same companies or for the different companies from the different industry or different factors of the liquidity efficiency and study its impact on the profitability of the company contributing maximum return on net worth and earnings per share to the shareholders i.e. owners of the companies.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Role of Sustainable Development in Environmental Jurisprudence

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**Abstract:** *While thinking of the present, the future should not be forgotten. We owe a duty to future generations and for a bright today, a bleak tomorrow cannot be countenanced. We must learn from our experiences, mistakes from the past, so that they can be rectified for a better present and the future, It cannot be lost sight of that while today is yesterday's tomorrow, it is tomorrow's yesterday<sup>1</sup>.*

*There are various factors responsible for environmental pollution like the increase in population growth of industries; there is no proper disposal of waste, the vehicles are increasing; exploitation of natural resources etc. One side we can find that pollution is increasing and on the other hand, Environmental protection laws increasing. Environment pollution is a threat to human life, and initiatives are taken from national and international level to protect environment. There has to be a nexus between industrial development and environmental sustainability. The Legislature and Judiciary have played prominent roles in protecting the Environment and in this paper I would like to discuss about the role of Legislature and judiciary in protecting environment and sustainable development.*

**Key Words:** *Environment, sustainability*

#### 1. INTRODUCTION

“Environment the term in Sanskrit / Hindu languages is Paryavaran” and it literally means “Pari - aavaram”, that is external covering or a thing encircling or encompassing the human existence<sup>2</sup>.

The term Environment includes water, air and land and the interrelationship which exists among and between water, air and land and human beings, other living creatures, plants, microorganism and property, (The Environment Protection Act, 1986 in section 2(a) Since the definition includes water, Air and land etc. there are specific laws to protect, the water, air, land etc.

The main objective of Environment Protection are the following i.e. Controlled, restricted and mindful use and exploitation of natural resources, maintenance and protection of environmental quality, protection and balancing of the eco-system, achievement of substantial development; environment awareness among the people; working out the pollution problems; environmental education and training and punishment of the polluter<sup>3</sup>.

The main air pollutants are (a) Carbon monoxide which is released from automobile engine, defective furnaces and kerosene stoves, (b) Sulfur oxides are formed when substances containing sulfur are burnt for due to volcanic eruptions smelting of sulphide containing ores, combustion of fuels such as coal, petroleum refining and geo thermal energy; (c) Nitrogen oxide formed when nitrogen and oxygen react at high temperature in industrial process and when fuel burn in internal combustion engine (a) Particulates that is small particles various things such as dust, soot, ashes, smoke, pollen etc. (c) hydrocarbons and photochemical oxidants.

The term sustainable development was coined for the first time by the International Union for the Conservation of Nature (IUCN) in the year 1980 in its “World Conservation Strategy.”<sup>5</sup> The term, sustainable development means an integration of developmental and environmental imperatives. To be sustainable, development must possess both economical and ecological sustainability. It indicates the way in which developmental planning should be approached<sup>6</sup>.

The Brundtland Report entitled “Our Common Future” published in 1987 provides:

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own need.”

It contains within it two key concepts:

The concept of “needs”, particular, the essential needs of the world’s poor, to which overriding priority should be given; and

The idea of limitation imposed by the state of technology and social organization on the environment’s ability to meet present and future needs<sup>7</sup>. The rights and responsibilities for environment protection and sustainable development adopted by the Brundtland Commission are as under:-

- All human beings have the fundamental right to an environment adequate for their health and well – being.
- States shall conserve and use the environment and natural resources for the benefit of present and future generations.
- States shall maintain ecosystems and ecological processes essential for the functioning of the biosphere, shall preserve biological diversity, and shall observe the principle of optimum sustainable yield in the use of living natural resources and ecosystems.
- States shall establish adequate environmental protection standards and monitor changes in and publish relevant data on environmental quality and resources use.
- States shall make or require prior environmental assessments of proposed activities which may significantly affect the environment or use of a natural resources.
- States shall inform in a timely manner all persons likely to be significantly affected by a planned activity and to grant them equal access and due process in administrative and judicial proceedings.
- States shall ensure that conservation is treated as an integral part of the planning and implementation of development activities and provide assistance to other States, especially to developing countries, in support of environmental protection and sustainable development.
- States shall co – operate in good faith with other states in implementing the preceding rights and obligations.

The salient principles of sustainable development from Brundtland and International Documents are the following:-

- Inter – Generational Equity;
- Use and Conservation of National Resources;
- Environmental Protection;
- The Precautionary Principle;
- The Polluter Pays Principle;
- Obligation to Assist and Co – operate;
- Eradication of Poverty; and
- Financial Assistance to the Developing Countries.

## **2. CONSTITUTIONAL PROVISIONS FOR THE PROTECTION OF ENVIRONMENT:**

The Constitution of India is considered as the ground norm in matters relating to environmental jurisprudence. The Constitution of India contains various protective measures with an intention to protect the environment in the form of Rights, duties and directive principles. The Constitution plays a dual role in this matter whereby it gives the citizens the Fundamental right to live in a sustainable environment and provides necessary directions to the State to ensure this goal is protected. The quintessential constitutional provisions in this regard are;

- Article 21 No person shall be deprived of his life or personal liberty except according to procedure established by law.
- Article 47 of the Directive Principles of States Policy which reads: the State shall regard the raising of the level of nutrition and standard of living of its people and improvement of public health and among its primary duties.
- Article 48 – A Protection and Improvement of Environment and safeguarding of Forests and wildlife. The state shall Endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.
- Article 51 A is important which provides “It shall be the duty of every citizen of India.... To protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures.”

Stockholm Conference is considered as the Magna Carta for the Protection of Environment. Keeping in mind the international principle of Facta Sunt Servanda, it became a constitutional duty of the State to enact various legislation to achieve the objectives laid down in the conference. The below mentioned Acts, Rules and Notification dealing with the protection of Environment was legislated keeping in mind the principles laid down in Stockholm Declaration.

The Environment (Protection) Act and Rules, 1986, The National Environment Appellate Authority Act, 1997, The Urban Land (Ceiling and Regulation) Act, 1976, the water (Prevention and Control of Pollution) Act and Rules 1974, 1975. The Coastal Regulation Zone Notification, 1991. The Air (Prevention and Control of Pollution) Act, Rules and

Amendments, 1981, 1982, 1983, 1987. The Motor Vehicles Act, 1988. The Hazardous Wastes (Management and Handling) Rules, 1989. The Forest Act, 1927. The Wild Life (Protection) Act, 1972etc

### **3. PROVISIONS UNDER CRIMINAL LAW**

There are various provisions in the Indian Penal Code and Criminal Procedure Code, which restricts and provides procedural remedies in matters concerning Environment. E.g. Section 133 deals with cases of public nuisance where in the Magistrate is empowered to pass condition order for removal of public nuisance. Section to 268 to 294-A of Indian Penal Code 1860 deals with Environmental Protection.

### **4. VARIOUS JUDICIAL PRONOUNCEMENTS ENSURING SUSTAINABLE DEVELOPMENT**

The Judiciary had played an active role in protecting environment and as applied the principles of sustainable development some of the areas in which the Judiciary had taken decisions are Quarrying, Mining, Stone Crushing, Tree Felling Industrial Pollutions Etc. Some of the land mark judgments are the following:

In T.N. Godavarman Thirunpalad v. Union of India, (2002) 10 SCC 606 at 630, the court held that, Environmental Law is an instrument to protect and improve the environment and to control or prevent any act or omission polluting or likely to pollute the environment.

In MC Mehta v. Union of India. (AIR 1988 SC 1037) the court held that we are conscious that closure of tanneries may bring unemployment and loss of revenue but life, health and ecology have greater importance to the people.

In Rural Litigation and entitlement Kendra, Dehradun v. State of UP. AIR 1985 SC 652, the Supreme Court has entertained environmental complaints alleging that the operations of limestone quarries in the Himalayan range of Mussoorie resulted in the degradation of the environment affecting ecological balance. The Supreme Court in an application under Article 32 has ordered the closure of some of these quarries on the ground that their operations were upsetting ecological balance. In this case the Court observed that “this would undoubtedly cause hardship to them, but it is a price that has to be paid for protecting and safeguarding the right of the people to live in healthy environment with minimal disturbance of ecological balance and without avoidable hazard to them and their cattle, home and agricultural land and undue affection of air, water and environment.”<sup>10</sup>

The other landmark judgment are Kinkri Devi v. State (AIR 1988 H.P. 4) it was related to unscientific and uncontrolled quarrying of the limestone has caused damage to the Shivalik Hills and was posing danger to the ecology, environment and inhabitants of the area.

The State of Himachal Pradesh v. Ganesh Wood Products, (AIR 1996 SC 149 Pg. 67 Dr. HNT) the Supreme Court while reiterating the significances of intergenerational equity observed: “It is contrary to public interest involved in preserving forest wealth, maintenance of environment and ecology and considerations of sustainable growth and intergenerational equity. After all, the present generation has no right to deplete all the existing forests and leave nothing for the next and future generations”.

The Supreme Court in T.N. Godavarman Thirumulpad v. Union of India, (Forest Conservation Case) (1997) 2 SCC 267) issued direction for protection of cutting trees for the sake of protecting forest.

M C Mehta V. Union of India (AIR 1987 SC 965 Oleum Gas Leakage Case) this was a case related to Industrial Pollution and sustainable development. The Supreme Court has passed many principle which is new to the Indian Environmental Jurisprudence.

Indian Council for Enviro – legal Action v. Union of India (1996 3 SCC 212) (H-Acid Case) is another monumental judgment on environment protection and sustainable development. A PIL was filled in this case alleging environmental pollution caused by private industrial units it violated the right to life of citizens under article 21 of the constitution.

M C Mehta v Union of India (1997 2 SCC 353) Taj Mahal Case based on the principle of sustainable development and where the Court applied the “Precautionary Principle”.

In Susetha v. State of T.N. (2006) 6 SCC 543 at 547 the court held that both development and environment must go hand in hand, in other words, there should not be development at the cost of environment and vice – versa, but there should be development while taking due care and ensuring the protection of environment.



The Concept of 'intergenerational equity' was applied by the High Court of Karnataka in Mathew Lukose v. Karnataka State Pollution Control Board, (1990 (2) KLT 686) in which it observed: "The world belongs to us in usufruct, but we owe a duty to the posterity and to the unborn to leave this world at least as beautiful as we found it."

## **5. CONCLUSION**

From the above study it reveals that the Legislature, Judiciary, Government, Policy Makers have taken effective steps for protecting the environment. It has become not only a National but an International issue. Being a human being it is the duty and responsibility of every individual to see that all steps should be taken to create a healthy environment. Industrial and technological developments are required for economic development but sustainable development is also equally important.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### To Study the Issue of Social Inclusion & Social Exclusion among Indian Tribes

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**Abstract:** Social inclusion is the act of making all groups of people with a society feel valued and important. Social exclusion is the social disadvantage and relegation to basic foundation of the society. It is a term widely used in Europe and was first used in France. It is used across disciplines including education, sociology, psychology, politics and economics.

There is a lot of controversy over the present day development paradigm of tribal. The tribal people have been facing problems from both inclusion and exclusion from the dominant development paradigm of the country the tribal societies have experienced religious and other cultural inclusion into the so called universal or dominant culture and education etc. has led them to a situation where they found it difficult to cope with the outside world as present day situation.

This paper attempts to understand the real meaning of social inclusion and social exclusion in Indian tribal population.

**Key Words:** Social inclusion, Social exclusion, tribes, development paradigm, Objective, Methodology, Limitation, Paradigm, Poverty, ILO, Constitution of India, Socio- cultural, Economic, Caste sphere, constant change, Tribal group

#### 1. INTRODUCTION

The term 'social inclusion' and 'social exclusion' are the two terms most widely used in recent years. The concept of inclusion means the encompassing of the entire population in the performances of the individual function systems. On the one hand, this concerns access to these benefits and on the other hand dependence of the individual mode of living on them. To the extent that when inclusion is achieved groups disappear.

Whereas the conceptual development of social exclusion draws from two leading social policy traditions: social democracy and social catholic concern for socialites in the community and within the family. The term 'social exclusion' is ambiguous and contested. Definitions range from little more than re-naming of poverty to broader based concepts based on the lack of or inability to participate in society.

Rodgers (1995) visualized exclusion from goods and services, labor market exclusions etc. discussions of social inclusion and exclusion also relates to citizenship debates which show dichotomy between individualism and collectivism. Silver (1994) distinguished three paradigms of social exclusion depending in particular on baggage.

#### 2. OBJECTIVE OF THE STUDY

- 1) To study the role of social inclusion and exclusion in tribal communities in India.
- 2) To understand their social, cultural, economic & caste sphere with respect to social inclusion.

#### 3. METHODOLOGY

A literature review method was used to understand the concepts of social inclusion and exclusion among tribes in India.

#### 4. LIMITATION OF THE STUDY

Since the literature review method was adopted a lot of factual data and research based data could not facilitate the writings of this paper.

#### The concept of social inclusion and exclusion

According to liberal individualistic theories individuals are able to move across boundaries of social differentiation and economic divisions of labor and emphasize the contractual rights and obligations.

In this paradigm exclusion reflects discrimination, the drawing of group distinctions that denies individuals full access to participation in exchange or interaction.

Exclusion is defined as a consequence of a formation of group monopolies now poverty is recognized to be multi-dimensional phenomenon, encompassing income, assets, education, health, dignity and voice.

But still poverty continues to be understood as a single phenomenon that is the root of social inclusion in economic terms. Sociologists have paid greater attention to identify based form of disadvantage. Such disadvantage effects the cultural devaluation of groups and categories of people in a society.

Though it is generally presumed that exclusion is detrimental and inclusion is positive, in practice this may not be true. Coercive inclusion by market or by dominant social system in any form may cause harm to the social web of the new entity. Coercive inclusion may be in the form of child labor women in wage labor with differential payments putting tribal people in unskilled and unprotected labor force and as immigrant workers etc. Similarly exclusion is not always bad.

Both from social and market perspective discourse on inclusion and exclusion of tribal people is relevant in the current situation. It is presumed that both poverty and exclusion are interrelated. Conventional poverty indicators reveal a strong co-relation between being tribal and being poor or extremely poor. Tribal people are more likely to have lower income, poorer physical living conditions, less access to health care, education and other services, little access to labor, land and capital markets and worse access to work as well as weak political representation.

The poverty and social exclusion experienced by tribal people are largely due to discrimination at social and institutional level during colonial and post-independent era.

### **The tribes in India**

Tribes are defined on the basis of certain specific characteristics which are not uniform for every society. According to ILO Convention No.169 indigenous and tribal people are those people “whose social, cultural and economic conditions distinguish them from other sections of the national community and whose status is regulated wholly or particularly by their own customs or traditions or by special laws or regulations.

In India we come across many social groups or societies who might have some of these characteristics. But all of them are not denoted as tribal groups. Thus when we talk of tribes we talk of scheduled tribes, the social groups recognized or listed in the schedule of the Constitution of India.

Therefore scheduled tribes are defined as “such tribes or tribal communities or parts of the groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purpose of this Constitution”. It is generally accepted that in selecting the tribal people the following characters are taken some sort of priority’s indications of large and backwardness. The criteria are not spelt out in the Constitution but have become well established.

### **Tribes as self-excluded groups**

By traditional definition, tribal societies are self-sufficient (not economic front). Self-sufficiency means they need not interact with non-tribal societies for their social, cultural and physical existence. This very nature of tribal people kept themselves away from the rest of the society. The tribal people had crude form of trade relations with non-tribal world but that was not sufficient to penetrate their social core. Thus it is quite clear that exclusion of tribal societies was a self – imposed criterion.

### **Tribal assimilation**

In socio-cultural sphere- Indian tribes and issue of social inclusion and exclusion in both the cases, a lot of tribal traditional entities were either merged or lost to universal religious domain. Along with religion, social and economic front has witnessed a drastic change afterwards. Thus a new term has evolved called detribalization, giving rise to the problems of identity crisis. Identity crisis arises when a group of people does not left with anything unique of their own fundamental except the undesirable differential treatment they receive from the others.

The economic sphere- Inclusion of tribal world into the non-tribal domain was mainly aimed at or focused on economic exploitation of tribal people and their resources. Intentional or not, the tribal people lost their traditional authority over their economic resources – land, forest and other resources, several land reform policies, land acquisition act and land distribution policies deprived tribal people of their livelihood. During colonial administration

numerous non-tribal people entered tribal areas as traders, services providers, contractors and money lenders etc. They exploited tribal people in various ways. The post independent inclusion of tribal territories into development map of the state has displaced millions of tribal people of their home, makes them independent on others mercy.

The caste sphere- In a caste based ranked society as it was prevalent during colonial era and at the dawn of Indian Independence, the tribal people were unable to identify themselves and place themselves in social strata. They had to identify at best as caste people for meaningful social interaction.

Thus the only way for the tribal people was to imbibe several caste components leaving behind their own traditional rites and rituals, customs and food habits and ways of life. The legendary stories flourished everywhere linking tribal people with the caste groups and caste literature and greater Hindu traditions. A very general observation also can make it clear that the parochial legends found at regional level do not find their place in the domain of universal or all Indian level.

## 5. CONCLUSION

There is a constant change and also relative stability to maintain equilibrium. Thus exposure to non-tribal domain at different period of ethnic history has ear marked numerous changes in tribal cultural component. The extent and intensity of such changes primarily depends on a society's need based integrity to its cultural components and life ways. The change in surrounding speeds up the process in cultural domain of the tribal group. There is a negative trend among the tribal group, who in turn are in the verge of losing its unique identity. One has to be clear about the fact that no one can deny changes in society.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### The Smart Cities: The Paradigm Shift for Modern Urbanization.

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**Abstract:** *The Smart Cities Mission is one of several urban schemes launched by government, with the ostensible goal of improving the quality of life in India's cities. A smart city will ideally offer swift seamless mobility, round the clock accessibility to urban services, access to quality healthcare, education, jobs and affordable housing. Smart cities aim to reduce anticipated complexities and expenses that accompany future urbanization. Hence, integration of Information and Communication Technology (ICT), energy efficiency and sustainability form the backbone of these cities. For enabling and supporting these initiatives, the smart cities also require accountable, empowered urban local bodies. Overall, smart cities promise to provide a quality of life that can support future generations sustainably. Thus this paper attempts to understand the smart cities mission and challenges towards its implementation.*

**Keywords:** *Smart Cities, Information Technology, Urbanization*

#### 1. INTRODUCTION

With increasing urbanization, India's population is expected to increase from 377 million in 2011 to 600 million people by the year 2031. Almost 50% percent of the total population will live in urban areas. According to a recent report on Indian urban infrastructure and services by a high-powered expert committee set by the Indian government, the urban share of the GDP is expected to rise to 75% in the year 2030 from around 62-63 percent in the year 2009-2010. The number of cities is projected to increase to 87 in the year 2031 from 50 in 2011. Urban areas will be critical to the economic growth of the country and they will require a massive overhaul to accommodate the future population. To cater to this increasing urban population in the future, cities need to plan and provide a suitable environment for future investments, create new jobs and livelihoods, build reliable public infrastructure, provide social services with ample access to affordable housing and most importantly support efficient use of resources for a sustainable quality of life.

Smart cities introduce a new paradigm in the way cities are envisioned. There is no singular definition for a 'Smart' city; however, it can be identified by certain characteristics. A smart city should ideally offer swift seamless mobility, round the clock accessibility to urban services, access to quality healthcare, education, jobs and affordable housing.

With this context, Prime Minister Narendra Modi's vision "Digital India," has set an ambitious plan to build 100 smart cities across the country. Modi in his speech quoted, "Cities in the past were built on riverbanks. They are now built along highways. But in the future, they will be built based on availability of optical fiber networks and next-generation infrastructure."

The Government of India allocated INR70.6 billion (US\$1.2 billion) for Smart Cities in Budget 2014-15. Given the sheer scale of the development plan, the public resources would largely be insufficient and the government is working on envisaging new financing routes to boost the program.

The government machinery is working on putting together the standards for executing this mega plan, and identifying the cities to be developed in consultation with states. A few smart cities are already coming up across the country, including Kochi Smart City, Gujarat International Finance Tec-City (GIFT) in Ahmedabad, Naya Raipur in Chhattisgarh, Lavasa in Maharashtra and Wave Infratech's 4,500-acre smart city near New Delhi.

India has also been inviting foreign partnership in developing the smart cities and has signed deals to build eight cities — three with Germany, three with the US, and one each with Spain and Singapore.

India's Smart City plan is part of a larger agenda of creating Industrial Corridors between India's big metropolitan cities in India. These include the Delhi-Mumbai Industrial Corridor, the Chennai-Bangalore Industrial Corridor and the Bangalore-Mumbai Economic Corridor. It is hoped that many industrial and commercial centres will be recreated as "Smart Cities" along these corridors. The Delhi-Mumbai Industrial Corridor (DMIC), which is spread across six states, seeks to create seven new smart cities as the nodes of the corridor in its first phase.



Interestingly, these corridors are developed by the Indian Government in collaboration with foreign governments who are keen to find their domestic private enterprises new avenues of investment. Japan is helping India develop its smart cities by investing US\$4.5 billion in the first phase of the DMIC project through lending from the Japan International Cooperation Agency (JICA). JICA has also taken up master planning for three “Smart Cities” — Ponneri in Tamil Nadu, Krishnapatnam in Andhra Pradesh and Tumkur in Karnataka — in the Chennai-Bangalore Industrial Corridor. The UK is collaborating with India for developing the Bangalore-Mumbai Economic Corridor project with the help of private companies from Britain.

Smart cities aim to reduce anticipated complexities and expenses that accompany future urbanization. Hence, integration of Information and Communication Technology (ICT), energy efficiency and sustainability form the backbone of these cities. For enabling and supporting these initiatives, the smart cities also require accountable, empowered urban local bodies. Overall, smart cities promise to provide a quality of life that can support future generations sustainably.

## **2. OBJECTIVES OF THE STUDY**

1. To study the concept of smart cities development in India.
2. To analyse the areas of concentration for smart city project in India
3. To identify the challenges in smart city development.

## **3. METHODOLOGY**

The study is based on secondary data analysis by referring the government reports on smart cities and reports released by private research organisation. Also some of the news articles are referred for data collection.

## **4. AREAS TO BE CONCENTRATED TO MAKE SMART CITIES:**

### **Power:**

According to the Planning Commission of India's Twelfth Plan energy projections, only about two-thirds of our total energy needs will be produced domestically by the year 2021-22. Dependency on imports will be essential to bridge the energy demand and supply gap. Energy intensive smart cities will only spike up the already heavy dependence on fossil fuels for energy production, unless renewable fuel alternatives are available. Currently, only 2 percent of India's energy generation can be attributed to renewable sources. There is an immediate need to develop technologies to increase dependence on alternative energy sources to make smart cities financially and ecologically viable. Coal-based energy supply cannot be a long term solution for an initiative that aims to be sustainable in its approach.

### **Infrastructure:**

According to the report by the high-powered expert committee mentioned earlier, a total investment of about INR 39.2 lakh crores will be required over the next 20 years to meet the infrastructure deficits and service delivery shortcomings. Urban services like water supply, sewerage, solid waste management, storm water drains etc., would require at least 20% of the total anticipated investment. Construction, operation and maintenance of new and existing infrastructure will also be critical.

### **Funds:**

The government has suggested a few mechanisms to financially support the smart cities. Internally, the city governments need to mobilize funds from various resources while not limiting themselves to urban development schemes. Land value-based taxation reform needs to be brought in. User charges for utilities need to be adjusted to reflect costs. Increasing the development density through revised Floor Space Index (FSI)/ Floor Area Ratio (FAR) will not only help to bring down the overall real estate prices but it will also improve the overall financial viability of the physical infrastructure projects (like roads, metros, rails, etc. Funds need to be leveraged from prospective domestic and international private investors as well. Currently, the total private investment in infrastructure is very little and most of this was implemented through Public Private Partnership (PPP) model. So far, the policies for foreign direct investment (FDI) have not been in favor of the investors, owing to a poor structure of the PPP schemes. Additionally, banks have been now permitted to raise long term funds for lending infrastructure sector. This was further supported with concessions on the mandatory bond holdings and cash reserve requirements.

### **Technology:**

Smart cities are defined by extensive use of technology to make the cities sustainable and improve the overall quality of life. Such technology dependent initiatives require platforms that allows constant innovation and improvement of existing technologies to increase the overall performance in all sectors including digital technology, automobiles, and energy, healthcare and transport systems.

### **Skill human capital:**

Smart cities require 'smart' citizens to run and maintain the cities as well. The working population needs to be prepared for the employment opportunities that the cities will provide. In addition to this, they need to embrace the innovations, adapt and engage. Access to quality education and training, and other necessary support and guidance will be critical. Capacity building to improve the skills of personnel in relevant government agencies is also required for quick absorption of various new technological interventions in the government processes.

### **Formation and Communication Technology (ICT):**

ICT forms the fundamental support system for smart cities and it is integrated across different sectors to achieve transparency and efficiency in processes. It can be used to improve power use and distribution, ensure 24/7 water supply, improve efficiency in mobility through intelligent transportation and traffic management, enhance automated surveillance and security systems and enable Wi-Fi powered open spaces and houses for businesses. It can also be implemented for efficient use of scarce resources and real-time tracking of available services.

### **Governance:**

Governance becomes a crucial part of the implementation and sustenance of a smart city. Smart cities include an integrated governance system that employs technology for ease of movement of information and efficiency in all of its processes across several departments. E-services, social media, applications and other platforms allow interaction between the government and its citizens whilst keeping the latter engaged and updated about the latest developments.

## **5. INITIATIVES TO BE UNDERTAKEN IN INDIA'S SMART CITY PROGRAM**

Smart Governance: Investments of about US\$1.2 trillion will be required over the next 20 years across areas such as transportation, energy and public security to build smart cities in India. Highlights:

- US\$1.2 billion allocated for smart cities and FDI norms relaxed
- US\$83 million allocated for Digital India Initiative
- PPP Model to be used to upgrade infrastructure in 500 urban areas
- Smart City projects to create 10-15% rise in employment
- Ministry of Urban Development has plans to develop 2 smart cities in each of India's 29 states
- Delhi Mumbai Industrial Corridor Development Corporation Ltd (DMICDC) plans seven "smart cities" along the 1,500 km industrial corridor across six states with a total investment of US\$100 billion

### **Smart Energy: Three crucial dimensions of smart energy systems are: Smart Grid**

- Electrification of all households with power available for at least 8 hours per day by 2017
- Establish smart grid test bed by 2014 and smart grid knowledge centre by 2015
- Implementation of 8 smart grid pilot projects in India with an investment of US\$10 million
- Addition of 88,000 MW of power generation capacity in the twelfth five year plan (2012-17)
- India needs to add at least 250-400 GW of new power generation capacity by 2030
- The Power Grid Corporation of India has planned to invest US\$26 billion in the next five years
- Smart Meters
- India to install 130 million smart meters by 2021

### **Smart Environment: Three crucial dimensions of ensuring sustainable development are: Renewable Energy**

- Ministry of New and Renewable Energy has plans to add capacity of 30,000 MW in the 12th Five Year Plan (2012-17)
- Water and Waste Water Management
- The Indian Ministry of Water Resources plans to invest US\$50 billion in the water sector in the coming years
- The Yamuna Action Plan Phase III project for Delhi is approved at an estimated cost of US\$276 million
- Sanitation
- About 67% of the rural population continues to defecate in the open, and India accounts for about 50% of the world's open defecation
- The Government of India and the World Bank have signed a US\$500 million credit for the Rural Water Supply and Sanitation (RWSS) project in the Indian states of Assam, Bihar, Jharkhand and Uttar Pradesh

Smart Transportation: The Government of India has set ambitious targets of developing public transportation system to support the ever growing urban populace. Green Transport

- The Government of India has approved a US\$4.13 billion plan to spur electric and hybrid vehicle production by setting an ambitious target of 6 million vehicles by 2020
- Electric vehicle charging stations in all urban areas and along all state and national highways by 2027 Railways
- Metro: Ministry of Urban Development plans to invest more than US\$20 billion on the metro rail projects in coming years
- High Speed Rail: The proposed 534 km Mumbai-Ahmedabad high speed rail project will have an investment of around US\$10.5 billion
- Monorail: India's first monorail project at Mumbai will cost around US\$500 million, of which US\$183 million has been spent on phase I

#### **Smart IT & Communications: Information and Communications Technology**

- Cloud computing will evolve into a US\$4.5 billion market in India by 2016
- Broadband connections to 175 million users by 2017

#### **Security and Surveillance**

- Under the flagship "Safe City" project, the Union Ministry proposes US\$333 million to make seven big cities (Delhi, Mumbai, Kolkata, Chennai, Ahmedabad, Bangalore and Hyderabad) to focus on technological advancement rather than manpower Disaster Management
- The Government of India and World Bank signed US\$236 million agreement for reducing disaster risks in coastal villages of Tamil Nadu and Puducherry.

#### **Smart Buildings:**

- India is expected to emerge as the world's 3rd largest construction market by 2020, by adding 11.5 million homes every year
- The Intelligent Building Management Systems market is around US\$621 million and is expected to reach US\$1,891 million by 2016
- Smart Buildings will save up to 30% of water usage, 40% of energy usage and reduction of building maintenance costs by 10 to 30%.

#### **Smart Health Hospitals**

- Health budget up by 27% in FY 2014-15 to US\$5.26 billion, with special focus on improving affordable healthcare for all
- To establish six new AIIMS like institutes and 12 government medical colleges in the country
- Accessible, affordable and effective healthcare system for 1.2+ billion citizens

#### **Insurance**

- FDI limit in the insurance sector increased to 49% from 26%
- Insurance industry has potential to reach US\$1 trillion by 2020

#### **Medical Devices**

- Indian medical devices market to reach US\$11 billion by 2023
- 100% FDI allowed in the medical devices sector under the automatic route
- Wellness
- Indian wellness industry is expected to reach around US\$16.65 billion by 2015

Smart Education: The Government of India has allocated US\$13.95 billion in the Union Budget 2014-15 for the education sector, up by 12.3% from the previous year.

- Budget has allocated US\$78.5 million to set-up five new IITs and five new IIMs
- The Ministry of Human Resource Development plans to have 1,000 private universities for producing trained manpower to meet services and industry requirements
- 100% FDI allowed in the education sector
- India's online education market size expected to be US\$40 billion by 2017

### **6. CHALLENGES FOR SMART CITIES IN INDIA**

India is currently lagging seriously behind on sustainability of its urban areas for a variety of reasons that range from overcrowding and congestion to poor quality and grossly inadequate infrastructure resulting in polluted and decaying living environs. Consequently there are a number of challenges in retrofitting and even developing new smart cities. The most prominent ones are:

### **Poor Governance structure:**

Urban local governments in India have limited financial autonomy and the capacity to raise resources. The municipal governments are dependent on fiscal transfers. Several studies have identified fragmented institutional set-ups and overlapping jurisdictional responsibilities as a hindrance in smooth implementation of projects and their service delivery to citizens. Additionally, the poor operation and maintenance of the existing assets has resulted in further problems. The governance structures need massive restructuring to undertake a major project such as the implementation of smart cities. There needs to be a shift away from state-centric planning to a more decentralized but regionally inclusive approach. The urban local bodies need to be strengthened to be financially sustainable to undertake large-scale projects that provide effective local level solutions. There is a need to develop a shared design vision between different government bodies to support efficient implementation. Finally, there is also a strong need to ensure that those in government are suitably trained and geared up for: a) speedy responses to the real-time problems, and b) flexibility and imaginativeness to evolving demands of citizens. Thus the government needs to constantly evolve to adapt to the changing needs and respond to its citizens, thereby making them accountable and transparent at the same time.

### **Complex social structure:**

Urban India hosts dense and highly populated microcosms of different population groups classified on the basis of religion, caste, community, social status, occupations, origins, beliefs, etc. On top of that, most large cities have half or more of their population dwelling in slums. Smart cities need to be able to cater to these diverse client groups whilst ensuring that their privacy and security are not compromised on. Further, all services and infrastructure have to be affordable for all sections of the population and these cities should not become gated communities meant for a privileged lot.

## **7. CONCLUSION**

Indian economy is being increasingly driven by highly skilled services such as Information Technology (IT), telecom, engineering and knowledge services, there is tremendous potential to utilize and develop the available human capital and skills for incubating future innovations in ICT integration. In addition to this, the political will and commitment of the central government promises to bring in large-scale reforms to support the smart cities initiative. ICT is the basic infrastructure for all the smart cities. There is no limitation on the collaborations and innovations that can be adopted across various departments and with multiple stakeholders. ICT enables the city and the governance to bring in participation from the citizens and integrate their inputs in the processes. By extending community participation, it not only empowers the citizens, but it also allows them to develop a sense of ownership of their cities. Thus, the smart cities initiative would result in sustainable and thriving Indian cities – new and old, if implemented properly with active involvement of all stakeholders.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Analysis of Price Fluctuation of Exported Animal Products by India using Paasche Price Index

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**Abstract:** Animal products and by products are a rich source of carbohydrates, proteins, fats, vitamins A, B and D, Calcium and Iron. India's animal products export prices has declined from 2013 to 2017. The present research paper aims in analyzing the price fluctuation of exported animal products in recent years. The Paasche price index for the year 2015 – 2016 is 106.26 % and for 2016 – 2017 is 77.67 %. The year 2014 – 2015 is considered as base year. The findings of the present research exhibits that the percentage inflation of animal products export prices from 2014 – 2015 to 2015 – 2016 were 6.26 %, while the percentage export prices of animal products have decreased from 2014 to 2017 by -22.33 %.

Some constructive measure should be taken in respect to increase the export prices of Indian animal products. This can be achieved by improving the quality of storage, processing and packaging facilities. Through the following measures Indian animal products quality will be better than its competitor and this will elevate the export prices of the animal products in the international market.

**Key Words:** Paasche price index, Honey, Dairy Products, Albumin

#### 1. INTRODUCTION

Animal products basically cover foodstuff that are of animal origin or foodstuffs that contains a component of animal origin. Animal by – products basically cover meat, bone meals, pet food, milk and milk products, rendered fats, gelatins and collagens etc. Animal products and by products are a rich source of carbohydrates, proteins, fats, vitamins A, B and D, Calcium and Iron. (Murphy S. P. and Allen L. H., 2003)

Animal Products plays an important role in the socio - economic life of India. India has developed a rich source of diverse animal products including milk, meat and eggs. It has become one of the largest producers of milk in the world with 18.48% share of total global milk production. India also accounts for about 5.25 percent of the global egg production and also the largest population of milch animals in the world. India has not only been supplying its domestic market and its growing population but has also become a major exporter of these products. (Isah Musa Ahmad and V. R. Kiresur, 2016)

India's animal products export prices has declined from 2013 to 2017. The reasons behind the decline are rejection of Indian animal products due to excessive use of chemicals banned by America and European Unions and lack of good storage, processing and packaging facilities. Many developing countries have increasingly become competitors of India in export of animal products in international market. And also the Indian nodal agency for food safety, Food Safety and Standards Authority of India (FSSAI), can regulate domestic market and imports but cannot regulate exports and does not have any jurisdiction over the people involved in the business of animal products. (<http://agriexchange.apeda.gov.in>, 2018)

Indian exports of animal products have dropped lacking demand and the negative impact is being felt through decline in the value of animal products in International market. (Mridul Mohan and Geethanjali Nataraj, 2015)

Thus the present research paper aims in analyzing the price fluctuation of exported animal products in recent years. It will also attempt to uncover various means to improve the export and accordingly the value of the animal products in the international market.

#### 2. MATERIALS AND METHODS

The following data is being obtained from the Reference. (<http://apeda.gov.in>, 2018)

Table 1 Exported animal products prices in different years.



Products Name	Animal Products					
	2014 – 2015		2015 – 2016		2016 – 2017	
	Quantity in Metric Ton	Price in Rs (Lakhs)	Quantity in Metric Ton	Price in Rs (Lakhs)	Quantity in Metric Ton	Price in Rs (Lakhs)
Honey	1	1.80	1	1.84	1	1.21
Dairy Products	1	1.64	1	2.13	1	2.20
Albumin	1	7.58	1	7.74	1	5.15

The Paasche price index formula is as follows

$$I_p = \frac{\sum P_n Q_n}{\sum P_o Q_n} \times 100$$

P = Price of the Commodity, Q = Quantity of the Commodity, o = Base year and n = Current year under study. (Santhanam S. et. al. 2010)

The above depicted formula is being implemented on the data obtained from the reference.

### III. RESULTS

Table 2: Paasche price index for the year 2015 – 2016.

Products Name	2014 – 2015		2015 – 2016		$P_n Q_n$	$P_o Q_n$
	$Q_o$	$P_o$	$Q_n$	$P_n$		
Honey	1	1.80	1	1.84	1.84	1.80
Dairy Products	1	1.64	1	2.13	2.13	1.64
Albumin	1	7.58	1	7.74	7.74	7.58
Total					11.71	11.02

For the year 2015 – 2016 the  $I_p = 106.26$ .

Table 3: Paasche price index for the year 2016 – 2017.

Products Name	2014 – 2015		2016 – 2017		$P_n Q_n$	$P_o Q_n$
	$Q_o$	$P_o$	$Q_n$	$P_n$		
Honey	1	1.80	1	1.21	1.21	1.80
Dairy Products	1	1.64	1	2.20	2.20	1.64
Albumin	1	7.58	1	5.15	5.15	7.58
Total					8.56	11.02

For the year 2016 – 2017 the  $I_p = 77.67$ .

Table 4: Percentage of price fluctuation over the years.

Years	Paasche price index	Percentage of Price fluctuation rate	Prices of Animal Product have decreased from 2014 to 2017 by -22.33.
2014 – 2015	100	-----	
2015 – 2016	106.26	6.26	
2016 – 2017	77.67	-28.59	

### 3. CONCLUSION AND DISCUSSION

The Paasche price index for the year 2015 – 2016 is 106.26 % and for 2016 – 2017 is 77.67 %. The year 2014 – 2015 is considered as base year. The findings of the present research exhibits that the percentage inflation of animal products export prices from 2014 – 2015 to 2015 – 2016 were 6.26 %, while the percentage export prices of animal products have decreased from 2014 to 2017 by -22.33 %. The fluctuation of animal products is tremendous year after year. The present research work is a foremost research work and must be considered as a baseline research with a scope for future addition and analysis of data.

The export prices of the animal products have decreased due to increased competitiveness in the international market. Some constructive measure should be taken in respect to increase the export prices of Indian animal products. This can be achieved by improving the quality of storage, processing and packaging facilities. Also Indian nodal agency for

food safety, Food Safety and Standards Authority of India (FSSAI) must be given additional powers to regulate the export standards of animal products and to bring under jurisdiction the people involved in the business of animal products.

Through the following measures Indian animal products quality will be better than its competitor and this will elevate the export prices of the animal products in the international market.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Impact of Environmental Auditing in building Sustainable Eco-systems

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**Abstract:** Investors invest in companies that have track record of reliable environmental reporting. Environmental and other sustainability issues are also important topics for rating agencies. Investment companies are interested in management of future stakeholder demands, future risks and anticipated legal obligations. Environmental degradation is a major concern for all countries of the world today. Environmental pollution affects the quality of human life and puts economic burden on countries increasing public health expenditure by increasing illnesses, and reduces organization's long-term capability to think comprehensively in the social system, resulting in corporate greed and ill-effects on the society.

The long-term impact on a global basis can be viewed as greenhouse effect resulting in extreme weather across globe, sea-level rise, emergence of environmental refugees etc. that ultimately puts the pressure on nations' resources which could have been employed for much productive purposes. Much of this contribution to pollution may be attributed to corporations, driven more by profit and less by social responsibility. Corporate Social Responsibility has to play a significant role to achieve the target of sustainable development. The three pillars of sustainable development i.e. economic growth, environmental stewardship, social inclusion carries across all sectors of development, from cities to agriculture, infrastructure, energy development and its use, water and transportation. Sustainability has been defined as the situation in which the organization must achieve the highest performance in social, economic and environmental field. (Gray, 2006). Environmental Auditing can analyse the expenditure of corporates towards quality management system, and add value to the society by building sustainable Eco-systems.

**Key Words:** Environmental degradation, Environmental Pollution, Corporate Social Responsibility, Environmental Auditing, Sustainable Eco-systems

#### 1. INTRODUCTION

Investors invest in companies that have track record of reliable environmental reporting. Environmental and other sustainability issues are also important topics for rating agencies. Investment companies are interested in management of future stakeholder demands, future risks and anticipated legal obligations. Environmental degradation is a major concern for all countries of the world today. Many organizations have realized that there is real value in presenting a responsible stance towards the environment. Increasing public awareness of environmental issues and resulting consumer pressure means that companies which present an environmentally friendly image may be able to obtain a market advantage. A competitive advantage can be achieved not merely by keeping abreast of environmental developments, but also by initiating change within an organization and responding with new environmentally friendly products and production processes. Sustainability has been defined as the situation in which the organization must achieve the highest performance in social, economic and environmental field. (Gray, 2006). Environmental Auditing can analyze the expenditure of corporates towards quality management system, and add value to the society by building sustainable Eco-systems.

#### Environment degradation by business sector:

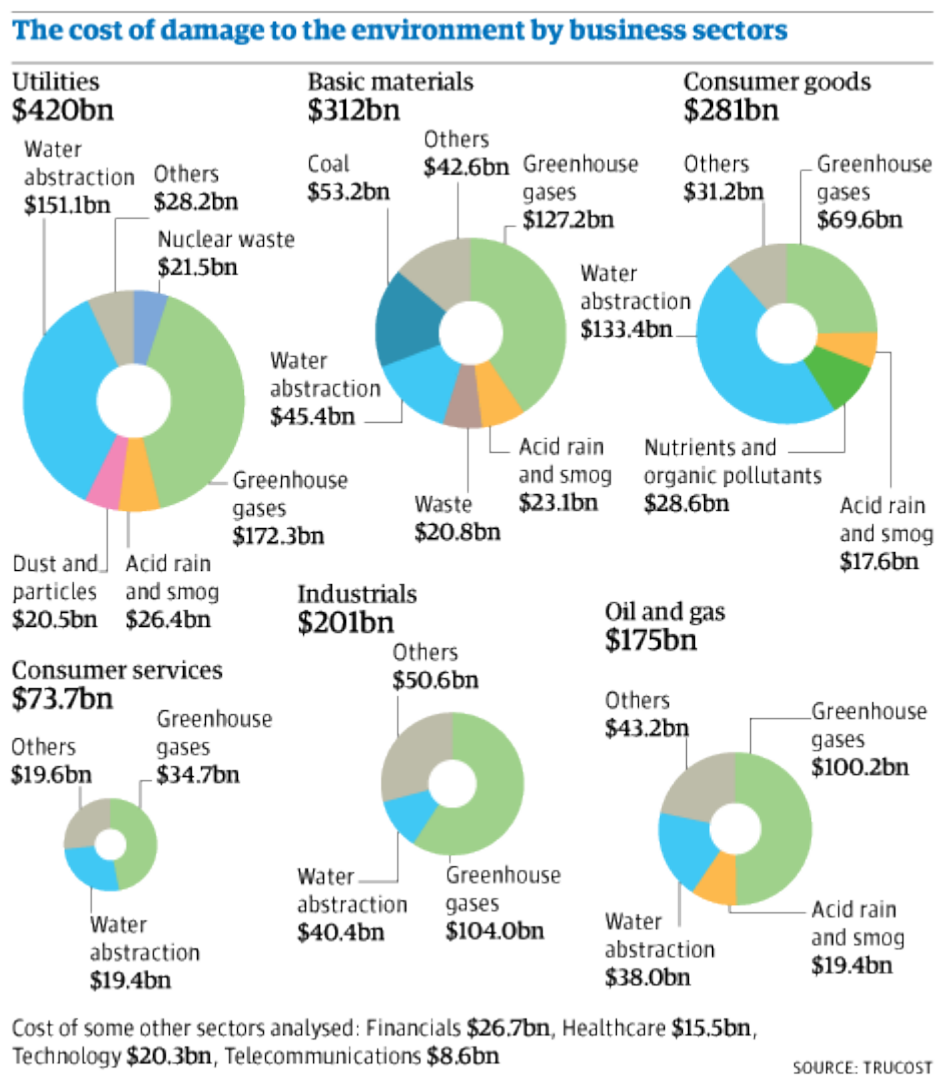
The world's 3,000 biggest companies estimates one-third of profits would be lost if firms were forced to pay for use, loss and damage of environment. Environmental degradation is a major concern for all countries of the world today. Environmental pollution affects the quality of human life and puts economic burden on countries increasing public health expenditure by increasing illnesses, and reduces organization's long-term capability to think comprehensively in the social system, resulting in corporate greed and ill-effects on the society. The long-term impact on a global basis can be viewed as greenhouse effect resulting in extreme weather across globe, sea-level rise, emergence of environmental refugees etc that ultimately puts the pressure on nations' resources which could have been employed

for much productive purposes. Much of this contribution to pollution may be attributed to corporations, driven more by profit and less by social responsibility.

Environmental degradation is a major concern for all countries of the world today. Environmental pollution affects the quality of human life and puts economic burden on countries increasing public health expenditure by increasing illnesses, and reduces organization's long-term capability to think comprehensively in the social system, resulting in corporate greed and ill-effects on the society.

The long-term impact on a global basis can be viewed as greenhouse effect resulting in extreme weather across globe, sea-level rise, emergence of environmental refugees etc that ultimately puts the pressure on nations' resources which could have been employed for much productive purposes. The study, conducted by London-based consultancy Trucost found the estimated combined damage was worth US\$2.2 trillion (£1.4tn) in 2008 - a figure bigger than the national economies of all but seven countries in the world that year. The figure equates to 6-7% of the companies' combined turnover, or an average of one-third of their profits, though some businesses would be much harder hit than others.

**Figure 1: Cost of damage to the environment by business sectors**



### Corporate social responsibility and environment upgradation:

Environmental pollution is a suffering for both developed and developing world. Rapid industrialization is as a major contributing factor to this pollution regime. The key sources of pollution can be tracked to agricultural, mining, manufacturing, and urban operations. According to Neha Vyas (2008), the pollution regime may be seen as a combination of five sources. These are:

- Air pollution due to industrial and vehicular pollution
- Land and water pollution due to pesticides, fertilizers, and dumping of hazardous wastes

- Depletion of raw material reserves
- Surface and ground water pollution due to discharge of sewage and industrial effluents
- Deforestation, resulting in less and less capacity for reducing greenhouse gas

The cause of pollution can be traced back to industrialization on one hand, and dynamic consumption pattern of consumers on the other. These pollutions can be linked to numerous illnesses and ecological imbalance in the world. Illnesses due to air pollution include lung diseases (e.g. bronchitis, cancer), heart diseases, high blood pressure, migraine, respiratory infections, and even death to children. Forming of smog, acid rain, etc. are also among other consequences of air pollution. Every year, an estimated 800,000 people die prematurely from illnesses caused by outdoor air pollution worldwide. Other than death of citizens, that reduces the number of available workforce, the sick citizens require health expenditure which may be seen as a social cost of pollution.

Water pollution also has negative financial and social cost. Soil degradation due to salinity, use of pesticides, soil erosion due to deforestation, flow of sewage and industrial effluents etc. have much contributed to water pollution. Social cost includes the cost of treating sick citizens, lost working hours, and other losses like increasing cost of pure drinking water.

Governments across the globe have traditionally employed a “Command-and Control” (CAC) approach to environmental issues through Environmental regulation, legislation, and enforcement (through penalty/fines/jails for violating environmental laws). Another approach to environmental policy intervention is to call for voluntary environmental self-regulation by corporations, through CSR (Corporate Social Responsibility). Much of this contribution to pollution may be attributed to corporations, driven more by profit and less by social responsibility. Corporate Social Responsibility has to play a significant role to achieve the target of sustainable development. The four pillars of sustainable development i.e. economic growth, environmental stewardship, social inclusion and smart innovations carried across all sectors of development, from cities to agriculture, infrastructure, energy development and its use, water and transportation can result in up gradation of environment.

## **2. SIGNIFICANCE OF STUDY**

Environmental Auditing can analyses the expenditure of corporates towards quality management system, and add value to the society by preventing further pollution. As part of overall environmental management, environmental audits are an important tool for any companies taking a proactive stance towards environmental issues. These are used to help improve existing human activities, with the aim of reducing the adverse effects of these activities on the environment. An environmental auditor will study an organization's environmental effects in a systematic and documented manner and will produce an environmental audit report. There are many reasons for undertaking an environmental audit, which include issues such as environmental legislation and pressure from customers. The study will understand impact of environmental Auditing in building Sustainable Eco-systems.

## **3. FORMULATION OF THE RESEARCH PROBLEM:**

Environmental issues span the entire management costs, productivity, quality, liability, health and safety. An efficient and cost effective systems approach to environment management impacts bottom line profitability. Environmental auditing is essentially an environmental management tool for measuring the effects of certain activities on the environment against set criteria or standards. Depending on the types of standards and the focus of the audit, there are different types of environmental audit. Organizations of all kinds now recognize the importance of environmental matters and accept that their environmental performance will be scrutinized by a wide range of interested parties.

## **4. OBJECTIVES OF THE STUDY**

1. To study the various costs involved in Environment Management
2. To understand the impact of Environmental Auditing in building sustainable eco-systems.

## **5. SCOPE OF THE STUDY**

The Scope of the study is wider and hence it is limited to review of literature and the various studies conducted by Corporations, Governments for the sustainability of environment.

## **6. METHODOLOGY & PLAN OF WORK**

The proposed work will be based on Analytical method. In order to conduct the study the researcher will collect the data through secondary sources of data collection. The relevant data will be collected by referring research reports relating to environmental auditing and sustainable development. The reviews of the published reports have developed a sound theoretical foundation for this report.



## **7. LIMITATION OF STUDY**

The focus is on the role of environmental auditing in building sustainable eco-systems. The study is limited to secondary analysis of the research papers referred by the researcher.

## **8. REVIEW OF LITERATURE**

In this section the relationship between environmental management and environmental auditing are discussed. Good practice environmental audit procedures and aims and objectives are explained. The different levels of environmental auditing techniques for sustainability are also discussed. There are numerous types and purpose of audits.

Environmental auditing is defined, by the International Chamber of Commerce (ICC), as a management tool comprising systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of helping to safeguard the environment. Environmental auditing is a management tool to objectively and systematically evaluate environment management systems with the following objectives: (i) Waste prevention and reduction' (ii) Assessing compliance with regulatory requirements. (iii) Placing environmental information in the public domain.

Humphrey and Hadley (2000) divided environmental auditing into three types of corporate audit: Compliance audits, Single issue audits and Liability audits e.g. pre-acquisition, divestment and insurance.

Paramasivan (2002) categorised environmental auditing as cyclical auditing programmers and single audits. He also divided objectives into three broad groups:

- Compliance with regulatory codes, for example legal conformity;
- Assistance in acquisition and disposal valuations, for example sale and acquisition of facility; and
- Corporate development towards green missions, for example monitoring of corporate environmental policy and procedures

Welford (2002) discussed more detailed objectives of an environmental audit, including:

Verifying compliance, identifying problems and formulating environmental policy if there is no existing policy.

### **Relationship between environmental auditing and sustainability auditing:**

Welford in his paper has clearly defined the relationship between Environmental Auditing and Sustainability Auditing, According to him

Environmental Auditing audits direct environmental impact on water, air and land, health and safety hazards, Protection of employees and community and contingency planning, whereas sustainability auditing refers to equity and equality, futurity, human rights, protection of indigenous population, consideration of wider social and ethical issues and holistic approach.

Environmental Auditing is required by laws and is enforced whereas sustainability auditing is choice made by organizations to see that they protect resources for the future. Sustainable auditing is a must to achieve sustainable eco-systems which can be achieved through efficient environment management systems.

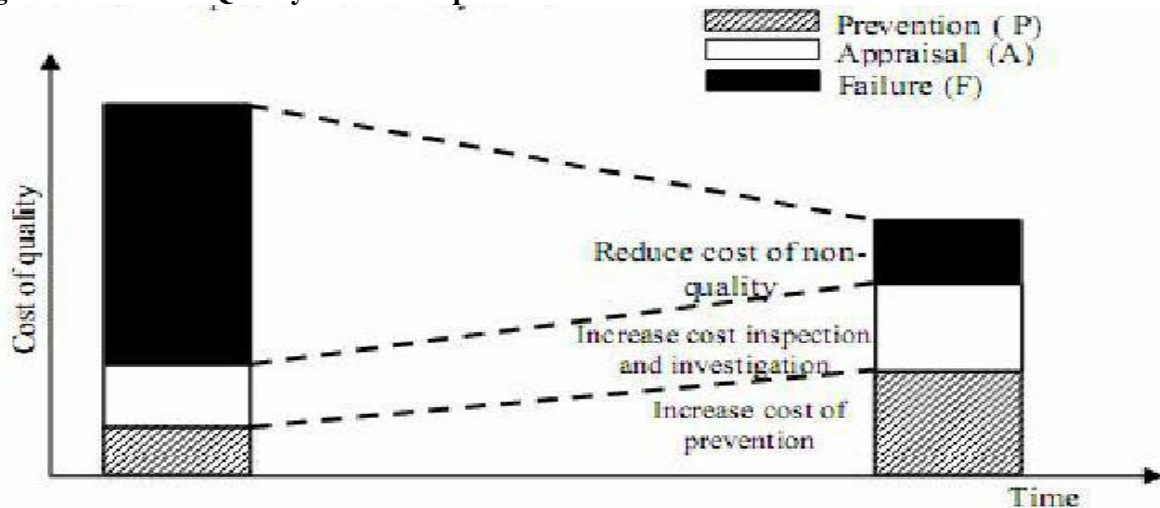
### **Costs in implementing environments management system:**

Cost Accounting literature has listed four types of costs in implementing EMS

They are:

1. Prevention cost is basically the cost incurred in taking all the efforts towards preventing any of the damages caused to the environment. The major cost would be cost of educating and training the concerned persons. The incentives can also be given in doing anything, which will in turn protect the environment. Environment planning and review would also become part of prevention.
2. Appraisal costs of quality (cost originated due to appraisal and control to estimate to which level the demanded quality is maintained).
3. Failure cost (internal): Internal costs of non-quality (costs discovered on either product or
4. service, as quality demands before delivery are not fulfilled - e.g. repeated service, repeated production, re-investigation, refuse).
5. Failure cost (external): External costs of non-quality (costs arising with products or services that have not fulfilled quality demanded and failures are discovered after delivery to a customer – e.g. servicing, guarantees and returning, product canceling costs etc. These are direct external cost. Indirect external costs include loss of goodwill, social damage etc.).

Figure 02: Costs of Quality and Consequences



Source: Vukcevic, Milan (2008), "Cost of Quality Management", International Journal for Quality research, Vol 02, no. 04

### Building sustainable eco-systems:

Sustainable development is the organizing principle for meeting human development goals while at the same time sustaining the ability of natural systems to provide the natural resources and ecosystem services upon which the economy and society thrives. Corporate Social Responsibility has to play a significant role to achieve the target of sustainable development through control of the environmental impacts of its activities, products and services. An example of CSR activities by Siemens and other show that the corporates impact various groups through implementation of different community projects.

Figure 03: Projects implemented by Siemen through CSR:

Project Name	Project Implementation	Area	Impact group
Up-gradation of Industrial Training Institutes	Directorates of Employment and Training and ITIs	Maharashtra, Gujarat, Karnataka, Delhi, Haryana, Tamil Nadu, Puducherry, Goa	Students and Instructors of Government ITIs
Project Asha	AROEHAN	Mokhada, Thane, Maharashtra	17 Villagers of Mokhada
Sanitation support under Swachh Bharat Abhiyaan	AROEHAN	Schools of Thane, Palghar	School Students
Siemens Scholarship Program	Smile Foundation and Growth Centre	All India	Meritorious engineering students from economically backward families
Sanjeevan- the mobile healthcare clinic	Smile Foundation, Society for Nutrition, Education and Health Action	Madhepura, Bihar Kalyan- Dombivali, Mira-Byayander	Underprivileged and Underserved communities
Drought mitigation project	Action Aid India	Aurangabad Division	Villagers of Nandkheda, Sirasgaon, Karewadi, Lalwadi and Sagarwadi

The three pillars of sustainable development ie. economic growth, environmental stewardship, social inclusion carries across all sectors of development, from cities to agriculture, infrastructure, energy development and its use, water and transportation. Environmental auditing is essentially an environmental management tool for measuring the effects of certain activities on the environment against set criteria or standards. Corporates have to play a significant role to protect and sustain environment for the future. This would require

1. Awareness: Awareness to the consumers/customers of the products regarding e-waste and hazardous waste generated due to use of the products produced by the corporates.

2. Cash –backs and Discounts: Cashbacks and discounts to be offered to customers for bringing the used product back to industry so that it may be either recycled to new innovative products or disposed of in the manner to avoid threat to the environment.
3. Budding Engineers: The used products collected can be segregated into raw materials that can be reused and given to budding engineers so that they can use technologies to create innovative projects which can become efficient start-ups for tomorrow e.g Airink. It is created out of carbon produced by vehicles and can be used in printing industry.

## 9. CONCLUSIONS AND RECOMMENDATIONS

Sustainable Ecosystems being necessity in current scenario can be improved through focus on the innovation of business mode and holistic approach by the Corporates. Government, NGOS, Individuals should come together to save resources of limited nature. Reduce, Reuse, Recycle and development of innovative products along with efficient disposal of waste would ensure eco-systems ensuring indigenous population of human rights through equity and equality.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### The study on Govardhan Eco Village

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**Abstract:** India is known as agricultural land, and is known for its cultural heritage. Agriculture is the backbone of Indian Economy. Organic farming is the key to success and its gaining lot of importance across the world for healthy living life style. Govardhan Eco Village (GEV) located at Wada, the best exemplary of sustainable development. The Concept of sustainability of GEV lies in the essence of spirituality. The research aims to study the Sustainable Environment practices of Govardhan Eco Village developed for the wellbeing of the society and of its nation. It focuses on Ayurvedic way of healing and curing through yoga, naturopathy etc, spirituality and religion goes hand to hand through Chanting, shasatras knowledge like vedas, bhagavad gita, Bhagvatam etc. Rain water conservation, Floriculture and biodiversity, Animal care, green building, Education and outreach, Community living. The concept of eco village lies in the importance of its sustainability. The gift of Mother Nature Should be for the upliftment of the mankind and for the wellbeing and development of the globe.

**Key Words:** Sustainability, Organic farming, Conservation, Agriculture, Culture

#### 1. INTRODUCTION

Eco village means the traditional communities of humans working for the wellbeing of the society without harming the natural environment, instead using natural environment in a remarkable way by developing ecofriendly products in a sustainable way, and also its focus and goal is to become more socially, culturally, economically and ecologically sustainable. Eco village helps in the development of the nation in the positive way. And its development is unmeasurable. Activities are done and produced in very effective way as per mentioned in our Vedic scriptures, because those scriptures are very authentic and reliable. Eco villages helps in rural development, development of cottage industries, cow protection, organic product development etc. Latest technology is used in scientific way. Govardhan Eco Village (GEV) is very much unique and exceptional as it uses the essence of spirituality in its growth and development which is very much logical and scientific in nature.

#### 2. OBJECTIVE OF RESEARCH

**Main Objective:** The main objective of this research is to study the Govardhan Eco Village in detail and to know its activities in creating sustainable development.

**Sub Objective:** The research aims in creating awareness of the Govardhan Eco Village (GEV) which is unique and special in its own way as it includes the process of religious practices with the essence of spirituality.

#### 3. METHODOLOGY/APPROACH

Research Methodology is a way of collecting data and representing the data in the proper way to solve a specific research problem and to create awareness by giving accurate facts in the form of reports.

Type of Research

Descriptive Research is used as it helps in highlighting the data in descriptive way.

Data Sources

Secondary data is chosen for data collection. Journal. Magazines, Books, Internet, etc.

#### 4. DATA ANALYSIS

The data Analysis of the research is as follows:

Location: Galtare, Wada, Thane, Maharashtra - 421303



Site area: 70 acres  
Year of completion: 2012  
Built-up area: 2,400.65 m<sup>2</sup> (including spaces such as Goushala, Yagya shala).

Leading members:	Radhanath Swami	Spiritual Monk
	Gauranga Das	President
	Sanat Kumar Das	President
	Krishnan M Iyer	Board Member and CFO
	Hrishikesh Mafatlal	Board Member
	Kushal N Desai	Board Member
	Rajiv Srivastava	Board Member
	Sanjiv Maheshwari	Board Member

Govardhan Eco Village (GEV) focus on the simple objective “Simple Living & High Thinking, Life in the Vedic time importance was given to Human Resources and its Natural Resources, there was no exploitation and was used in effective and efficient way. The Vedic lifestyle was eco-friendly as mentioned in the scriptures like Bhagavad Gita, Vedas and Bhagavatam.

#### Objective of Govardhan Eco Village:

- To give individuals a first-hand experience of our utter dependence on Mother Nature’s gifts.
- To help cultivate an attitude of reverence and gratitude towards Mother Nature and all her children.
- To engender a spirit of peaceful cooperation among living entities for the supreme good of all.

#### 5. INITIATIVES & INNOVATIONS

**Organic farming:** Many technologies are utilized to create the most sustainable and environment-friendly food sources possible. Such practices as crop rotation and companion planting, composting, mulching, organic fertilizers, green pesticides, permanent raised garden beds, and several kinds of irrigation are employed in the farming effort.

**Green Buildings:** Traditional earthen homes are built with locally available materials that reconnect us to earth, creating a healing and calming effect.

**Water conservation:** Efficient Water conservation is a natural step towards sustainability with respect to water resources. The goal at GEV has been to create a system which could help attain this goal without disturbing the existing ecology and keeping cost feasibility in mind.

**Waste management:** GEV uses a combination of time tested traditional techniques as well as indigenous innovations to develop a Symbiotic Model of Waste Management (SWMS). In a SWMS different processes or systems are integrated into loops so that the wastes of one system can be utilized by another.

**Soil biotechnology:** Soil Biotechnology (SBT) is an indigenous green technology for sewage processing which enables recycling and reuse of processed water. SBT has been developed & patented by Chemical Engineering Department, IIT Bombay. GEV has been one of the pioneers in employing the SBT technology for handling sewage wastes in a rural setup.

**Plant nursery:** Spread over an area of 3 acres, the nursery houses hundreds of varieties of flora comprising of ornamental plants, flower plants, fruit bearing plants, forest plants and medicinal plants. The nursery employs shade-net areas, poly houses, lotus ponds and several other facilities for growing these different varieties of plants. The plants grown at the nursery can be classified as Shrubs, Trees, Hanging Pots, Moss Sticks, Grasses, Creepers, etc.

**Skill Development:** It also helps in building charismatic and magnetic personality by inculcating exceptional skills, knowledge in developing human resources in a skillful way.

The GEV is a paradise in this world of conflict. Everyone here under the visionary guidance of Radhanath Swami is living a life of spiritual activation. The most important thing anyone can do is to dare to care about the happiness and wellbeing of others. This place is daring and caring. The best way to uplift our own life is to do all we can to uplift the lives of others.. GEV teaches us all how to do that! With great love all is possible, all is God’s grace. God is great and God is love.. All glories to Sri Krishna! – Sharon Gannon, Co-Founder of Jivmukti Yoga.

From the moment I entered the grounds I was embraced by a sense of peace and welcome. A scientist at heart, I was engaged by the recycling and the manner in which the cows and community work together. A sacred place. Thank you for the blessing.

**Chaplain Jewelnel Davis, Columbia University**

Incredible. Impressed. Inspired! Thanks! – Raghunath, Yoga teacher from NYC



This is really heaven on earth. Such dedication to convert vision into reality is rarely seen. No doubt this will be a beacon of spiritual life for all of us. May the Lord continue to inspire you to evolve this place into a magical 'Light House?' – Vivek Vig, Former CEO of Citibank

## **6. FINDINGS OF THE STUDY**

- GEV practices 100% chemical free farming, ensuring the safety of the land, the farmers and the consumers.
- Research in sustainable chemical free farming practices.
- Vedic rainfall prediction and lunar plantation techniques.
- Rope line method for sapling plantation.
- Protecting rare indigenous varieties of rice.
- Promoting various organic farming practices like crop rotation, composting, use of organic fertilizers & pesticides, multi cropping, mulching etc.

**Women Empowerment:** While focusing on a agro-horti-forestry based tribal development, there is need for a thrust to tackle the root causes of poor health and improve the quality of living, particularly

**Rural health care:** Bhakti Vedanta Hospital and Govardhan Eco Village, as a part of their mission to serve the needy, have been rendering free and concessional community health services to the villagers in and around GEV.

**Annamrita:** The Annamrita kitchen supported by GEV today provides mid-day meals to almost 30,000 students from 400 schools.

**Rural empowerment:** A Holistic Development Program for Rural & Tribal community in Wada Block of Thane District was started by GEV to cover at least 500 tribal families over a period of 6 years.

**Cottage industry:** Cottage Industry refers to small-scale manufacturing of select products; from the very beginning, Radhanath Swami has emphasized that cottage industry is one of the important aspects of developing self-sufficiency and a means of providing employment to the community residents.

**Organic Products** are produced at GEV, which include ubtan (soap powder), tooth powder, flour, incense sticks, and cooking oil etc.

**Vrindavan Cultural and Educational Centre:** GEV is coming up with a beautiful temple of Sri Sri Radha Krishna. This temple will be a hub for cultural and educational activities for the entire region and therefore has been named as Vedic Cultural & Educational Center.

## **7. SUGGESTIONS**

- Should try promoting products at national and at international level, by adopting various marketing Strategies.
- Awareness should be created by conducting various seminars and workshop in school, colleges And various other multinational companies to understand the importance of sustainability.
- Should spread the message of spirituality worldwide, for the development of the globe.
- Should tie up with various beauty salons.
- Should Increase its production activities to generate foreign earnings.
- Government should encourage in development of such eco villages to protect mother earth.
- Should be a spot of tourist attraction.
- Marketing activities should be done on higher platform.

## **8. CONCLUSION**

Through the best exemplary of Govardhan Eco village has done a great contribution in the development of the nation and has helped in creating the sustainable development of the environment by understanding the importance of mother nature and developing ecofriendly products for the wellbeing of the society and helped in spreading the message of spirituality which is very much required in today's youth. This Farm house is being awarded various national and international Awards.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Rural Tourism in Bringing Sustainability

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**Abstract:** Tourism Industry has emerged as one of the largest and fastest-growing economic sectors in the world, a key driver of socio-economic progress, contributing 9 per cent of the GDP, \$1.5 trillion in global receipts, 6 per cent of the world's total exports and providing 1 in 11 jobs. (United Nations World Tourism Organization (UNWTO))

The Ministry of Tourism, Government of India has started schemes to promote Niche Products like Rural Tourism. The current study attempts to present the contour of Indian Rural Tourism in begetting Sustainability. The present paper endeavors to analyze the benefits and challenges of Rural Tourism with special reference to 3 villages in Maharashtra. The analysis reveals benefits of rural tourism to the locales, rural culture, environment & rural economy, thereby enticing sustainable development. It also discusses a few challenges with respect to Rural Tourism.

**Key Words:** Rural Tourism, Village Tourism, Sustainable Development, Sustainability

#### 1. INTRODUCTION

Tourism, a dawning industry, a budding difference maker is an employment producer & a considerable source of FOREX in India alike other countries. The Government of India in order to promote tourism in India to an audience of global appeal has launched Incredible India, an international tourism campaign since 2002. To attempt to improve the number of tourists traveling to India, the Tourism Department of India started the Atithi Devo Bhavah, a social awareness campaign that aims at providing the inbound tourist a greater sense of being welcomed to the country. The entire Campaign of Atithi Devo Bhavah involves Sensitization, Screening, Training, Orientation, & Certification of those who directly interact with tourists and Feedback.

The initiatives developed by the Government of India viz., Incredible India! Tahiti Devo Bhavah and Tourist Visa on Arrival (TVoA) is likely to enable 7.5 percent growth in the tourism sector in 2015. As on 31st December, 2016 the 'e-visa' facility is available under 3 sub – categories i.e. 'e- Tourist Visa', e – Business Visa' and 'e – Medical Visa' 'E –Visa facility has been extended to the nationals of 161 countries.

The Annual Report 2016-17, MoT highlights that The Foreign Exchange Earnings (FEEs) from tourism in rupee terms during 2016 were Rs.1,55,650 crore (provisional) with a growth of 15.1%. Foreign Tourist Arrivals (FTAs) in India, FTAs during 2016 were 88.9 lakh.

Also, NSS 72nd Round (July 2014-Jun 2015), GOI, Ministry of Statistics & Programme Implementation, NSSO states that the importance of domestic tourism, socially and economically, in a diversified, multicultural, multi-linguistic and multi-religious country like India needs no special mention

The economic and social importance of domestic tourism in a country like India, endowed with splendid diversified culture and historical heritage, needs no further emphasis.

Tourism has undoubtedly, emerged as one of the powerful dynamos of economic growth, matchless in its splendor, exclusivity, rich culture and history. The Ministry of Tourism has taken the initiative of identifying, diversifying, developing and promoting niche products of the country. This is done in order to overcome seasonality and to promote India as a 365 days destination, attract tourists with specific interest, and to ensure repeat visits or the unique products in which India has a comparative advantage. The Niche Products that have been identified by the Ministry of Tourism include Cruise, Adventure, Medical, Wellness, Golf, Polo, Meetings Incentives Conferences & Expositions (MICE), Ecotourism, Film Tourism and Sustainable Tourism.

Rural or Village Tourism is considered as a segment of Sustainable or Responsible Tourism. It is evidently an alternate source of livelihood to farming, not only fetching sustainable livelihoods and well-being of the commoners, but also bringing long term environmental preservation, inducing self-sufficient rural ecosystems & arriving at an intersection between environment, society, culture and economy.

## **2. NEED OF THE STUDY**

The present concern of the disappearing Rural Indian Culture, rural practices & difficulty in economic sustenance of farmers & natives is clearly observable. Union Agriculture Minister Radha Mohan Singh said that as many as 11,400 farmers committed suicide in 2016.

AMCHI (Action of Mobilization of Community Health Initiatives), a field-based project, also discovered that villagers especially in Maharashtra are struggling for alternate sources of livelihood. The backbreaking work most of our rural population does is beyond our imagination. Their days are longer and earning money is harder. They have their own challenges, often very complicated.

Moreover, Villagers in India are at the crossroads of earning a livelihood of respect, swift urbanisation, losing their authentic culture & forgetting their valuable lifestyles.

One of the top-notch solutions to these concerns, while sustaining economy, ecology as well as culture appears to be promotion of Rural Tourism. Sensitisation of rural lifestyle & concerns, understanding their affairs, participating in their routines, appreciation of their simple arts is the need of the hour

Living in abysmal poverty, ignored by the material currency of the world, travelling to the rural outskirts of India reveals the side of perseverance to the soul. The entire construct behind less is more is very essential to be learnt by urbanites who are swayed by the fad of consumerism, today

My own experience of visiting & observations at the Amish County, Pennsylvania in 2014 brought forth the know-how of the balance between conservation of rural communities and their development. The Amish community have still retained their culture, faith; most do not use electricity. Further, Consumerism has not touched them. This encouraged me to explore the avenue of Village Tourism in India and its positive impact in eliciting Sustainability.

## **3. OBJECTIVES**

- To study the merits of Rural Tourism with special reference to 3 villages in Maharashtra, Dehna, Walvanda, & Purushwadi.
- To anticipate challenges that Rural Tourism can bring & suggest words of caution
- To study its relationship with sustainable development

### **Rural Tourism**

Nearly 70% of the Indian population resides in the villages in India and their livelihood is agriculture. The natives still struggle for their daily bread and butter & alternative sources of livelihood, as agriculture cannot be solely relied upon. In the last decade there has been a buzz for responsible tourism, involving rural India.

Rural Tourism is a multi-faceted, experience-oriented activity, which focuses on participating in a rural lifestyle. The locations for rural tourism are less populated taking place in predominantly natural environments. It is based on the premise of preserving culture, heritage and traditions. It has a lot to provide in a single package; the setting is nonurban with rural essence for the tourists. This benefits the local community while preserving rural assets, values and heritage

The ambit of Rural Tourism encompasses environmental, economic and community facets. providing travellers, experience of the rustic & lifestyles of Indian villages, promoting folk art, dance, music & drama, promoting authentic & pure rural cuisine, manifestation of warm hospitality open up pristine landscapes, In short conserving & promoting splendid diversified culture, explore less travelled roads & make earthy endeavours, touched by the naïve & ingenuous simplicity of the rural folks / commoners. Thus, Rural Tourism initiatives can be looked forward to as steps towards Sustainable development of culture, environmental resources, economy & above all, the simplicity of the natives.

Rural Tourism is essentially a tourism activity that takes place in the rural areas, villages or the countryside. 'Rural tourism', 'agri-tourism', 'green tourism', 'sustainable and ecotourism' are all interrelated terms. In fact rural tourism may entail farm/agricultural tourism, heritage and culture tourism, scenic/nature tourism, adventure tourism, pilgrim tourism and eco-tourism.

Atithi Devo Bhavah, the indigenous adage developed into Government of India's tourism initiative fascinates millions of Tourists from across the globe. Indian villages are distinctive socio-cultural spots that differ from each other but are interlocked with the ethos of this great tradition. Rural Tourism takes place in non-urban settings usually in countryside, offering panacea to remedy stress and "urbanization" syndrome to the weary, fatigued urbanites from both within as well as foreign countries to help them revitalize and unearth their roots. Since nearly 70% of the India's population lives in the countryside, it would benefit the local rural communities economically through various opportunities for rural enterprises, income generation and employment. It helps in fostering rural arts and crafts, rural infrastructure development while simultaneously safeguarding environment and cultural heritage.

ACNielsen ORG-MARG Pvt. Ltd. Report states that The Ministry of Tourism, Government of India has started the scheme to promote Niche Product - Rural Tourism in order to popularize not only another form of tourism that will attract both domestic and foreign visitors alike, but also to provide opportunities to rural populace to improve their socio-economic condition through the projects.

#### **4. RESEARCH METHODOLOGY**

The research involved secondary/desk research. Data is collected from Government websites, Annual Reports, various journals, NGOs, & social enterprises, were referred. Primary sources included 5 travelers (3 foreigners & 2 nationals), local guide & camp organizer.

Descriptive research methodology is used

Research Tool: Case study approach, Interview

Data Analysis: Interpretative Content Analysis of Qualitative data

#### **Travelers' Experiences:**

The discussion with respondents revealed that, travelers loved the Indian villages especially the process of exploring, the extraordinary Nature, & above all the innocence of the villagers, their lifestyle, dress code, hair doing, accessories, cuisine, folk singing & dancing & routine activities. They were glad to peek into their life, so far away from their own, that it seemed like another planet. They felt enriching & thought provoking, that will stay on of their greatest memory for a lifetime. Indian Urbanites expresses it as a genuine human experience, simple & peaceful, including interactions with the village children

All agreed that the best part of touring the village was participating in the rural lifestyle themselves, interacting & living with them, & sharing of cultures.

Furthermore, all agreed that it was the most cost-effective form of travelling ensuring the minimum basic amenities & hygiene and that it was a unique travelling experience, which brought contentment.

#### **Village tourism in Maharashtra:**

Grassroutes Pvt Ltd. is an award winning social enterprise, whose mission is creating sustainable community centered experiential platforms to understand rural living. It provides off-grid, rustic and authentic holidays with rural communities and tribes - so that people from across the world can experience Indian villages in their most authentic forms. They believe in conservation through celebration, and through holidays, try to empower rural communities to showcase their culture, lifestyles, traditions and environment to the world and find pride in it. The 3 villages that are considered for village tourism are Dehna, Purushwadi & Walvanda

AMCHI too has selected one of the options for the Livelihood Project: village tourism in Dehna. A village tourism committee monitors the project and protects the interests of the community. The committee was formed in March 2013.

BSVS, Bosco Samaj Vikas Sanstha, is another non-profit, non-government organization working for the overall development of tribal youth in the District of Thane, Maharashtra. Among its several systematic interventions, one of them is Rural Tourism in Walavanda

#### **Stakeholders involved in Rural Tourism:**

The Rural Tourism division of Ministry of Tourism, Visa Providers, Village Tourism Committee, Gram panchayat, NGOs, Social Enterprises, Artisans & Local communities (guides, cooks, etc.), local administration, Travel Agencies, Adventure Camp Organisers

**DEHNA**, a tiny village at foothills of Sahyadris, nature's wonderland is absolutely pristine having green, waterfalls with lagoons

Rural tourism project is being implemented in Dehna village of Shahpur which is a great monsoon destination, by AMCHI & Grassroutes.

#### **Developments in DEHNA:**

Dehna is being positioned as a forest village, known for its cuisine and monsoon season.

Locales from the community were trained by AMCHI as guides for help, housekeepers and cooks to host the tourists, 38 villagers from Dehna were taken on an exposure visit to village Purushwadi on December 10, 2012. In Purushwadi, community based rural tourism has been running for the past 6 years.

Campsites, washrooms and storerooms were built in September 2013 on suitable land after consulting with the landowners as well as the community.

Tribal youth, men and women are trained in hospitality services to cater tourists who visit their communities. The whole enterprise is managed by the people of the village. The tribal community is connected with urban folk who visit the village to enjoy the sights, rhythm and flavour of rural India.

#### **Delights for travelers include:**

Relish homegrown & farm fresh organic food, cooked and served at village houses by the local women Indulge in rural activities, Participate in the engrossing journey of 'Rice', rice farming experience of ploughing, reaping, planting, threshing, vegetable picking in the jungle,



Tourism opportunities such as cycling , nature walks, nature Walks/swim, hike & treks in the mountains, Mount Ajobagad, walks to the river, lying down in fresh streams, fish pedicures, Visit to the decade-old Valmiki Ashram, are being organized.

Blissful experience of participating in village activities like milking cows, chopping woods to make furniture and spice grinding, bullock cart ride

**PURUSHWADI**, a tribal village 71 kms from Igatpuri, located atop the Sahyadris

Grassroutes has set up a camp in Purushwadi with the local villagers to offer an experiential rural stay for getaway seekers. Purushwadi is renowned for fireflies' festival where hundreds and thousands of fireflies are visible at nights.

#### **Delights for tourists:**

- Heartfelt hospitality fulfilling the saying "Atithi Devo Bhavah"– like applying Tilak, receiving the " Topi" & shoe flower by the Atithi, a reverential experience.
- Activities include milking the cow, chopping fuelwood, relishing the smoky cuisine& farm fresh mangoes, view the phenomenal landscapes, applying cowdung on the hut floors, warmth of friendly commoners , glimpse into a unique lifestyle of tribal communities, stargazing, spectacular fireflies festival illuminating the whole place, absolutely magical, poetic n surreal ,discerning medicinal plants, folk- devotional singing & "dhol", watching the lady bugs.

#### **Developments in Purushwadi:**

Water facilities improved, migration related to income generation checked, Villagers expressed acceptance of influx of tourists, expression of hospitality & confidence of serving tourists

Valuing fireflies by the locales themselves, acknowledgement of Natural resources of their village, awareness of protecting fireflies & the planting trees on which they thrive.

Guides learnt basic communication skills & English vocabulary, uplifting of the entire village

**WALVANDA**, located near Vikramgad in the Thane district of Maharashtra, with the noticeable paddy fields surrounding everywhere one casts a glance. Certain parts of this country are the proverbial rice bowl. Grassroutes & BSVS are involved in Village tourism initiatives in the region.

#### **Developments in the village:**

Skill training for the locales, Boosting the indigenous art of Warli, Wells, dams & other basic amenities, Schools & training institutions

#### **Delights for tourists:**

- Getting the Tilak applied on forehead, receiving the "Topi" & accepting the local marigold by the Atithi as a gesture of welcome.
- Travellers try their hands at ploughing tools, cultivating rice, de husking rice from paddy, grinding rice in manually drawn rice mill made from stone, pounding spices, green house cultivation, help a farmer over the weekend, milking the cow, drawing water from wells, fetching water in pots, feeding fodder to cattle, applying cowdung to walls & floor of the huts, cooking in earthen pots over fuel wood fire.
- The Rustic Warli Journey ,Learning a few Warli Strokes with local material & teachers, learn not just the new art, but also the lifestyle, interact with & play traditional local games with tribal children like lagori, swimming in the nearby pond accompanied by local guides & divers, tree climbing, listening to local musicians & indigenous instruments, take delight in folk dance, sunrise & sunset.
- Savor homemade simple food by village women folks, indulge in local fruits,
- Watching local bird & animal life, bullock cart ride, nature trails, camp fire & night life, nature trails, visit to the village 'Haat" (fair )–local market, a shopper's delight, sale of handicrafts, visit to the village school, appreciating local architecture & monuments, temples, forest beauty

#### **Impact of village tourism on the villages according to Grass routes:**

Average increase of 25% in annual family income

6,000 - 8,000 days of employment created annually per village

Conservation of biodiversity through eco-friendly tourism practices

Revival of local arts, crafts and culture by promoting conservation through celebration

Connecting urban and rural communities by meaningful interactions

The Ministry of Tourism, Government of India started the scheme to promote Rural Tourism. State-Wise Evaluation of Rural Tourism Projects brought to the fore the exact picture of the scheme and also the projects which are successful in intertwining the interest of rural craftsmen and beneficiaries with that of tourism and has helped in

improvement of conditions in the lives of the rural populace. The study has also brought to the fore the projects which has not been successful in the same and also the roadblocks and challenges that the projects face.



## 5. FINDINGS & DISCUSSION

### Benefits of responsible rural tourism:

Tourism growth potential can be harnessed as a strategy for Rural Development. The development of a strong platform around the concept of Rural Tourism is definitely useful for a country like India, where almost 74% of the population resides in its 7 million villages. It is proving to be a firm support to farmers – agri tourism can supplement village tourism & provide an alternate source of livelihood

Across the world the trends of industrialization and development have had an urban centric approach. Alongside, the stresses of urban lifestyles have led to a “counter-urbanization” syndrome. This has led to growing interest in the rural areas.

Rural tourism showcases the life, art, culture and heritage of villages. City dwellers watch the rural traditions and hardships of rural people. In remote areas where job opportunities are limited and the youth head for cities, there is loss of traditional knowledge and skills that could be reintroduced as curious travelers flock to these places and boost their economy. Dying art and skills like Warli could be revived and sustained. Locals share their knowledge of the local environment like medicinal plants thus discovering their value and respecting them. Social enterprises promote tours and profit is pumped back into the village for its development. Since tourism initiative is community owned, managed and run, it has nurtured entrepreneurial skills

It's a win-win situation for travelers and locales who are stakeholders. Use of local materials for construction and natural energy-saving technology like solar heating promotes eco-tourism, as well. Self-help groups employ women for processing of fruits and vegetables. In home stays women earn money as they look after the guests. This checks rural-to-urban migration brings about social change and protects the environment.

Urbanites get a lot to learn from village life too, for instance, many skills related to agriculture, sustainability and sometimes, even subsistence, augmenting livelihood practices. The collective culture of the natives is acknowledged. Also native skills like cooking, farming are capitalized. The rural folks benefit from the training in employability skills like leadership, tour guiding, communication & interpersonal skills

Village Tourism satiates the wanderlust of numerous voyagers worldwide, especially those inhibited by budget constraints.

Apparently, it's a win-win state for the natives, urbanites, ecology, economy & culture

### Rural Tourism & Sustainable Development:

The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.

These 17 interconnected Goals build on the successes of the Millennium Development Goals, while including new areas such as climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities.

Whether through milking a goat, ploughing a field, harvesting rice, learning a few Warli strokes, building a greenhouse, watching fireflies outshine each other in the mating game, or simply sleeping under the stars, rural tourism initiatives are not just giving city-slickers a taste of life on the other side of the farm hedge; they are creating sustainable eco-systems, which provide alternate sources of income for village dwellers without straining their existing resources.

In a land of 7 billion villages and 330 million Gods, there is more off the map than there is on it. But slowly and surely, rural tourism initiatives in India are connecting the present to the past, the avenues to the gallies, and people to people, making history, culture, craft and tradition relevant in a contemporary context., Providing sustenance to local women, preserving their cuisine, cooking styles & agricultural practices

Thus, nature, culture, ecology, economy & simplicity is preserved while enhancing contemporary supportive skills along with enriching traditional skills. Rural tourism, undoubtedly, is harnessed to obtain Sustainability in Dehna, Purushwadi & Walvanda & many more.

### **Challenges of Rural Tourism:**

Rural tourism has its own subtle challenges.

Setting in place the framework for supply of trained manpower, the hospitality education, training in hospitality skills, travel and tourism education and training, is a challenge facing Rural Tourism.

Promotional activities to showcase the itinerary is again a controversial topic, lest it becomes too commercial

Intrusion into the daily routine of villagers, especially in the earlier stages or when locales are not involved is a lingering threat,

Commodification of rural culture can actually commercialize the whole process, rendering it superficial

Remote villages are difficult to commute due to lack of transport facilities.

### **6. CONCLUSION**

The need of the hour is to inspect easily accessible villages, especially which has a popular craft or culture being practiced.

Minimum infrastructure needs to be granted, Visa regime eased - Visa on Arrival, & assurance of minimum quality standards in services by rural tourism service providers monitored,

The foremost objective should be understood that the local community has to meet the direct benefit of tourist influx in their area, while safeguarding culture and nature. It ought to be initiated with the help of the local community itself, otherwise success is dubious. Therefore creating awareness of their own village as a rich resource in the minds of the village folks is the pre-requisite.

Training & education programme should be instituted to emphasize & manage better the heritage & natural resources

Setting clear code of conduct for tourists will facilitate maintaining the sanctity of the villages. For Sustainable development, Code of conduct, ethics & fair guidelines for tourists should be appointed

As aptly stated by Population First's AMCHI started in 2007,"Sustainable development of the Indian village can be attained only when the village community is actively involved in the development process."

***"Stop. Take a deep breath. And walk, fly or catch a train away from the city and into a world where the average pace of life is slower than slow. "It is not down in any map; true places never are." ~ Herman Melville.***

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Marketing Mix in Organic Farming for Sustainable development

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**Abstract:** Organic food and Sustainable development are the buzz words today among high class and upper middle class of Indian society. This interest is mainly due to rise in consciousness for health and the ill effects of non-organic farming to our ecological balance. This study covers the marketing strategies applied and issues faced by producers of organic food taking all P's of marketing into consideration.

**Key Words:** 4P's of Marketing, Marketing Mix, Sustainable Development, Organic food, Green revolution

#### 1. INTRODUCTION

Human beings have since ages relied on agriculture for their food supply and we continue to do so as food is one of our basic requirements for survival. With progress of time we started using food for trade and eventually mass producing it. This mass production started with Green Revolution in the 1960s when Dr. Norman Borlaug developed a hybrid strain of wheat that was much more productive than natural strains. Borlaug's "miracle wheat" allowed Mexico to triple its grain production in a few years. Norman Borlaug became "Father of the Green Revolution", who received the Nobel Peace Prize in 1970. He is credited with saving over a billion people from starvation. Though it was an immediate solution to the problem faced by humanity, many critics believed that its long term effects would be disastrous. India had faced serious famine in 1940's and a similar situation had arisen in 1960's when Dr MS Swaminathan invited Dr Norman Borlaug to help increase the country's food production in which they both were successful. Later Dr. Swaminathan was hailed as "Father of the Green Revolution in India"

This green revolution eventually spread throughout the world and was supplemented by use of various pesticides, fertilizers and chemicals which led to degradation of the quality of soil and has also become a major cause for desertification of farmland. A report from the Indian Space Research Organization says land degradation - broadly defined as loss of productivity - is estimated at 96 million hectares, or nearly 30 percent of Indian land. In states like Jharkhand, Rajasthan, Delhi, Gujarat and Goa, more than 50 percent of land is under desertification. It is very clear from these disturbing facts that we have over exploited the natural resources to fulfill our greed and have put the survival of our future generations at stake. Sustainable development is the need of the day and organic farming looks like a solution to this artificial crisis situation created by us.

#### 2. ORGANIC FARMING AND SUSTAINABLE DEVELOPMENT

Organic farming is the practice of farming using natural bio fertilizers which do not have any harmful impact on soil, groundwater, wildlife, human beings. Organic farming will lead to sustainable development as it applies traditional organic soil and crop nourishing techniques. It has a ripple effect on cattle and wildlife grazing on it, high standard of living with healthy food intake and better employment opportunities. Non-organic food has harmful impact on nature, human beings, wildlife and hence there is an increasing demand for organic food. The marketing of organic food is a complex process as it includes production, processing, sorting and distribution and also needs effective promotion. Organic farming is needed for sustainable development and is our responsibility as current non-organic farming will compromise the basic requirements of our future generations. To make this business viable effective marketing mix needs to be in place, so there is a direct relationship between marketing mix for organic farming and sustainable development.

#### 3. OBJECTIVES OF THE STUDY

To understand the role of organic farming in sustainable development

To understand the importance of Marketing- mix in creating a sustainable organic farming business.

#### 4. MARKETING MIX FOR ORGANIC FOOD



Customer is the king in today's world of cut throat competition and has benefitted in many ways due to use of modern technology and communication tools. Sellers operating in all the industries have accepted this fact and have focused all their energy on acquiring new customers and retaining the existing ones to run a profitable business.

In parlance of these modern developments, Organic food producers are not indifferent to the market situation. In order to survive and flourish, companies need to have knowledge and skills to market and sell their organic food produce following a good marketing mix.

An effective marketing mix for organic food can be formulated with a right combination of good quality of product, competitive price, effective promotion tools and timely distribution to the right place. It has also been observed that due to its prices being on higher side, organic food is mostly bought by people belonging to higher class and upper middle class. These niche customers are willing to pay extra not only because they are health conscious but also because they want good quality of service and at times also expect doorstep service, so to have an impactful marketing mix we also need to take into consideration the extended 3 P's of marketing used in service industry, i.e. trained and efficient people, convenient process and physical evidence.

### **Product:**

A product is the final item that a consumer consumes to satisfy his need or demand. This makes it the most important out of all the other P's of marketing mix. The product needs to be made after having a clear understanding of what the customer is actually expecting. It should have the right kind of quality, packaging, look, feel and taste so that customers feel that their need is satisfied after consuming the product. To come up with the best product, the producer must always ask himself 'what can be done to deliver a better product than the competition to his target customers'

In case of organic food the foremost factor that its consumers consider is its authenticity of being organic, that's their sole purpose of choosing organic food. The producer must have authentication from The Food Safety and Standards Authority of India (FSSAI). This FSSAI mark will help to gain customers trust and differentiate themselves from fake companies claiming to have organic food. The quality of organic food highly depends up on the packaging material used, as its primary role is to keep the product safe from the farm to the client. Companies must take care that the packaging material compliments the look and feel of the final product and also serves its primary purpose. The packaging material must have all the FSSAI mark visible and use the right kind of material and color combination to suit the positioning of the product. Packaging should also display the life of the product, conditions under which the product has to be preserved, price of the product and necessary trademarks. Trademarks will help customers to differentiate their desired product from other similar products available in market. Packaging not only acts as a silent sales person and impacts sales but also has an element of cost associated with it, so care must be taken to use the best packaging material at the best available price to have a positive impact on sales.

### **Price:**

Price is the cost that customers pay in order to buy a product. Price is the only element of marketing mix which brings income to the producer; whereas other elements of marketing mix are cost generating. Price of a product should be decided taking into consideration the customer's perceived value of the product. Price is the only variable which can quickly be changed to adapt to the market conditions.

In case of organic food products, companies generally charge 20-50% higher than non-organic food available in the market. This higher price is to cope up with low produce of crops due to organic farming practices. The producers also need to take into consideration the seasonal discounts, price charged by the competitors and also of the non-organic food available in market. Prices of non-organic food play a very important role in fixing the price of organic food as customers can be willing to pay maximum 20-50% premium for organic food over its non-organic counterparts (As this is the limit of their perceived value for organic food in majority of the cases). If customers feel that they are being charged more than their perceived value they might consider switching to non-organic food. In current market scenario majority of organic food consumers are people from higher class and upper middle class and the industry caters to a very nice market. At this stage companies can use penetration pricing strategy to expand their customer base, develop loyal and habitual customers and then gradually increase their price. It is a tough to adopt penetration pricing strategy as the company has to have patience and optimism to bank on their loyal customers to stick with them after they gradually increase their prices.

Organic farming can be more profitable if the farmers do sorting of produce category wise and charge differentially for different grades of produce, the best grade produce can also be considered for export and multiply the earning potential.

### **Place:**

The Place element of marketing mix deals with the physical distribution of goods from the producer to the customer. In case of distribution of non-organic food, Indian farmers have been victims of very high margins charged by middlemen. Majority of the farmers do not get fair price for their produce and has led to agriculture being non



sustainable for them. The role of middlemen in any supply chain is very important and cannot be ignored but in India middlemen have formed illegal cartels and from time to time engage in malpractices of creating artificial scarcity and price manipulation. This has not only affected the farmers but also the end consumer leading to a non-sustainable situation on both ends of the distribution chain.

Non-organic food is consumed in huge quantity in India and hence it has a long chain of middlemen ranging from – 2-3 Agents, Stockiest, Wholesalers, and Retailers. The consumption of organic food is almost negligible in comparison to its non-organic counterpart and it operates in a niche market. The number of middlemen can be reduced drastically in this case or even eliminated. Many farmers producing organic food have come together and formed registered cooperative bodies to sell their organic produce directly to the consumers. These cooperative bodies operate in city areas where there is a demand for organic food and help to bridge the gap between the farmer and consumer. This model is helping farmers get right price for their produce and customers are also able to get organic food at a comparatively lower price creating a win-win situation for both the parties.

Various cooperative bodies and stores selling organic food take orders directly from the customers in advance and deliver fresh organic food to their doorstep. These orders are placed through phone calls, WhatsApp messages and even through the person delivering these items. There is also a demand – supply mismatch for organic food, here the demand is on a higher side but the supply is low, so some sellers take order and money in advance from customers making the operations more viable for them reducing the financial burden on capital requirement.

Due to this innovative and technologically advanced approach used by farmer cooperative bodies even small farmers are moving towards organic farming and are able to get fair price for their produce. There is a huge demand for organic food in developed countries and the farmers associations and cooperative bodies are making full use of this demand and encash these export opportunities increasing its earning potential.

#### **Promotion:**

This element of marketing mix justifies and ties other three elements. It promotes the product or service through advertising making use of appropriate promotional vehicles, as promoting a product shows consumers why they need it and why they should be willing to pay a certain price for it. In addition, marketers tend to tie promotion and placement elements together so they can reach their core audiences.

Since organic food is bought and consumed by a niche category of customers, in the current situation, there is no use of promotion through traditional - Above the line (ATL) activities like TV ads, Newspaper ads or Radio ads. The promotional activities need to be more target specific and hence- Below the line (BTL) activities and through the line (TTL) activities for promotion are more effective.

BTL activities like in store branding, Direct mail marketing to target audience, sponsorship to housing societies consuming organic food, outdoor advertising in International schools can be effective.

TTL activities like direct interaction with potential customers through kiosk activities in the store selling organic food, high class housing societies and international schools can provide opportunity of direct interaction and conversion of potential customers.

Social media marketing and other digital marketing tools have also emerged as cost effective tools of impactful means of promoting and creating awareness about organic food.

### **5. CURRENT SCENARIO & FUTURE PROSPECTS**

Non-organic certification costs are between INR 20,000-INR 30,000 depending upon farm size. This is enough to lower the overall profit for small farmers. Therefore, farmers will benefit from organic farming if there is a cheaper method of certification or with financial assistance schemes such as “Paramparagat Krishi Vikas Yojana” (PKVY) wherein the government assists the farmers in getting certification.

A report prepared by industry body ASSOCHAM in 2014 estimated the size of the organic food market, which was highly unorganized at \$0.36 billion, and organic pulses and food grains took the lion's share of the market and it has potential to grow more than 25 per cent annually to touch \$1.36 billion by 2020

According to the Agricultural & Processed Food Products Export Development Authority (APEDA), Indian farmers produced around 1.35 million tons (MT) of certified organic products in 2015-16 which include all varieties of food products namely sugarcane. Of this, export was 263,687 tons, worth \$298 million (Rs 1,900 crore).

### **6. LIMITATIONS**

This study does not cover the extended 3P's of marketing – People, Process & Physical evidence.

This study looks at organic farming only from marketing perspective and technical aspects related to organic farming are not considered.

This study does not cover primary data from organic farmers.

## 7. CONCLUSION

The current scenario of chemical fertilizers based Non-organic farming has negative impact in the long run. Organic farming is the answer to sustainable development to create win-win situation for current generation and future generations to come. There has been a steady and positive growth in organic farming in India and this will continue in future as well.

As organic farming does not use any chemicals and gives comparatively less produce there are many challenges associated with it. These challenges can be overcome by implementing correct marketing mix and use of innovative marketing practices in production, packaging and distribution. Quality and service should be the prime focus of producers as it is mainly consumed by people belonging to higher and upper middle class people.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Investor's Preference towards Mutual Fund in Current Scenario

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**Abstract:** Every Individual have certain short term as well as long term plan in their life which can be fulfilled through proper planning by saving their income through proper Investment. which always play a important role in individual life it may be in the form of a real estate, gold, shares, bonds debentures, public deposit, national saving certificate, bank deposit, post office deposit and mutual fund which is one of the favorite investment avenue in current scenario as every investment have certain pros & cons as well as every investors have their like & dislike of certain avenues. Mutual fund is one of the most reliable from a common individual investor in a city like Mumbai where people investment in mutual fund through SIP (Systematic Investment Plan) were a monthly investment can be from Rs 500 or above which also encourages saving habit among the individual investor. This paper will attempt to find out the changing preference of Investor towards mutual fund in current scenario of investor in Mumbai city.

**Key Words:** Gold, Investment Avenues, Investors, Mutual Funds, National Saving Certificate (NSC), Post Office, Real Estate.

#### 1. INTRODUCTION

Many investor in a city of Mumbai are more inclined to invest in shares but due to lack of knowledge and uncertain market condition there is always a fear in the mind of investors that they may lose their capital as well, hence from a common man point of view it is advisable to invest in share market through mutual fund company who takes care of corpus fund and invest accordingly either in fixed or fluctuating securities on the basis of market condition.

Mutual Funds have become very popular now a day's among common individual investor and effective way for investors to participate in financial markets in easy manner. A mutual fund is an investment company which act as an intermediary between investor and stock market the company invest in market on behalf of individual investor's retail investor & corporate giants. It helps an investment options for individual investors who lack in knowledge of stock market but still want to invest their funds in stock market. Mutual Funds Company helps such investor to invest in stock market even with a nominal amount of money. A mutual fund is a pure intermediary company which buy's & sells's security on behalf of its investors or unit holders. It invest in a balanced, diversified & tax saving fund professionally managed portfolio experts at a relatively low cost. Anyone as low as few hundred rupees or thousand rupees can invest in Mutual Funds through SIP (systematic investment plan). It encourages saving habit amongst single individual investor to a large number of investors & invest their funds in various securities such as shares, debentures or money market.

#### 2. REVIEW OF LITERATURE

Ajay Khorana, Peter Tufano and Lei Wedgein (2007) in the study named "Board structure, mergers, and shareholders wealth. A study of the mutual fund industry" studied mutual fund mergers between 1999 and 2001 to understand the role and effectiveness of fund boards. The study found some fund mergers typically across family mergers benefit target shareholders but are costly to target fund directors. Such mergers are more likely when funds underperform and their boards have a larger percentage of independent tributes, suggesting that more independent boards tolerate less under performance before initiating across family mergers. The paper indicated the effect is most pronounced when all of the funds directors are independent, not the 75 percent level of independence required by the SEC. It is also said higher paid target fund board is less likely to approve across family mergers that cause substantial reductions in their compensation.

Karoui, Aymen and Meier, Iwan (2008) in the paper "Performance and characteristics of mutual fund" studied the performance and portfolio characteristics of 828 newly launched U.S. equity mutual funds over the time period 1991-

2005 using Carhart (1997) 4 factor asset pricing model. The study revealed new U.S. equity mutual funds outperformed their peers by 0.12 percent per month over the first three years. However, there were distinct patterns in this superior risk adjusted performance estimated using Carhart's (1997) 4 factor model. The number of fund that started to 40 outperform older funds shrunk substantially after one to three years. These results suggested that the initially favorable performance was to some extent due to risk taking and not necessarily superior manager skill. Scrutinizing the returns further confirmed that the returns of the fund started to exhibit higher standard deviations and higher unsystematic risk that could not be explained by the risk exposure to the four factors of the Carhart model.

Bodla B. S., Bishnoi Sunita (2008) has concluded in their study that the mutual fund investors in India at present have as many as 609 schemes with variety of features such as dividend, growth, cumulative interest income, monthly income plans, sectoral plans, equity linked schemes, money market schemes, etc. Though both open-end and close-end schemes have registered excellent growth in fund mobilization, but currently the former category of schemes is more popular among the investors. Portfolio-wise analysis has brought that income schemes have an edge over growth schemes in terms of assets under management. Moreover UTI's share in total assets under management has come down to 11.8 percent in 2006 from 82.5 percent in 1998.

Das Bhagaban, Mohanty Sangeeta, Shil Chandra Nikhil (2008) has thrown light on the selection behavior of Indian retail investors towards mutual funds and life insurances particularly in post-liberalization period. With this background, their paper made an earnest attempt to study the behavior of the investors in the selection of these two investment vehicles in an Indian perspective by making a comparative study.

Walia Nidhi & Kiran Ravi (2009) in their study have tried to identify critical gaps in the existing framework for mutual funds and further extend it to understand the need of redesigning existing mutual fund services by acknowledging Investor Oriented Service Quality Arrangements (IOSQA) in order to comprehend investor's behavior while introducing any financial innovations.

Deepak Agrawal (2011) in the study "Measuring Performance of Indian Mutual Funds" touched the development of Indian capital market and deregulations of the economy in 1992. Since the development of the Indian Capital Market and deregulations of the economy in 1992 there have been structural changes in both primary and secondary markets. Mutual funds are key contributors to the globalization of financial markets and one of the main sources of capital flows to emerging economies. Despite their importance in emerging markets, little is known about their investment allocation and strategies. This article provided an overview of mutual fund activity in emerging markets. It described about their size and asset allocation. The paper is a process to analyze the Indian Mutual Fund Industry pricing mechanism with empirical studies on its valuation. The data is also analyzed at both the fund-manager and fund-investor levels. The study revealed that the performance is affected by the saving and investment 50 habits of the people and the second side the confidence and loyalty of the fund Manager and rewards affects the performance of the MF industry in India.

Sarish and Ajay Jain (2012) concluded that for the purpose of investment or saving, the investor are having options to invest money in mutual funds and other financial instruments like equity shares, debentures, bonds, warrant, bank deposits. A common investor, who invests their savings into the different assets, is not very much aware about the mutual funds.

V. Rathnamani (2013) concluded that many investors are preferred to invest in mutual fund in order to have high return at low level of risk, safety liquidity. It can be said that the Mutual Fund as an investment vehicle is capturing the attention of various segments of the society, like academicians, industrialists, financial intermediaries, investors and regulators for varied reasons and deserves an in depth study.

In this paper, an attempt is made mainly to study the investment mode preferred by the investors in Mathura and to check the preference given to investment in mutual funds amidst availability of other traditional investment avenues.

### **3. OBJECTIVES OF THE STUDY**

- To find out preferred Investment Avenue of the individual investors.
- To study the investor's preference towards mutual funds when other investment choices are also available in current market scenario.
- To analyse the basis of different investment avenues of investors of Mumbai.
- To find out the overall criterion of investors regarding investment.
- To study the purpose of investors buying.

### **4. HYPOTHESIS**

H1 Investors in Mumbai prefer to investment in mutual fund.

HO Investors in Mumbai not prefer to investment in mutual fund.

## **5. LIMITATION OF THE STUDY**

- The Study is limited to Mumbai city only
- The study covers period of study from 2007 onwards. The observations of the study of the sample may be different from the other investors who are not covered by the sample.
- The study is limited to 400 Investors.
- The study could suffer from the problem of non-response bias.

## **6. RESEARCH METHODOLOGY**

A Study on Investors preferences towards various investment avenues in capital market. The research study was intended to find preference level of investors on various capital market instruments and type of risk considered by investors. Descriptive research type is used and convenience sampling method was adopted to gather data information.

### **Primary data:**

A detailed structured questionnaire/feedback form will be prepared and collected from entire Mumbai city. The sample of the survey would approximately of 400 investors spread across the above Mumbai city. The non-probabilistic convenience sampling method will be used for the study.

### **Secondary Data:**

The information collected from the various Journals, News Paper brochures and from various websites through Internet.

### **Tools used for data collection:**

Structure Questionnaire will be the tools used for data collection.

### **Statistical Tools:**

Various statistical tools such as time series analysis, and multiple correlations and regression analysis by using appropriate variables to test the stated Questionnaire.

## **7. FINDINGS**

The survey was conducted with the help of primary data which was collected from various respondents with the help of a defined Questionnaire. The detailed data analysis was done and the findings were concluded as follows.

- The majority of the investors in Mumbai are highly educated.
- Around 65% of the sample sizes are of the opinion to invest in fixed income securities and the rest deals in fluctuating securities.
- It was found that 50% of the investors were satisfied with their investments but not very satisfied.
- Majority if the investors are investing in long term Investment, and very few are investing in short and medium term investment.
- Analysis of collecting data found that the majority of investors are fully aware regarding investment avenues like, bank deposits, mutual funds, post office, saving schemes, PPF life insurance, shares, debentures, mutual fund, real estate and gold and silver.

## **8. CONCLUSION**

After analyzing & interpreting the data received from the respondents, the researcher concluded that majority of the investors are aware about Mutual Funds, Real Estate, Share Market Fixed Deposit PPF and NSC Gold as investment avenues.

- The present study is also studied that investors had preferences for Mutual funds SIP for future investment.
- The study revealed that the bonds & debentures are not so popular in Indian capital market. They are not really investor-friendly.
- Suggested that the investors should keep long term investment time horizon, their time horizon should depends on their objectives and type of Investment Avenue.
- SEBI has made the changes in the rules for portfolio management service (PMS) which is very high Therefore, it is suggested to the authorities to reframe the rules regarding PMS so that more investors will opt for the service.



- Returns on various investments are based on market scenario, so it is advisable to the investors to upgrade themselves with new guidelines and changes in terms and conditions.
- Many people believe that Insurance is an investment, but actually it's an assurance for uncertainties and not investment, so it is suggested to the investors instead of buying high premium charging policies they should invest in pure term protection plans.
- Suggested that investors had made their investments at the last movements to save tax it was found that they are doing wrong investments. So instead they must plan for their investments from the starting of the financial year.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### CORPORATE SOCIAL RESPONSIBILITY: AN INDIAN PERSPECTIVE

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**Abstract:** Indian culture has always given importance to the overall welfare of the society. Various ancient Indian texts like Vedas, Upanishads, Bhagavad Gita, Kautilya's Arthashastra contains various references to the concept of Social Responsibility. The idea of Social Responsibility is not new to the Indian Society. The Sec 135 of the Companies Act, 2013 made Corporate Social Responsibility mandatory for certain class of companies. This paper is a humble attempt to understand the concept of Corporate Social Responsibility in India from ancient to modern time and also to study the validity of Sec 135 of the Companies Act, 2013 under various subjects.

**Keywords:** Corporate Social Responsibility, Vedas, Bhagavad Gita, Arthashastra, Constitution, Economics

#### 1. INTRODUCTION

Overall welfare of society has always been the priority of the Indian culture. Various ancient Indian texts contains references about social welfare. The expressions like “सर्वेषामिह भूतानां सुखं भवतु” (May harmony and happiness be for all words) direct the thinking of the people for working towards the happiness of the whole world. Purusharthas (ends of human life) according to tradition are four- Dharma (Virtue), Artha (Wealth), Kama (Pleasure) and Moksha (Salvation), thus the concept of social responsibility is not new to India. With the economic liberalization and globalization business enterprises have become highly competitive and this has thrown new challenges to the business organizations in their operations. In order to survive in such a highly competitive environment business units should not only direct their activities only towards wealth creation and profits but also some extent towards social wellbeing i.e. benefit of all stakeholders.

#### 2. OBJECTIVE

1. To understand the Concept Corporate Social Responsibility in India from ancient to Modern time.
2. To Study the validity of Sec 135 of the companies Act, 2013 under various subjects.

#### 3. METHODOLOGY

The study is based on Secondary data Collected from various sources like journal, books, articles, and websites. The accessible secondary data is intensively used for research study.

#### 4. CORPORATE SOCIAL RESPONSIBILITY

Every business organization within a society it depends upon the society for its functioning and also uses the resources offered by the society. Business depends upon the society for its growth and survival, thus every business organizations owe some responsibility towards society. Every business organizations should conduct its business activities in such a manner that there is balance between the objective of profit maximization and social welfare.

*“The World Business Council for Sustainable Development Defines CSR as “Corporate social responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large.” In brief CSR can be defined as the relationship between a corporation and stakeholders.”*

## 5. CORPORATE SOCIAL RESPONSIBILITY IN ANCIENT INDIAN TEXTS

Ancient Indian texts contain several references to the concept of Social Responsibility. Vedas the highest source of knowledge contain various references to social responsibility. Various other ancient Indian texts such as Upanishads, Bhagavad-Gita, Kautilya's Arthashastra, Dharma shastras also contain references to Social Responsibility.

### Vedas:

A particular verse in Rigveda says 'affluent people should share their wealth with the poor'. Another Verse in Rigveda says 'in mankind nobody is superior or inferior. Society evolves when all strive together like brothers for glory and prowess'. Plant welfare is also stressed by Vedas which says 'One should not destroy the trees'.

Yajurveda contains a verse which states 'let all of us pervade with union, peace, love and happiness', it also contains verses which direct towards animal welfare 'One shall take care of quadrupeds'. A mantra appearing in Taittiriya Samhita hails and offers obligation to Earth, atmosphere, Sky, Sun, Moon, Stars, Waters, Plants, Trees, Moving creatures, swimming creatures, Creeping creatures which shows it attaches great importance to environmental protection. Aptoryam a type of Somayaga is performed for the wellbeing and prosperity of the society as whole. Taittiriya Upanishad states वद (Speak truth) चर (Abide by your dharma).

### Bhagavad Gita

In Bhagavad Gita lord Krishna states "एतन्मया कृतं त्वं भोक्तुं भोजयेत्" (one who prepares food for personal sense enjoyment eat sins), this statement highlights the importance of Social Responsibility as Krishna also states one who eats food what is left after sacrifice is released from all sins.

### Kautiliya Arthashastra

Chanakya in his Arthashastra says धर्मो राज्ञोऽन्तर्मुखः (the nucleus of all happiness is dharma), he further states that धर्मो धर्मो (dharma lies in helping the needy persons). The statement राज्ञोऽन्तर्मुखः (kings should treat their citizens like their children's) indicates that even at the time Chanakya great importance was given to social responsibility of the kings.

## 6. THE PRESENT SCENARIO OF CSR IN INDIA

Sec 135 of the companies Act, 2013 (Act) mandates certain classes of companies to contribute 2% of their average net profits towards social activities mentioned in the schedule VII. The Company shall also constitute a CSR committee for this purpose. Activities undertaken by the company in normal course of its business are not covered by CSR activities.

### Conditions for applicability of Sec 135 of the Act:

Sec 135 of the Act shall be applicable if any of the following conditions are satisfied:

- 1.) Net Worth of the company equals or exceeds Rs.500 crores or
- 2.) Turnover equals or exceeds Rs.1, 000 crores or
- 3.) Net Profits equals or exceeds Rs.5 Crores during any of the preceding three years

### Implementation of CSR:

The company may undertake the CSR activities either by itself or through the implementing agencies but the expenditure for building the CSR capacities of their own personnel as well as those of their implementing agencies shall not exceed 5% of their CSR expenditure.

## 7. UNDERSTANDING SEC 135 PROVISIONS UNDER DIFFERENT SUBJECTS

### Constitution of India

#### Equality before the law and equal protection of the laws (Article 14)

Article 14 of the Constitution of India guarantees equality before law and equal protection of the laws, class legislation is prohibited by Article 14 but it allows reasonable classification on the grounds of intelligible differentia and the differentia has rational nexus to the object sought to be achieved by the legislation in the question. Sec 135 of the companies Act, 2013 creates classification among the companies in India into two categories:

- 1.) Those companies eligible for CSR
- 2.) Other remaining companies



family relations are all temporary only dharma stands forever), thus the mandatory provision of CSR under the Companies Act, 2013 needs a serious reconsideration.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Stabilizing Agricultural Prices

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**Abstract:** This paper studies one of the causes of farmer suicides, viz. Highly fluctuating prices of certain agricultural produce. One important cause of such fluctuations is underproduction or overproduction. In this paper an unstable cobweb model is used to explain such fluctuations. This instability is due to the fact that the demand is relatively inelastic, while the supply is quite elastic. The paper then outlines a solution to the problem using information technology.

**Key Words:** Cob-web model, lagged model

#### 1. INTRODUCTION

There are various economic, institutional and sociological causes of farmer suicides. One of them is highly fluctuating prices of certain agricultural goods. One can observe many such agricultural goods like onions, pulses, tomatoes etc. Even fluctuations in sugarcane prices cause changes in prices that sugar co-operatives give to farmers for their sugarcane. Reduced output can increase prices, while a bumper crop can bring down prices to below cost levels.

Keynes said, "Saving is a private virtue, but a public vice." Similarly one can say that, "A bumper crop is a private (individual) boon, but a public (collective) curse." In other words, if a farmer achieves a bumper crop, while others get a normal or poor crop, then he prospers. But if everyone gets a bumper crop, then the prices fall, which causes misery to all the farmers who cultivate that crop.

Moreover, the effects of a fluctuation are carried forward and even amplified in future time periods. A current high price leads to a future low price. It must be noted that there are also other causes for such price fluctuations like hoarding. However, this paper focusses on a single problem that of fluctuating prices due to an unstable cobweb mechanism.

This paper comprises of four sections including the introduction. Section II discusses the factors affecting demand and supply for an agricultural product. Section III explains the price fluctuations using the cobweb model. Section IV provides a solution for reducing the fluctuations. Section V is the conclusion.

#### 2. DEMAND AND SUPPLY FACTORS

##### The Demand Function:

The demand for agricultural goods is relatively inelastic and mainly depends on the price of the agricultural good. Since most of these are essential goods which are eaten, their demand is relatively inelastic due to "the narrow confines of the human stomach." A typical demand function for agricultural goods is given below:

$$D_x = f(P_x)$$

It is a standard negatively sloped function with high slope where the price of x determines its demand.

##### The Supply Function:

The supply function is relatively elastic. This is because if the prices of other alternate crops are higher, then farmers will grow those crops and reduce cultivated area of crop x. If the

It depends on expected price of the crop, price of alternate crops which the farmer could grow ( $P_{y1}, P_{y2} \dots P_{yn}$ ) and climatic factors (C). In this paper, the assumption is made that current prices are the expected prices for the future. This means that farmers feel the current prices will prevail in future So  $P_{xt1} = P_{xt0}$ . This means that in time period  $t_0$ . The expected price in  $t_1$  is the current price of the agricultural commodity x in time period  $t_0$ .

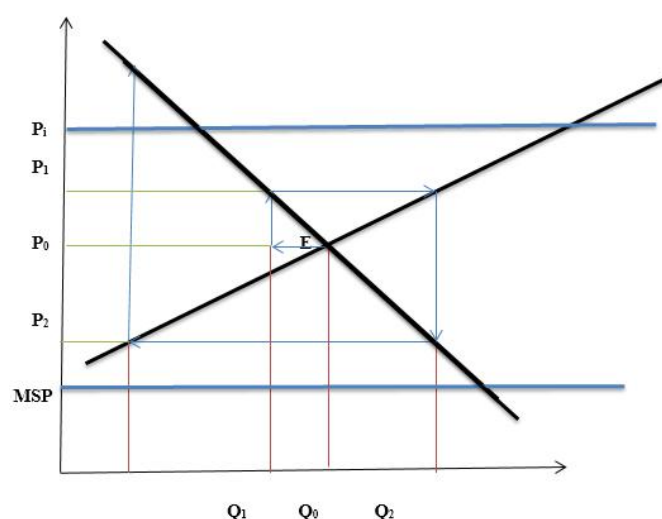
The upward sloping supply function with a gentle slope is given below:

$$S_{xt1} = f(P_{xt0}, P_{y1}, P_{y2} \dots P_{yn}, C)$$

### 3. THE COBWEB MODEL

This study employs the cobweb model to explain fluctuations. The cobweb model is a well-known variant of the demand-supply mechanism in economics. The cobweb model was first proposed by Kaldor (1938). Ezekiel (1938) also discussed the model. It was explained by Nerlove (1958) using adaptive expectations. Nerlove first used the cobweb model for agricultural prices. Peck (1976) used the model to estimate responses in the futures markets. Askari and Cummings (1977) have used the Nerlove model to estimate supply responses in agricultural production. Hommes analysed the model in a situation with non-linear demand-supply functions. The cobweb model has been discussed as recently as 2012 by Mitra and Boussard (2012). This is not an exhaustive list of research on the model, but merely indicates its prolific use, especially in determination of agricultural prices. The following diagram explains the model.

#### DIAGRAM



The diagram is a demand-supply system. It tells us that there is an initial equilibrium, when  $D_x$  and  $S_x$  are equal. The price and quantity are  $P_0$  and  $Q_0$  respectively. There is a fall in agricultural production from  $Q_0$  to  $Q_1$  due to adverse climatic factors like unseasonal rain or insufficient rainfall.

Since the price increases to  $P_1$  in time period 1, then farmers expect that price to prevail in the next time period. So, in the next cropping cycle, farmers plant more of that crop by increasing area dedicated to it expecting the higher price. Area dedicated to cultivation of other crops is reduced. Though this is an individual decision, most of the farmers make such a decision.

In the next cycle, there is a normal monsoon (and other climatic factors). Since cultivated area for the given crop is substantially increased, there is a bumper crop. Since demand for the product is relatively inelastic, prices plummet to  $P_2$ . It must be noted that this happens more, in the case of perishable goods. With less perishable crops like rice or wheat, the farmers can store the crop and sell it after 6 months or even over a year. So the prices are affected more for perishable goods like onions, tomatoes, vegetables etc.

The low prices,  $P_2$  in time period 2 make farmers expect low prices for the next cropping cycle as well. So they reduce cultivated area of the given crop and dedicate more area for other crops. Now the output will fall and so prices will shoot up even more. However, the price may not rise beyond a particular level. This is because very high prices, will force the government to import the product from abroad, in the interests of the consumers. This ceiling is the international price,  $P_i$ .

Similarly the price cannot fall below MSP or Minimum Support Price, if any, provided by the Government. The MSP would act as the lower limit, while  $P_i$  is the upper limit.

However the floor & ceiling limits do not make the equilibrium stable. Prices can fluctuate between the floor and ceiling. One deviation from the equilibrium causes permanently fluctuating supply and price levels. The system is unstable due to elastic supply and inelastic demand. One of the causes of elastic supply is the improper expectations of farmers regarding price.

### 4. SOLUTION

This paper presents a solution for the problem. The expectations formation should be made more realistic. The problem is that farmers take decisions at a micro level, while the price generation takes place at the macro-level. If there is better information and dissemination of information about the future supply and price then farmers would take more rational decisions.

This paper suggests a solution which uses information technology to generate better information about future supply and prices. It also recommends using information technology to disseminate this information to the farmers. The solution is as follows:

1. There should be a body where farmers register crops (staples, pulses, vegetables etc) they intend to plant and the area of land they intend to dedicate per crop. Later as they plant the crops, they should give information regarding the actual area and crop planted.
2. Incentives must be provided for compliance.
3. In 2 or 3 cropping cycles, a supply function can be estimated.
4. Now the future prices can be predicted.
5. Now, as farmers give data (of planned cultivated area for various crops) for the new crop cycle the system can generate the estimated price. As this estimated price is informed to the farmers, they will revise their plans. In this way, they will plant the right amount of crops to be most remunerative and prices will also stabilize.

Even with this system, it must be understood that there will be variations from the estimated price due to climatic factors. However, the imbalances in one crop cycle will not translate into next cycles. This is because the system will ensure that the current prices do not automatically become the expected price for the next time period. The expected price will be generated by the planned and later actual area used for cultivation of each crop. So there will be no cascading effect of a single disequilibrium into the next time periods. The system will be more stable.

## 5. CONCLUSION

This paper makes the following conclusions:

- If this study is adopted, the fluctuations in agricultural prices will reduce.
- It will benefit consumers as well as producers.
- It will remove one of the reasons for farmer suicides.
- It will not eliminate farmer suicides, since this study does not address the sociological, institutional and political factors which lead to farmer suicides.

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**CORPORATE SOCIAL RESPONSIBILITY IN WOMEN  
ENTREPRENEURSHIP: A CORPORATE STRATEGY TO ADVANCE  
GENDER JUSTICE**

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**Abstract:** India had an era where women enjoyed dominant place in society. But the customs and cultural practices Prevailing in India deteriorated the status of women inferior to men and her rights were replaced by duties and also the effect of deep rooted caste system accelerated the male dominance which marginalized women. This gender disparity kept her away from the main stream and the discrimination based on sex resulted in atrocities against women. But the last few decades witnessed a drastic change in the position of women. The change in family system from joint family to nuclear family compelled her to shoulder more social and economic responsibilities. The opportunities coupled with high levels of optimism promoted her to achieve great heights in corporate sector also.

**Key Words:** Entrepreneur, Corporate Social Responsibility, Gender Justice

"You can tell the condition of a Nation by looking at the status of its Women." Jawaharlal Nehru.

## 1. INTRODUCTION

The gradual degradation of social status of women confined her within the four walls of house. But financial and psychological factors including expectation for recognition, financial independence, urge to realize their inner potential and desire to capitalize their business ideas which prompted them to engage in entrepreneurial initiatives. However, it is a harsh reality that it is never easy for a woman to be a successful entrepreneur in a male dominated society. Even now, some stumbling blocks including lack of social support, financial dependence, discriminatory treatment etc. pull them back from advancing to greater heights. Although our constitution guarantees gender equality, it is still in letter and not in spirit in its real sense. Gender justice is yet to be achieved in Indian society. Corporate social responsibility is a tool for uplifting the status of women in business sector.

## 2. OBJECTIVE

Objective of this paper is to highlight the gender disparities existing in patriarchal society and how it affects women in grabbing the entrepreneurial opportunities open before them. The paper also focuses on the role of corporates in promoting women entrepreneurship as a strategy to advance gender justice.

## 3. METHODOLOGY

This article is based on the data collected from different books, articles, websites etc. (Doctrinal Method) and the findings and conclusion are derived from these information.

## 4. WOMEN ENTREPRENEURSHIP: A NEW FACET OF WOMEN EMPOWERMENT

Women entrepreneurship is a new facet of women empowerment which is generally inadmissible to the patriarchal society in India. The urge to do something independently which yields satisfaction and financial gain, prompted women to think of entrepreneurial ventures. The word 'entrepreneur' is derived from the combination of two Latin words, "entre" which means to swim out and "prendes" with the meaning to grasp or understand. The word entrepreneur came into common parlance after the French-Irish Economist Jean-Baptiste Say combined the two words in 1800. Entrepreneur is a person who initiates an organizational venture and controls business activities by playing the role of a decision maker who is entitled to the benefit arising out of it. Government of India has defined women

entrepreneurs as owing and controlling an enterprise with a woman having a minimum financial interest of 51% of the capital and giving at least 51% of the employment generated in the enterprise to women.

## 5. CHALLENGES TO WOMEN ENTREPRENEURSHIP

The challenges to women entrepreneurs vary from person to person depending on their education, family background, social norms, financial status etc. But there are some common hurdles which prevents them from marking their identity in business world.

- **Patriarchal system**- In India, patriarchal system is followed. The gender discrimination existing in the patriarchal society is the main barrier to women entrepreneurs. The empowerment of women in any sphere, especially economic development is something which is inadmissible to the male dominated society, where the role of women are confined to take care of their family and to manage domestic affairs. In such a society, the financial independence of women undermines the authority of male members which is never admissible for them.
- **Lack of support from family and society** – The backwardness of women in entrepreneurial world is not because of their inability to implement innovative ideas, but because of the lack of support from family and society. The effort on the part of the entrepreneur is not the only factor which determines the success of a business venture. As a woman has to play different roles in her life, she needs the backing of her family for maintaining the balance between family and business.
- **Cultural and religious constraints**- Even if women are having entrepreneurial aptitude and many opportunities are open before them, they are unable to grab these opportunities because of the behavioural patterns existing in the society where caste and religious believes are deep rooted. Women are restricted from converting their entrepreneurial skills and opportunities to monetary benefit and professional satisfaction. It is not easy for them to come out from the clutches of maltreatment.
- **Increased financial dependence** – In patriarchal system, female members are not financially independent. They are more dependent on male members and it is hard for them to raise the initial capital required for starting a business venture.
- **Financial institutions** - The financial institution never take a woman friendly attitude when they approach these institutions for credit. The belief that women are incapable to prove themselves in business world prevents them from offering financial assistance to women.
- **Poor education** - In a male dominated society, the education of women is of secondary importance. So the lack of education also plays a role in their backwardness.
- **Minimal access to information** - The women who are having very less acquaintance with modern technologies may not have access to information as to the development in technology and changes in business world.
- **Absence of training and experience** - Most of the women are lacking advantage of training or experience in business field. However, they have to compete with the well trained and experienced professionals in competitive market.
- **Difficulty in accessing business opportunities** - Most of the business concerns are not confident enough in the entrepreneurial skills of women and are not ready to engage in business relations with women. It may not be easy for new women entrepreneurs to find business opportunities without having a space in business network.
- **Business environment** - The difficulties in working environment including sexual exploitation, male dominance, gender discrimination etc. destroy the confidence of new entrepreneurs.

## 6. GENDER JUSTICE: CONSTITUTIONAL STATUS AND JUDICIAL RESPONSE

India ranks 132<sup>nd</sup> in gender inequality index. The gender bias in India reflects in the demotion of women in business. When compared to developed countries, the entrepreneurial activities are not noteworthy in developing countries. Even if women entrepreneurs are equally competent, they never get promotion and encouragement.

The preamble of the Constitution of India itself envisions the idea of justice, liberty, equality and fraternity. The constitution which is the fundamental law of the land guarantees right to life<sup>1</sup> which includes the right to live with human dignity<sup>2</sup>. In a patriarchal society like India, the life of women is dependent on the mercy of men. They have the right to lead a dignified life as well. Article 14 of the constitution envisages that the state shall not deny to any person equality before law and equal protection of laws within the territory of India, which guarantees gender justice. Even though the constitution guarantees gender equality, it still remains a dream. The discrimination on the ground of

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1. Article 21

2. Maneka Gandhi v. Union of India (1978 AIR 597)



religion, race, caste, sex, and place of birth or any of them is also prohibited under the constitution.<sup>3</sup> Under the Constitution, the state is empowered to make special provisions for women and children<sup>4</sup>. Article 16 guarantees equality of opportunity for all citizens and protection from discrimination on the basis of religion, race, caste and sex. Article 19(1) (g) of the constitution provides the right to practice any profession or to carry on any occupation, trade or business. Article 39 (a) of the constitution obligates the state to direct its policy towards securing that the citizens, men and women equally, have the right to an adequate means of livelihood. Moreover, Article 51-A (e)<sup>5</sup> of the Constitution confers a fundamental duty on every citizen to renounce practices derogatory to the dignity of women.

The role of Indian Judiciary in eliminating gender discrimination reflects in its landmark judgments.

In *C.B Muthamma v. Union of India*<sup>6</sup> - In this case, the Apex Court invalidated a rule which required female employees to obtain written permission of the government before solemnizing marriage and requiring a married woman to resign from service at any time after her marriage. The Supreme Court reaffirmed the role of Judiciary in eliminating gender discrimination in *Air India v. Nargesh Meerza*<sup>7</sup> also. In this case the court struck down a rule which mandated the termination of service of an air-hostess on her first pregnancy. *Visakha and others v. State of Rajasthan*<sup>8</sup>, is another noteworthy judgment which gave a blow to the gender bias existing in Indian society. The court pointed out that sexual harassment of women at working place amounts to violation of Article 14, 15 and 21 of the Constitution. In the case of *Dattatreya Motiram vs State of Bombay*<sup>9</sup>, it was held that state could discriminate in favour of women against men, but it could not discriminate men against women. This is because men are inherently superior.

## 7. CSR: A CORPORATE STRATEGY TO DEVELOPMENT

The history of CSR can be traced even before World War II when German industrialist Walter Rathenau advocated for the corporate obligation to contribute to public interest. According to Carroll and Buchholts, CSR encompasses the economic, legal, ethical and philanthropic expectations placed on the organizations by the society at a given point of time<sup>10</sup>. World Business Council for Sustainable development defines CSR as the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large<sup>11</sup>. The Companies Act, 2013 mandates every company having a net worth of five hundred crores or more, or a turnover of rupees one thousand crores or more or a net profit of five crores or more during a year shall spend every year at least 2% of the company's average net profit on CSR activities

## 8. CSR IN WOMEN ENTREPRENEURSHIP

Even if women have entrepreneurial aptitude, they cannot step into business world because of diverse socioeconomic reasons. Corporate Social responsibility is the responsibility of the corporate to contribute to the social and economic well-being of the state. Under CSR, the companies are required to take up the responsibility to engage in the resolution of social issues. Women entrepreneurship is an area covering under CSR activity and the corporate obligation to empower women reflects in their CSR activities. As part of their corporate responsibility, business concerns take up the obligation of promoting women entrepreneurship by taking some steps.

- Awareness – The companies are taking initiative to make the women aware of the new opportunities in business world.
- Skill development programmes - As part of their CSR activities, they impart skill development programmes to new entrepreneurs. This is very significant in improving their entrepreneurial skill to address the challenges in business field.
- Capacity building programme - Capacity building programmes can improve their leadership quality and managerial skills.
- Economic empowerment - They are supporting new entrepreneurs with financial assistance

3 Article 15(1) of Indian Constitution.

4. Article 15(3) of Indian Constitution.

5. It shall be the duty of the citizen of India to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women.

6. 1979 AIR 1868

7. 1981 AIR 1829

8. AIR 1997 SC 3011

9. AIR 1953 Bom 311

10. Andrew Crane "Business ethics" Oxford University Press, 2<sup>nd</sup> Edn.

11. Available at <https://serc.carleton.edu/integrate/workshops/envirojustice2013/essays/70650.html> visited on 05-02-2018

- Access to business network - CSR initiatives open new doors or opportunities before new entrepreneurs and promoting their business.

Mahindra and Mahindra, Tata Power, Infosys, GAIL, Coca Cola, Hindustan Unilever, Tata Consultancy Service etc. are some of the prominent companies vitalizing women entrepreneurs. They are backing women startups with financial support and technological assistance. They organize training programmes and engage in skill development for improving the business and vocational skill of upcoming entrepreneurs.

## 9. CONCLUSION

Women are not destined to confine within the four walls of their house managing domestic affairs only. They are wonderful creations of God with multi talents and capabilities to handle different roles simultaneously and successfully. They are efficient and capable to undertake the challenges in competitive business world. In modern world they can mould economy with the creation of wealth by the production of goods and rendering of services. Now they are capable to change the face of entrepreneurial world. The participation of women in economic activities can be treated as a sign of development. It is quite inspiring that the Global Entrepreneurship Monitor Study of 59 countries shows that in Thailand, Ghana and Nigeria women are creating business at a greater rate than men. There are so many instances of successful women entrepreneurs in India. Women entrepreneurship is a positive step towards the representation of women in economic activities and to get out of the grinding poverty and financial dependence. As Hilary Clinton quoted “women are largest untapped reservoir of talents in the world”. What they needed is the opportunities to invest their intellectual capital. It is the need of the hour to expand the role of women from domestic sphere to global level.

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### Mumbai's Major Environmental Concerns & Their Possible Solutions

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**Abstract:** Mumbai, originally a cluster of seven islands was joined together over five centuries by a sustained process of reclamation. Since then, the metropolitan city has undergone a lot of changes. The ever increasing population in the city due to both skilled and un-skilled labor from all over the country has led to slum expansion, ever increasing vehicular population, growing heaps of garbage and unending construction and repair works add to the further lowering of the quality of the environment. Such over-crowding of the city and air pollutants have a negative impact on the health of the residents. Through this paper, an attempt is made to identify major environmental concerns and find innovative solutions for the same.

**Key words:** Mangroves, green cover, composting

#### 1. INTRODUCTION

Built on what is, in effect, a peninsula, surrounded on three sides by water, and with the backdrop of the hills of the Western Ghats, Mumbai occupies a site of natural scenic beauty. However, sheer numbers of people and rapid population growth have contributed to some serious social and environmental problems. Mumbai attracts immigrants from rural areas seeking employment and a better life. Despite government attempts to discourage the influx of people, the city's population grew at an annual rate of more than four percent a year. Many newcomers end up in abject poverty, often living in slums or sleeping in the streets. An estimated 42 percent of the city's inhabitants live in slum conditions. Some areas of Mumbai city have population densities of around 46,000 per square kilometer—among the highest in the world.

As a result of Mumbai's size and high growth rate, urban sprawl, traffic congestion, inadequate sanitation, and pollution pose serious threats to the quality of life in the city. Automobile exhausts and industrial emissions, for example, contribute to serious air pollution, which is reflected in a high incidence of chronic respiratory problems among the populace. Breathing Mumbai's air has been likened to smoking more than 20 cigarettes a day!

#### 2. ENVIRONMENTAL CONCERNS AT PRESENT

**2.1 Shrinking Mangroves:** The megacity Mumbai has mangroves on its coastline along the west coast of India, supporting diverse molluscan species. Mumbai currently has 5,800 hectares (ha) of mangrove cover — 4,000 ha on government-owned land and 1,800 ha in private areas. The Western bank of the Thane Creek is the single largest mangrove belt in Mumbai. However, they are fast disappearing owing to rampant construction and lack of governmental will for their protection. A mangrove is a shrub or small tree that grows in coastal saline or brackish water. The term is also used for tropical coastal vegetation consisting of such species. Mangrove ecosystems serve as a buffer between land and sea. They actually protect the land from the impact of the sea and by trapping silt they also maintain the integrity of Mumbai's shoreline. For a major economic port like Mumbai, this is very crucial to maintain stability along the coastline and avoid accidents. Mangroves in Mumbai are the most sought after area for real-estate development and hence being destructed at an increasing rate with rise in population.

The state mangrove cell started collating data on mangrove destruction cases from April 2016 onwards and between April and December last year, Mumbai saw 244 mangrove destruction cases with no arrests or convictions in all cases. The number of cases keep piling up.

#### Solutions:

- i. **Awareness Programmes:** Recently there has been increasing awareness about the mangrove ecosystem at various levels in India. Concerned departments of Central and State Government, Research Institutes, Private and Corporate bodies, NGOs and also the common man have started taking initiatives for conservation and

management of mangroves. Mangrove Awareness programmes have increased tremendously due to the natural calamities like cyclones, floods, Tsunamis and also forthcoming Sea Level Rise.

- ii. **Legal Actions:** There are enough legal provisions to protect mangroves. The Coastal Regulation Zone (CRZ) Rule is one such provision which protects mangroves under CRZ-I category. If one finds any kind of mangrove destruction, one can complain to the Forest Department or to the police. Both these authorities are equipped to take action under the Maharashtra Tree Felling Act and Environment Protection Act. The need of the hour is to implement such laws.
- iii. **Newsletters/Environmental Organisations Membership:** One can join organizations like the Mangrove Society of India, which are working specifically for the conservation of mangroves Mangrove Society of India through the newsletter- MANGAL-VAN-appeals to all its members and readers to be alert and vocal in these matters and directly or indirectly protect mangroves, One such organisation is Soonabai Pirojsha Godrej Marine Ecology Centre located in Vikhroli, Mumbai which preserves and conserves huge area of mangroves.

**2.2 Toxic Air:** Poor air quality standards are a major problem for city's inhabitants. "Road construction is the main cause of pollutants, especially in the suburbs. Vehicular emissions and smoke from bakeries and crematoriums are other reasons," said Rakesh Kumar, chief scientist, The National Environmental Engineering Research Institute (NEERI). Carbon monoxide levels and particulate matter emissions have risen owing to traffic congestion, according to studies by the Mumbai Environmental Social Network. Particulate matter, carbon monoxide and oxides of nitrogen and a host of other pollutants make Mumbai's air a toxic mix.

A study led by the National Environmental Engineering Research Institute (NEERI) at 33 traffic junctions across the city found the average concentration of PM10 (particulate matter of less than 10 microns in diameter) to be maximum at Dindoshi at 2,709 micrograms per cubic meter (ug/m3) — that is 27 times the permissible limit of 100ug/m3. These particles can easily enter our lungs and cause health ailments,

On 1<sup>st</sup> January, 2017 Pollution levels shot up to dangerously high levels as the air quality index (AQI) – pollutant measuring indicator — was recorded at 323, falling under the 'very poor' category, said officials from the SAFAR. The last time the city recorded such high pollution was on January 29, 2016, with AQI levels at 341 (very poor) and January 31 at 333 (very poor), owing to the Deonar dumping ground fire, when the release of methane gas from untreated waste choked the city for almost a month.

**Solutions:** There is a need to take multiple steps simultaneously to tackle the problem of air toxicity. The focus should be to identify and control sources of pollution. Some of the measures may include:

- i. **Strict enforcement/implementation of laws:** Strict enforcement of lower pollution norms such as regular checking of PUC certificates. Complete ban on burning of waste/leaves/rubber/plastic throughout the year. Disallow all vehicles older than 15 years in the city and promote CNG & Electric cars/transport. Ban firecrackers through the year for next 5 years, not only during Diwali. Limit one car per family.
- ii. **Reducing Congestion:** Widening the roads by removing encroachments and illegal structures thereby reducing traffic congestion and air pollution. Incentivise carpooling and use of public transport. Prevent dumping ground fires. Adopting innovative ideas such as Green/Moss Walls, Smog free towers. Urban Traffic Management Control systems such as SCOOT can be very effective in maximising road capacity by varying the timing of traffic lights to match demand in real time. When lights are all co-ordinated responsively to demand, incidences of 'blocking back' (vehicles stuck in junctions) leading to gridlock can be minimised. Exclusive lanes enable buses and trams to avoid congestion helping increase their speed, reliability and attractiveness. Unfortunately, exclusive lanes are often controversial since they typically require years of highly disruptive work, destroy fragile streetscapes, and undermine the viability of other public transport options.
- iii. **Green/Moss Walls:** Green walls are vegetation growing on or against a vertical surface. Green walls differ from facades, which are often seen climbing up the outside walls of buildings, using them as structural support. In green walls, the growth medium is on the surface or structure of the wall, whereas facades are rooted in the ground. Moss wall is simply a wall covered with moss. One such recent green initiative is the CityTree by the Berlin-based Green City Solutions. The name is a bit misleading, as CityTree is really a 13-foot wall of moss, with the possibility for public seating on either side, intended to be a self-sustaining, wifi-ready environment through solar panels and rainwater collectors. Green City Solutions states that the CityTree "has the same effect as up to 275 urban trees" with its "specific moss cultures with vascular plant that eat particulate matter (PM), nitrogen dioxide and ozone — offsetting 240 tons of CO2-equivalents per year in total."



**2.3 Waste management/disposal:** The total population of the city amounts to nearly 13 million that is increasing on a daily basis. Such a huge habitat obviously generates a huge amount of waste of many kinds the management of which is a massive task for the local administration. The Brihanmumbai Municipal Corporation (BMC)'s latest Environment Status Report (ESR) found that, off the 9,400 tons of trash that Mumbai sends daily to its dumping grounds, 73% comprises food, vegetable and fruit waste and construction debris — sand, stone and earth — comprised 17% of the waste, 3% is plastic and 3% is organic dry waste such as wood and cloth. Paper and other recyclables, including metals, are 4% of the garbage. The prevailing approach has been one of collection and disposal that is, garbage is collected from communities by the municipal authorities and disposed of at the three main dumping sites that are currently servicing the city.

A dumping ground is, generally, a low-lying, and marshy area, which is located on the outskirts of a city, where there is, usually, no human population. We have, in our city, three dumping grounds which are located at Kanjurmarg, Mulund and Deonar. The Deonar dumping ground has caused health issues for the residents from Mumbai's neighbourhood of Chembur, Govandi and Mankhurd. Recurrent fires at the dump have caused conditions unfit for habitation for residents of the adjacent area. Another fire broke out at the Deonar dumping ground in January 2016 causing the Brihanmumbai Municipal Corporation (BMC) to shut down 74 schools run by it for two days, as the smoke from the ground veiled the area causing breathing difficulties. Infant mortality has also been a concern in the nearby areas; as the rate stands at 60-80 per 1000 live births, which is double the average of 35.2 for the entire city. Currently, only Kanjurmarg dumping ground is equipped for scientific processing of waste whereas mulund and deonar dumping grounds were supposed to be shut down by October, 2016 but the BMC has missed the deadline in the absence of alternatives. Two new sites to be turned into dumping grounds, at Airoli and Taloja, are still not ready because of land ownership dispute and encroachment.

**Solutions:** The government's Swacha bharat abhiyan has surely given impetus and motivation to the citizens for keeping our surroundings clean but some additional measures needs to be taken such as:

- i. **Household composting:** Household composting is making compost at one's home using daily kitchen waste. Since over 70% of waste generated in Mumbai is biodegradable, household composting is the best option for a city like Mumbai. This would also reduce burden for the local authority (BMC) which will help them to better utilise their resources on other type of wastes which cannot be recycled at home. Composting is also done by several housing societies. They collect waste from each household and use a composting pit maintained by such societies. This compost can further be used for gardening purposes in individual households as well as housing societies.
- ii. **Recycling Machines at Public Places:** Indian Railways has put up a 'Swachh Bharat Recycle Machine', which is a bottle/can recycling machine at the Churchgate railway station in Mumbai. With this initiative used plastic water bottles on tracks may become a thing of the past. Railway is planning to install such machines at other railway stations too. 500 bottles per day can be crushed with one machine. Users will get an instant 'reward' when recycling used containers, motivating repeated use. The rewards include donation, mobile recharge or discount from selected outlet.
- iii. **Waste Segregation:** Waste generators, including hotels, hospitals, commercial complexes and large housing societies can segregate their wastes before BMC collects it. In one of such steps, the municipal commissioner of Mumbai had in July ordered that housing societies that produce more than 100kg of waste daily or have an area of around 2,000 square metre, will have to segregate waste daily and process it.

**2.4 Lungs of Mumbai/Green Cover:** the existence of this green space is being threatened by illegal construction activity, encroachment by slums and quarrying. Several companies carry out quarrying in the park which have led to the erosion of the land and have also affected the habitats of the animals. Quarrying also reduces the mineral content in soil which affects its water retention capacity and alters the course of natural water sources. The park is being hemmed in by all sides by unchecked development. With the entry of man into nature, nature has entered man's backyard in the form of leopards attacking people and homes. It is the green lung of the city whose strangulation would mean lower oxygen levels and rising temperature.

The same can be said for the Aarey Milk Colony of Goregaon. This stretch of 16 sq.km has been famous for its dairy farms and picnic spots; but its role in reducing the pollution levels of the city have hardly ever been acknowledged. This stretch of trees absorbs a large part of the vehicular pollution of the city. Green activists have been against the state government's plan to build a Metro car shed (Metro-3 corridor) in Aarey, for which around 3,500 trees will have to be cut. With reports of bad air quality in Mumbai every day, citizens should demand authorities to give us a better future in the city by searching alternate sites for the shed." Encroachment of slums is not being checked by authorities in both the places.



### Solutions:

- i. **Environmental Education & Activism:** Faced with protests by green activists over deforestation when the proposed Metro 3 car shed is constructed in Aarey Colony, the State government announced measures to preserve green cover. This will include recharging ground water, planting trees, getting a green audit done and not using the land for commercial purposes. Also, open areas will not be touched, and it will be binding on the contractor to protect trees. More such activism is needed in order to protect Mumbai's green cover.
- ii. **Revamp for Conservation:** Mumbai's Sanjay Gandhi National Park will get help from the Belgian government to conserve its biodiversity and revamp the park. The national park, one of the few forests in the world to be situated in an urban area, was chosen for the project from among four other urban forest areas. Such revamp will help the authorities to conserve the biodiversity more efficiently.

**2.5 Polluted Waters:** One of the oldest rivers in the state, the Mithi is now nothing more than a sewage drain. In July, Maharashtra Environment Minister Ramdas Kadam declared that the stream consisted of 93% domestic sewage and 7% industrial waste. The polluted river and the destruction of mangroves are cited as one of the primary reasons for the July 26, 2005, deluge in Mumbai. Maharashtra Pollution Control Board (MPCB) officials said untreated sewage from slums and inadequately treated waste from other sources is fouling Mumbai's coastal waters. They found that water along Mumbai's coast is dirtiest around Juhu, Girgaum Chowpatty and Haji Ali, but the city's filthiest water is in the Mithi River which flows into the Mahim creek. The level of oxygen will decline if poor water quality marred with sewage and plastic take over the surface of areas close to the coast and it will wipe out marine life.

The survey, carried out by a water purifier manufacturer, also collected and examined ground water samples and found that several areas in Mumbai were severely hit by water contamination. Levels of total dissolved solids (TDS), hardness, chlorides, nitrates, responsible for water contamination have exceeded more than the permissible limits in certain parts of Mumbai. Toxic chemicals such as arsenic and lead and disease-causing bacteria are also contributing to the alarming increase in the water contamination.

Water borne diseases, a critical cause of concern across cities, have accounted for nearly 83% of all diseases severely affecting people's health. Incidences of deadly waterborne diseases like cholera, jaundice, typhoid, diarrhoea as well as common cold, cough and fever were higher amongst people accounting for about 83% in Mumbai as compared to malaria, dengue and other diseases.

### Solutions:

- i. **Sewage treatment:** According to Brihanmumbai Municipal Corporation's (BMC) sewage operations department, the city produces sewage amounting to 2,200 to 2,400 million litres per day (MLD). Of this, the civic body treats 1,500 MLD at Bhandup, Ghatkopar, Versova, Malad, Colaba, Worli and Bandra sewage treatment plants (STPs). Of the remaining 700-900 MLD, private STPs are treating some of the sewage at hotels and housing complexes while remaining pours into rivers, streams, creeks or directly at sea. The state government should sanction the development of more sewage treatment plants across the city, especially at marine outfalls.
- ii. **Beach Clean-up:** Regular beach cleanup drives at the coast helps to reduce the amount of waste in the form of plastic and sewage that enter the sea. In one such instances, Versova residents led by city-based lawyer Afroz Shah have removed over 5.7million kg of trash over 92 weeks.
- iii. **Rejuvenation/Beautification:** The rejuvenation work has been going on from several years for Mithi River. Umakant Deshpande of The Asian age reports that, The central government is ready to give Rs 2,000 crore more to clean and beautify Mithi River. Similar steps are needed for Powai Lake and other water bodies of the city.
- iv. **Capture and Dispose of Floating Pollution in Waterway:** Floating pollution can be contained and retrieved relatively easy with a floating boom. Booms are designed to act as a barrier for floating water pollution. Depending on how you install the boom, you can either contain, deflect, or exclude floating debris. From trash or seaweed to oil, there are booms to control almost any floating pollutant into a manageable area for disposal.
- v. **Silt Curtains at Sewer-ends and Beaches:** Turbidity barriers are the most common solution for controlling sediment filled waters (also known as silt curtains). They are floating barriers designed to contain the turbid water, forcing the sediment to settle in the contained area.

### 3. CONCLUSION

To conclude, it is imperative to highlight the importance of environmental education, awareness, and activism. Public participation and shared responsibility is the key to overcome the environmental problems and sustainable

development of Mumbai besides implementation of already existing norms as prevention is better than cure. Government together with public participation should try to take the suggested step to reduce the pollution and make healthy living possible for our future generations.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Empower Women to Bring Developmental Revolution

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**Abstract:** Women are generally perceived as home makers with little to do with economy or commerce. Women Entrepreneur is any women who organizes and manages any enterprise, especially a business. The transition from homemaker to sophisticated business woman is not that easy. But the trend is changing. Women across India are showing an interest to be economically independent. In this background, self-employment is regarded as a cure to generate income. Women are coming forth to the business arena with ideas to start small and medium enterprises. They are also enjoying the impact of globalization and making an influence not only on domestic but also on international sphere. Empowering women to participate fully in economic life across all sectors is essential to build stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families and communities. The private sector is a key partner in efforts to advance gender equality and empower women. Current research demonstrating that gender diversity helps businesses perform better signals that self-interest and common interest can come together.

**Key Words:** Women status, women education, women empowerment, women entrepreneur and developmental evaluation

#### 1. INTRODUCTION

Women Empowerment refers to increasing and improving the social, economic, political and legal strength of the women, to ensure equal-right to women, and to make them confident enough to claim their rights, such as:

- ❖ Freely live their life with a sense of self-worth, respect and dignity,
- ❖ Have complete control of their life, both within and outside of their home and workplace,
- ❖ To make their own choices and decisions,
- ❖ Have equal rights to participate in social, religious and public activities,
- ❖ Have equal social status in the society,
- ❖ Have equal rights for social and economic justice,
- ❖ Determine financial and economic choices,
- ❖ Get equal opportunity for education,
- ❖ Get equal employment opportunity without any gender bias,
- ❖ Get safe and comfortable working environment.

#### 2. LITERATURE REVIEW

Dr Rajeshwari M. Shettar in 2015 studied in the paper titled as Study on Issues and Challenges of Women Empowerment in India that The need of the hour is to identify those loopholes or limitations which are observing the realization of empowerment of women and this initiative must be started from the women folk itself as well as more importantly policy initiative taken by the state and society. Let us take the oath that we want an egalitarian society where everybody whether men or women get the equal opportunity to express and uplift one's well-being and well-being of the society as whole. Women's empowerment is not a Northern concept women all over the world, including countries in South, have been challenging and changing gender inequalities since the beginning of the history. These struggles have also been supported by many men who have been outraged at injustice against women. Women represent half the world's population and gender inequality exists in every nation on the planet. Until women are given the same opportunities that men are, entire societies will be destined to perform below their true potentials. The greatest need of the hour is change of social attitude to women.

Amtul Waris and B. C. Viraktamath in September 2013 in their paper titled as Gender gaps and Women's Empowerment in India –Issues and Strategies studied that Gender equality is considered a critical element in achieving social and institutional change that leads to sustainable development with equity and growth. Inequalities between men and women manifest themselves in all areas of development. Inequalities are most obvious in: health and education, economic development, violence against women, participation in public life and policymaking and social attitudes and gender stereotyping The Twelfth Plan endeavours to increase women's employability in the formal sector as well as their asset base. It aims to improve the conditions of self employed women with a focus on women's workforce participation particularly in secondary and tertiary sectors, reaching out to women in agriculture and manufacturing, financial inclusion, and extending land and property rights to women. One of the major impediments affecting women's participation in the workforce is the lack of skills. The Twelfth Plan envisages a major scaling up of skill development to promote skill development of women from traditional skills to emerging skills, which help women break the gender stereotypes and move into employment requiring higher skill sets.

Dr. Shuchi Loomba in her paper titled as ROLE OF MICROFINANCE IN WOMEN EMPOWERMENT IN INDIA studied that Microfinance is playing a vital role in the social, psychological as well as economic empowerment of women in India. Microfinance loan avaiement and its productive utilization found to be having a profound role and impact on women empowerment. The empirical findings of the study suggests that microfinance has a profound influence on the economic status, decision making power, knowledge and self-worthiness of women participants of self-help group linkage program in Ghaziabad. Microfinance is accepted as a key mantra for attaining and maintaining the sustained and long term economic growth in all over the world. Reaching poor people on massive scale with popular products on a continuous basis involves rethinking the basic assumptions and making the changes. Today microfinance is striving to match the convenience and flexibility of informal sector while adding flexibility and continuity. Though different studies conducted at various levels show different conclusions, it can be acknowledged from the present study that despite of bottlenecks, microfinance is capable of helping the poor to upscale themselves to a better living and playing a significantly positive role in upgrading women empowerment.

### 3. OBJECTIVES OF THE STUDY

1. To know the importance of education in women's life.
2. To check the need of women empowerment.
3. To find the obstacles of women empowerment.
4. To find the impact of women empowerment in the growth and development of the country.

### 4. RESEARCH METHODOLOGY

The required data has been collected through secondary source like Text books, Journals, internet and other publication and supported by primary data collected through observation technique

### 5. DISCUSSION

Importance of Women Empowerment

**1. Under-employed and unemployed:** Women population constitutes around 50% of the world population. A large number of women around the world are unemployed. The world economy suffers a lot because of the unequal opportunity for women at workplaces. (Also read: Paragraph on Women Employment)

**2. Equally competent and intelligent:** Women are equally competent. Nowadays, women are even ahead of men in many socio-economic activities.

**3. Talented:** Women are as talented as men. Previously, women were not allowed higher education like men and hence their talents were wasted. But nowadays, they are also allowed to go for higher studies and it encourages women to show their talents which will not only benefit her individually but to the whole world at large.

**4. Overall development of society:** The main advantage of Women Empowerment is that there will be an overall development of the society. The money that women earn does not only help them and or their family, but it also help develop the society.

**5. Economic Benefits:** Women Empowerment also leads to more economic benefits not to the individuals but to the society as well. Unlike earlier days when they stayed at home only and do only kitchen stuffs, nowadays, they roam outside and also earns money like the male members of the society. Women empowerment helps women to stand on their own legs, become independent and also to earn for their family which grows country's economy.

**6. Reduction in domestic violence:** Women Empowerment leads to decrease in domestic violence. Uneducated women are at higher risk for domestic violence than an educated women.

**7. Reduction in corruption:** Women Empowerment is also advantageous in case of corruption. Women empowerment helps women to get educated and know their rights and duties and hence can stop corruption.

**8. Reduce Poverty:** Women Empowerment also reduces poverty. Sometimes, the money earned by the male member of the family is not sufficient to meet the demands of the family. The added earnings of women helps the family to come out of poverty trap.

**9. National Development:** Women are increasingly participating in the national development process. They are making the nation proud by their outstanding performances almost every spheres including medical science, social service, engineering, etc.

**10. Irreplaceable in some sectors:** Women are considered irreplaceable for certain jobs.

## **6. CHALLENGES**

### **Empowering women socially and economically through spirituality in india**

1. So Kyon Manda Aakhiye Jit Jamme Rajan: Guru Nanak Dev Ji, founder of Sikh religion, said men and women are equal and therefore women cannot be considered socially or spiritually inferior.

Of woman are we born, of woman conceived, to woman engaged and married, Woman are befriended, by woman is the civilization continued. When woman dies, woman is sought for. It is by woman that the entire social order is maintained. Then why call her bad? From her Kings are born – Sri Guru Granth Sahib, p.473.

2. To restore their rightful and dignified status, The Art of Living has initiated women empowerment programs that provide a solid foundation to nurture the inner strength, creativity and self-esteem of women from all walks of life. With this base well established, women are now able to go out into the world, prepared to handle any challenge with skills, confidence and grace. They come to the forefront, where they become agents of peace and positive social change for themselves, their families, other women and their society.

### **Women Empowerment programs taken up by The Art of Living:**

- Economic independence
- Girl child education
- HIV/AIDS
- Prison program
- Leadership
- Social empowerment

### **The challenges or barriers of women empowerment**

Because of the inherent superiority complex among the males, they often don't allow their female counter-part to rise as high as them. Domestic responsibilities, restrictions to participate in social, economic and religious activities. In our society, the boy-child often gets preference for education and healthy diet over the girl child and preference for male-child still exist among many families in the society.

## **7. SOLUTIONS**

Education through mass communication is very important. Both women and men should be made aware of their responsibilities to promote and practice gender-equality. Gather national data and identify the areas where an instance of violence and gender-inequality is the most. This data can be used by the Government, NGOs and field workers to raise the status of women. The society should be made aware that both boy-child and girl-child are equal, and they both should have equal access to resources.

### **Workforce participation**

In rural India in the agriculture and allied industrial sectors, females account for as much as 89.5% of the labour force. In overall farm production, women's average contribution is estimated at 55% to 66% of the total labour. According to a 1991 World Bank report, women accounted for 94% of total employment in dairy production in India. Women constitute 51% of the total employed in forest-based small-scale enterprises. One of the most famous female business success stories is the Shri Mahila Griha Udyog Lijjat Papad. In 2006, Kiran Mazumdar-Shaw, who founded Biocon,



one of India's first biotech companies, was rated India's richest woman. Lalita D. Gupte and Kalpana Morparia were the only businesswomen in India who made the list of the Forbes World's Most Powerful Women in 2006

### **Women's Empowerment Principles**

Empowering women to participate fully in economic life across all sectors is essential to build stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families and communities. The private sector is a key partner in efforts to advance gender equality and empower women. Current research demonstrating that gender diversity helps businesses perform better signals that self-interest and common interest can come together. Yet, ensuring the inclusion of women's talents, skills and energies—from executive offices to the factory floor and the supply chain—requires intentional actions and deliberate policies. The Women's Empowerment Principles offer practical guidance to business and the private sector on how to empower women in the workplace, marketplace and community. Developed through a partnership between UN Women and the United Nations Global Compact, the Principles are designed to support companies in reviewing existing policies and practices—or establishing new ones—to realize women's empowerment.

#### **In brief, the Principles are:**

- ❖ Establish high-level corporate leadership for gender equality
- ❖ Treat all women and men fairly at work—respect and support human rights and nondiscrimination
- ❖ Ensure the health, safety and well-being of all women and men workers
- ❖ Promote education, training and professional development for women
- ❖ Implement enterprise development, supply chain and marketing practices that empower women
- ❖ Promote equality through community initiatives and advocacy
- ❖ Measure and publicly report on progress to achieve gender equality

### **The role of education**

Improving education for women helps raise their levels of health and nutrition and reduces fertility rates. Education increases "people's self-confidence and enables them to find better jobs, engage in public debate and make demands on government for health care, social security and other entitlements". In particular, education empowers women to make choices that improve their own and their children's health and chances of survival. Education helps to prevent and contain disease, and is an essential element of efforts to reduce malnutrition. Further, education empowers women to make choices that improve their welfare, including marrying later and having fewer children. Crucially, education also increases women's awareness of their human rights their confidence and their actual ability to assert those rights.

Despite significant improvements in recent decades, education is not universally available and gender inequalities persist. A major concern in many countries is not only limited numbers of girls going to school, but also limited educational pathways for those that step into the classroom. This includes, more specifically, how to address the lower participation and learning achievement of girls in science, technology, engineering and mathematics (STEM) education

### **The Internet as a tool of empowerment**

The growing access of the web in the late 20th century has allowed women to empower themselves by using various tools on the Internet. With the introduction of the World Wide Web, women have begun to use social networking sites like Facebook and Twitter for online activism. Through online activism, women are able to empower themselves by organizing campaigns and voicing their opinions for equality rights without feeling oppressed by members of society. For example, on May 29, 2013, an online campaign started by 100 female advocates forced the leading social networking website, Facebook, to take down various pages that spread hatred about women. In recent years, blogging has also become a powerful tool for the educational empowerment of women. According to a study done by the University of California, Los Angeles, medical patients who read and write about their disease are often in a much happier mood and more knowledgeable than those who do not. By reading others' experiences, patients can better educate themselves and apply strategies that their fellow bloggers suggest.

With the easy accessibility and affordability of e-learning (electronic learning), women can now study from the comfort of their homes. By empowering themselves educationally through new technologies like e-learning, women are also learning new skills that will come in handy in today's advancing globalized world. Delivering multiple roles effortlessly every single day, women are undoubtedly the backbone of any society. Doting daughters, caring mothers, competent colleagues and a wide range of many other roles are played by women around us flawlessly and with grace. However, they've also been an ignored fraction of the society in many parts of the world. This, in turn, has caused women at large to bear the brunt of inequality, oppression, financial dependability and other social evils. For centuries now, women have been living under bondage that restricts them from achieving professional as well as personal heights.

### **Government Schemes Available for Economic Empowerment of Women in India**

In its capacity as the nodal Ministry, the Ministry of Women and Child Development seeks to promote economic empowerment of women through policies and programmes cutting across sectors, mainstreaming gender concerns, creating awareness about their rights and facilitating institutional and legislative support for enabling them to develop to their full potential. The important programmes in different areas are

#### ***Support to Training & Employment Programme for Women (STEP)***

A Central Sector Scheme launched in 1986-87, seeks to upgrade skill of poor and asset less women and provide employment on sustainable basis by mobilizing them in viable cooperative groups, strengthening marketing linkages, support services and access to credit. The scheme also provides for enabling support services in the form of health check-ups, legal and health literacy, elementary education, gender sensitization and mobile crèches. The ultimate endeavour of each project is to develop the group to thrive on a self-sustaining basis in the market place with minimal governmental support and intervention even after the project period is over. Since inception, around 250 projects have been provided financial assistance under the scheme. The ten traditional sectors identified for project funding under STEP comprise of agriculture, animal husbandry, dairying, fisheries, handlooms, handicrafts, khadi and village industries, sericulture, waste land development and social forestry. The scope and coverage of the scheme is being broadened with introduction of locally appropriate sectors being identified and incorporated into the scheme.

#### ***Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) – ‘SABLA’***

A centrally-sponsored scheme was approved by the Government on 16.8.2010. The scheme is being implemented in 200 districts across the country on a pilot basis. In the remaining districts, Kishori Shakti Yojana (KSY) continues to be operational as before. However, SABLA has completely replaced Nutrition Programme for Adolescent Girls (NPAG) as all districts of NPAG are now part of the SABLA. The scheme, inter alia, aims at vocational training for girls above 16 years of age for their economic empowerment. Sabla is being implemented through the State Governments/UTs with 100 per cent financial assistance from the Central Government for all inputs other than nutrition provision for which 50 % Central assistance to States is provided. Anganwadi Centre is the focal point for the delivery of the services.

#### ***Central Social Welfare Board (CSWB)***

In order to address the socio-economic needs of the women and children of selected eight most backward districts in the North Eastern region in the economic arena, Central Social Welfare Board has formulated the Integrated Scheme for Women Empowerment (ISWE). The scheme is being implemented on pilot basis since 2008 and has the objective of meeting the felt needs of the area by mobilizing community action, converging available services and resources of the area, income generation through feasible and sustainable activities for women and to provide services for health awareness, career counseling vocational training, preventing child trafficking and other social evils.

#### ***National Mission for Empowerment of Women***

The extent of empowerment of women from a holistic and macro-point of view is largely determined by 3 factors viz. economic, social and political identity. These factors are deeply intertwined and linked with many cross cutting linkages. It implies that if efforts in any one dimension remains absent or weak, the outcome and momentum generated by the other components cannot be sustained. It is only when all these three factors are addressed simultaneously and made compatible with each other can women be truly empowered. Therefore, for the holistic empowerment of women, an inter-sectorial approach has to be adopted. The vision for socio-economic empowerment of women is to empower women economically and socially to end exploitation and discrimination enabling them to develop their full potential to be active participants in nation building, sharing the benefits of economic growth and prosperity.

In order to promote self-employment opportunities and create livelihood options for women. Sustainability of income generation activities by women would be looked at and they would be ensured provision of adequate forward, backward and horizontal linkages. The relevant programmes of NABARD, RMK and participating Ministries as well as organizations with components of processing, storage, distribution and market networks would be put in a convergent mode to strengthen the livelihood of women.

#### ***Rashtriya Mahila Kosh – (National Credit Fund for Women)***

The Rashtriya Mahila Kosh (National Credit Fund for Women) was set up in 1993 with a corpus of Rs. 31 crore, against the backdrop of socio-economic constraints faced by poor women to access micro – credit from the formal financial system in the country, especially those in the rural and in unorganized sectors. The principal corpus has increased to Rs.100.00 Crore by 2009-10. The main objective behind the setting up of the Rashtriya Mahila Kosh (RMK) under the Department of Women and Child Development (now Ministry) was to provide micro-credit to poor women for various livelihood support and income generating activities at concessional terms in a client-friendly

procedure to bring about their socio-economic development. The RMK is now being restructured as a NBFC with a corpus of Rs.500.00 crore. Till 31.3.2011, 6, 87,512 women beneficiaries have been sanctioned Rs.307.52 crore and disbursed Rs.251.82 crore. Further, the fact that RMK extends loan upto maximum of 18 per cent interest per annum to SHGs/beneficiaries as against loans disbursed to beneficiaries through Micro Finance Institutions (MFIs) under the NABARD's SHG – Bank Linkage Programme at the interest rate ranging between 30 and 40 per cent per annum and even higher and 60 to 70 percent rate charged by traditional moneylenders, would mean that the impact by way of higher incomes and welfare of the beneficiaries at such an expanded scale of finance and at affordable rate, would be much more pronounced.

**Support Services: Hostel for Working Women-** The Scheme of Working Women Hostel envisages provision of safe and affordable hostel accommodation to working women, single working women, women working at places away from their home-towns and for women being trained for employment. Rajiv Gandhi National Creche Scheme- With a view to encourage women to join/ continue with gainful employment, Rajiv Gandhi National Creche Scheme for children of working mothers (RGNCs) was introduced in 2006. The scheme seeks to provide day care facilities to children in the age group 0-6 years from families with a monthly income of less than Rs. 12,000/-. In addition to being a safe space for the children, the crèche provide services like supplementary nutrition, pre school education, emergency health care etc. The scheme provides for grant of Rs.3532/- per month for a crèche, limited to 90% of the schematic pattern or actual expenditure whichever is less, and the remaining expenditure is borne by the implementing agencies. Honorarium to crèche workers is fully funded under the scheme. Funds are separately provided to the implementing agencies for one time training of crèche workers.

**Indira Gandhi Matritva Sahyog Yojana (IGMSY)** – Conditional Maternity Benefit (CMB) scheme is a Conditional Cash Transfer scheme for pregnant and lactating women to contribute to better enabling environment by providing cash incentives for improved health and nutrition to pregnant and nursing mothers. It is being implemented initially on pilot basis in 52 selected districts using the platform of ICDS. IGMSY is a Centrally Sponsored Scheme introduced in the FY 2010-11, under which the grant-in-aid is released to States/UTs. The Scheme envisages providing cash directly to P&L women during pregnancy and lactation in response to individual fulfilling specific conditions. It would address short term income support objectives with long term objective of behaviour and attitudinal change. The scheme attempts to partly compensate for wage loss to pregnant & lactating women both prior to and after delivery of the child.

Women are Doing a Wonderful Job Striking a Balance Between their House and Career. Here are a few:

1. KIRAN MAZUMDAR SHAW - Founder, Chairman and Managing Director (CMD) of Biocon Limited.



2. EKTA KAPOOR - Creative Head and Joint Managing Director of Balaji Telefilms.



- 3 NAINA LAL KIDWAI - First woman to head the operations of a foreign bank in India (HSBC)



4. FALGUNI NAYYAR - Launched Nykaa.com



5. RADHIKA GHAI AGGARWAL - Co-Founder & CMO, ShopClues.com



6. SUCHI MUKHERJEE - Founder and CEO of Limeroad.com



7. INDRA NOOYI - CEO and President of PepsiCo.



8. VANDANA LUTHRA - Founder of VLCC,



9. CHANDA KOCHAR - MD & CEO of India's largest private bank ICICI Bank.



10. INDU JAIN - Chairman of the Times Group (Bennett, Coleman & Co. Ltd.)



## 8. CONCLUSION

Women entrepreneurs have become a strong driving force in today's corporate world. Not only are they able to equalize their duties of both motherhood and entrepreneurship but they also comprise of almost half of all businesses owned today. Their primary goal is not monetary reward but rather personal satisfaction and community involvement. Many of them are highly educated and assemble into groups in order to pool business ideas and resources together. Empowering women to participate fully in economic life across all sectors is essential to build stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families and communities. The private sector is a key partner in efforts to advance gender equality and empower women. Current research demonstrating that gender diversity helps businesses perform better signals that self-interest and common interest can come together

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Corporate Capitalism: A Challenges before Sustainable Human Development

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**Abstract:** Human Rights, Sustainable Development and Globalization are the key words of the Globalized village world. The environmentalist and the human rights activist are claims the sustainable human development and at the same time globalized corporate capitalism supporters boosts the development besides considering the environment, natural resources and human rights. This phenomenon of the objective crisis is the basic hurdle and challenge before the sustainable development, because the process of globalization (liberalization privatization and market based economy) has been changed the priority and parameters of the development. That's why unless and until the co-ordination between globalized development and sustainable development happens; the expected results is impossible.

**Key words:** Human rights, social justice, poor-rich gap, globalization, liberalization, privatization, crony capitalism,

#### 1. INTRODUCTION

Man is an intellectual animal and at the same sociable animal, it is a universal truth .humans has made great progress in every field of life since its civilization to this global era. Information technology) brought revolution in communication which has turned the whole globe into a village for a substantial number of people in the world. Growth of modern science and technology has made significant contribution in this process of development. However, there is another side of the process of development. It is negative .It is very serious. The modern industrial civilization, pushed by globalization, has caused grievous damage to the physical environment through irrational use of exhaustible resources. The problems of poverty, food, shelter, sanitation, health, education, drinking water, unemployment, are prevalent everywhere. The materialist and hedonist vision of life has led humanity to confront with serious problems at ecological, ethical, economic, social, political, cultural and psychological planes. Rajni Kothari (1990:3)<sup>1</sup> rightly opines that "human progress has been held up or distorted and diverted into wrong manner or channel. Hence, the need of an alternative model of development has emphasized in various quarters both at national and international levels. And the concept of 'sustainable development' has figured very prominently in this connection.

Here, this paper discusses first the concept of 'sustainable development' and 'globalization. 'Then it focuses on the adverse effect of globalization on the philosophy of sustainable development. Finally follows its conclusion.

#### 2. CONCEPT OF SUSTAINABLE DEVELOPMENT

The concept of sustainable development has got two dimensions –ecological and social. Of course; it is eco-friendly process of development and social commitment oriented doctrine. Malcolm S. Adiseshiah (1990:2)<sup>2</sup>, a noted Indian economist, opines that the first requirement in regard to environmental protection is to 'agree upon going in for projects which are not resource – consuming, which not resource – damaging and resource – are destroying. And the second need, he continues, is 'to build into every project the means of conserving the resources which have to be used, renewing resources which have to be consumed and countering the damage and pollution to environment that emerges as a result of development, whether it is in agriculture or in manufacture, he states again, 'equally important because it

<sup>1</sup> . Kothari Rajni,(1990), 'Rethinking Development , Ajanta Publications, Delhi.

<sup>2</sup>. Adiseshiah,M.S.(1990):'sustainable development: what it is and its coverage 'in Adiseshiah M. S. ed.(1990),Sustainable Development ,  
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is development for all and not for a few in society.<sup>3</sup> Further, according to the first Human Development Report in 1990, “the real wealth of nation is its people. And the purpose of development is to create an enabling environment for the people to enjoy long, healthy and creative lives. This simple but powerful truth is too often forgotten in the pursuits of material and financial wealth”<sup>4</sup>

In the HDR1993 (1993:2)<sup>5</sup> sustainable human development forms one of the five new pillar of a people centered world order that is ‘human security, partnership between state and markets, new patterns of national and global governance, and new forms of international cooperation. Now, it is not in reality but dream. Further, The HDR 1993 gives an eloquent definition of human development. It states, ‘Human development is development of the people for the people and by the people (HDR1993:3)<sup>6</sup>. Here development of the people means ‘investing in human capabilities’ as in health, education and skill to enable them to ‘work productively and creatively’. Development for the people means ensuring a wide and fair distribution of the fruits of the economic growth among them. And the development by the people implies ‘giving everyone a chance to participate’.

The HDR 1994 presented a paradigm of development. According to the report, this new paradigm puts people at the Centre of development, regards economic growth as a means and not an end, protects the life opportunities of future generations and respects the natural system on which all life depends (HDR 1994:4)<sup>7</sup>. The report adds, ‘in the final analysis, sustainable human development is pro-people, pro-jobs and pro-nature’<sup>8</sup>. further it is held that accumulation of wealth is not essential for the fulfillment of some important human choice like having democracy as a form of governance. It is also observed that ‘human choice extends far beyond economic well-being’. Besides wealth one would like to have education and knowledge, peace of mind, clean physical environment, etc. (HDR 1994:14)<sup>9</sup>. It states again, Growth in income will enhance the living conditions of the poor only if they get a share of the additional income, or if it is used to fiancé the public services for sections of society that would otherwise be deprived of them. (HDR 1994:17)<sup>10</sup> As regards intergenerational aspect, it means ‘moral obligation to do at least as well for our successor generations as our predecessors did for us’ (HDR1994:17-18)<sup>11</sup>

No doubt, the concept of sustainable human development propounded in HDRs of UNDP and eminent thinker has a grand philosophy of human life. It advocates the principle of universalism of life claims. It claims to offer a new paradigm of development.

### 3. CONCEPT OF GLOBALIZATION

Globalization is not a new phenomenon. The late nineteenth century and early twentieth century period witnessed globalization too. It indicates economic interdependence and globalization of markets. Globalization means different things to different people. It can be defined as the expansion of economic activities across political boundaries of nations. More important perhaps, it refers to process of increasing economic integration and growing interdependence between countries in the world economy. One thing is important that globalization, liberalization and privatization are the three pillars on which the edifice of new economic policy stands. It has been demanded the panacea with claims for solving all problems efficiently.

According to Holm and Sorenson, globalization is defined as “the intensification of economic, political, social and cultural relations across borders”.<sup>12</sup> From this definition, it becomes clear that it is not simply an economic phenomenon. Globalization is also seen as the triumph of a capitalist world economy tied together by a global division of labor. Globalization is viewed as a process by some writers as a process which had led to latest stage of capitalism that is global capitalism or Globalization. According to Sivanandan, imperialism is the latest stage of capitalism; globalism is the latest stage of imperialism.<sup>13</sup> A similar definition is provided Wilkin who, defines globalization as a process of transformation in the capitalist world system, one that intensifies array of structural and ideological tendencies as all aspects of the world system, come increasingly into the orbit of what we can see as a single and continuous circulation of ideas, commodities, social relations and most important sites of conflicts.<sup>14</sup> Through above

3. ibid

4. Human Development Report, 1990 p. 2

5. Human Development Report 1993, New York, oxford University Press ( published for the UNDP)

6. ibid

7. HDR 1994, New York, Oxford University press (published for UNDP)

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discussion, some fundamental questions are raised. Who wants globalization? Globalization for what and for whom? Why is globalization of human resources not taking place? Do people want globalization? An honest answer is, pro capitalist and for capitalism. The question, then arise, how could it possible to implement the sustainable human development programs for wellbeing and welfare of the people with this new paradigm? Because the capitalism is based on exploitation. It is to be noteworthy that to reconsider the challenges of globalization before the sustainable development program. That is as follows:

1) Objective crisis Phenomenon: As, we discussed above, both the concepts are universal in nature and key words of this new era. Both are demands development in its own sense. But significant thing is that the objectives of both the concepts go against to each other. Sustainable Development claims development with egalitarian, humanity and pro-poor conserving exhaustive natural resources not only for present generation but its successors what precedes have did for them while the pro globalization claims that development with increase in production, wealth, employment to worldwide which results in reducing the poverty magically. But the experience of post globalization founds adversely affect. The Human Development Report 1990 says that, 'the real wealth of nation is its people and the purpose of development is to create an enabling environment for the people to enjoy long healthy and creative lives. This simple but powerful truth is too often forgotten in pursuits of material and financial wealth.'<sup>15</sup> John Robinson has said "a growth in wealth is not at all these same thing as reducing poverty. As growth goes on at top, more and more, families are thrown out at the bottom; absolute misery grows while wealth increased."

It is clear that sustainable human development demands 'man oriented society' with humanity, just and preserving environment while globalization demands 'money oriented society' which is lure of profit and with creating threat in the market. There is no found, any single word, as objective, in the globalization, in the view of human welfare even after it claims development. It is to be noticed that development process is always horizontal but never vertical.

2). Corporate Capitalism System: No doubt, globalization is the process of new capitalism system i.e 'corporate capitalism' or 'crony capitalism' which is based on exploitation. Privatization and liberalization are the two pillar of globalization through which it spreading across the world. According to Karl Marx private property is the origin of exploitation. More and more profit is the principle of capitalism. 'Money is god' is its formula. It has no humanity or sympathy about poor. It is simple but bitter truth that there is exploitation where the wealth concentrates. In the globalization, there are two alternatives to accept, whether 'capitalistic democracy' or 'democratic capitalism.' It means no any other economy without capitalism to the world. Because globalization has took the control on world economy. Though the capitalism curtailed on its cruel face and tries to expose wearing welfare mask, it did not hidden its original face, it is a historical truth one which not denied. Then, how to run, welfare program of human development and exploitation program of capitalism, parallel. Of course, no development without exploitation in the globalization. That's why capitalism is a huge challenge before sustainable human development.

3). Scarcity of Implementation Mechanism: The main and crucial problem is that the sustainable human development program has no implementation mechanism. It is launched or promoted by UNDP in the view of humanity on moral base. It is ideal or guideline for nations and peoples in the world. Though the program promoted by UNDP and supported by humanitarian, ecologist, on the behalf of the poor and weaker section of society with passion and to save this live planet, earth; but it has no implementation mechanism. At the same time globalization has strong implementation mechanism it has supporters like rich, capitalist, international organizations i.e. WB, IMF, WTO and MNCs with all strong equipment. It bears corporate or capitalist hegemony across the world. It is bitter true that no results without implementation mechanism. Dr. B.R. Ambedkar said that when conflict arises between ethics and economy, economy becomes prevalent to ethics and ethics defeated by economy. Then, no need to say anything more what Ambedkar said.

4). Changing Dynamics of priorities and Parameters of Development: Basically, the development process is comprehensive process by vertically and horizontally. Though the sustainable human development and globalization claims development, it has contradictory priorities and parameters with each other, in its own sense. Parameters of globalization are more profit, more production, efficiency, market, consumerism, cheap labor, modern technology, more use of exhaustive resources which damage to environment while sustainable human development claims poverty reduction, education, health, shelter, sanitation, drinking water, and infrastructure with humane, just and egalitarian without damaging and destructing environment. In the globalization, no man but market is first and last word. We are forgotten that competitive markets may be the best guarantee of efficiency but not necessarily of equity. Liberalization and privatization can be a step to competitive market but not a guarantee of humane and just of them. The markets are neither the first nor last word in the development. Many activities and goods that are critical to human development are provided outside the market.

5). Government Run Away from Welfare State's Responsibilities: Globalization is the term that we are getting used to along with privatization and liberalization. In the globalization the government has been throw the responsibilities: on one side and provoked privatization another side and sees the enthusiastically to the capitalist, the dream of development.

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15. Human Development Report, 1990, p. 2.

Through the liberalization it demands minimization of government's interference i.e. laissez faire or openness. It means globalization implies the 'theory of survival of the fittest' what Darwin propound; i.e. 'jungle raj.' Of course globalization is uncontrolled system. Then, what will be the control mechanism of exploitation? The privatization philosophy now accommodates not only fiscal liberalism but also in a great measure abandoning the role of government, in essence, it targeted disinvestment and denationalization of the public sector enterprises and imposing huge cuts on subsidies and social welfare outlays. In this way the government has been pouring national property in the throat of capitalists. It clear that the government stands back to the capitalists but not poor and at the same, it is widely believed that globalization has been demand the panacea for solving all problems. If the globalization defines like that 'different things to different people'; then where is egalitarian and justice? The bitter fruit of globalization can be easily visible in terms of inequality generated in the world after globalization. It is true that the assets of 200 richest people are more than the combined income of 41 percent of the world's people; surveyed by Weller, Scott and Hersh (2001).<sup>16</sup> The recent data available by 'x wealth's report, it disclosed that the half of the world's property has been in the custodian of 50 richest people in the world. What said this scenario? Could have reduce the poverty? Answer is the fruit of denying government responsibility

#### **4. CONCLUSION**

No doubt, globalization and sustainable human development, both are key words of this new era. We could not have neglect or avoid to them. One thing is to be noticed that globalization is not an event but the process of pro capitalist world and proved anti poor and anti-people. It promotes growth which is jobless, anti-equity and promotes inequality, social tension, political fragmentation, and cultural divide. Avoiding this real fact, there should not be possible sustainable human development. There must be coordination between them. No any program will have success without its own mechanism. It is wrong, to measure the development with exploitation. Role of the government is crucial one, without its strong support; it is impossible to implement the sustainable human development program. It might have to be merged into mass movement. Everybody knows their duty and responsibility to preserve and protect the live planet, earth. If we save the environment (both natural and human), it will save us. Unfortunately, the capitalist class has been aggressively attack on this environment by entering through back door of globalization. If this happen, as the same, no future forgive us.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Sustainable development & role of judiciary: an Indian perspective

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**Abstract:** *In recent years, scientist have been carefully examining the various ways by which people affect the 'Environment'. They have found that we are the people causing air pollution, deforestation, acid rain and other problems that are dangerous both to the earth and to ourselves. Henceforth there is dire need to protect Environment. The Government of India has enacted various laws and drafted various policies to protect the environment but the implementation is very weak. The Indian judiciary found very active and introduced various principles to protect the environment in India and maintain balance between ecology and economy and its sustainability.*

**Key words:** *Environment, Ecology, Sustainable Development, Judicial Activism, Principle.*

#### 1. INTRODUCTION

The Environment is very important for us to understand because it constitutes our surrounding and affects our ability to live on earth. It comprised of the air we breathe, the water that cover most of the earth's surface, the plants and animals around us, and much more.

It is therefore, very important to understand and appreciate the importance of environment our daily life. Recent years due to different kind of human activities and developments it leads to air pollution, deforestation, acid rain and other problems that are dangerous to both to the earth and ourselves. Due to human made activities it consequences and adverse effect on earth's ecology system. Economic development cannot be viewed in isolation from social and ecological development. There should be balance between earth's ecology and its inhabitants. It is only possible by the co-operation amongst the nations of the world, 'Sustainable development' is the answer for the balance between earth's ecology and its inhabitants and their welfare. Therefore It is necessary maintain balance between our Ecology, Economy and its sustainability.

#### 2. OBJECTIVE OF STUDIES

- 1) To find out the role of Judiciary regarding sustainable development in India.
- 2) To suggest possible measures to fortify the principle of sustainable development in India.
- 3) To study various principles & policies governing sustainable development.

#### 3. RESEARCH METHODOLOGY

The study is embodying analytical as well as critical method. This research is based on purely doctrinal research method. Researcher is utilizing secondary method of data collection. Researcher has collected various valuable information from statute and rules. Secondary method of data collection is review of literature based on various books, articles, journals and case laws for judicial interpretation of laws. It also include foreign study materials and international conventions on the sustainable development.

#### 4. CONCEPT OF SUSTAINABLE DEVELOPMENT

Recently the word sustainable Development has got an importance & become a popular. To understand the meaning of such words definition is given as per follows—

**Definition** – According to Brundt land Report “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

This means we have to meet the needs of all sections of society particularly the underprivileged. While meeting the needs we have to make sure that what we take from nature does not increase the degradation of the earth natural



resources and threatens biodiversity. There is need for a strategic approach to maintain a balance between social, economic and environmental challenges. Sustainability recognizes an integrated view of the world that links a community's economy, environment and society.

Sustainable Development is about developing in a way that benefits the widest possible range of sectors, across borders and even between generations. In other word, our decisions should take in to consideration potential impact on society, the environment and the economy. The concept of sustainable development has been used to articulate several essential shifts of perspective in how we relate to the world around us and consequently challenges before the governments to make policies.

In order to balance ecology and economy and its sustainability, two main international conferences on the development of environmental law have been held. The first was Stockholm conference, 1972 which has known as 'Earth summit' and the second international conference was 'Rio conference' on sustainable development in the year 1992.

The main object of 'Rio-conference' was to strike balance between ecology and economy and its sustainability. Post Stockholm and post Rio, Nations across the world have adopted number of laws pertaining to three pillars of sustainable development. Hence forth the Government of the developed & developing country has shown in the last decade's keen interest in protecting and promoting the environment and consequently enacted various environmental laws. India too has implemented plethora of laws. However as far as the implementation of laws is concerned India still weak in the implementation of laws. Judiciary in India has often taken the leads in implementing the laws.

#### **Ancient Indian view:**

Ancient Indian jurisprudence is well balanced with principle of sustainable development. The whole idea of living was based on the harmonious nature.

Religion was the guiding force of the behavior of the people in almost every area of life in ancient India. State policies were also guided by the religious principles. The Vedic literature is the prima facie evidence to prove it.

Kautaliya's Arthashastra is an ancient Indian treatise on the politics and governance written by kautilya the prime minister of Mauryan Empire.

Buddhism became the prominent religion of the Ashokan Empire. The Asoka state gave up predatory foreign policy that had characterized the Mauryan Empire up till then and replaced it with a policy of peaceful co-existence. The state had responsibility not to protect and promote the welfare of its people but also its wildlife.

#### **British era:**

During the British Reign in India there were following laws enacted by the britishers.

- ❖ Shore Nuisance (Bombay and kolkatta Act, 1853)
- ❖ The Indian penal code 1860
- ❖ The Indian easement Act, 1882
- ❖ The fisheries Act, 1897
- ❖ The factories Act 1897
- ❖ The Bengal smoke nuisance Act 1905
- ❖ The Bombay smoke Nuisance Act 1912
- ❖ The Elephant's preservation Act, 1879
- ❖ Indian forest Act 1927

#### **Post-independence of India:**

The era of Post-independence is divided in 3 parts that is the role of constitutions, legislative & judiciary related to sustainable development

#### **Constitutional measure:**

Initially the constitution of India did not contain a specific provision for the protection and preservation of the environment. However in consonance of the Stockholm Declaration Indian parliament made the 42nd Amendment to the constitution in 1976 and introduced new article 48-A to the constitution under part IV and IV A. "Similar duty of every citizen to protect and improve the natural environment". Subsequently in late 1980s to make a collected and coordinated approach to enact environmental protection Act 1986.

Constitution of India is the document of the sustainable development It embodied the Article



21-A-Right to life – Right to clean environment has been read and interpreted as a part & parcel of the Right to life under article 21.

48-A of the constitution declares 'the state shall Endeavour to protect and improve the environment and safeguard the forest and wildlife of the country.

51-A (g) of the Indian constitution says that "It shall be the duty of every citizen of India to protect and improve the natural environment including forest, lakes, rivers and wildlife and to have compassion for living creatures.

Legislative Measures -- The Government of India has enacted various laws to protect the environment.

- ❖ Water (Prevention and control of pollution) Act 1974.
- ❖ Water (Prevention and control of pollution) Act, 1977
- ❖ Air (Prevention and control of pollution) Act, 1981
- ❖ Atomic Energy Act of 1982
- ❖ Motor vehicles Act, 1988
- ❖ The wild life (Protection) Act, 1972
- ❖ The forest (conservation) Act, 1980
- ❖ Environment (Protection) Act, 1986 (EPA)
- ❖ The National Environment Appellate Authority Act 1997
- ❖ Public liability Insurance Act (PLIA), 1991
- ❖ National Environment Tribunal Act 1995.
- ❖ The National Green Tribunal Act, 2010.

Legislative Policy -- In addition to the legislative measures both national and domestic level. Realizing the necessity and expediency the appropriate institutions and departments are authorized to frame policies. These measures remark that the contribution of governments in enhancing their role in conservation of nature to achieve environmental sustainability in India. Sustainable development requires promulgation of supporting policies such as forest. Indian agricultural and irrigation policies in 1990s the government launched National conservation strategy (NCS) as sustainable Development Policies. The ministry of Environment and forests also played an important role to frame policy for the conservation of resources.

National council for Environmental policy and planning was set up in 1972 which was later evolved into ministry of Environment and forests. (MOEF) in 1985). Environmental Action Program {EAP} was formulated in 1993 with the objective of improving environmental services and integrating environmental considerations into development program.

National Environment policy 2006 was the first initiative in strategy-formulation for environmental protection in a comprehensive manner.

Role of Judiciary – The existing environmental legislation and policies are not helped in balancing the development and environmental issues. The inadequate environmental measures and not availability of appropriate measures to effective conservation of the resources, trade and development controversies compel the constitutional courts in evaluating the existing legislation and policies.

Realizing the right to life and livelihood by ensuring the complete justice the constitutional courts widen interpretative constitutional courts widen interpretative technique and discovered the judicial activism. In the late 1970s constitutional court, with an advent of the public Interest Litigation (PIL) dealt with environment versus development controversy, such as development projects mining and quarrying, litigation concerns big-dams, gas leak disaster, hazardous waste from Industries pollution from animal slaughter houses, protection of wetlands, water pollution, noise pollution, access to environmental information and coastal zone development and protection of livelihood and against environmental degradation.

Judiciary of India has often taken the lead role in implementing the law and it leads to evolve various principles to protect the environment.

**Absolute Liability doctrine** – In India the principle of absolute liability is not a part of traditional environmental jurisprudence. The common law doctrine of strict liability, held "Rylands v/s Fletcher" by the privy council to ensure remedy for the affected persons in view of environmental degradation, But doctrine had some limitations and to overcome such limitation the Indian Judiciary has evolved the new doctrine which is called as "Absolute Liability Doctrine." In Union Carbide Corporation of India v/s Union of India & Bhopal accident the worst industrial disaster in human history. Without the basic law to provide a remedy to affected people the court could not make quick

decisions relating to compensation to the victims. Hence forth the court evolved the doctrine called as “absolute Liability Doctrine in the case M.C. Mehta v/s Union of India. In M.C. Mehta v/s Kamalnath and others (2006) 6 scc213 the court also held that the person guilty of causing pollution can also be held liable to pay exemplary damages. In Narmada Bachao andolan case the court once again emphasize the above principle.

**Public trust Doctrine** – M.C. Mehta v/s kamalanath 91996), scc38 evolved public navigational fishing only the modern uses of the doctrine covers certain resources like air, sea, waters and the forest have such a great importance to the people as a whole that it would be wholly unjustified to make them subject of private ownership. The resources being a gift of nature they should be made freely available to everyone irrespective of the status in life.

**Precautionary principle** – Vellore citizens welfare forum v/s union of India case evolved the principle of precautionary principle amongst the legal elements of the concept of sustainable development of UNCFD, the precautionary principle has laid down foundation for the contemporary sustainability. In A.P. Pollution control case. The court reiterate the significance of the precautionary principle, In Narmada Bachao Andoolan case.

**Polluter pay’s principle** -- In the case of vellore citizens welfare forum v/s union of India court evolved polluter pay’s principle. Polluters pay principle make the polluter liable to pay the cost to remedy the environmental harm caused. This principle is considered to be the most efficient way of allocating cost of pollution prevention and control measures introduced by the public Authorities to encourage rational uses scarce of environmental resources.

**Sustainable Development Principle** – M.C. Mehta v/s Union of India, AIR 1997 .sc 734 (Taj. Trapezium case) while taking note of the disasters effect that the emissions from the Mathura oil Refinery had on the Taj Mahal, the Supreme Court applied the principle of sustainable development to the case, and apart from passing various directions, stepped in to execute and supervise the resultant actions.

**Intergenerational Equity Principle**-- State of Himachal Pradesh v/s Ganesh wood products (AIR 1996 sc 149) the Supreme Court invalidated forest based industry recognizing the principle of inter-generational equity and sustainable development

## 5. SUGGESTIONS

- 1) Ministry of environment must incorporate sustainable development into their planning and policy.
- 2) There should be coherence balance among different bodies of Government for the most efficient and other means to implement strategies relating to sustainable development
- 3) There should be provisions for sustainable development in constitution.
- 4) Government should strive for enacting efficient legislation and work hard for its implementation.
- 5) There should be separate ministry for sustainable development as in the case of France. In such ministry diverse range of ministry are grouped one putting energy , ecology ( environment mining) Maritime affairs territorial planning , forestry and other domains together allows for integrated analysis and decision making and make it easier to avoid the pitfall of policies that contradict and undermine each other. For its effectiveness and implementation active role of prime minister is most important.
- 6) There should be equal weightage to social, economy and environmental sustainable development with special attention to demographic trends, new roles of women in society, improvement in health and housing and better integration of backward community
- 7) The Importance of the sustainable development should be inculcated in the minds of student of school and colleges.
- 8) There should be co-ordination between various Government Department companies, NGO’s for the implementation of policies regarding sustainable development.

## 6. CONCLUSION

Sustainable development is a concept with the potential to change many things for the better, but if not firmly anchored in Policy making bodies at all levels of government local, regional, national and international concrete achievements will remain elusive. If policies within one government ministry undermine those in other, progress stalls. Government of sustainable development does not means favoring one aspect and neglecting the others. Strategy is more likely to be implemented if everyone concerned has a chance to influence outcomes.

The Government, business, academics, NGO’s and other stake holder should work under should serves as umbrella group .For developing implementing and raising the national sustainable development strategy,

We need sustainability impact Assessments that can be applied to policies, programmers or agreements; to the national, regional or international levels of particular sectors of the economy .The procedure for assessment have to be transparent and encourage the involvement of all concerned. It is concluded that as far as sustainable development is concern only the judiciary has taken initiative and active role to protect the environment by judicial activism and evolved various principle. Now it is time to come together by various organs of Government as well as society to maintain balance between ecology, economy and its sustainability.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Higher education & skill development Towards a brave new world of higher education: digital natives

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**Abstract:** “The Medium is the Message.” - Marshall McLuhan (1964)

No generation is more at ease with online, collaborative technologies than today's young people — “digital natives”, who have grown up in an immersive computing environment. Where a notebook and pen may have formed the tool kit of prior generations, today's students come to class armed with smart phones, laptops and iPods. This era of pervasive technology has significant implications for higher education. Higher education is a global business. In this global context, India is next only to China and USA in student enrolment (16.9 million) in the higher education sector. Apart from this, India has a large network of universities and colleges (634 & 33023 respectively) with a massive geographical reach and the facilities for higher education have been expanding rapidly in these years. Expansion, inclusion, and excellence along with equity and quality have been the overarching goals of the government in the education sector. Higher education in India has seen many challenges related to accessibility, quality & equity (quite crisis) over the decades. Technological innovation, long a hallmark of academic research, may now be changing the very way that universities teach and students learn. For academic institutions, charged with equipping graduates to compete in today's knowledge economy, the possibilities are great. Promoting excellence in Indian universities is not just a goal that is worthy of pursuing, but it is a policy imperative that needs to be achieved, if we are to harness the demographic dividend.

This paper focuses on need for exploring use of communication technology in Indian higher education sector to make it students oriented and globally competitive.

**Key Words:** Globalization of higher education, quite crisis, Digital Natives

#### 1. INTRODUCTION

Higher education is a global business. In this global context, India is next only to China and USA in student enrolment (16.9 million) in the higher education sector. Apart from this, India has a large network of universities and colleges (634 & 33023 respectively) with a massive geographical reach and the facilities for higher education have been expanding rapidly in these years. Expansion, inclusion, and excellence along with equity and quality have been the overarching goals of the government in the education sector. Technological innovation, long a hallmark of academic research, may now be changing the very way that universities teach and students learn. For academic institutions, charged with equipping graduates to compete in today's knowledge economy, the possibilities are great. Distance education, sophisticated learning-management systems and the opportunity to collaborate with research partners from around the world are just some of the transformational benefits that universities are embracing.

In today's technology-enabled knowledge economy, many universities find themselves facing new challenge: how not only to equip students with an adequate education in their field of study, but also to arm them with the skills and knowledge required to leverage technology effectively in the workplace. How well do current graduates fare? In fact, today's Generation Y (individuals born between 1982 and 2001, also referred to as “millennial”) have an enormous facility for multi-tasking, and are at ease with new technologies. But they seem to have more limited experience in independent decision-making than past generations. To help impart that experience, universities may need to ensure that collaborative student projects have not only an online instructional component but defined areas of individual responsibility as well.

Today's young people, “digital natives”, who have grown up in an immersive computing environment. Where a notebook and pen may have formed the tool kit of prior generations, today's students come to class armed with smart phones, laptops and iPods. This era of pervasive technology has significant implications for higher education.

Promoting technological innovation and excellence in Indian higher education is not just a goal that is worthy of pursuing, but it is a policy imperative that needs to be achieved, if we are to harness the demographic dividend.

An overview of the four generations:

	<b>1925–1942 Silent Generation</b>	<b>1943–1960 Boomers</b>	<b>1961–1981 Generation X</b>	<b>1982–Now Net Generation</b>
<b>Peer Personality</b>	Loyal Collaborative Personal sacrifice Patriotic Conformity Respect for authority Civic Pride	Optimistic Competitive Individualistic Reject authority Return to religious Values	Independent Skeptical Latchkey kids Shun traditional values Nihilism	Special Sheltered Confident Conventional Team-Oriented Achieving Pressured
<b>Attended College</b>	1943-1960	1961-1978	1979-1999	2000-Now

An Indian student in 2013 was a ‘passive player’ on a predefined education pathway. She had little choice in what she learnt and little say in how she learnt it. The curriculum was predesigned and worse still, outdated and seldom relevant, and the dominant mode of instruction was information-loaded, one-way lectures from the teacher to the student. If one were to describe the transformation in higher education pedagogy from then to now, dramatic would be an understatement. In today’s classrooms, the student is an active participant in the education process and the role of a professor is that of a facilitator as opposed to an instructor. The instruction is designed to engage students in learning experiences that not only enable them to learn content but also to develop greater passion for learning – enabling them to ‘learn to learn’ and to be lifelong learners. In the learner-centered paradigm of education, students are encouraged to take greater responsibility for their learning outcomes. The professor ceases to be the fount of knowledge filling the empty receptacles of students’ minds; instead, students actively participate in the discovery of knowledge. They are encouraged to be reflexive and thoughtful learners, learning from themselves, their peers and their immediate environment just as much as they would from their professors. Accordingly, the teaching-learning methodology involves less lecturing and rote note taking and more hands-on activities to allow for experiential and interactive learning. Over the years, such emphasis on learning has impacted students and learning outcomes in ways that have far reaching impact for Indian economy and society. Firstly, by stoking students’ innate curiosity and encouraging them to learn in self-directed ways, it has enabled Indian graduates to be independent, critical thinkers. As a result, it has greatly enhanced the country’s innovation capability and entrepreneurial ambition, positioning it amongst the most attractive R&D hubs for dozens of multinationals. Secondly, the learner-centered paradigm has helped India’s thriving human resource base to keep pace with the changing needs of their work environments. Over the years, with evolution of the ‘knowledge economy’, learning and work have become inseparable, making constant on-the-job learning and up-gradation indispensable. Trained to be active and adaptive lifelong learners, the Indian workforce is known to be dynamic and agile even in the face of ‘disruptive’ progress. Lastly, but importantly, the learner-centered approach has helped correct for the problem of equity in Indian higher education. As India’s enrolment numbers grow, and access to higher education expands, the learner-oriented method has helped sensitize educators to difference in learning styles and student expectations that result from diversity in student backgrounds. By placing the student at the Centre of the learning process, the approach on the one hand has enabled institutions to devise new and innovative ways to reach diverse learners, and on the other, helped students discover and exercise their distinctive learning styles to chart an educational pathway that is personally meaningful and relevant.

## 2. LITERATURE REVIEW

Promoting technological innovation and excellence in Indian higher education is not just a goal that is worthy of pursuing, but it is a policy imperative that needs to be achieved, if we are to harness the demographic dividend.



Higher education is a global business. In this context, UGC Report on 'Higher Education in India at glance' and 'Report on policy framework for Reforms in Education', Prime Ministers Council on Trade & Industry, highlighted globalization of higher education sector in India. To receive fruits of globalization of higher education, quality, the key- factor needs to be focused with help of academic-corporate participation and their participation in technological innovation in higher education. The references like 'Engaging corporate sector' (E P W, July 20, 2013) and Private sector participation in Higher Education - N. Sunderrajan and V. B. Nanda Gopal (University News, August 19-25, 2013) serves the purpose. The Report on Access to Higher Education in Country (Sunday Times of India, 5<sup>th</sup> January, 2014) and Indian higher education – Envisioning the future – Pawan Agarwal, (SAGE publication) highlights the poor state of access to higher education in India and roadmaps for envisioning the future of higher education in India.

### **3. OBJECTIVES OF STUDY**

To observe role of communication technology in globalization of higher education.

To analyses the challenges in use of communication technology.

To study the scope to overcome quite crises in Indian higher education with the help of communication technology.

### **4. RESEARCH METHODOLOGY**

This research paper is based on secondary data and it is an exploratory and descriptive in nature. The secondary data is collected from review of past research and other reports.

### **5. CHAPTER 1**

India, today, is considered as a talent pool of the world, having qualified and educated human resources in abundance. This has been one of the primary reasons for transformation of India into one of the fastest growing economies in the world since liberalization in the 1990s. As the economist Clark Kerr observed, "On a global scale, wealth and prosperity have become more dependent on the access to knowledge than the access to natural resources."

The importance of education in India was recognized by the founding fathers of the country and the subsequent governments, and as a result considerable importance has been given to literacy, school enrolment, institutions of higher education and technical education, over the decades ever since independence. India's aspirations to establish a knowledge society in the context of increasing globalization, is based on the assumption that higher and technical education essentially empowers people with the requisite competitive skills and knowledge. It has been realized that it is the quality of education that prepares one for all pursuits of life and in the absence of an acceptable level of quality, higher education becomes a mere formalism devoid of any purpose or substance. As a result, from around the turn of the century, increasing attention has also been paid to quality and excellence in higher education.

In today's technology-enabled knowledge economy, many universities find themselves facing new challenge: how not only to equip students with an adequate education in their field of study, but also to arm them with the skills and knowledge required to leverage technology effectively in the workplace. While the positive impact of information and communication technology (ICT) in the areas of delivery and collaboration has been long established, higher educational institutes are increasingly experiencing the benefits of using IT tools for student and administrative management.

### **6. CHAPTER 2**

In today's technology-enabled knowledge economy, many universities find themselves facing new challenge: how not only to equip students with an adequate education in their field of study, but also to arm them with the skills and knowledge required to leverage technology effectively in the workplace. In spite of several new initiatives taken up by the central government during the 11<sup>th</sup> and proposed 12<sup>th</sup> FY Plan "Report to the Nation 2006" of the NKC which concludes that there is 'a quiet crisis in higher education in India that runs deep.'

\* Poor Access to education

\* Quality in general remains a huge concern

\* Premier institutions do not figure among the best in the world

\* Shortage of faculty and promotion of research

\* Dearth of university-industry interface

The new technologies can change the teaching-learning process in a way that has not been possible before. The new technologies offer: outreach, economies of scale, richness of illustrations and visualisation, individualisation, access to information and an outlet for creativity. A maze of interconnected computers and huge distributed

knowledge repositories sitting in different parts of world would enable researchers to build a new knowledge and collaborate with peers more effectively.

Technological innovation, long a hallmark of academic research, may now be changing the very way that universities teach and students learn. For academic institutions, charged with equipping graduates to compete in today's knowledge economy, the possibilities are great. Distance education, sophisticated learning-management systems and the opportunity to collaborate with research partners from around the world are just some of the transformational benefits that universities are embracing.

## **7. CHAPTER 3**

Understanding challenges in rewiring education: Although university participants view technology as having a largely positive impact on their campuses, they acknowledge several challenges. The biggest of these may well be cost, entrenched organizational cultures may be another hurdle, as academic faculty members accustomed to traditional modes of instruction may be disinclined to change. Then there is the question of IT's alignment with overall leadership and policy setting. Today, relatively few university CIOs have a place at the table when it comes to strategy. Given IT's expanding footprint on campus, this will likely change.

Inside the classroom, technology may be a disruptive innovation in ways not intended. It is noted that pervasive multi-tasking between laptop, smart-phone and other technologies in the classroom often distracts students. We, as faculty, teachers and administrators, have to recognise that if we're going to use technology in the classroom, we must find additional ways to keep content meaningful, even if it comes down to the simple task of requesting computer monitors down during the instructional period and back up during the hands-on portion of class.

The increased use of new technologies in the classroom with a rise in plagiarism and cheating, discourteous behaviour among students operating in the online environment. Many students cite easy access to online reference material as one of the greatest risks posed by the continued adoption of new technologies. It has been observe that more online ethical and legal issues are coming into play, now it requires that all students shall receive training on intellectual property rights, online fact validation, and document sourcing and attribution.

## **8. RECOMMENDATIONS**

Governments and educational institutions are looking for innovative ways to increase access to higher education and improve the quality of their programmes and courses in a bid to improve their competitiveness. Given the resource and physical constraints in expanding the conventional education infrastructure, the government is increasingly looking at technology as a means for expanding access as well as maintaining quality.

However, one can transform these hurdles into opportunities by giving top priority to the development of ICT and telecommunication infrastructure (computers with internet access and broadband connectivity) in order to provide universal and affordable access to information to people and institutions in all areas of the country. The government can achieve this aim as follows:

Development and research in mobile education with such a huge penetration of mobile network in India, this will be an effective media for disseminating education to the distant corners.

Government funding to increase connectivity Apart from the National Knowledge Network (NKN) connecting all universities and institutions, other modes like broadband should be promoted so that all panchayats are connected and every student can avail Virtual classrooms.

Quality in education Reputed Private firms can partner with National Assessment and Accreditation Council (NAAC) to create quality benchmarks and provide accreditation Central repositories Portals should be created where education institutes can upload authenticated examination results, students' information, and details of subject and courses. These portals can be accessed by any parent to get first-hand information on future education for their children. E-text book's Publication of high quality e-text books and e-journals should be given to three or four agencies on a public-private partnership model.

## **9. CONCLUSION**

In 1964 Marshall McLuhan, the late scholar and author, coined his now famous phrase, "the medium is the message." That statement, suggesting that the means sometimes *is* the end, could well be applied to technology and its impact on higher education. As an agent of immense change, technology has heralded our present knowledge economy and given rise to a generation of students who have never known life without a computer.

These changes will have a significant ripple effect on higher education. Over the next decade, advanced technologies will put education within the reach of many more individuals around the world, and will allow greater specialisation in curriculum and teaching methodologies than ever before. With these benefits comes the challenge of ensuring that university infrastructure and operations are in place to support the adoption of technology on campus. As ever, administrators will need to weigh carefully how budget funds are spent, decide what emerging technologies show the most promise, and determine how best to support these technological advances while avoiding the ever-present risk of obsolescence.

But perhaps the most critical question facing the academic world is something far more fundamental: namely, what it will mean to be an educated person in the 21st century. As our study indicates, these sweeping technological changes will effectively change the skill-sets of the future workforce, as well as its approach to work in general. As a result, societies around the world will need to consider how to make the most of these new opportunities and thus ensure that they remain competitive in the global marketplace.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Socio-Economic impact of short term skill and EDP programs on women SHG members from Mumbai District.

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**Abstract:** Women Self Help Group is now becoming very popular concept and outcome based programme in urban and rural areas. Coming together for common purpose, saving money in bank or in credit society, meeting and discussing about taking part in skill training programme and starting business in group is becoming new concept of Women Self Help Group. There is a greater need for innovative thinking in education and skill development systems in order to effectively respond to the problem of employment and the entrepreneurship by women. Skill development is critical for enhancing the employability of the women in underprivileged sections of the urban area. In City of Mumbai the Women Self Help Group which are created by Government and Non-Government organization are in to these activities. Mumbai Municipal Corporation through their women and child welfare department has introduced livelihood skill training program for women Self Help Group members from Below Poverty Line (BPL) area. The Gender Budget is the special budget provision for the skill training and other areas. Several institutes those are in providing skill training are the training partner with the Municipal Corporation. Skill training program for women and business oriented Entrepreneurial activities are the important aspects of training. A sample study has been conducted of 40 women those who attended skill and Entrepreneurship training to find out the socio-economic impact on women SHG members from Mumbai.

**Key words:** Women empowerment, Skill and EDP program

#### 1. INTRODUCTION

Women Self Help Groups (SHG's) is the concept of coming together, work together for the benefit and serve the empowerment purpose. In rural and urban area Government and Non-Government organizations are playing vital role. SHG is a small group considering 15-20 members who come voluntarily to overcome on their poverty and to solve social issues. Saving money of Rs. 10-200 is not only the purpose of the SHG but also after the group bounding women should get proper skill or to learn to take up some entrepreneurial activities. Knowledge, Skills and positive attitude is required to start any business after the skill and EDP training. The training programs resulted in positive impact on women by empowering them to be independent, but there are some challenges in them to convert into the sustainable business. Women from the SHG's have taken up all challenges to become an entrepreneur at individual level and with the support of other members from the group. After joining in the SHG, women are now taking part in their family matters and playing some role in society.

#### 2. IMPORTANCE/ RATIONAL OF PROPOSED INVESTIGATION:

With regard to women, many families in slum communities struggle to find adequate resources to manage their households. (Somaiya, 2017) This has a particularly strong impact on women, who are responsible for running their households on very limited finances, and who have very little financial independence. At the same time, these women are often highly motivated and interested in acquiring marketable skills. Vocational skills and educational programs can enable these women to access work either as employees in small businesses or as entrepreneurs. India is focusing on the women empowerment of SHGs (Self Help Groups) and a large amount of resources is also being spent on many programmes. Yet, it has been observed that most of the women who undergo skill training programmes do not actually go on to become entrepreneurs, for a variety of reasons. The few that do so are handicapped by their inadequate knowledge about aspects of entrepreneurship like production, marketing, quality maintenance, management, accounting and budgeting. This study intends to ascertain whether these programmes are really impacting and improving the socio-economic status of women or not. It focuses on the livelihood opportunities available to them before and after being trained and its impact on their lives and the challenges they face during and after such training. The study highlights the

importance of having an integrated government programme for skill development and entrepreneurship development. This will create a favorable immediate impact on women Self Help group members to start their business and to become successful entrepreneurs.

### **3.SCOPE OF THE PROPOSED STUDY**

The scope of this study is to identify women's perceptions about the skill and entrepreneurship programmes and compare them with those who have become entrepreneurs after completion of skill and entrepreneurship training. This study focusses on women because, they are very important components for development and they are the backbone of the family the community. This study will critically analyze the role of vocational skill training in accelerating and smoothening the process of socio-economic changes for women's development at the individual, family and community levels. The study will further analyze the various government initiatives for women's skill and entrepreneurship development with special reference to Mumbai Municipal Corporation Women and Child Welfare Department.

### **4. OBJECTIVES OF THE PROPOSED STUDY**

1. To study the current Socio-Economical status of women in Self Help groups in Mumbai.
2. To understand the extend of socio-economic empowerment of women through Self Help Groups
3. To study the outcomes of the short term skill training programmes which are conducted for women Self Help Group members
4. To study the impact of the entrepreneurship training programmes for women
5. To suggest the module which can prove the promoting of entrepreneurship programmes for women

### **5.HYPOTHESIS OF THE STUDY**

Analysis has been done with two perspective as shown below. The first analysis is with respect to the effectiveness of the individual efforts made in the direction of empowering women entrepreneurs in terms of the percentage count of participants benefitting from them. The hypothesis set for each one of them is as shown below.

**H1:** Women in Self Help Groups are getting motivation to take part in Skill training and EDP programmes

**H2:** Short term skill training programmes are helping Women Self Help Group members for Socio-Economic empowerment.

**H3:** EDP programmes leads to micro entrepreneurship among women.

**H4:** When women are attending the Skill and Entrepreneurship training programmes then their basic understanding for business and negotiation skills are developing for better income.

The second analysis is based on the success of the short term skill and EDP programs on empowering women SHG members.

**H<sub>0</sub>:** Women joining SHGs and attending the Skill and Entrepreneurship training programmes are empowered to start and/or improve their business skills.

### **6. REVIEW OF LITERATURE**

Qazi, 2009 in his book 'Microfinance and Women's Empowerment' noted that Entrepreneurship is a very old concept according to which anyone who runs a business is called an entrepreneur. The more precise meaning of entrepreneur is; one who perceives a need and then brings together manpower, material and capital required to meet that need.

Sanjay Tiwari and Anshuja Tiwari (2007) in his book 'Women Entrepreneurship and Economic Development' noted that various Entrepreneurial Development Programs facilitate women entrepreneurship. They also mention that if women are given the opportunity, the required training and skill and access to the various schemes and credit made available by the various institutions both public and private, they will take up entrepreneurship. The promotion of women entrepreneurship will lead to economic stability of women and family.

According to Women entrepreneurs create new jobs for themselves and for others. By being different, they also provide the society with alternative solutions to management, organization and business problems as well as exploitation of entrepreneurial opportunities (Singhe, Jan-June 2012).

#### **6.1. Literature review on policies and schemes for women entrepreneurs in India**

Increasing women enterprise and concentrating to their development is a holistic way to women empowerment. Women run enterprises not only to enhance national productivity and generate employment but also to help develop economic independence, personal and social capabilities among women. The Micro, Small and Medium Enterprises (MSME) Development Organizations, various State Small Industries Development Corporations, the nationalized banks and



even NGOs are conducting various programmes including Entrepreneurship Development Programmes (EDPs) to cater to the needs of potential women entrepreneurs, who may not have adequate educational background and skills. The Office of District collector (MSME) has also opened a Women Cell to provide coordination and assistance to women entrepreneurs facing specific problems. There are several other schemes of the government at central and state level, which provide assistance for setting up training cum-income generating activities for needy women to make them economically independent and self-sufficient.

Small Industries Development Bank of India (SIDBI) has also been implementing special schemes for women entrepreneurs. In addition, various government schemes for MSMEs also provide certain special incentives and concessions for women entrepreneurs. For instance, under Prime Minister's Rozgar Yojana (PMRY), preference is given to women beneficiaries. The government has also made several relaxations for women to facilitate the participation of women beneficiaries in this scheme. Similarly, under the MSE Cluster Development Programme by Ministry of MSME, the contribution from the Ministry of MSME varies between 30-80% of the total project in case of hard intervention, but in the case of clusters owned and managed by women entrepreneurs, contribution of the M/o MSME could be up to 90% of the project cost. Similarly, under the Credit Guarantee Fund Scheme for Micro and Small Enterprises, the guarantee cover is generally available up to 75% of the loans extended; however the extent of guarantee cover is 80% for MSEs operated and/ or owned by women. Some of the special schemes for women entrepreneurs implemented by the government bodies and allied institutions are provided below. At present, the Government of India has over 27 schemes for women operated by different departments and ministries.

### **6.2. Literature review on present position of women entrepreneurs in india:**

Women represent approximately half of the total world population as well as in India. Earlier, Indian women were mainly stay-at-home, confined to doing housework, but now they are also enjoying the impact of globalization not only in the domestic but also in the international sphere. Women have come out of the four walls to contribute in all activities. Indian women are ready to take upon themselves the burden of work in their home as well as in the work place. Many surveys have shown that the female entrepreneurs from India are producing more capital than any other part of the world. Since mid 1991, drastic changes have taken place in the Indian Economy. India provides a good example of women entrepreneurship.(Kumar2014)

Women entrepreneurs are playing an active role to become skilled persons and entrepreneurs and are striving to be a source of strong financial support to their husbands. After getting involved in business activities, women have created a new identity for themselves.

### **6.3 socio-economic development of women through SHG and social empowerment:**

Socio-economic empowerment of women means them having control over their lives and enjoying all their rights without any interference. This can happen only if they have some account of financial independence. According to the Maharashtra Comprehensive Nutrition Survey 2012, only 44.8% of rural and 12.6% urban mothers are involved in income generation activities. Only 20% women have a bank or savings account that they themselves use. (NFHS-3). Livelihood security is thus a major determining factor in the status of women and girls and thus economic empowerment needs to be at the helm of design in social development models.

Empowerment in economic terms means having earning power, decision making regarding financial issues and control over the means of production. It refers to the redistribution of all kind of resources among all different groups that helps them in enhancing confidence and encourage taking financial decision for betterment of itself (Mahato, 2016). Economic empowerment of women by micro entrepreneurship leads to the empowerment of women in many areas such as socio-economic opportunity, property rights, political representation, social equality and personal rights. The Government has considered that entrepreneurship development is one of the key components of women empowerment (Singhe, Jan-June 2012). Empowerment comes with economic independence that enables the person to determine and work towards his/her own life ambition, financial and social status (Dheepa, July-Dec 2011).

Social empowerment includes literacy, social leadership, community action and social inclusion. Political aspects include participation in Urban Local Bodies (ULBs), negotiating political power and then, accessing it. Economic empowerment occurs when income security is attained, productive assets are owned and entrepreneurial skills are possessed. All the dimensions are very important for empowerment to occur in a holistic manner. Women empowerment leads to a silent revolution in the total socio-economic scenario of the nation. In democracy, an empowered woman is able to exercise her judgment independently and correctly. Women nowadays are relatively more empowered than their predecessor.

Empowerment of women can only be achieved if their economic and social status is improved. This could be possible only by adopting definite social and economic policies with a view to total development of women and to make them realize that they have the potential to be strong human beings (Adhav, Oct-Dec 2012). Empowering women in social, political, economic and legal aspects necessitates the transformation of idle society into a self-sustainable society.

### **6.4. Evolution of skill training programmes for women in urban areas:**

Skill training is one of the important ways to uplift women from lower income levels. It is about empowering women through providing basic skill training and the ultimate objective is to give them equal opportunities as men (Mahato,

2016). A skilled person can easily create employment opportunities for himself/herself and others taking advantage of access to credit (Saswata Sen, Oct-Dec 2012). Women who are less skilled are able to only access paid jobs that are physically strenuous and pay much lower wages than for men (Singh A. S., April- June 2016).

The new Economic Policy was introduced in 1990 by the Indian government. After that many multinational companies entered the Indian market and the new economic revolution started. Initially it was an exciting scenario for the Indian people, but then slowly it started affecting small scale industries in urban and rural India. Metals and small manufacturing industries started getting affected through these changes.

Many men and women lost their livelihood as they were either directly or indirectly dependent on these mills. Also these men and women could not find any similar jobs nor could they find any jobs as they lacked the skills and were illiterate. Their economic condition deteriorated since many of them were migrants and worked on daily wages.

It was at this crucial time that many Non-Government and Government organizations came into existence and enabled people, especially the women, to feel a sense of security and power to face the challenges of the moment. Henceforth these organizations continued to be a support and symbol of empowerment for the women in the group, family and community. As the people made progress and NGOs and GOs also grew and adapted themselves to meet the needs of the people.

#### ***In Mumbai:***

Mumbai is a cosmopolitan city, with more than half of its population living in slums, where density of population is extremely high. Life in slums is particularly stressful for women and children, since slums lack proper infrastructure, due to its mostly unauthorized development. There are no individual toilets and water supply is intermittent. Drainage facility is also very rudimentary. The households in slums are economically weaker. Hence, MCGM decided in 2009-10 to introduce a Gender Budget to focus on schemes and issues of women in the city of Mumbai. The schemes focusing on women development are aimed at improving education, health and economic standards of girls and women.

The main focus of the gender budget is economic and social upliftment, educational upliftment, health and sanitation and development of children's parks with modern equipment and recreational facilities. The economic and social upliftment of women component aims towards implementation of various schemes for women, self-employment for deserving women, training for self-defense/skill upgradation, various activities under Aadhar Project, revolving fund for Self Help Groups (SHG), subsidies for micro enterprises of Self Help Groups, group insurance scheme, crèches for children, expenditure on programmes (exhibition, Intel. Day for Sr. Citizens, Women's Day etc.), pass book, minutes book kits, software development for various schemes of Gender Budget and basic training to S.H.Gs, expenditure on establishment of Bachat Gat Federation and so on.

Thus MCGM is aiming to provide all the basic amenities to its citizens with special focus on girls and women by taking along more than 50% women elected representatives (Budget, 2015-16).

The Mumbai Municipal Corporation area is divided into 24 wards. Through the intervention of the Community Development Officers (CDO) and Community Organizers (CO), the employees of the Urban Poverty Eradication Cell of the Planning Department of Mumbai Municipal Corporation is involved in women empowerment activities like formation of women Self Help Groups, SHG management training, opening their bank accounts and linking them to the different government schemes through the banking process, creating community level leadership through starting Community Development Societies (CDS), sending them for the basic and advanced levels short term skill development training programs, revolving funds for the SHGs, loans for starting a new business through subsidy and to start a business through entrepreneurship training.

In Mumbai, the CDOs and COs are actively involved at the ward and community level to organize the SHGs. For the implementation of the skill training programme, MCGM has appointed some of the reputed Vocational Training Provider (VTP) skill training institutes from Mumbai region. Every financial year more than 10000 women are getting the benefit of short term skill training at the community level and at the institution level from the VTPs training centers in Mumbai. These skill training includes courses such as beautician, cooking, tailoring, mehendi, artificial jewelers making, candle and agarbatti making, paper conversion, basic computer training, bakery products etc.

This training is designed for 100 hours. After the completion of training all women are expected to start their businesses at the individual level or in a group. However, most of the women do not come forward to take initiative to start their own businesses for a variety of reasons.

Entrepreneurial skill training programme is another important component or area which needs to be focused upon for SHG women to start their business and become successful entrepreneurs. Some of the women do take the initiative and start business after the short term skill training programme. However, due to improper knowledge of entrepreneur skills, most women face problems in management, marketing, production, maintaining product quality, accounting and budgeting.

To tackle this issue of the women Self Help groups, the MCGM asked some of the institutes to design a short term EDP programme for the training women for different skills under the Gender Budget programme. At the same time MCGM asked some of the corporate agencies to take the initiative to support the EDP program from their CSR budget. More than 1800 women received training from the training institute under this.

### 6.5. Literature review on obstacles faced by women entrepreneurs in india:

The main obstacles faced by women entrepreneurs are as follows:

The biggest turning point of a woman's life is marriage. Caste and religious barriers also hinder women entrepreneurs from growing and flourishing. Although our Constitution speaks of equality between sexes, the male patriarch is still the order of the day. Different institutions in the financial sector extend support in the form of different incentives, loans etc. In the present market scenario the competition is very high. For running an enterprise, risk-bearing capacity is essential. For an enterprise a good management is necessary. Women moving about alone for business purposes are looked at with suspicious eyes. Sometimes, younger women feel uncomfortable when dealing with men for work related aspects. Since women cannot run here and there for promotion, supply and money collection, they have to depend upon the middle men for these activities. Self-motivation and self confidence are the key ingredients for a successful business. But women suffer from low self confidence because of their inborn nature and the socio-cultural constraints they face.

### 6.6. Research gaps identified in the proposed field of investigation

There are various studies has done on women entrepreneurship, Skill training for women, vocational skill training, SHG and women empowerment, Self-employment from rural and urban areas. But on the same there are significant gaps due to the fact that the different studies are not comprehensive study done on women Self Help Group members on short term self-employment oriented Skill Training and entrepreneurial skill training together for the socio economic impact from Mumbai district. In this study, the focus is to identify the importance of skill and entrepreneurship training for the women Self Help Group members from Mumbai District to become entrepreneur.

## 7. SAMPLE STUDY

Sample study was conducted of 40 women from Mumbai District those who received skill and Entrepreneurship training in past 5 years of time. Out of 40 women 15 women received skill and Entrepreneurship training and 25 women have been received only skill training. After receiving skill and EDP training 3 women started their business and 12 women are in process of starting business but some of them doing seasonal business. After receiving only skill training 13 women started their business in group and 12 women haven't took initiative to start business. As a part time business women are earning Rs. 2000 to Rs. 6000 per month. It is the financial support system for their family.

## 8. ANALYSIS OF THE SAMPLE DATA

### Individual Hypothesis testing

Hypothesis tested	Total Count= 40	
	Count	%
H1: Women are in Self Help Groups are getting motivation to take part in Skill training and EDP programmes	37	93
H2: Short term skill training programmes are helping Women Self Help Group members for Socio-Economic empowerment.	33	83
H 3: EDP programmes leads to micro entrepreneurship among women.	11/13	85
H4: When women are attending the Skill and Entrepreneurship training programmes then their basic understanding for business and negotiation skills are developing for better income	30	75

The first perspective gives us all higher value. It means that all hypotheses are accepted. The average value of 84% for the four hypotheses put together.

### Overall Hypothesis Testing

The overall hypothesis is validated using the Chi-square test as shown below. We use the above average of 84% as the threshold value or expected value  $E_i=84$  for the test and the value of  $\alpha = 0.05$ .

Hypothesis	$O_i$	$E_i$	$(O_i-E_i)^2/E_i$
$H_{01}$ : Women are in Self Help Groups are getting motivation to take part in Skill training and EDP programmes	93	84	0.9643
$H_{02}$ : Short term skill training programmes are helping Women Self Help Group members for Socio-Economic empowerment.	83	84	0.0119
$H_{03}$ : EDP programmes leads to micro entrepreneurship among women.	85	84	0.0119
$H_{04}$ : When women are attending the Skill and Entrepreneurship training programmes then their basic understanding for business and negotiation skills are developing for better income	75	84	0.9643

$$\begin{aligned} X_0^2 &= 1.9524 \\ X_{0.05, 3}^2 &= 7.81 \end{aligned}$$

As  $X_0^2 = 1.98 < X_{0.05, 3}^2 = 7.81$ , the null hypothesis cannot be rejected. If we take average percentage of all the findings then all four hypothesis are accepted

## 9. CONCLUSION

Women self Help group members have received skill and Entrepreneurship training under the Mumbai Municipal Corporation Women and Child welfare program. The training programmes definitely had a positive impact on the women for empowering them to be independent and increasing the decision making power.

There should be a link between the women-SHG-people who can create business opportunity. Hand holding for provides them opportunities to make use of the techniques which they have learn in skill and EDP training. Finance should be available through bank or small credit societies to the women SHG members to start their own business. Women needs to motivate the other SHG members to join the Self Help Group, to attend the skill and EDP training so that they can create their own identity in their society

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

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### Role of E-Governance in Achieving Sustainable Development and Integrated Policy Making of Smart Cities

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**Abstract:** The year 2015 marked a milestone in efforts to eradicate poverty and promote prosperity for all people on a safe planet. With the adoption of the 2030 Agenda for Sustainable Development and other major international commitments, we embarked in an unprecedented endeavor to transform our world. The 2030 Agenda is centered on a set of far-reaching and people centered universal Sustainable Development Goals (SDGs). One approach to deal with the integrative challenges of sustainable development that warrants much attention is "smart cities." While there is no clear and consistent definition of a "smart city", the term generally refers to the management of urban environments through ICT. A large part of the smart city concept hinges on the potential for technology not only to collect and process data, but to transform that information into intelligence and to integrate it across services.

**Key Words:** E-Governance, Sustainable Development, Smart Cities

#### 1. INTRODUCTION

Government of all United Nations Member States committed to a shared vision to improve people's lives and transform the world by 2030. This vision is that of a world free of poverty, hunger, disease and want. The 17 Sustainable Development Goals (SDGs) and the 169 targets that are at the core of the 2030 Agenda aim to advance people, planet, prosperity, peace and partnerships. They aim to protect human rights and promote gender equality and the empowerment of women and girls.

The sixteenth SDG calls for effective, accountable and inclusive institutions at all levels, in the framework of peaceful and inclusive societies. It marks the recognition that institutions are critical for realizing the vision of the Agenda and achieving every single SDG.

A new trend in e-government has been the evolution towards the provision of integrated public services online through, among others, one-stop platforms allowing accessing a range of public services. This approach makes it easier for people to interact with public administration and get adequate and holistic responses to their queries and needs.

Progress is being made towards delivering public services in such an integrated way. For example, 98 countries require a digital ID for online and mobile public services. Efforts are being made to ensure privacy and security of personal data. But challenges remain. Some relate to the technical difficulties associated with ensuring interoperability of systems. Proliferation of technologies, while positive, makes it difficult to provide integrated e-health services. It also remains difficult to ensure integration of services across sectors.

Along with integrated services, e-government may increasingly support policy integration and encourage the efforts of various government institutions to work more closely together.

It can provide governments with increased insights to help revisit existing decision making processes and work flows. Progress is however slow. Although there are examples of successful integration of policies within the social area for example, integrating policies and services across the economic, social and environmental areas remains difficult. Efforts to promote whole-of-government service delivery and policies have to be accompanied with efforts to ensure that organizational cultures, coordination mechanisms and financial and accountability systems support collaboration among public institutions.

#### 2. WHOLE-OF-GOVERNMENT SERVICES IN THE ECONOMIC, SOCIAL, AND ENVIRONMENTAL AREAS



By integrating a range of online services and providing people with one-stop-shops, some governments have become more effective in delivering services in economic, social or environmental areas. Delivering integrated services in each of the three dimensions of sustainable development is already a challenge. However, delivering integrated services across the three dimensions is even more of a challenge. Many countries struggle to deliver integrated, interconnected and cross-sectorial services due to sectorial specialization or “departmentalization”. This often results in partial solutions that are inadequate from a broader sustainable development point of view (Berger and Steurer, 2009)

Sustainable development challenges require a holistic and integrative response. Development in the socio-economic and environmental areas should not be pursued as competing agendas to be “traded-off”. Policy interventions designed to have impact on one area can ultimately have far reaching and wider consequences than those initially intended, including on other areas (Berger and Steurer, 2009). The need to deal with the integrative challenges of sustainable development becomes even more visible when dealing with a host of closely interlinked policy domains, such as food security, sustainable agriculture, climate change and biodiversity protection (ECOSOC, 2015). For example, ensuring food security requires as much attention to increasing environmental sustainability as it does to improving rural livelihoods and healthcare (UNESCAP, 2015; UNESCWA, 2015).

One approach to deal with the integrative challenges of sustainable development that warrants much attention is “smart cities.” While there is no clear and consistent definition of a “smart city”, the term generally refers to the management of urban environments through ICT. A large part of the smart city concept hinges on the potential for technology not only to collect and process data, but to transform that information into intelligence and to integrate it across services (Jones, 2013). Generally, these services are provided to people within a well-defined geographic area that is large enough to have sufficient resources, but small enough so that the city government is close to the needs of people and businesses. This combination enables smart cities to deliver services, while saving resources (World Bank, 2012).

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The smart city model is being studied as an approach to sustainable development as smart city service integration can assist in the management of large-scale projects, with much emphasis on back-end innovation, involving interaction and a solid information architecture. Further, smart cities harness systems thinking (i.e. a holistic approach that takes into account how various systems interrelate and connect to the larger system) in sectors such as economic, building, transportation and energy infrastructure, and environment.

At the beginning of 2013, there were approximately 143 on-going or completed self-designated smart city projects in the world. Among these initiatives, North America had 35 projects (e.g., Seattle in the United States of America, Toronto in Canada); Europe, 47 (e.g. Barcelona in Spain, Southampton in the UK); Asia, 50 (e.g. Songdo in the Republic of Korea).

South America, 10 (e.g. Rio de Janeiro in Brazil), and the Middle East and Africa, 10 (e.g. Abu Dhabi in United Arab Emirates, Cape Town in South Africa; Lee et al., 2014).

Smart cities are actually considered “building blocks” of sustainable development, particularly given the fact that roughly 66.4 per cent of the world’s population is expected to live in cities by 2050. From the public service perspective, cities are critical as a large proportion of services for people and businesses are usually delivered at the local level. Moreover, smart cities can have positive social and environmental impact and constitute a “fusion point” for all levels of government. This fusion point both enables and obliges a more practical, joined-up and people-centric approach to delivering services than what national or regional government agencies can do individually. With smart cities, cities have a greater motivation and opportunity to promote efficiency and collaboration among multiple agencies and layers of government across different sectors (Hodgkinson, 2011; Hawley, 2014).

### **3. E-GOVERNMENT SUPPORT FOR INTEGRATED POLICYMAKING**

Delivering Whole of Government public services requires breaking down the silos between public sector agencies, which have grown out of agency mandates to deliver specific services and programs. The ultimate challenge is to ensure more integrated policymaking.

Policy integration entails taking into account inter-linkages among different areas of policy. Integration here implies that policymaking in any one area takes into account the effects of (and on) policies and outcomes in other sectors and areas. Such a holistic approach helps ensure that policies are coherent across the full range of sustainable development dimensions, and that the effects of policy in one area do not contradict or undermine desired outcomes in others (ECOSOC, 2015).

The need for an integrated approach to policymaking has been expressed in major international agreements, including the 2030 Agenda for Sustainable Development (United Nations, 2015), which calls for enhanced policy coherence in its target 17.14. Another seminal document, Agenda 21, also highlights the need to improve decision-making processes so as to achieve the progressive integration of economic, social and environmental issues (United Nations, 1992). Integration should happen not only between the three dimensions but also between sectors or thematic areas. This is illustrated by the 2030 Agenda; the goals are closely related with one another through the targets that refer to multiple goals. Integrated policymaking is needed to trigger progress on sustainable development in interrelated areas (Le Blanc, 2015).

E-government has an important role to play in policy integration. To better understand this role, policymaking can be disaggregated into stages and sub-stages, which make up a “policy cycle”. The phases of policymaking begin with agenda setting (i.e., consideration of a problem or issue that requires government attention). It moves to the policy formulation phase (i.e. consideration of options to address the problem), and then to decision making (i.e. prescription of a particular course of action). In the policy implementation phase (i.e. translation into action), the selected direction and approach translates into action on the ground. Finally, policy outcomes are monitored and evaluated in the policy monitoring and evaluation phase, often leading to setting a new agenda. An “integration filter” – or a search for the appropriate inter-linkages – may be applied at every stage of the continuous (and not necessarily linear) policy cycle (UNEP, 2009). E-government can support policy integration at almost every stage of the cycle (UNEP, 2009).

### **4. CONCLUSION**

A number of lessons learned can be summarized as follows:

- The sustainable development challenge is fundamentally a challenge of integration. To meet this challenge, governments should aim to deliver integrated services, not only between economic, social and environmental areas but also between various sectors, sub sectors and activities.
- Some governments have successfully integrated services in the three individual dimensions and across these dimensions, thus taking a Whole of Government approach to service delivery. This has been accompanied by a trend to make public services as a whole, people-centered.
- Effective, integrated service delivery will inevitably require underlying policy integration. Such integration, however, presents a major challenge for many countries. For example, formulating integrated policies requires deep insight into a range of complex issues across the three dimensions of sustainable development.
- E-government (including Big Data analytic tools) serves as an enabler of policy integration. It provides governments with several of the elements needed for policy integration, such as increased insight into complex issues and analysis of a situation or policy. It also offers opportunities to re-engineer existing decision-making processes and information flows. Moreover, e-government will inevitably help “siloed” governments integrate — causing a change in the institutional set-up and coordination of the government. The automated systems used in e-government inherently require a certain level of standardization, convergence and interconnectivity in order to work. This technological integration may then carry over into better institutional connectedness and integration.
- While e-government is clearly an enabler of service delivery and policy integration, the opposite is also true. The development of e-government itself increasingly hinges on an integrated approach. Trends show an increasing number of countries with a government wide.
- The value of having reliable access to data and statistics, including related tools (e.g. Big Data analytics), is well established. Therefore, it is important to build developing countries’ capacities in data collection and analysis for improved policymaking in pursuit of sustainable development, as emphasized in the Addis Ababa Action Agenda of the Third International Conference on Financing for Development and the 2030 Agenda.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Changing human resource management scenario in the Indian public sector banks - a post reform study

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**Abstract:** Indian public sector banks [PSBs] have been facing a number of challenges ever since the industry was opened up for private and international players. At the end of 1990, when there was the wave of liberalization, there was a general consensus that the banking system has not become sound enough as it should have been. There was cause for serious concern on account of poor financial conditions of commercial banks, most of which were in public sector. The banks were nowhere near the international level norms regarding capital adequacy, accounting practices etc. In a globalized economy, it threatened to become a major disadvantage. Out of such concerns, Government of India appointed a high level committee headed by Shri. M. Narasimham, a former Governor of the Reserve Bank of India to address the problems and suggest the remedial measures. (Nagaraju, 2014)

Banking is a labor intensive industry and efficiency of employees has got a bearing on the quality of services offered. So human resource management play a very crucial role. Since 1991, public sector banks in India is in a transition phase. On the one hand, the PSBs, which are the mainstay of the Indian Banking system, are in the process of shedding their flab in terms of excessive manpower, excessive non-Performing Assets (NPA's) and excessive governmental equity, while on the other hand the private sector banks are consolidating themselves through mergers and acquisitions. And these changes are creating the pressure on HR manager for adopting the external changes in their policies. High population, liberalized government policies etc. are attracting the new private players. Narasimham Committee(1991) on financial reforms has enumerated a number of problems relating to HRM in banking such as over manning, low man power productivity, indiscipline, restrictive practices, lack of management commitment to training.

This study showed that some of the major problems of HR of public sector banks of India are lack of proper selection process of employees, no performance appraisal system, promotions based on reservation policy and high handed trade unionism, political interference in top level management selection, massive retirement of middle and senior level executives. However PSBs have already introduced major revamping strategies in the HR so as to attract the young technically qualified personals and also to retain the existing committed, experienced senior faculties .The recent announcement of Government to infuse 2.11 lakh crore into the PSBs would surely include a series of reforms on HR to make them more professional and competitive and accountable.

**Key Words:** Human resource management. PSBs. challenges. performance appraisal

#### 1. INTRODUCTION

From 1969 to 1990, there was an impressive widening of the Indian banking system, which is the most important constituent of financial sector. However, at the end of 1990, when there was the wave of liberalization, there was a general consensus that the banking system has not become sound enough as it should have been. There was cause for serious concern on account of poor financial conditions of commercial banks, most of which were in public sector. Some of these banks had become unprofitable, under capitalized with high level of nonperforming assets. The hidden nonperforming assets were capable of triggering off a major financial crisis. The banks were nowhere near the international level norms regarding capital adequacy, accounting practices etc. In a globalized economy, it threatened to become a major disadvantage. Out of such concerns, Government of India appointed a high level committee headed



by Shri. M. Narasimham, a former Governor of the Reserve Bank of India to address the problems and suggest the remedial measures. (Nagaraju, 2014).

Indian public sector banks [PSBs] have been facing a number of challenges ever since the industry was opened up for private and international players. Social banking practices followed by public sector banks consequent to nationalization have resulted in increased non-performing assets, decreased profitability and operational efficiency. Privatization of banking sector forced public sector banks to take up serious measures for improving profitability and efficiency of operations. Human resource management is the area where many initiatives were implemented for streamlining banking operations. Indian banking sector is concerned, it is one of the best among the world. The whole world recognized the success of Indian banking sectors in recession era. Indian banking system is the only banking system which survived south east crisis of 1980's in Asia. (Shukla, 2014)

Banking is a labor intensive industry and efficiency of employees has got a bearing on the quality of services offered. So human resource management play a very crucial role. Human Resources Management [HRM] can essentially be summarized as a function that entails "planning, organizing, directing and controlling of activities relating to the development of employees in terms of enabling them to acquire competencies needed to perform their present and future jobs with ease and enthusiasm". It is a continuous process that seeks to ensure the development of employee competencies, dynamism, motivation and effectiveness, in a systematic and planned manner. It also deals with bringing about improvements in physical capacities, relationships, attitudes, values, knowledge and skills of the employees for achieving the objectives for which the bank stands. In fact, until the opening of the economy in the early 90s, the banks in India generally neglected the human resource function. This apathy may largely be attributed to lack of competition and abundance of available opportunities which kept the banking sector profitable without breaking much sweat.

The general objective of personnel (or) human resource management is to contribute towards the realization of the organizational goals. The specific objectives of personnel management may be listed as follows:

- a. To achieve and maintain good human relationships within the organization.
- b. To enable each person to make his maximum personal contribution to the effective working of the organization.
- c. To ensure respect for human personality and the well-being of each individual.
- d. To ensure maximum individual development of personnel.
- e. To ensure satisfaction of various needs of individuals for achieving their maximum contribution towards organizational goals. (Dr.B.Mathivanan, 2013)

## **2.BANKING SECTOR REFORMS IN INDIA**

Post-financial sector reforms, initiated by the Government of India after submission of Narasimham Committee Report I in the early 1990s followed by Report II in the late 1990s, no doubt major changes have taken place in banking industry. But most complex and prominent among that was HRM. Financial Sector Reforms set in motion in 1991 have greatly changed the face of Indian banking. The banking industry has moved gradually from a regulated environment to a deregulated market economy. The market developments kindled by liberalization and globalization have resulted in changes in the intermediation role of banks. The pace of transformation has been more significant in recent times with technology acting as a catalyst. While the banking system has done fairly well in adjusting to the new market dynamics, greater challenges lie ahead. General Agreement on Trade in Service [GATS] which is the part of WTO has also opened up the service sector for international competition and exposure.

## **3. OBJECTIVE OF STUDY**

A healthy banking system, besides providing necessary architecture for facilitating economic activities of any country. Appropriate human resource strategies, policies and practices are all required to achieve organizational goals. This is because the attainment of corporate goals is dependent on the caliber and motivation of the employees. Thus it is important to position the right person on the right job and then evaluate his performance against the predetermined goals of the organization. (Mehlawat, 2011). This research paper aims

- To study the various HR challenges faced by public sector banks in post reform scenario.
- To study the changing HR management adopted by PSBs the post reform period. .
- To suggest the required HRM policy change among the public sector banks of India.

## **4. RESEARCH METHODOLOGY**

The present paper is concerned with human resource issues of the Indian public sector banks since financial sector reforms. The study is based on secondary data. The required data have been collected from the various issues of Banking Statistics, published by Reserve Bank of India, Government of India Reports, journal articles etc.

According to many experts from the banking sector, human resource management is the main area of focus for transformation of public sector banks since reforms. Narasimham Committee(1991) on financial reforms has enumerated a number of problems relating to HRM in banking such as over manning, low man power productivity,



indiscipline, restrictive practices, lack of management commitment to training etc. No doubt, the advancement of technology, made banking sector more fast and accurate and also time saving, ATMs, Mobile Banking, SMS Banking and Net Banking is only the tip of an ice-berg. But managing the existing employees and training them to new techno environment and inviting new talents and retaining them in the public sector bank waste real challenge of the day.

Since 1991, public sector banks in India is in a transition phase. On the one hand, the PSBs, which are the mainstay of the Indian Banking system, are in the process of shedding their flab in terms of excessive manpower, excessive non-Performing Assets (NPA's) and excessive governmental equity, while on the other hand the private sector banks are consolidating themselves through mergers and acquisitions. And these changes are creating the pressure on HR manager for adopting the external changes in their policies. High population, liberalized government policies etc. are attracting the new private players. Existing players in banking industry are also trying to increase their efficiency and competitiveness by incorporating different new ways. Jolting economic condition and competitive pressure by new entrance, changing labor market, less differentiation of products, highly regulated market poses many threats on the position of existing players. So the best acquisition & utilization of resources become mandatory for the survival. (Shukla, 2014)

Even after opening up of the sector, the Government administration initially kept the wages under control. As availability of new jobs in other sectors in the post-liberalized economy improved, the banking sector started feeling the pinch. Further, with the entry of new players in the banking sector armed with innovative products, the system as a whole and the older banks in particular started to face a widening gap in skill sets of human resource. The new Private Sector Banks and Foreign Banks had a head start over their PSB peers as on the back of a market related compensation structure, coupled with technology-supported delivery processes; they were able to acquire younger and more talented staff with newer skills and competencies. The older banks, on the contrary, had to compete with the newer players with a huge baggage of disadvantages. The PSBs also lost trained man power to the newer banks due to attractive compensation structure and better career progression opportunities (K C Chakrabarty, 2014.)

## **5. MAJOR CHALLENGES FACED IN HUMAN RESOURCE MANAGEMENT OF PUBLIC SECTOR BANKS IN INDIA**

- PSBs faced number of problem since 1991 with the implementation of Narasimham Committee Reports. It was transition period from regulatory environment to competitive environment for PSBs. Human Resource Management of PSBs have inherent problems since the period of nationalisation which acted as major hurdles in the implementation of financial sector reforms. Major issues are listed below
- Selection process of PSBs: In Indian public sector banks since 1969, job descriptions and job profile were not made clear at the time of selection of employees. No professionalism existed in the selection process of these employees of PSBs. As a result, the specialisation of employees takes longer time which is not feasible in post reform scenario.
- The selection policy rules like reservations in recruitments, promotions and unionization have provided lot of "humans" to public sector banks, but post reforms needed capable and competitive "humans" who should be outside this protective wings.
- There was no performance appraisal for employees and remuneration was fixed and there was no incentive or motivation for hard working employees. Rigidity in the system of rewards prevails in the banks and promotions have no linkages with their performance.
- Service culture of public sector was very poor as it was not customer centric. A lethargic attitude was existing among the employees due to protect the job environment.
- Technological up gradation was the main issue of public sector banks. New private sector banks which entered the Indian banking system was well equipped with latest technological advancement with young techno savvy staff. PSBs were overburdened with middle-aged and senior personnel who were conservative and non-techno savvy.
- Khandelwal Committee Report on Human Resource Management issues of public sector banks mentioned clearly that huge chunk of middle and senior level officers were on the verge of retirement after 2015 which will create major vacuum in the functioning of PSBs. Banks have to make proper policy changes to meet this vacuum.
- Since there was no performance appraisal for employees, low manpower productivity was also the serious problem among PSBs.

## **6. MAJOR CHANGES IN HRM STRATEGIES OF PSBS SINCE FINANCIAL SECTOR REFORMS IN INDIA**

### **a. The changes at the recruitment level.**

Autonomy has been introduced for recruitment as per the requirements of the PSBs. The level of minimum qualification required for recruitment in clerical and subordinate cadre have been increased, So that PSBS will be equipped with competent and qualified staff to face competition from new private sector banks since 1991.

### **b. Changing recruitment process for skilled manpower.**

PSBs started the recruitment of skilled man power directly from the market .Raising the skill bar at the entry level itself would ensure that only people with requisite skills get into banks. This has helped them to get the skilled and speclaised especially technical professionals in the background of full computerisation.

**a. Promotion policies.**

Faster promotions for meritorious officers and reducing the span to reach top management level from 25 years to 20 years has been introduced so as to prevent the hijacking of experienced middle and senior managers of PSBs by new private sector banks with high remuneration package along with stock options. New strategies has been introduced to boost the morale of the employees and it has been intimated to employees in time .Internal promotions has been made faster.

**d. New Salary Packages.**

The Performance based reward system has been introduced such as performance bonus and stock options To deserving and capable employees which will help PSBs to begin the performance linked reward system Will weed out excessive manpower and attract the fresh talent. Wide gap existing between public sector Employees and new private sector bank employees should be minimised. Otherwise it will increase the Attrition of highly skilled and capable employees from Public sector which will further weaken the banking Sector.

**e. Change in work culture.**

The Work culture of public sector has to be changed. All efforts should be taken to increasing employee productivity. Public sector banks have introduced productivity linked work culture. This is very essential for Identifying talent and proper grooming of the existing talent is also equally important. The ultimate aim is that PSB's employees should be transferred into business professionals.

**f. Customer centric approach.**

PSBs have developed a strong business orientation among employees through sales culture and customer centric approach. Competitive work culture is created which are freed from politics and bureaucratic controls to a great extent.

**g. Greater accountability and ownership.**

Managing transformational conflict and preparing people for change. Team building and Team work should be introduced.

**7. SUGGESTIONS FOR FURTHER IMPROVEMENT IN HRM OF PSBS OF INDIA.**

- Though PSBs have made tremendous change in HRM after the financial sector reforms, still it has to a long way. Since employees are the assets of PSBs, fine-tuning of Human resources are to be done to make them internationally competitive. Some suggestions which can be considered by PSBs are
- Awareness among all levels of employees have to be created regarding the changing economic and employment scenario of the country and competitive advantage of our human resources.
- All efforts must be continuously made by banks to develop an overall HRM culture and climate at all levels. It is very important that top line managers and other functionaries take appraisals of employees as an important part of their portfolio and do not consider it to be the job of either personnel or HRM alone at the corporate level.
- Human Resource Satisfaction survey has to be conducted among all employees by all PSBs in every year along with the performance appraisal of the employees. Finding of the survey has to be analysed properly and implemented seriously.
- Suggestions and opinions of the employees have to be encouraged and the participatory role of the employees has to be strengthened.
- Tasks/assignments/paper presentation to individuals/group of participants should made as a regular feature experience sharing among participants to facilitate meaningful interaction should be provided for. To the extent feasible, structured and unstructured role plays in training sessions should be introduced.
- Transfer policies should be viewed periodically and should be implemented without bias and vengeance. Fairness should be introduced and this will increase the confidence of all employees and they will be motivated.

**8. CONCLUSION**

In October 2017, the Government of India announced an Rs 2.11-lakh-crore capital infusion plan for PSU banks, of which Rs 1.35 lakh crore is to be raised through bonds. Finance minister Arun Jaitley had then said that the recapitalisation of state-owned banks would be followed by a series of reforms to make them. More accountable. With the infusion of such huge fund and Govt initiative, it is sure that PSBs will be able to retain and attract the best human talents in the country and make PSBs as the best banks in the world.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Is India on the Path of Sustainable Development?

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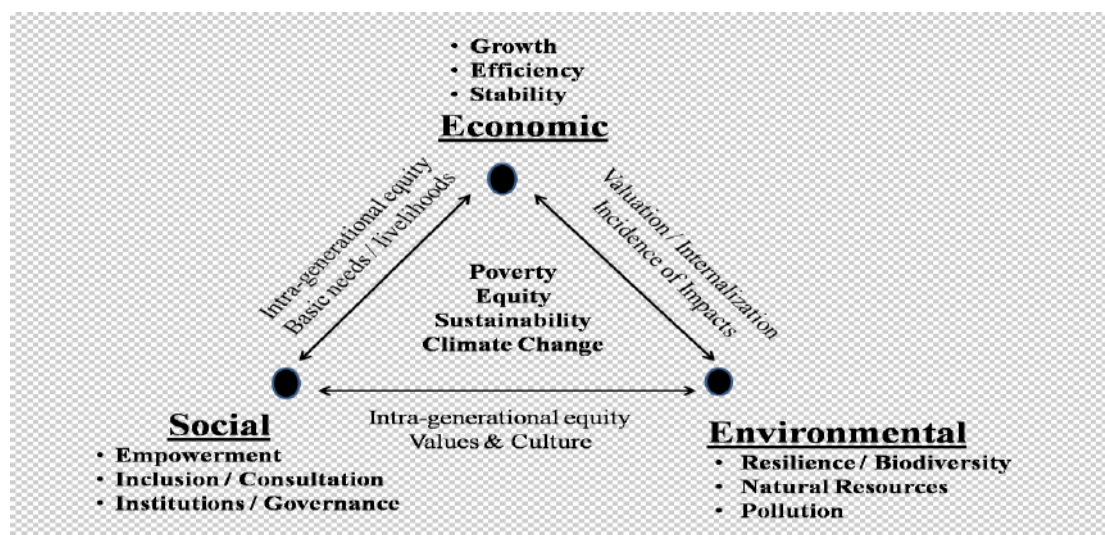
**Abstract:** This paper makes an attempt to analyze the sustainability in India with reference to three key areas viz; Economic sustainability, Social sustainability and Environmental sustainability. The paper analyses different indicators developed for the assessment of Economic, Social and Environmental sustainability. The efforts also been made to find out the reasons for success or failure for sustainable development in the country.

**Key words:** Sustainability, intra generational sustainability, Gini coefficient, Co2 emissions, MDGs

#### 1. INTRODUCTION

Sustainable development has been defined in many ways. But most suitable definition was given by Brundtland Report (1987), as "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This implies that the sustainable development insists on three important dimensions. They are the Economic, Social and Environmental dimensions. The Economic dimension stresses on optimum utilization of resources to achieve sustainable growth while the Social dimension highlights sharing of benefits of growth by various sections of the society without much discrimination. The environmental dimension indicates how the society preserves resources for the disposal of

Figure 1



Future generations. As depicted in the figure 1, the concept speaks for not only the three dimensions for the present, but also intra generational impact of the activities associated with our developmental aspects. In the fifth installment of the 'Global Trends 2030: Alternative Worlds' by the National Intelligence Council (NIC), it is mentioned that, "in 2030 India could be the rising economic powerhouse that China is seen to be today. China's current economic growth rate – 8 to 10 per cent – will probably be a distant memory by 2030". On this background, it becomes necessary to test whether India is moving on the right path towards achievement of its target of being a superpower through attainment of Sustainable Development Goals.

#### 2.OBJECTIVES OF THE PAPER

- To study the concept and components of sustainable development

- To assess Economic, social & environmental Sustainability for India
- To suggest measures for future prospects

### 3. SUSTAINABILITY OF INDIA

Keeping in mind the above concept of Sustainable development, an attempt is made in the following three subsections to review the conditions in India for the last 15 years.

#### 3.1. Economic sustainability:

The general definition of economic sustainability is the ability of an economy to support a defined level of production continuously. This can be measured through GDP growth rates. However, GDP growth rates do not reveal the average status and income of a person. Therefore it becomes mandatory to check the Per capita GDP growth rates. Table 1 below indicates Sector-wise GDP growth rates, Overall growth rates and Per capita GDP growth rates from 1990-91 to 2013-14.

**Table1:Sector-wise GDP & PCI growth rates of India at 2004-05 prices**

Year	Sector wise GDP growth rates			GDP growth rate	Per capita GDP growth rate
	Agriculture	Industrial	Services		
1990-91	4.02	7.33	5.19	5.29	3.10
1995-96	-0.70	11.29	10.11	7.29	5.60
2000-01	-0.01	6.03	5.07	4.15	1.40
2005-06	5.14	9.72	10.91	9.48	7.50
2010-11	8.60	7.55	9.67	8.91	8.30
2013-14	4.71	0.35	6.78	4.74	-

Source: Ministry of statistics and programme implementation Government of India

The data clearly highlights fluctuating trends. Growth rates in agriculture have declined sharply from 4.02 in 1990-91 to -0.70 in 1995-96 & reached highest level of 8.60 in 2010-11 and further declined to 4.71 percent in 2013-14. The GDP growth rates in Industrial sector increased from 7.33 in 190-91 to 11.29 in 1995 and declined to 0.35 in 2013-14. Growth rates in Services sector increased from 5.19 in 190-91 to 10.11 in 1995-95 and declined to 6.78 in 2013-14. The similar trends are also observed for GDP growth rates as well as per capita growth rates.

#### 3.2 Social Sustainability:

The general definition of social sustainability is the ability of social system to function at a defined level of social well-being indefinitely. The well-being of the society can be measured through various parameters such as poverty, literacy, income distribution etc. If we are able to contain the percentage of poverty, reduce the inequalities and able to provide better facilities of health, hygiene i.e. well-being over a period of time, it will indicate social sustainability in the country. Any negative indicator will give the adverse impression of social sustainability.

In India efforts have been made to improve the social status of Indian population through appropriate policy measures. The poverty has been reducing over a period of time. However, still 26% of rural population and 13.7% of urban population is living below the poverty line.

Rural literacy rate is much lower than the urban literacy rate. Further it is also observed that there is gender disparity in both urban and rural areas. The literacy rate among SC and ST is much lower than the general category. Again there is disparity between Urban SC/ST and rural SC/ST. Under this background an efforts have been made to study the social sustainability in India during the reforms period.

#### Income distribution:

French economists Lucas Chancel and Thomas Piketty in their article, 'Income inequality, 1922-2014: From British Raj to Billionaire Raj' based on latest income tax data have opined that "the share of national income accruing to the top 1 percent income earners is now at its highest level since the creation of Indian income tax in 1922" This was confirmed by other studies conducted in India. It is also observed that there is a close connection between the economic reforms of 1991 and widening income inequality in the country. This is evident from the fact that In 1990s no Indians were in the Forbes annual list of billionaires but now there are more than 100.

The Gini Index is a summary measure of income inequality. The Gini coefficient incorporates the detailed data of shares of sections of society into a single statistic. It summarizes the dispersion of income across the entire income distribution. The Gini coefficient ranges from 0, indicating perfect equality (where everyone receives an equal share), to 1, perfect inequality (where only one recipient or group of recipients receives all the income). Table 2 below shows the Gini coefficient for India.



**Table: 2 Gini Index of Inequality Rural and Urban**

Year	1993-94	1999-2000	2004-05	2009-10
Gini Index Of Inequality (Rural)	0.2855	0.2630	0.3048	0.2992
Gini Index Of Inequality (Urban)	0.3442	0.3465	0.3759	<b>0.3932</b>

Source: Planning Commission, Government of India

From Table 2, we find that Gini-coefficient for India for the period under review shows increasing gap between rich and the poor. In this connection, Indian Noble laureate Amartya Sen has commented that the India has done nothing to arrest the widening gap between rich and the poor.

Thus, we find that there is considerable of inequality in the country. For the period after new economic reforms, there seems to have hardly any decrease in inequality in the country, except for a marginal decrease in inequality in the rural area,

**Water sources and Sanitation in Rural areas: The other criteria considered to measure the social sustainability is availability of water sources and sanitation in rural areas.**

**Table 3: Availability of Improved Water Source and Sanitation in Rural Areas  
(As % of rural population with access)**

Improved Water Source		Improved Rural Sanitation	
1990	2006	1995	2006
65.0	86.0	8.0	18.0

Source: Statistics of Rural development

From the table 3, it is understood that India has made significant strides in terms of availability of improved water source in the rural areas. However, in terms of making growth all inclusive on the provision of improved rural sanitation, our achievement has been very low.

**Gender Disparity:** Another important indicator of social sustainability is the trend in gender disparity.

**Table 4 : Gender Disparity in India**

Life expectancy at birth, female (years)		Literacy rate, adult female (% of females ages 15 and above)		Share of women employed in the nonagricultural sector (% of total nonagricultural employment)	
1990	2008	1990	2008	1990	2008
58.5	65.2	33.7	50.8	12.7	18.1

Source: Selected Socio Economic Statistics, India, CSO

India has made significant progress in reducing the gender disparities as reflected in various indicators. For instance, the female life expectancy at birth, the female literacy levels and the share of women employed in the non-agricultural sector have improved since 1990(Table4).The male female literacy and literacy gap during the last three censuses are given in Table 5. The literacy gap has visibly come down over the last two decades

**Table 5: Male-female Literacy Gap in India**

Literacy Rate 1991 census		Literacy Gap	Literacy Rate 2001 census		Literacy Gap	Literacy Rate 2011 census		Literacy Gap
Male	Female		Male	Female		Male	Female	
64.1	39.3	24.9	75.3	53.7	21.6	78.8	59.2	19.6

Source: Selected Socio Economic Statistics, India, CSO

**Distribution of land holdings:** India lives in villages. Therefore it would be interesting to know how their property resources are distributed.

**Table 6: Distribution of households for of different social groups (per 1000) (Rural India)**

Size of land possessed (hectares)	55th round (1999-00)			61st round (2004-05)		
	ST	SC	OBC	ST	SC	OBC
0	72	100	65	36	27	16
0.001-0.40	391	650	500	428	722	544
0.41-1.00	243	147	202	239	147	195

1.01-2.00	165	65	120	163	67	128
2.01-4.00	99	28	75	106	27	76
4.01 & above	30	11	38	29	10	40

**Source:** Employment and Unemployment Situation among Social Groups in India, 50, 55 and 61st Round.

From the Table 6, it is clear that in rural India in 2004-05, the proportion of households possessing less than 0.001 hectares of land was the highest for ST households (nearly 4 per cent). The corresponding proportion for SC households was about 3 per cent and for OBC and others category of households around 2 per cent each. The Table 6 also shows that the proportion of households possessing land of size 4.01 hectares or more was maximum for other category of households (6 per cent), followed by the OBC (4 per cent), ST (about 3 per cent) and SC households (1 per cent).

### 3.3. Environmental sustainability:

Environmental sustainability is a state in which the demands placed on the environment by the people can be met without reducing its capacity for now and in the future for well-being of people. Nature if left alone, without human's intervention, has capacity to sustain well. However sustainable environment is achievable if we carry out responsible interaction with the environment to avoid depletion or degradation of natural resources. As Gandhiji said, "nature had enough resources for everybody's needs but not for anybody's greed".

Key indicators of Environment sustainability are:

1. CO<sub>2</sub>/ greenhouse gas emission levels affecting climate change
2. Depletion rate of Ozone layer
3. Quality of Air and Water
4. Forest resources
5. Biodiversity and threatened species

Let us discuss these with respect to India.

**CO<sub>2</sub>/ greenhouse gas emission levels affecting climate change:** India was the third largest emitter of CO<sub>2</sub> in 2009 at 1.65 M. tons per year. About 65 percent of India's carbon dioxide emissions in 2009 was from heating, domestic uses and power sector. About 9 percent of India's emissions were from transportation (cars, trains, two wheelers, airplanes, others). India's coal-fired, oil-fired and natural gas-fired thermal power plants are inefficient. Between 1990 and 2009, India's carbon dioxide emissions per GDP purchasing power parity basis have decreased by over 10 percent.

Table 7 below indicates continuous increase in the CO<sub>2</sub> emissions, except in 2010. This is not in line with environmental sustainability.

**Table 7: CO<sub>2</sub> Emissions in India (Metric tons per capita)**

Year	1990	1995	2000	2002	2005	2009	2010	2014
CO <sub>2</sub> emissions	0.712	0.845	0.980	0.967	1.069	1.432	1.397	1.730

Source: data collected from annual nos.

Greenhouse gas emissions are in large quantities in India every day from incomplete and inefficient combustion of biomass (fuel wood, crop waste and cattle dung). A majority of Indian population lacks access to clean burning fuels, and uses biomass combustion as cooking fuel. India's poorly managed solid wastes, inadequate sewage treatment plants, water pollution levels and agricultural activities based on chemical & fertilizer use are other sources of greenhouse gas emissions.

## 4. FINDINGS

- The fluctuating trends in Sectoral Growth of GDP in India for the last 15 years clearly emphasize that India failed to reach economic sustainability. Further the growth in PCI is also not stable. The sustainability requires that we have consistently rising trends in GDP as well as PCI.
- The wide and rising inequality in the income distribution, poor range of land holdings among SC, ST and OBC speaks for unsustainable social growth. However, the trends related to water resources, sanitation, and literacy rates supports Social sustainability in India. This has also been in line with the achievements made in regard to Millennium development Goals (MDGs).
- With respect to environmental sustainability India is way behind the expected targets.

## 5. SUGGESTIONS

The economic development should be sustainable as well as inclusive. In this regard, we can make following suggestions.

- The government should give more emphasis on infrastructural development to improve efficiency of various sectors to enable their sustained growth.
- India is a labor surplus economy. Hence it becomes necessary to encourage labor oriented manufacturing activities in the country.
- Further more emphasis on social infrastructure to improve the health and education is needed, despite our progress.
- Since independence the Government has implemented many programmes for the benefit of poor, backward and rural sector. But due to poor implementation these programmes have failed to deliver the goods. A proper mechanism for control, vigilance and targeting is needed.

## **6. CONCLUSION**

Since 1991, India has experienced positive changes in the areas like economic growth, progress of I.T sector, External sector and Growth of Service industries etc. However, failure in the agricultural sector, in combating the pollution, enhancing health facilities, reducing inequality and improving social security have restricted further take-off of Indian economy. The better co-ordination, better implementation, better awareness among the public will help achieving desired path of sustainable development in the country. McKinsey Report (2017) predicts that India would be third in the world in the Economic Development after US and China to replace Japan by 2020. Even the Business Facilitation Index (UNDP) for India has shown jump of 30 points displaying India's economic resilience. The prediction of McKinsey Report will come true, when India will put in sustained efforts in all activities to ensure economic, social and environmental sustainability.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Socio economic and environmental impact of eco-tourism with special reference to konkan

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**Abstract:** Tourism is an important source of revenue-generation for any destination. It is a source of earning valuable foreign-exchange for the country. It supports the local economy directly as well as indirectly. A form of tourism that has been around for some time is eco-tourism. It is also known as sustainable tourism. It is a kind of tourism which leaves minimum impact on the environment. However, at the same time, it also helps in conservation of the environment. This tourism is for the travelers who are interested in the flora, fauna and natural attractions of a particular destination, rather than man-made attractions and shopping. The Konkan region of Maharashtra stretches from Palghar to Sindhudurg. Its beaches are very popular amongst tourists, and there are a lot of domestic and international visitors. Encouraging eco-tourism will be instrumental in ensuring sustainable development of the Konkan region. Tourism could generate local employment, both directly from the tourism sector and from various support and resource management sectors. It could stimulate local industry i.e., hotel, restaurants, transport systems, souvenirs and guide services. It generates foreign exchange. It diversifies the local economy, particularly in rural areas where agricultural employment may be sporadic or insufficient. It serves as an effective educational tool for visitors, creates awareness and instills in them a degree of concern which could perhaps eventually translate in to active support for the conservation of the area. Maintain the stock of biological wealth in the region to Conserve life support services. Conserve the diversity of nature and ensure that all resource impacts are sustainable to Minimize the depletion of non-renewable resources and to Promote long term economic development.

**Key words:** Eco-tourism, Impact on environment, conservation, create awareness, economic development.

### 1. INTRODUCTION

The International Ecotourism Society defines ecotourism as "responsible travel to natural areas that conserves the environment, sustains the well-being of local people, and involves interpretation and education". Eco-tourism is a form of tourism that involves travelling with a focus to destinations that are rich in culture as well as natural attractions. It is of interest to those kinds of travelers who would like to reduce the negative effects arising from their visits on the environment. Such travelers are also fascinated by the indigenous culture and landscape. Tourism in any form has impacts on the environment to a lesser or greater degree. Every organism in the eco-system has its own role to play. Numerous organisms co-exist in harmony in nature. However, if this synchronization is disturbed in any way, it disrupts the natural balance. Maharashtra, the third largest state is one of the most industrialized and urbanized states of India. It is located on the west coastline along the lush green Konkan region. Several hill stations and water reservoirs with semi evergreen forests are found in Western Ghats and the Sahyadri mountain range. The Vidarbha region, northern part of Maharashtra, features dense forest. It is home to several wildlife sanctuaries and national parks. The state abounds in natural and cultural attractions ranging from unspoiled beaches, forest, wildlife, unique hill stations, ancient cave temples, forts, temples and rich tradition of fairs and festivals. The state has recognized tourism as a major thrust area for economic growth. More than 10 lakh foreign tourists visited India in November 2017, a rise of 14.4 per cent over the same period last year. The number of foreign tourist arrivals (FTAs) in India in November, 2017 was 10.5 lakh as compared to 8.78 lakh in November 2016 and 8.16 lakh in November 2015. "The growth rate in FTAs in November 2017 over November 2016 is 14.4 per cent," FTAs during the period between January and November 2017 were 90.01 lakh, with a growth of 15.6 per cent over the same period the previous year. Foreign tourist arrivals stood at 77.83 lakh in January- November, 2016, a growth of 9.4 per cent over January-November, 2015. Most tourists came from Bangladesh (16.77 per cent), followed by the US (14.77 per cent), the UK (10.23 per cent), Russia (4.41 per cent), Canada (4.39 per cent), Australia (3.96 per cent) and Malaysia (3.50 per cent).

The scenic 720 km long coastline of the Konkan has been included for development as tourist circuit. The main attractions or the international tourism are the capital city Mumbai, the hill stations and the beaches. It is one of the states that have largest forest cover in India. Ecotourism is sustainable nature based tourism that helps to conserve the biodiversity. Biodiversity of Maharashtra continues to be threatened by growing human population that not only places pressure on its biological resources but also impacts the overall change in the pattern of seasons. Eco tourism involves travel to the destination where flora, fauna and cultural heritage are prime attractions. It is aimed to offer insight into the impact of human beings on the environment and also to foster a greater appreciation of natural habitat along with educating travelers to provide funds for ecological conservation

## **2. SCOPE OF RESEARCH**

Ecotourism is the most important aspect as it is concerned with environment protection. Eco-tourism is growing rapidly in Maharashtra. It is attracting lots of domestic and foreign tourists. With the increasing number of tourists, ecotourism is considered as one of the main source to generate the income. If ecotourism grows rapidly beyond limit, it will result in several environmental, social and cultural problems. Increased number of tourists beyond the carrying capacity may deteriorate the areas due to increase in accommodation units, shopping centers and other recreation facilities in eco system areas. It has every threat to wipe out the plant and wildlife species & further it may lead to replace the natural ecosystem by artificial landscape. Biodiversity is an asset to tourism, with a strong need felt by the Maharashtra government towards conservation of depleting natural resources& income generation through it.

## **3. OBJECTIVES**

For the study purpose following objective are kept in mind to express views on “Eco -Tourism” with reference to Konkan Region in Maharashtra State.

1. To find out major challenges to eco-tourism.
2. To review eco-tourism development in the Konkan region of Maharashtra State.
3. To suggest recommendations for making this type of tourism successful.

## **4. RESEARCH METHODOLOGY**

The research article on ecotourism is based on secondary data. The data has been obtained from the related articles, research papers, reports, policies and plan documents of Government of India and Maharashtra .Some data has been obtained from websites of Govt. of India and Govt. of Maharashtra, MTDC as well as Ministry of Environment.

## **5. IMPORTANCE OF BIODIVERSITY**

Biodiversity refers to the variety and richness of all the plants and animals species in a region. It has direct relation with geography, climate and patterns of vegetation and it is seen in ecosystem such as forest, grassland, lakes, rivers, wetlands, mountains and hills. Maharashtra has extremely rich diversity of aquatic and territorial flora and fauna. Coastal area of Maharashtra acts as a natural fish nursery. The mangrove forest reduces the fury of tidal cyclonic storm and prevents erosion due to tidal action. Millions of people depend on various forms of biodiversity for their livelihood such as fishing, collection of honey, fuel wood and timber and other forest product. The geographical location of Maharashtra makes it home to a wealth of ecosystem which needs to be protected. The eco-systems representing biodiversity have become the major resource for ecotourism

## **6. IMPORTANCE OF ECO-TOURISM**

Eco-tourism industry is one of the leading employment generating sectors of India and it generates directly or indirectly approximately 3.8% employments out of the total employment generation every year in Maharashtra.

The following factors may be considered for the potential of eco-tourism industry in Konkan:

- Ecotourism is one of the important industries that earn foreign exchange for a country without actually exporting any material goods.
- It will help in the development of infrastructure facilities. A variety of secondary industries maybe promoted which may not serve the needs of ecotourism. Thus, indirectly tourist expenditure may be responsible for stimulating other economic activities of a country.
- Tourism development greatly benefits underdeveloped regions of a country.
- Tourism industry is highly labor-intensive service industry that generates employment for highly skilled, semiskilled and unskilled labour in sectors like hotels, restaurants, travel agencies, tourism offices, shops etc.
- Tourism plays an important role in promoting international goodwill. It creates awareness and appreciation of other countries culture and nature.
- During the tour, there is immense possibility that you get wider opportunity to learn from the local culture and historical significance of the places you are traveling.



- The intention of ecotourism is to involve the local business in itself. Involvement of local business provides employment to local people, which ultimately lead to building the nation's economy better.

## **7. KONKAN REGION-A HEAVEN FOR TOURISTS**

Maharashtra is blessed with a long coastline of about 720 km. There are numerous fishing villages in west coast of Maharashtra. This proximity to the sea has created beautiful stretches of beaches, which are a main attraction for people. Alibaug, Kihim, Murud-Janjira, Kashid, Nagaon, Shrivardhan, Diveagar, Tarkarli, Bhatye etc. beaches are well-known among tourists. Also the original inhabitants, who have migrated elsewhere now, but come to pay respect to their family deities here when they can. Forts like Raigad, Kolaba, Janjira, Vijaydurg, Suvarnadurga, Bird Sanctuary at Karnala and wild life sanctuary at Phansadstand as proud sentinels of history and a visit evokes memories of the glorious Maratha Empire. The emerald green coconut palms swaying invitingly in the breeze on the land welcome fishing boats home each evening and morning, laden with the catch of the day. This land has everything, from the seashores to verdant spice and betel nut plantations. The delicious local cuisine comprising of the freshest possible fish and the extremely popular sol kadhi, as well as fruits like mangoes, jackfruit and many more forest fruits have attracted many tourist to this beautiful land. The Sahyadri mountain ranges are a rich source of bio-diversity.

## **8. SOCIO-ECONOMIC AND ENVIRONMENTAL IMPACT OF ECO-TOURISM**

### **(A) Positive Impacts**

- Tourism revenue generation can be channeled in to the management of the protected areas.
- Tourism could generate local employment, both directly from the tourism sector and from various support and resource management sectors.
- It generates foreign exchange.
- It diversifies the local economy, particularly in rural areas where agricultural employment may be sporadic or insufficient.
- It could benefit local people by stimulating development and improvement in support, infrastructure of services i.e. local transport, communications and water and energy systems.
- It serves as an effective educational tool for visitors,

### **(B) Negative Impacts**

- Tourism may cause degradation of the habitat by polluting waterways, accumulation of garbage, overharvesting of flora etc.
- Unregulated tourist activity may cause disturbance to the flora and fauna e.g. Visitors may disturb nesting birds, use of spotlights shocks and disconcerts animals.
- Frequent damage to flora may affect their regeneration potential.
- Ecotourism ventures often alienate local people if they are denied access to the area in question on one hand while outside tourists are encouraged on the other
- Influx of outsiders as tourists and entrepreneurs cause social and cultural degradation of the local population.

## **9. OBSERVATIONS AND SUGGESTIONS FOR IMPROVEMENT OF ECO-TOURISM**

### **(A) Observations**

- The Konkan region of Maharashtra attracts not only domestic, but also foreign visitors who come for relaxation.
- In spite of the constant flow of tourists, this region of Maharashtra has largely managed to safe guard its original culture and way of life.
- The “Bed and Breakfast scheme “of the Maharashtra Tourism Development Corporation has been instrumental in promoting the concept of eco-tourism, offering clean and maintained rooms to the tourists.
- Hotel rooms and home stays are often built using locally found material such as the “jambhastone” and other things such as betel nut tree trunks. This has helped in sustainable development and to minimize the carbon footprint, as fuel required for bringing building material from far off places has reduced.
- Since the locals are benefitting from tourism, they are actively participating in these endeavors. In Murud-Janjira ,Murud Municipal Council each year arrange “Tourism Festival” with the help of local people at beach. This has helped boost the local economy as so many tourists require accommodation, food etc.

### **(B) Suggestions**

- Conservation of biological diversity and cultural diversity through ecosystem protection.
- Promotion of sustainable use of biodiversity, by providing jobs to local populations.

- Sharing of all socio-economic benefits with local communities and indigenous peoples by having their consent and participation in the management of ecotourism enterprises
- Tourism to unspoiled natural resources, with minimal impact on the environment being a primary concern.
- This kind of tourism focuses on conservation of the environment, the host community and sustainability.
- Reduction of impacts on the environment and the local population whether physical, socio-cultural or psychological.
- Promotion of respect of local culture and the environment.
- Restricting them from leaving non-biodegradable waste material in the form of plastic or metal.
- Ensuring that there is a favourable exchange between the locals and the tourists, thus making both benefit from the interaction
- Delivering economic benefits to the local population that can be partly diverted towards the protection and upkeep of the natural attractions.
- Generation of awareness about local issues amongst visitors.
- Building facilities that create minimum negative impacts on the environment, by following norms such as CRZ etc.
- Respecting the local customs and traditions and sensitizing visitors to them.
- Not carrying any kind of plants (in the form of cuttings etc.) away at the end of a trip from the destination.

## 10. CONCLUSION

Considering the wide geographical and biological diversity, the scope of eco-tourism in Maharashtra is very high. If these resources are tapped successfully we can transform the face of ecotourism industry in Maharashtra. Looking at the tremendous potential the ecotourism industry offers in the field of its employment generation and foreign exchange earning capacity, it is the time that Government pays urgent attention to the needs of the eco-tourism industry. It is believed that by 2020, tourism industry would be a single biggest industry in the world. In this way, the ecotourism in Maharashtra requires:

- It is seen that to promote sustainable development, it is necessary that all development related to tourism should consider the opinions and experience of the locals.
- Moreover, it should be in such a way as to enhance the standard of living of the local population, by generating income and providing employment.
- Eco-tourism projects will ensure that the indigenous plant and animal species, as well as natural attractions are not affected by development.
- This kind of tourism will be instrumental in retaining the bio-diversity of the Konkan area, as well as preserving it for the next generation, and future visitors.
- The sustainable development of the eco-tourism project will succeed only with the local participation by utilizing their traditional knowledge, cooperation and support. Focus should be on more involvement and participation of the local people in eco-tourism. This will help in maintaining a social balance in terms of income generation of the local people. This will also reduce their dependence on the forest to a great extent thereby aiding the conservation process.
- At present a small percentage of income generated percolates to the local people. Attention should be given so that the majority of the income from eco-tourism is retained with the local people.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Indian women in sustainable development

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**Abstract:** Sustainable Development rests on three pillars – economic, social and environmental. There are specific targets to be achieved by 2030 in each of the specific areas of the Sustainable Development Goals. These are universal and apply to all nations in the world. The population of the world is only increasing and hence the dependency on food, water, natural resources, energy, etc. also is continuously increasing. The continuous depletion of environment and energy resources leads to this already existing problem of scarcity. Hence, Sustainable Development has become the need of the hour. In order to attain the goals of Sustainable Development all sections of society need to be involved from across different strata of society. The one group that is involved in this process and is yet unacknowledged is women. They are doing their bit at their level. If they are provided with technology and the means they will help in achieving the SDG targets more efficiently and effectively. In this paper an attempt is made to acknowledge the work done by women in sustainable development in biogas, solar energy and sustainable agriculture

**Key Words:** Sustainable Development, environment, sustainable, women, energy.

### 1. INTRODUCTION

Much has been spoken about Sustainability and Sustainable Development. Countries all over the world are doing their bit to fall in line with efforts being made to achieve the Sustainable Development Goals. Though the efforts are not in vain, much of what is recorded doesn't focus on the efforts made by women in the field. There are several attempts being made in different parts of the world and India is not the least among them. One has been hearing about biogas, solar energy, and other methods of sustainable development in India, however, it is the efforts of women in the rural areas that has brought about the fulfillment of these SDGs to a great extent.

### 2. REVIEW OF LITERATURE

Achieving Sustainable Development and Promoting Development Cooperation: Dialogues at the Economic and Social Council (2008) is a book published by the office for ECOSOC. There is wide coverage given as to how attempts are being made to achieve Sustainable Development. It speaks about the opportunities and solutions to problems and the emerging issues and challenges to Sustainable Development.

The OECD in its book Measuring Sustainable Development: Integrated Economic, Environmental and Social Frameworks (2004) examines the economic, social and environmental pillars of Sustainable Development. Several papers have been published in it that help measure Sustainable Development.

Kumar & Managi (2009) discuss the macroeconomic development – the current status and future prospects of India. They look at various aspects of development in India pre-1991 and post-1991.

Brand (1996) brings out how women, environment and development are a theme that has brought about a debate drawing international attention in the last two decades.

Dankelman (2002) examines the relationship between gender and climate change with examples of women bringing about change around sustainable development issues.

Kumar (2000) has edited a book which discusses the role played by women in development and the use and conservation of energy resources. It also gives pointers to the determinants for Women's Development.

Vasudevan et al (2015) have edited articles that cover several areas of women's involvement in life, namely, health, food, agriculture, energy, environment, technology and science.

The UNESCO Series on Women in African History (2014) and Maathai (20016) document the life of Wangari Maathai and her role in the Sustainable Development Movement.

### **3.METHODS**

The present study is based on secondary data from books, journals and websites. After studying reports about Sustainable Development it was observed that much of the information documented did not specify the role that women had to play. Hence the author researched from various sources and has documented what women are doing in this area and how the world could change if they are given a greater role to play in the said area.

### **4. FINDING AND ANALYSIS**

The Brundtland Commission defines Sustainable Development in its Report – “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Sustainable Development took breath with the Brundtland Commission Report of 1989. For the members of the Organization for Economic Co-operation and Development (OECD) Sustainable Development rests on 3 pillars – economic, social and environmental. (OECD, 2004). There are specific targets to be achieved by 2030 in each of the specific areas of the Sustainable Development Goals. These goals are universal which apply to all nations in the world. To attain these goals all sections of society, namely, the governments, businesses, civil society and people from across different strata of society need to be involved. It is the aim of the UNDP to strengthen capacities of vulnerable and excluded groups by providing an environment where everyone can have access to opportunities in ways that are economically, socially and environmentally sustainable. (Brand, 1996).

As the population of the world is gradually increasing, the dependency on food, water, natural resources, energy, etc. also increases. And time has shown that the population is only increasing manifold than compared to earlier. Thus, there is a pressure on the already existing resources. Since there is an increasing need for food and energy it has become a challenge to safeguard food security. (Achieving Sustainable Development, 2008). Food here is just one of the aspects. Like food even the environment is continuously depleting. Environment is an important factor for both production and consumption. The World Development Indicators (WDI) shows the level of damage caused by the depletion of exhaustible and renewable resources. (Kumar & Managi, 2009).

In the given scenario, saving the environment and all its resources has become the crying need of the hour. The world over, women have come forward to save the environment and are among the hardcore activists to protect the planet from further damage. Several afforestation activities like the Greenbelt Movement in Kenya, the Chipko Movement in India are good examples that show how women have led the way and are in the forefront of this movement. Such activities have brought women into the forefront of environmental activism. The 1992 Earth Summit that was held in Rio gave women a central role to play in promoting ecologically sound and sustainable development. (Steady, 1998).

Unfortunately, the effects of climatic changes and all related problems are seen more in the developing world. Thousands have been affected by it in one way or the other. The projected impacts on livelihoods and human security include – reduction in potential crop yields, decreased availability of water, increase in vector-borne and water-borne diseases, widespread increase of flooding, etc. In India perhaps the poor village women are the worst sufferers. Every morning brings with it a long march for fuel, fodder and water. As the ecological conditions become worse the march gets longer. Woman being the gatherer is a stark contrast to man the hunter. Hence, traditionally, she is the source of sustainable food supply. Women play an active role in safeguarding the environment, their communities' livelihoods and hence overall survival. (Dankelman, 2002).

In 1991, 1500 women came together from 83 countries in Miami for the first World Women's Congress for a Healthy Planet. Women spoke about their struggles against ecological and economic devastation before a tribunal of five eminent women judges. It is from this evidence and their experiences that the congress developed the Women's Action Agenda 21 (WAA21). This contained recommendations on how to have a healthy planet and it became a blueprint for incorporating a gender dimension into the local, national and international decision-making into the next century. WAA21 was a very effective document for a gender sensitive United Nations Conference on Environment and Development (UNCED) process. (Dankelman, 2002).

It is a known fact now that women cannot be ignored in the process of Sustainable Development. They have a greater role to play. Being a mother, sister, wife and daughter, the role that she plays in the family can easily be extended to the community. The sensitivity of a woman to nature is the most natural outcome of her own existence. There are many women who have played a very important role in Sustainable Development and Women Empowerment. The most known and famous among them is Wangari Maathai, the founder of the Green Belt Movement was born in 1940 in Kenya. She received the Nobel Peace Prize in 2004. She authored books and has also been the subject of a documentary film. Professor Maathai gave birth to the idea of community-based tree planting which developed into a broad-based grassroots organization, the Green Belt Movement (GBM).



The main focus of the Movement was to reduce poverty and conserve energy through tree planting. It encourages women to plant trees to combat deforestation and environmental degradation. Up to now this Movement has planted over 50 million trees. In the face of stiff opposition the Green Belt Movement became a model women's organization. (UNESCO series on Women, 2014). Prof. Maathai was an international figure and known for her struggle for democracy, human rights and environmental conservation. She addressed the UN on several occasions and spoke on behalf of women at special sessions of the General Assembly during the five-year review of the Earth Summit. (<http://www.greenbeltmovement.org>).

Through her Movement the women planted trees that helped to bind the soil, sustain watersheds, and create windbreaks to protect against water and wind erosion that take away the nutrients from the soil. Due to tree-planting women had to walk lesser distances in search of firewood. Seedlings were planted in rows of thousands so that belts could be grown to make the earth green. They even fought land-grabbing by rich individuals who were well connected to authorities. Such land-grabs would lead to eviction of local people, food shortages, environmental degradation and loss of local agricultural models and public spaces. She also helped protect the Uhuru Park in Nairobi and the Karura forest. (UNESCO, 2014).

Looking at India, we have plenty of examples of women who have helped in sustainability and development. They are the unsung heroes of development. It would be unfair here to name just a few, hence, a general look at what women are doing in certain areas of sustainable development.

If human, cattle and poultry wastes are not disposed of hygienically it could affect community sanitation and health. Normally women do work related to animal husbandry, hence they are the ones who bear the brunt of it. Women in India spend considerable time in collecting fire wood due to the absence of easily accessible and affordable fuels. Their progress and productivity is stagnated. The traditional methods of cooking whereby firewood is used, keeps rural women and girls engaged and it deprives them of education, good health and a comfortable lifestyle. Appropriate means of energy generation could better their living conditions as well as offer them a source of income. The easiest way is by production of biogas through the use of human, cattle and poultry waste. (Vasudevan, Sharma, Sharma & Verma, 2015).

Biogas is an environmentally clean technology. It reduces the workload of women. Cooking by using biogas is easier as there is no black soot at the bottom of pots, no need to blow coal to maintain fire, and the kitchen is smokeless. There is a five times reduction in the amount of firewood used. Initially family members were apprehensive of the idea of biogas. Today the community members and even the Indian government have realized the real benefits of biogas. They consider it as an important tool for the empowerment of women. Due to surplus gas the women run community small scale industries through Self Help Groups which contributes to the household economy and improves their status within the family and the community. It also saves the women time and hence they can take part in other family and community development works. Girls too get more time to continue with their education. (Vasudevan et al., 2015).

Another sustainable source of energy is solar energy. Women play an important role here too which contributes to sustainable development. Traditionally women do the household chores like cooking, drinking water management, water heating, washing, drying, etc. They do 'shadow work' and hence their economic contribution is unrecognized and undervalued. Women need technologies to help them in their daily chores. Solar energy is most ideally suited as a renewable and universally available resource for many of these applications. Improved biomass-burning and other stoves and commercial-size solar cookers, solar baking ovens, solar fruit and vegetable dryers, improved fish smokers and renewable energy-powered grain grinders and millers are devices that could help them in food processing activities. (Vasudevan et al., 2015).

A lot is being done in several places in India like Rajasthan, Tamil Nadu and various other states. Women are being educated and trained in the art of making use of renewable energy. Preservation of agricultural produce by dehydration is an age old technique. (Kumar, 2000). It is solar energy that can help women for quality drying for much of the agricultural produce like spices, tea, fruits, fish, etc. thereby increasing their shelf life. Solar laundry too has helped in many ways at home, community, hostels, hospitals and commercial activity. Thus, women are more effective in the use of solar energy because of their experience as users of energy in households. (Vasudevan et al., 2015).

There are many women farmers in India whose day begins before sunrise and ends after sunset. Their voices are unheard due to gender discrimination. (Munshi, 2017). The scenario of agriculture has been changing with time. What hasn't changed however is that women are an important component of labour in this industry. They are infact



the back bone of agriculture. They play a key role in food security, horticulture, dairy, nutrition, sericulture, etc. Through knowledge transfer women farmers are being trained to do sustainable agriculture. Kanjarya, a woman from Mayapur in Gujarat, is being trained in growing sustainable cotton. Her yield is doubled and cost reduced. A semi-literate daily wage earner, Lalmuni Devi of Patna has taken up mushroom cultivation and is teaching other women too to do so. Rita Kamila is a self-sufficient farmer practicing organic farming and has achieved a sustainable source of livelihood. Terra Greens Organic, founded by Likitha Bhanu, a biotechnology engineer, has 4000 farmers with her from Maharashtra, Rajasthan, Tamil Nadu, Karnataka and Telangana, who are making organic produce which is being distributed to 600 major stores in India. Padma Bai, a tribal Girijan farmer who only cultivated cotton, oil seeds and pulses, now has invested in drudgery reducing farming tools and lends them to poor farmers at a marginal rate. A FAO (Food and Agriculture Organization) report mentions that if women are given equal access to resources as men then agricultural yield would increase by 2.5 to 4 % in developing countries that would feed 100 million more undernourished people. (Malhan & Rao, 2017).

## 5.CONCLUSION

If more would be written about the role of women books would not be able to contain information about their work. It suffices here to know that women play a very important role in sustainable development. Sadly, not much is written about them and there are no accolades for them. It is as though this is part of their work and they need to accomplish it. Hats off to the women who are involved in this process and continue doing so even though they are not recognized for it. Needless to mention that if one puts women at the centre of this process the gains accruable would put our world on the path of newer growth trajectories and we will be able to give our children what is due to them. They will not say that our parents took away what belonged to us.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### A Study on Development through Women Entrepreneurship in India

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**Abstract:** This paper tries to highlight the women contribution for the development of nation. The Indian economy has been witnessing a drastic change since mid-1991, with new policies of economic liberalization, globalization and privatization initiated by the Indian Government. The 21st century has become a knowledgeable society and women are taking part virtually in every field including Information Technology (IT), biotechnology, tourism, banking, manufacturing and service sector. The women have achieved vast development in their state of mind. Women entrepreneurship gaining more importance in India within the wake of economic relaxation and globalization.

**Key words:** Women Entrepreneurship, Factors Influencing, Problems, Government Measures

#### 1. INTRODUCTION

In India, though women have played a key role in the society, their entrepreneurial ability has not been properly tapped because women involvement in economic activities is marked by a low work participation rate, excessive concentration in the unorganized sector. But with the spread of education and awareness, women have shifted from the kitchen, handicrafts and traditional cottage industries to non-traditional higher levels of business activities. Any strategy aimed at economic development will be lop-sided without involving women who constitute half of the world population. More inclusive and sustainable growth is reflected in the strategic challenges highlighted in the 12th five year plan. These challenges include obvious areas like growth, infrastructure, agriculture, urbanization and softer issues like employment, education, skill enhancement, gender equality and women empowerment.

Today's women are taking more and more professional and technical degree to cope up with market need and are flourishing as designers, interior decorators, exporter, publishers garment manufacturers and still exploring new avenues of economic participation. Therefore Government Bodies, NGOs, Social Scientists, Researchers and International agencies have started showing interest in the issues relating to entrepreneurship among women in India. Women entrepreneurs explore the prospects of starting a new enterprise, undertake risks, introduction of new innovations, co-ordinate administration and control of business and providing effective leadership in all aspects of business and have proved their footage in the male dominated business avenue.

#### Defining a Women Entrepreneur:

Women entrepreneurship is an act of business ownership and business creation that empowers women economically increases their economic strength as well as position in the society. The concept of entrepreneurship has never been differentiated on the basis of gender and thus the concept of entrepreneurship can be extended for women also. Women entrepreneurship is a woman or group of woman, who innovates, initiate, organize and run a business enterprise.

**Government of India** has defined women entrepreneur “an enterprise owned and controlled by a woman having a minimum of 51% of the capital and having at least 51% of employment generated in the enterprise to the woman.”

**According to Kamal Singh**, “A women entrepreneur is a confident, innovative and creative woman capable of achieving economic independence individually or in collaboration generates employment opportunities for others through initiating, establishing and running an enterprise by keeping pace with her personal and social life.”

## 2. OBJECTIVE

- 1) To study the present position of Indian Women Entrepreneur.
- 2) To study the problems of Indian Women Entrepreneur
- 3) To suggest certain supportive measures to solve the problems of women entrepreneurship.

## 3. METHODOLOGY

The study is mainly based on secondary data taken from reputed published sources like various books, economic survey, and research publication and website.

### Factors influencing the women Entrepreneurs

Two main factors which influence women entrepreneurs in India.

- 1) **Pull Factor:** Pull factors are those which encourage women to become entrepreneurs. These include desire to do something new or different in life, need for independence, availability of finance, concessions and subsidies.
- 2) **Push Factor:** Push factors are those which compel women to become entrepreneurs. These include unfortunate family circumstances like death of husband or father, financial difficulties, and responsibility in the family.

### Categories of Women Entrepreneurs

#### First Category

- Established in big cities
- Having higher level technical and professional qualification
- Nontraditional items
- Sound financial positions

#### Second Category

- Established in cities and town
- Having sufficient education
- Both traditional and nontraditional items
- Undertaking women services – kindergarten, crèches, beauty parlors, health clinic etc.

#### Third Category

- Illiterate women
- Financially weak
- Involved in family business such as Agriculture, Horticulture, Animal husbandry, dairy etc.
- Fisheries, agro forestry, handloom, power loom etc.
- 

**Women Enterprises and SSI units managed by women.**  
**State wise participation of women in management ownership in SSI sector.**

Sr. no.	Name of State	No. of Enterprises managed by women	No. of Women enterprises.
1.	Jammu & Kashmir	5640	5642
2.	Himachal Pradesh	3515	3722
3.	Punjab	30190	29068
4.	Chandigarh	2059	2243
5.	Uttaranchal	8706	8804
6.	Haryana	10087	9620
7.	Delhi	13368	14383
8.	Rajasthan	29785	36371
9.	Uttar Pradesh	54491	72667
10.	Bihar	38170	49443
11.	Sikkim	30	98
12.	Arunachal Pradesh	131	150
13.	Nagaland	207	179
14.	Manipur	9168	10745
15.	Mizoram	3076	3700
16.	Tripura	631	863
17.	Meghalaya	3658	3580
18.	Assam	11189	11157
19.	West Bengal	71847	69625

20.	Jharkhand	7271	7865
21.	Orissa	33274	38233
22.	Chhattisgarh	11766	10034
23.	Madhya Pradesh	62351	68823
24.	Gujarat	55361	53703
25 & 26	Daman & Diu & Dadra and Nagar Haveli	167	213
27.	Maharashtra	80662	100670
28.	Andhra Pradesh	77347	77166
29.	Karnataka	101264	103169
30.	Goa	677	810
31.	Lakshadweep	61	67
32.	Kerala	137561	139225
33.	Tamil Nadu	130289	129808
34.	Pondicherry	1089	1065
35.	Andaman Nicobar	53	110
<b>All India</b>		<b>995141</b>	<b>1063721</b>

The total no. of women enterprises in the total SSI sector was estimate at 10, 63,721 (10.11%). The estimated no. of enterprises actually managed by Women was 9,95,141 (9.46 %). In the state of Mizoram, Orissa, Karnataka, Goa, Lakshadweep, Kerala, Tamil Nadu, Pondicherry, the share of women Employment was significantly higher (more than 20%). The position of Women entrepreneurship and women enterprises is given state wise data in the above table.

#### Government Supportive Measures for Women Entrepreneurship Development

Motivation is the main factor for any development. With a view that women entrepreneurs should come forward in industrial field and become self – sufficient, government and financial institutions have announced many schemes of providing financial assistance some of them are as follows:

- Micro and Small Enterprise Cluster Development Programme (MSE-CDP)
- Trade Related Entrepreneurship Assistance And Development Scheme For Women (TREAAD)
- Self Employed Women Association (SEWA)
- MahilaArthikVikasMahamandal (MAVIM)
- Stree Shakti Package
- Support to Training and Employment Programme for Women (STEP)
- Annapurna Scheme for Financing Women For Establishing Food Catering Unit
- National Institute of Small Business Extension Training
- National Alliance of Young Entrepreneurs (NAYE)
- Small Industrial Development Bank of India

#### 4. PROBLEMS FACED BY WOMEN ENTREPRENEURS

- **Shortage of Finance:** For every business undertaking finance is said to be the “life blood”, irrespective of its size. Women entrepreneurs always suffer from inadequate financial resources and working capital. They are lacking access to external funds due to absence of tangible security and credit in the market.
- **Shortage of Raw Material:** knowledge of alternative source of raw materials availability and high negotiation skills are the basic requirement to run a business. Getting the raw materials from different from different sources with discount prices is the factor that determines the profit margin. Lack of knowledge of availability of the raw materials and low level negotiation and bargaining skills are the factors, which affect women entrepreneur’s adventures.
- **High Cost of Production:** This is another problem which undermines the efficiency and restricts the development of women enterprise. The installation of new machineries during the expansion of the productive capacity and like similar factors dissuades the women entrepreneurs from venturing into new areas.
- **Risk Taking Ability:** Low – level risk taking ability is another factor affecting women folk decision to get into business. Low – level education provides low – level confidence and self – reliance to the women folk to engage in business, which is continuous risk taking and strategic cession making profession. Investing money, maintaining the operations and ploughing back money for surplus generation requires high risk taking attitude, courage and confidence.

- **Family Responsibility:** Women's family obligation also bar them for from becoming successful entrepreneurship in both developed and developing nations. Having primary responsibility for children, home and older dependent family members, only few women can devote all their time and energies to their business.
- **Cut – throat Competition:** Many of the women entrepreneurs have imperfect organizational set – up. They have to face severe competition from organized industries and male entrepreneurs. Despite the fact that women entrepreneurs are good in keeping their service prompt and delivery in time, due to lack of organizational skills compared to male entrepreneurs women have to face constraints from competition.
- **Traditional Attitude:** Despite constitutional equality, there is a discrimination against women. In a traditional bound society, women suffer from male reservations. In rural areas women face resistance not only from males but also from elderly females who accepted inequality.
- **Lack of Education and Training:** Due to lack of education, majority of women are unaware of technological development, marketing knowledge etc. lack of information and experience creates further problems in setting up and running a business. Many women in developing nations lack the education needed to spur successful entrepreneurship. They are ignorant of new technologies or unskilled in their use and often unable to do research and gain the necessary training (UNIDO, 1995b, p. 1). Although great advances are being made in technology, many women's illiteracy, structural difficulties and lack of access to technical training prevent the technology from being beneficial or even available to females ("Women Entrepreneurs in Poorest Countries,"2001). According to Economist, this lack of knowledge and continuing treatment of women as second – class citizens keep them in a pervasive cycle of poverty ("The Female Poverty Trap",2001). The studies indicate that uneducated women don't have the knowledge of measurement and basic accounting.

## 5. SUGGESTIONS FOR DEVELOPMENT OF WOMEN ENTREPRENEURS

Rights efforts on from all areas are required in the development of women entrepreneurs and their greater participation in the entrepreneurial activities. Following are the some suggestion for development of women entrepreneurs.

- Women should be consider as specific target for any developmental programmers.
- It is necessary to change negative social attitudes towards women.
- Better educational facilities and schemes should be extended to women folk from Government part.
- Adequate training programmer on management skills to be provided to women community.
- Effective and efficient use of Information Technology like the internet can help in assimilating information about the variety, range of quality competing products as well as publicity and marketing of product and services.
- Workshops and seminar should be organized frequently for the officials of the financial and support agencies and for women entrepreneurs in order to make their relation more cordial.
- Group Entrepreneurship is a viable option for the weaker sections of the society and its helps women to overcome poverty. Its empowers women and provides the necessary confidence for entrepreneurship.
- Procedures for financial assistance by banks and government organization must be simplified.
- The financial institutions should provide more working capital assistance both for small venture and large scale venture.
- Making provision of micro credit system and enterprise credit system to the women entrepreneurs at local level.
- To understand the production process and production management Professional training should be provided to women community.
- Programmes of training and counseling through the aid of committed NGOs, psychologists, managerial experts and technical personnel to be organized on a large scale of existing women entrepreneurs to remove psychological cause like lack of self-confidence and fear of success and they should be monitored continuously.
- Area of operations in which women are trained should focus on their marketability and profitability. And also making provision of marketing and sales assistance from Government part.
- Infrastructure, in the form of industrial plots and sheds, to set up industries is to be provided by state run agencies.
- District Industries Centre and Single Window Agencies should active and liberal role in assisting women in their trade and business guidance and the programmes for encouraging entrepreneurship among women are to be extended in their jurisdiction.
- At the high school level the training in entrepreneurial attitudes should start through well designed courses, which build confidence through behavioural games.



- More governmental scheme to be introduced to motivate women entrepreneurs to engage in small scale and large scale business ventures through financial, technical, managerial, infrastructural assistance etc.

## 6. CONCLUSION

Women have the potential and the determination to set up, uphold and supervise their own enterprise in a very systematic manner. Women Entrepreneurship has gained momentum in the last three decades with the increase in the number of women enterprise and their substantive contribution to economic growth. Commercialization and modernization of the economy gradually eliminated many of the avenues of employment to women in agriculture and industries and thus enabled them to find ways of supplementing their family income. The recent trend indicates that women entrepreneurs are sensitive to changing socio – economic conditions in the country. The development of women entrepreneurship in India depends largely on exploration of rural market.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Education: effective too for women empowerment in India

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**Abstract:** Education is the Key Factor for Women Empowerment, prosperity, development & welfare. Discrimination of women from womb to tomb is well known. There is continued inequality & vulnerability of Women in all sectors & they are oppressed in all spheres of life. They need to be empowered in all walks of life, in order to fight against socially constructed Gender Biases, Women need to swim against the system that requires more strength. Such strength comes from process of Empowerment, which comes from Education that helps in reducing inequalities & functions as a means to improve their status within family & develops their actual involvement in social & economic matters. Education is a milestone for Women's Empowerment, as it enables them to respond to challenges, confront traditional role & change their life. This paper aims to create awareness among Women about different empowerments. Since Women's Education in India has a major pre-occupation of both Government & Civil Society, as Educated Women can play an active transforming role for the whole society.

**Key Words:** Gender Biases, Empowerment, Education of Women

#### 1. INTRODUCTION

Empowerment can be viewed as means of creating social environment, in which one can make decisions for Social Transformation. The Empowerment strengthens the innate ability by way of acquiring knowledge, power & experience. It is a process of enabling individuals to think, take action, & control work in an autonomous way. It is a process by which one can gain control over one's destiny & circumstances of one's lives. Out of the many other elements, Women are the, most important factor of every society. Though all are aware about this fact, still nobody is ready to accept it. As a result of this importance of Women is declining in today's society & growing consequences of underestimating Women such as to make them occupy second position in society & deprive them of their rights, the need for Empowering is felt.

Today, we enjoy benefits of Independent Nation, but do we really think Women as Independent pillars of society, as they are suppressed emotionally, physically, mentally by families & society at large. The time has come wherein we don't take her granted for the continuous efforts & services she puts in irrespective of the struggles, hardships she faces, rather she needs to be rewarded, recognized for her thinking in making herself an effective & creative transformer.

It is through Education, through which she can surpass all barriers, traditional, outdated thinking & bring about a change & a revolution in society.

As far as studies are concerned this paper attempts to conceptualize some terms. Accordingly definition of Women Empowerment, Gender Equality, will be addressed based on literature which will be applied throughout. Later the paper will address crucial importance of empowering Women & accomplishing Gender Equality for Sustainable development.

#### 2. WHY IS EDUCATION IMPORTANT FOR WOMEN

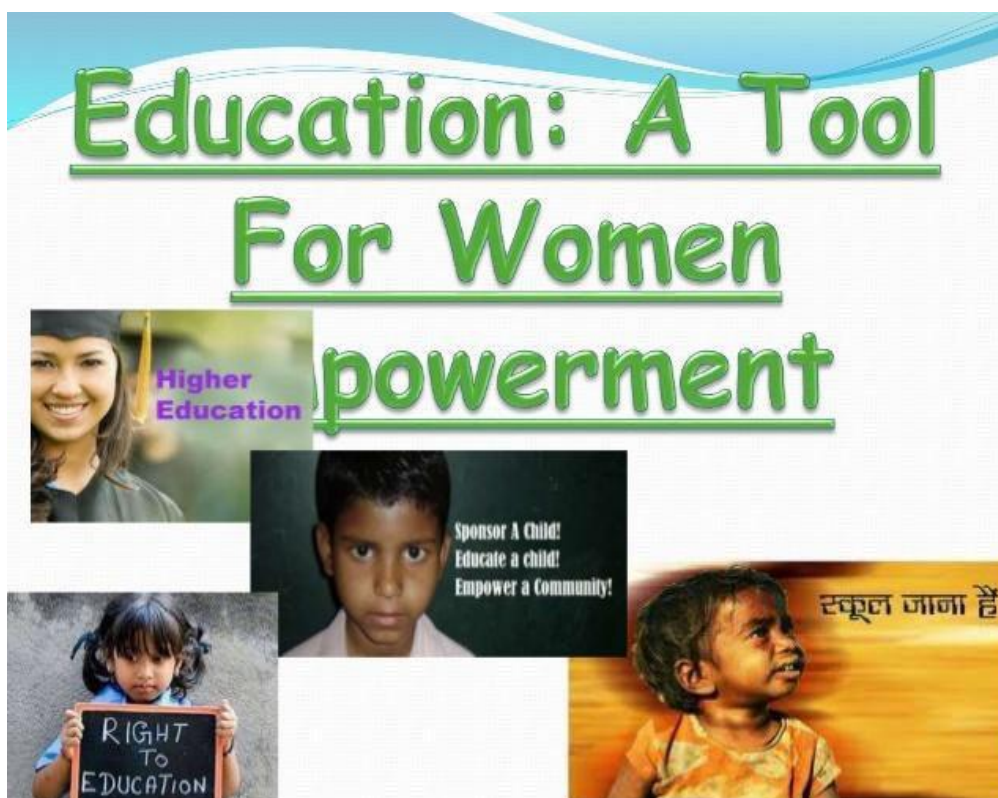
As rightly said, if you educate a Man, you educate an Individual, but if you educate a Girl, you educate the whole Family. Women Empowered means "Mother India Empowered"-Pt. Jawaharlal Nehru. According to Mahatma Phule, "Education is that which demonstrated difference between Good & Evil." If we consider this we understand consider this we understand, that whatever revolution took place in History, Education –was the base. Education means modification of behavior in every aspect such as mentality, outlook, attitude, etc.



Educating Women not only promotes education of Girl Child but also provides better guidance to all. It also helps in reducing infant mortality rate & improves growth of population. It is through Women's Education that society gets a better youth, cultured & well balanced individual. Moreover she has always been an effective player be it towards family, society or workplace but her hardships, efforts have never been that recognized as that of a Man.

Be it in the form of a Goddess, a Girl, a Sister, a Wife, a Mother, an Employee, a Boss, her role speaks about her, her dynamism which is always subject to an opportunity to do something unique, innovative & enthusiastic.

### 3. EDUCATION AN EFFECTIVE TOOL







Women Empowerment is pivotal part in society. Education as a means of Empowerment can bring positive attitudinal changes. Moreover Constitution of India, promotes ways to empower Women.

It is a Global Issue & its discussions are at the fore front of many formal & informal campaigns. The concept of Empowerment was introduced at International Women Conference at NAIROBI in 1985. The increasing change in Women Education has been recognized as Central issue in determining the status of Women for becoming Super powerful.

According to United Nations, Empowerment for Women means:

- Acquiring Knowledge & Understanding of Gender Relations & ways in which these relations can be changed.
- Gaining ability to generate choices, exercising bargain power.
- Developing ability to organize & influence direction for social change to create a more just social & economic border nationally & internationally.

Thus, Empowerment means a Psychological sense of personal control, a concern with actual social influence, political power & legal rights.

#### 4. WOMEN PARTICIPATION



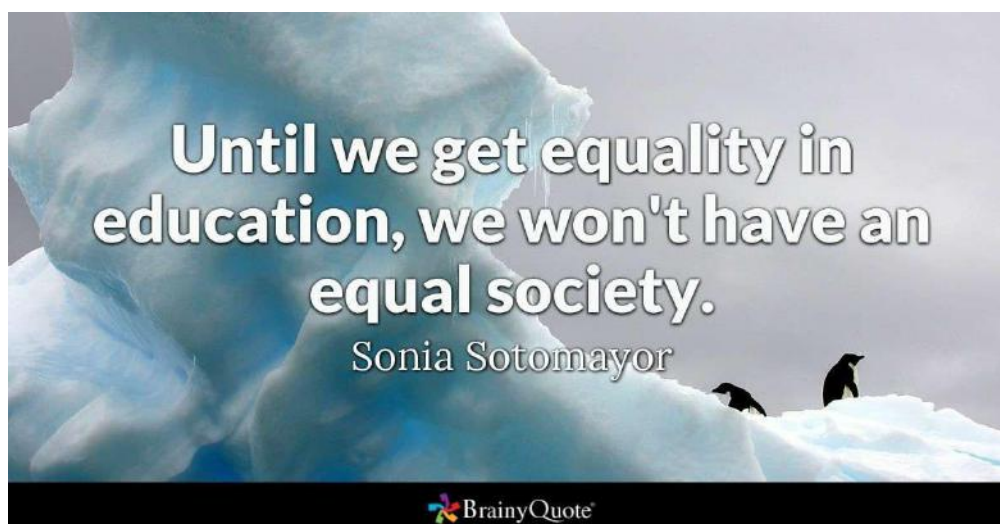
Women Participation may be used for support of agency & as control device by law makers. It may be direct, indirect, formal, informal, social, political, and administrative in nature.

Women's Participation in Panchayati Raj Institutions may take many forms.

Though Indian Constitution guarantees equal rights to all citizens, Women are marginally represented due to the fact that they lack complete power at Center & State levels. At societal level, male dominance in Parliament, bureaucracy army all point towards Gender Inequality, not following the fact that Women's political leadership would bring about more co-operative & less conflict prone world.

Lack of Political & Economic powers add to sub-serviette & unequal position of Women. The condition of Women assumed importance from mid-1970, when UN declared 1975, as 'International Women's Year. This was followed by UN's decade Women from 1976-1985 & the Theme was 'Equality Development & Peace'. The 73<sup>rd</sup> & 74<sup>th</sup> Amendments (1993) to Constitution of India have provided for reservation of seats in local bodies of Panchayats & Municipality for Women, laying strong participation for them in decision making at local levels.

## 5. EDUCATIONAL EQUALITY



Due to higher participation of Women in literacy campaigns, Gender gap in literacy levels are gradually getting reduced.

World has achieved Equality in Primary Education between girls & boys, due to which political participation has started increasing.

Women Scholarships, Tax Subsidies, Right to file suite in case of Exploitation, have all arose, due to Education & Awareness. We must now recognize that Upliftment of Psychologically powerful section of society i.e. Women –a Girl, is very essential, as she's blessed from birth with Revolutionary powers of changing the World

## 6. CONCLUSION

Women play an Imperative role in making a nation progressive & guide towards development. They are the essential possessors for a lively Humanity required for national improvement. So if we need a bright future for our country, giving Education to they must be pre occupational. To encourage education of Women at all levels & for discussion of social constraints of society: Schools, Colleges, Universities that work exclusively for Women Strengthening & Empowerment must be popularized & encouraged.

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17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Extraordinary skills required in today's youth for development of the Nation

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**Abstract:** Skill means the ability to do something in a mastery way with sharp intelligence and cleverness. Every person on this earth is blessed with the skill or with variety of skills. Development of the country is known by its quality of human resources, Culture of the country makes the human resources different from the other countries, Development of skills does not only mean to polish these skill but to make them extraordinary and in unique way. Right attitude and sharp vision are required and the most important is to channelize the skill or quality in the right direction to create a legacy. Among all the skills creativity is the essence among all the qualities.

**Key words:** Creativity, Culture, Intelligence, Attitude, Mastery, Cleverness

#### 1. INTRODUCTION

Skills with the right attitude go hand in hand. Skill alone does not make the person smart and intelligent but divine qualities like compassion, mercy, cleanliness, code of conduct, ethics make person wise and also help in taking the right decisions at the right time. A charismatic person is a person full of gratitude, humility, perseverance, patience. This makes the person powerful and magnetic. Today's Youth is only focusing on the development of the skills like technical, creativity, conceptual, communication skills, Personality Development, Body language. These skills are required in the dynamic world, but its essence of divinity is lacking which makes skills only mechanical and does not help in the development of the nation or the world.

**1.1** India is known for its powerful and extraordinary people and has created a legacy in development of the nation. Their power and skills were not only limited to the skills to what they had but the unlimited divine qualities which made them exceptional, extraordinary and highly innovative in their style of working and handling huge kingdoms. Today's youth has failed to understand the real development of themselves as well as of the world.

**1.2** Unfortunately, our skill development programmes at all levels, don't contain the true content of the wellbeing of all the individual personality. It only revolves around the concept of I, ME and MYSELF this attitude and vision does not lead to the development of the nation. Famous scriptures like Vedas, Gita, Quran, and Bible teach us the development of skills by inculcating the qualities divinity and which helps in the overall development. Our youth needs to give a reminder of the teachings mentioned in this Holy Scripture which helps in solving the various problems and helps in the development of skills.

#### 2.OBJECTIVE OF RESEARCH

**2.1 Main Objective:** The main objective of research is to build the personality of the youth in a unique way

**2.2 Sub Objective:** The research aims to inculcate positive and extraordinary qualities among the youth to develop the nation.

Research Methodology is a way to systematically solve the research problem.

#### 3.METHODOLOGY

**3.1.** Research Methodology is a way to systematically answering problems offering specific solutions.

**Research Design:** Descriptive Research Design is used to gain better understanding.

**3.2. Data Sources:** Secondary data is used to gather information for detail understanding through magazine, newspaper, journals, books, internet etc.

The data Analysis of the research is as follows:

**3.3.** The course content was framed on “How to develop charismatic personality & Magnetic Image” for the under graduate students. The course content contains the following details:

**3.4. “How to develop Charismatic Appearance and Magnetic Image”**

This current modern world is all about glamour, style, fashion, beauty, personality. There is no end to accelerating and getting dynamic. Business world is prospering and gaining its importance like viral and spreading across the globe, Various streams are shining in its own way, like Computer Science, Information Technology, Media, Advertising , Management, Event Management, Catering, Animation, Banking etc.

To evolve and to shine in a particular field is not easy in this competitive world, without training and proper knowledge. Right knowledge and Right Attitude is the key to success. To understand this attitude, the most important is to know that humans are the true reliable asset. To create a valuable asset. Right set of behavior, intelligence is very important. This course them will make wiser than before, and will also make you exceptional and unique in an extraordinary way.

- Self-Realisation –To understand self, you need to first understand you are not the human body, you are the soul, and soul has capacity to do all extraordinary powerful things. It's just that we are not aware of this realization.
- Human body is just the outer covering of the soul .To understand and to make realise the importance of soul. Before understanding the power of mind, heart and intelligence is very important, to train in the right way is of utmost importance.
- Self-Development. One does not know the real essence and importance of oneself “Self Development is not achieved through qualification but from the right set of behaviour”
- Positive Image is not achieved by pleasing people but by doing right things at the right time, the right attitude and intentions are not visible.

**5.** Various sets of skills are required like analytical skills, creative skills, technical skills, communication skills, skills everyone has but to make it extraordinary is up to us. To be Charismatic and magnetic, such extraordinary and divine qualities are a requirement, Physical appearance is not everything, but charismatic attitude and behaviour makes a person look attractive and charming, Here are the essential real and true qualities

- a) Patience  
Extraordinary people will always be active from within.
- b) Tolerance  
Many things in life have to be tolerated, they cannot be changed.  
E.g. environment, great extraordinary people tolerate things and create history
- c) Responsiveness  
We always tend to get angry easily without understanding its consequences, to be responsive rather than being reactive
- d) Optimism  
Optimistic nature is very important to achieve success, whatever incident takes place make sure you bring better and best out of it, right attitude matters.
- e) Caring for people and relationships  
Now a days things are given more priority than people. Remember people are jewels, you Give them little they will give you much more in return.
- (f) Other various teachings from Bhagavad Gita were taught to groom their personality for the better understanding to change their ideology. To carry out duties and responsibilities in effective and efficient way.

: Human birth is meant to do something special and extraordinary for the nation.

: Should have strong character.

: Having right wisdom

: Not to expect fruits of the work.

: To develop skills austerity as important to perform.

: Not to be possessive for the worldly things

**4. FINDINGS OF THE STUDY**

- It was found students were enlightened with such of profound knowledge.
- Students felt the importance of skill development.
- It helped in broadening their horizons.
- Spiritual knowledge helps in achieving success.
- It also helped in achieving the positive attitude.
- Made them feel unique and extra ordinary.
- Helped them in making better choices.
- Helped in other development other skills as well.
- Helped them to change their vision for the development of the nation by utilizing their material skill in a spiritual way.

## **5. SUGGESTIONS**

- Should conduct the personality development session or programs on a regular basis.
- Development should not only be from materialistic point of view but should also include from the spiritual point of view.
- Channel sing their skills and intelligence towards the right direction.
- Course content should also include the teachings from Bhagavad gita and from other related scriptures.
- Regular training sessions should be conducted for today's youth on the basis of the Vedic scriptures.
- University should frame such courses for the overall development of the students at all levels

## **6. CONCLUSION**

Material knowledge with spiritual knowledge enlightens helps in development of skills in a real way. It helps the person in building their personality in magnetic way, Skill development is also about changing the attitude. Such unique qualities inculcated in the person helps in development of the nation by their work contribution.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

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### Study of relationship between e-waste and economic benefit in Mumbai

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**Abstract:** E- Waste refers to End-of-life of electronic and Electronics devices, e-waste has steadily become a visible threat to the environment. With the electronic industry fast becoming the world's largest manufacturing industry and also, arguably, the industry with the shortest life span products, it is essential that the method of disposing the resultant e-waste becomes an integral part of electronic manufacture and consumption. India is a country estimated to have a population of 1.21 billion persons. Indigenously, India employs various methods of dealing with its waste specifically, e-waste. One of such practices of getting rid of obsolete electronic items is to exchange them from retailers when purchasing a new item. 78% of all installed computers in India are perceived to have originated from the business sector. Computers considered obsolete by the business sector are sold by auctions or transferred to educational institutes or charitable institutions that reuse them. A total of 1.38 million obsolete personal computers are estimated to emanate each year from business and individual households in India. According to a report of Confederation of Indian Industries (CII), a total estimate of 146,000 tons of broken down electronics and electrical equipment is generated in India per year (CII, 2016). However, there are also parts of India which engage actively in informal e-waste recycling. Due to lack of waste sorting at source, it is quite difficult to ascertain the quantity of e-waste generated and disposed each year and the resulting extent of environmental risk it poses especially to the waste host community. This study seeks to determine the relationship between socio economic factors and informal e-waste management practices in Mumbai. The study revealed that even though health hazards associated with the interaction with e-waste were evident, the informal management of e-waste were willing to continue in the trade due to the economic benefits it offers.

**Kev words:** E- Waste. obsolete electronic items. e-waste management

#### 1. INTRODUCTION

Nine out of every ten homes possess an obsolete electronic device such as an outdated computer, a refrigerator or a mobile phone. It is probably covered in dust, lying at the base of your cabinet or trash can and grimy from lack of use. Obsolete electronic devices or electronic waste (also referred to as e-waste) are becoming common sites everywhere, giving birth to what some experts are predicting to be the largest toxic waste problem of the 21st century. The rapid product innovations and its replacement, (especially in ICT and office equipment) in addition to the migration from analogue to digital technologies and to flat-screen TVs, monitors, compact and multi-tasking devices such as the iPad, iPhone and Kindle, are fueling the increase of electronic waste. The advent of lower prices for many electrical goods has caused an increase in global demand for many products that eventually end up as electronic waste. Computer devices, batteries, fridges and other cooling and freezing appliances, as well as household appliances, are also accounted for measure contributor in total e-waste. As a result of this rapid and remarkable growth, e-waste or discarded electronic equipment is thus regarded as the fastest growing waste stream in the industrialized world. E-waste is a crisis born not only out of quantity generated but also from the cocktail of toxic ingredients. Industrialized and technologically advanced nations such as USA, the UK and other wealthy economies generate most of the world's electronic products and subsequently generate most of the e-waste.

#### 2. OBJECTIVE OF RESEARCH

The main objective of this research is to determine the relationship between socio-economic factors and informal e-waste management practices in Mumbai. This research paper aims to answer the following research question: What are the economic benefits and health hazards inherent in informal e-waste management?

### 3. RESEARCH METHODOLOGY

This research combines both quantitative and qualitative methods. Quantitative survey data enabled sample opinions from the target population. Conceptual information needed for this research was gathered from books, Journals and online articles obtained from web pages of internationally recognized organizations in e-waste management. Mumbai is chosen for research because Mumbai is a city where maximum population using electrical and electronic devices. In Mumbai around 2,000 workers who make their living from sorting waste.

To determine the target population, two methods of sampling was employed: stratified random sampling and quota sampling. Stratified random sampling was applied to determine the primary stakeholders in the electronic industry in Mumbai. They are the Electronic Importers in a City, the Electronic Repairers, Computer and Photocopying Services and the Local Recyclers (waste scavengers). They were chosen according to their profession and activities in the electronic industry. Applying the quota sampling method helped to further specify the target group by dividing them into the stakeholder groups listed above. 100 participants were chosen from the four groups. Structured questionnaire was administered utilizing the closed ended question.

### 4. E-WASTE PROCESSING AND DISPOSAL FACILITY

India is considered one of the fastest progressing countries and, therefore, there is an ever growing demand of electronic equipment and gadgets. The obsolescence rate of these products is rising because of technological changes, which results in increasing e-waste generation. The disposal of e-waste in a scientific and safe manner is considered as most challenging assignment. As per the study conducted by Maharashtra Pollution Control Board (MPCB) in the year 2007 for Mumbai and Pune Regions, it was assessed that MMR is the largest generator of e-waste in India. So far there were no guidelines and approved methods and as such the disposal of e-waste was handled by informal sector by crude, unscientific processes resulting in environmental and occupational hazards and pollution. The e-waste (Management & Handling) Rules-2011 under the Environment (Protection) Act 1986, Govt. of India, came into existence and is applicable from 1st May, 2012 the same are again being amended in 2015 by Ministry of Environment & Forest, Govt. of India. A Techno-feasibility Study carried out in July, 2009 by MPCB recommended setting up of a centralized e-waste disposal facility.

### 5. DATA ANALYSIS

**Table 5.1: Occupation distribution of participants in the informal e-waste management**

Stake Holders	No	%
Electronic Re Seller(Importer)	21	21.0
Electronic Repairers	27	27.0
Computer and photocopying services	20	20.0
Local Recyclers (waste scavenging)	32	32.0
Total	100	100.0

Of the groups as indicated in Table 5.1, 32% respondents were Local Recyclers (waste scavenging); 21%Electronic Importers; 27% Electronic Repairers and 20% working in the Computer and Photocopying Services. These groups are identified as active stakeholders in the management of e-waste in Mumbai.

Economic Benefits and Financial Implications of e-waste

Table 5.3 show that 90% of Electronic Importers and 74% of Electronic Repairers agreed that e- waste is a valuable economic asset. This is quite interesting because according to other observations at Mumbai more than 50% of the electronic goods imported are destined for refurbishing and dismantling.

**Table 5.2: Perceived value of e-waste by occupation.**

			ewaste is valuable to us all		Total
			Disagree	Agree	
Occupation	Electronic Importers	Count	2	19	21
		% within Occupation	9.5%	90.5%	100.0%
	Electronic Repairers	Count	7	20	27
		% within Occupation	25.9%	74.1%	100.0%
	Computer and photocopying services	Count	1	19	20
		% within Occupation	5.0%	95.0%	100.0%
	Local Recyclers (waste scavenging)	Count	3	29	32
		% within Occupation	9.4%	90.6%	100.0%
Total		Count	13	87	100
		% within Occupation	13.0%	87.0%	100.0%



In an interview with a key informant who was a refurbished by profession at the Mumbai, I asked if he was happy with the electronic goods he just ordered. He responded “well.....I will say yes and no....yes because people can buy them easily and people believe that second hand goods last longer than the new ones...maybe because they feel that it has already been tested and so it is good. And I will say no because... most times, the good second hand electronics are very few...so I am left with a lot of bad electronics to deal with”. His response indicates that despite the challenges of being saddled with obsolete electronic materials, this was still a favorable alternative for consumers to buying brand new electronic devices.

On the flip side of things, this generates another level of income for both the Electronic Importers and the Electronic Repairers. 90% of Local Recyclers (waste scavenging) and 95% of Computer and Photocopying Services also agreed that e-waste is valuable to them. The response of the Computer and Photocopying Services operators is intriguing because they offer services directly to the end users. Thus it is quite understandable that they would find the end results of the e-waste recycling process more profitable as it offers cheaper electronic alternatives to purchase of new devices.

**Table 5.3: Extracted materials from e-waste sold as spare parts by occupation**

			The extracted materials from waste after recycling are exported or sold as spare parts for new products		Total
			Disagree	Agree	
Occupation	Electronic Importers	Count	5	16	21
		% within Occupation	23.8%	76.2%	100.0%
	Electronic Repairers	Count	14	13	27
		% within Occupation	51.9%	48.1%	100.0%
	Computer and photocopying services	Count	0	20	20
		% within Occupation	0.0%	100.0%	100.0%
	Local Recyclers (waste scavenging)	Count	11	21	32
		% within Occupation	34.4%	65.6%	100.0%
Total	Count	30	70	100	
	% within Occupation	30.0%	70.0%	100.0%	

Table 5.4 presents differences in the opinion of various stakeholders about their utilization of extracted e-waste materials. 100% of Computer and Photocopying Services agreed that extracted materials from waste after recycling is exported or sold as spare parts for new products. As observed in the field, the Computer and Photocopying Service profession were amongst the end consumers of the result of electronic importation and refurbished goods. Thus they were quite knowledgeable in the quality of electronic devices they bought. Mumbai also served as an electronic marketplace for neighboring areas and cities that came to purchase complete or parts of electronic devices as indicated by 76% of Electronic importers, 65% of Local Recyclers (waste scavenging) and 48% of Electronic Repairers.

**Table 5.4: Extracted materials from e-waste kept in storage for local electronic repairers by occupation**

			The extracted materials from waste after recycling are kept in storage for local electronic repairers		Total
			Disagree	Agree	
Occupation	Electronic Importers	Count	0	21	21
		% within Occupation	0.0%	100.0%	100.0%
	Electronic Repairers	Count	2	25	27
		% within Occupation	7.4%	92.6%	100.0%
	Computer and photocopying services	Count	0	20	20
		% within Occupation	0.0%	100.0%	100.0%
	Local Recyclers (waste scavenging)	Count	0	32	32
		% within Occupation	0.0%	100.0%	100.0%
Total	Count	2	98	100	
	% within Occupation	2.0%	98.0%	100.0%	

Besides exporting extracted materials for sale to neighboring areas and cities, they were also kept in the storage as spare parts for Electronic Repairers who often needed them for repair purposes. Table 5.5 indicates that 100% of Electronic Importers, Computer and Photocopying Services and Local Recyclers (waste scavenging) agreed to this. Interestingly, 92% of Electronic Repairers agreed that this was true. Perhaps the 7% who disagreed believe that because e-waste travels murky waters and involves a lot of players, the answer that extracted materials for sale to neighboring areas and cities were also kept in the storage as spare parts for electronic repairers may not be entirely true.

**Table 5.5: Extracted materials from e-waste resold to electronic importers by occupation**

			The extracted materials from waste after recycling are resold to electronic importers		Total
			Disagree	Agree	
Occupation	Electronic Importers	Count	6	15	21
		% within Occupation	28.6%	71.4%	100.0%
	Electronic Repairers	Count	2	25	27
		% within Occupation	7.4%	92.6%	100.0%
	Computer and photocopying services	Count	6	14	20
		% within Occupation	30.0%	70.0%	100.0%
	Local Recyclers (waste scavenging)	Count	2	30	32
		% within Occupation	6.2%	93.8%	100.0%
Total		Count	16	84	100
		% within Occupation	16.0%	84.0%	100.0%

In Table 5.5, 93% of Local recyclers (waste scavenging) and 92% of Electronic repairers agreed that extracted materials from waste after recycling are resold to Electronic Importers. While 71% of Electronic Importers and 70% of Computer and Photocopying Services also agreed to this question. Most times, the Electronic Importers package the extracted materials and resell them to neighboring area and cities as second hand wares. These responses indicate that the utilization of e-waste goes beyond the professions interviewed in this study. It involves both the consumers within the city and businesses outside the city.

A 96% Local Recyclers (waste scavengers) agreed that scavenging does have a positive impact on their financial status. This implies that scavenging for electronic parts was mainly carried out by individuals in the Local Recyclers (waste scavenging) profession. At the dumpsite in Olusosun, waste pickers (Local Recyclers) sort waste according to their importance and types.

### Health Conditions

Manual e-waste recycling is practiced among the professions interviewed in this study. However, some professions are more actively engaged in it than others. Table 5.7 below reveals that 100% of Local Recyclers (waste scavenging) interviewed agreed that people engage in manual recycling of e-waste. This reflects the activities of the local recyclers in the management of e-waste in Lagos state. Besides sorting e-waste, they also break down electronic devices in search of valuable materials for resell. 95% of Electronic Importers, 96% of Electronic Repairers and 75% of Computer and Photocopying Services also agreed that people engage in manual recycling of e-waste. The response from the respondents reveals that manual recycling of e-waste is a common practice amongst the profession involved in electronics.

**Table 5.6: Informal recycling by occupation**

The key informant at the Mumbai (see Table 5.2), when asked to show the process of breaking down e-waste for example, computer devices, replied “(laughs)...madam...it is not an easy task o! It’s a long and careful one because electronics can be very fragile” further attesting that manual recycling of e-waste does occur. The process of manually recycling e-waste presents a number of health related issues.

**Table 5.7: Respiratory Problems as an effect from interacting with e-waste by occupation**

			People engage in manual recycling of ewaste		Total
			Disagree	Agree	
Occupation	Electronic Importers	Count	1	20	21
		% within Occupation	4.8%	95.2%	100.0%
	Electronic Repairers	Count	1	26	27
		% within Occupation	3.7%	96.3%	100.0%
	Computer and photocopying services	Count	5	15	20
		% within Occupation	25.0%	75.0%	100.0%
	Local Recyclers (waste scavenging)	Count	0	32	32
		% within Occupation	0.0%	100.0%	100.0%
Total	Count	7	93	100	
	% within Occupation	7.0%	93.0%	100.0%	

Table 5.7 indicates that 57% of Electronic Importers agreed that they experienced respiratory problems as a result of interaction with e-waste while 42% disagreed. Considering that the Electronic Importers did not directly engage in manual recycling or refurbishing of e-waste but in most cases were resident in the same environment where the Electronic Repairers operated, it could be deduced that they may be suffering respiratory problems as a result of indirect association with the recycling and refurbishing of e-waste.

85% of Computer and Photocopying Services and 96% of Local Recyclers (waste scavenging) agreed that they experienced Respiratory problems. While the effect of e-waste can be explained for respondents in the Local Recyclers (waste scavenging) profession (because they are actively involved in the manual recycling of e-waste), the response from the Computer and Photocopying Services can be attributed to the constant presence of broken down e-waste in their environment. From observations during the interviews, broken down electronic devices such as photocopier and computer sets are stored in any available space around their business premises exposed to environmental elements; this was a common practice. Most times, these broken down electronics are used as spare parts to fix any emergency situations that may occur during business hours.

**Table 5.8: Burnt hands and bruises as an effect from interacting with e-waste by occupation**

			People face e-waste hazards like Burnt hands and bruises		Total
			Disagree	Agree	
Occupation	Electronic Importers	Count	2	19	21
		% within Occupation	9.5%	90.5%	100.0%
	Electronic Repairers	Count	1	26	27
		% within Occupation	3.7%	96.3%	100.0%
	Computer and photocopying services	Count	0	20	20
		% within Occupation	0.0%	100.0%	100.0%
	Local Recyclers (waste scavenging)	Count	0	32	32
		% within Occupation	0.0%	100.0%	100.0%
Total	Count	3	97	100	
	% within Occupation	3.0%	97.0%	100.0%	

In Table 5.8, appears that 90% of Electronic Importers and 96.3% of Electronic Repairers agreed that they experienced e-waste hazards such as burnt hands and bruises. The responses from the Electronic Importers were quite interesting because they were not directly involved in the manual recycling of e-waste unlike the Electronic Repairers who were actively engaged in the refurbishing and repair of the electronics. However, because of the nature of the electronic goods in an imported container, the Electronic Importers need to sort their goods according to its value. This exposes them to chemicals inherent in obsolete electronic devices especially when such devices are broken or damaged. Additionally, most of the Electronic Importers also had their businesses in the same environment where the Electronic Repairers practiced their activities. Due to the volatile nature of chemicals present in e-waste, it can also be said that their health afflictions may be as a result of association. All respondents from the Computer and Photocopying Services and Local Recyclers (waste scavenging) professions agreed that they experienced burnt hands and bruises as a result of their profession and association with e-waste. As observed in the field, respondents from the Electronic Repairers and Local Recyclers Profession lacked safety gears thus exposing them to chemicals from exposed e-waste.

**Table 5.9: Muscle weakness as an effect from interacting with e-waste by occupation**

			People face e-waste hazards like Muscle Weakness		Total
			Disagree	Agree	
Occupation	Electronic Importers	Count	4	17	21
		% within Occupation	19.0%	81.0%	100.0%
	Electronic Repairers	Count	8	19	27
		% within Occupation	29.6%	70.4%	100.0%
	Computer and photocopying services	Count	1	19	20
		% within Occupation	5.0%	95.0%	100.0%
	Local Recyclers (waste scavenging)	Count	3	29	32
		% within Occupation	9.4%	90.6%	100.0%
Total	Count	16	84	100	
	% within Occupation	16.0%	84.0%	100.0%	

Table 5.9 shows that 95% of Computer and Photocopying Services agreed that they suffered from muscle weakness as a result of interaction with e-waste. This can be attributed to the presence of e-waste in their working environment as well as direct exposure to chemicals during the process of extracting parts from broken down electronic devices to substitute the existing ones. 90% of Local Recyclers (waste scavenging) agreed that they experienced muscle weakness as a result of their direct exposure to e-waste. 70% of Electronic Repairers and 81% of Electronic Importers agreed that they suffered from muscle weakness as a result of constant exposure to chemicals inherent in e-waste present in their working environment.

#### **Socio-economic factors encouraging the informal recycling of e-waste**

Amongst the Local recyclers, the driving force for continuous informal recycling practices despite the inherent health hazards is the lucrative nature it presents. When asked if scavenging in e-waste was lucrative because of the availability of a market, 90% of the respondents agreed that there was a ready market for electronic waste, thus the need to scavenge as a means of livelihood. Though 9% of them disagreed, this response reinforces that scavenging was a lucrative and important means of income. As declared by one of the respondents during the process of administering the questionnaire, the fact that there was a ready market for the scavenged e-waste made up for the hazards inherent in e-waste. Electronic Importers, Electronic Repairers and Computer and Photocopying services however disagree, confirming that they were not involved in the process of scavenging e-waste in any way.

#### **Low environmental awareness**

Generally, besides the monthly and sometimes weekly sanitation exercise imposed by state laws, most people in Mumbai do not have knowledge of environmental laws. This can be attributed to lack of education or access to such information, lack of promotional campaigns to raise environmental awareness as well as the inability to enforce such laws when the need arises. To ascertain the level of consciousness on environmental laws, respondents were asked questions on Government policy awareness (see Table 5.11 and Table 5.12). E-waste Govt Policy awareness

**Table 5.10: E-waste Govt policy awareness by occupation**

			Is there is a national government policy against mixing up e-waste with other waste?		Total
			Disagree	Agree	
Occupation	Electronic Importers	Count	17	4	21
		% within Occupation	81.0%	19.0%	100.0%
	Electronic Repairers	Count	27	0	27
		% within Occupation	100.0%	0.0%	100.0%
	Computer and photocopying services	Count	20	0	20
		% within Occupation	100.0%	0.0%	100.0%
	Local Recyclers (waste scavenging)	Count	31	1	32
		% within Occupation	96.9%	3.1%	100.0%
Total	Count	95	5	100	
	% within Occupation	95.0%	5.0%	100.0%	

Despite the challenges and environmental hazards faced by respondents in this study, e-waste still proves to be a favorable alternative source of income. The availability of a market such as national consumption as well as export to neighboring countries for the refurbished electronic devices and the extracted materials from informal recycling ensures that this trade will continue. Of the four professions, the Local Recyclers (waste scavenging) were actively involved in scavenging and manual recycling. While the Electronic Repairers were more actively involved in refurbishing broken down electronic devices purchased from the Electronic Importers. Socio-economic factors influencing the presence of e-waste was attributed to low environmental awareness, which included the lack of knowledge on foreign and local policies. It was obvious from the responses to the interview questions that knowledge on environmental policies depends on whether the respondents were directly affected by these policies (national and foreign) or not. It can be seen from the result analysis that the complex interdependence of each profession on e-waste as well as on the activities they perform individually creates a symbiotic relationship. This relationship between the groups is further strengthened by the economic value each profession derives from interacting with e-waste as well as the health hazards they face on varying degrees.

## 6. CONCLUSION

It is no secret that 'second hand' electronic devices and e-waste does play a significant role in the economy of Mumbai as well as in the areas of the neighboring cities. Embarking on an effective e-waste management scheme will involve taking into consideration the impact it will have on the professions that depend on it for a living as well as the city who depend on it for provision of IT. The stakeholders in this study are quite aware of the health hazards inherent in their daily interaction with e-waste. In their opinion, the need to ensure a steady stream of income far outweighs the health hazards they face. A closer look at the situation shows that there are barriers inherent in the management of e-waste that needs to be carefully considered in designing an effective management system. These barriers can only be addressed if the gap between environmental policies and the subsequent implementation of it is critically examined. However, this cannot happen in a vacuum. It is essential that the stakeholders involved be included in the considerations as they play a pivotal role.

A proactive approach devoid of lip service is needed in dealing with environmental issues arising from the current management practices in the electronic industry; especially in relation to the minimal utilization of hazardous materials in the manufacture of electronic devices and overall improvement in product design. As at June 20<sup>th</sup>, 2012, Techcrunch, a web based technology outfit, reports that the new iPhone 5 is likely to be released sometime in September, 2012; which implies the 'throw away' syndrome is getting more intense as industries race to provide more

Sophisticated devices for consumers. What happens to the iPhone 4S which is less than 2 years old? Of course these devices enable smooth upgrades to higher versions but devices such as the desktop computer that are rapidly becoming less popular are usually changed in sets. It is quite evident that there is need to revisit international policies regarding the consumption and discard of electronic devices. As discussed in the previous section, Nigeria has no problems coming up with legislations or framework to address the problems of e-waste, what is lacking is the political and legislative will to strictly enforce the laws to ensure that only healthy electronics are allowed into the borders of the country.

There is also the critical need to encourage indigenous growth in the IT sector as well as establish a formal recycling plant where collaboration with the informal recycling sector will be taken into considerations. The electronic industry is an important industry in any economy. It is not only a vehicle for rapid income and development; it is also a potential threat to global ecosystem if effective systems are not put in place to address the waste it produces.

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Ewaste\_management\_in\_Mumbai\_metropolitan\_region\_Constraints\_and\_opportunities



## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### THE IMPACT OF SUSTAINABLE HUMAN RESOURCE MANAGEMENT AND ROLE OF HR IN ACHIEVING A SUSTAINABLE

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**Abstract:** The term sustainable development is concerned with meeting the needs of people today without compromising the ability of future generations to meet their own needs. It involves a broad view of social, environmental and economic outcomes. A paradigm shift is evolving in people management policies and practices that aim to integrate HRM with sustainability. Organizations are increasingly taking responsibility for individual and organizational behavioral outcomes for the creation of a sustainable eco-system. The paper suggests and recommends the concept of sustainable HRM, understand the potential factors that affect sustainable HRM, identify the possible consequences of following sustainable HRM practices and envision the future of sustainable HRM. The paper strongly argues leadership's responsibility to the frame of sustainability and employee's responsibility to understand the strategy for pursuing sustainability as means of achieving management objectives, the threats associated with ignoring sustainability, and the opportunities it presents for business improvements.

**Key Words:** Human resource management, sustainability and employee's performance

#### 1. INTRODUCTION

In 1987, the Brundtland Commission, chaired by Norwegian Prime Minister Brundtland, defined sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." Companies are increasingly hiring (or appointing from within) a Sustainability Coordinator. It is this individual's goal to increase the focus on sustainability among the organization's executives, managers, and employees. (Here, sustainability refers to focusing on meeting the needs of both the employees and the community, in order to better protect the environment.) In many organizations, the Sustainability Coordinator has a strong background in technical, environmental, safety, and/or scientific areas. This person might not possess the behavioral competencies to change the employees' and managers' attitudes and behavior to focus more on sustainability. Many Sustainability Coordinators have expressed a deep sense of frustration that their organization has not progressed far enough, fast enough (Walker, 2008). One individual who could become a very helpful partner to the Sustainability Coordinator is the organization's Human Resource executive. The way that this is often achieved is by including the HR executive on the organization's cross-functional Sustainability Council. This idea might be considered a new area of focus for the practical implementation of sustainable development in a company. The Sustainability Council could focus on both social programs (i.e. programs for both the employees and the community), and environmental initiatives. The Triple Bottom Line is frequently summed up by the 3 P's: People, Planet, and Profits (Bolch, 2008; T+D cover and Laff, Feb. 2009). The idea is that if the management of a company hires capable people and then treats them well, then those employees will be more inclined to take better care of the planet (while taking excellent care of the customers!), and if they plan this well, it should lead to higher profits. As such, the concept of sustainability used herein incorporates both social and environmental initiatives leading to financial development (e.g. Jalil, 2010). There is a growing body of evidence that suggests that if management wants the employees to make a significant discretionary effort to help protect the environment, then management should put their employees first and create a "people first" employer-of-choice culture (e.g. Sroufe, Liebowitz, & Sivasubramaniam, 2010). The employees' organizational citizenship behavior will more likely be forthcoming when they truly feel supported by management and the business owners. When employees do not feel supported [www.ccsenet.org/jsd](http://www.ccsenet.org/jsd) Journal of

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by their management, they will generally do barely enough to get by. Research increasingly suggests that a supportive senior management leads to greater employee engagement, while an unsupportive management leads to employee disengagement (Ketter, 2008). It is recommended that management make a proactive effort to show their support for their employees, in order for those employees to be motivated and engaged enough to voluntarily take the extra steps to recycle their items, to suggest ways that the company can conserve resources, and to brainstorm new product ideas that protect the environment. Valero Energy's web-site, for example, states that "Our employees are our No. 1 asset." (Note 1) Shell's web-site lists Honesty, Integrity, and Respect for People as their core values. (Note 2) Many companies that are creating a sustainability focus are realizing that they will be more successful if they first demonstrate the philosophy that their employees are an essential source of competitive advantage. As suggested by Laurence Fink, "many organizations are now realizing that their intangible people assets may provide one of the last sources of strategic competitive advantage" (2006, p. 71). In fact, O'Toole and Lawler (2008) assert that companies are short changing their shareholders by not differentiating themselves from their competitors by creating an employee-oriented, high involvement work environment. It is not surprising that the companies that are becoming known for their corporate social responsibility efforts are frequently the same companies that are known for being an employer of choice (Caldwell, 2008). (Note 3) The Human Resource Department of a company has the capability to play a significant role in the creation of their company's sustainability culture (Harmon, Fairfield & Wirtenberg, 2010; Wirtenberg, Harmon, Russell, & Fairfield, 2007). (This assumes that the organization's senior HR executive would like to help the organization become a better steward of the environment. There is a rapidly growing body of literature in the HR field on the topic of sustainability, suggesting that more and more HR executives are interested in helping their organization to become a better environmental steward.) It is surprising that many senior executives do not think to ask the HR staff to help improve their organization's culture. The HR staff is likely to be the only department that is professionally trained to change the attitudes and behaviours of the executives, managers, and employees, by modifying their many Human Resource systems. As such, in many successful organizations, the HR Department is "the keeper of the culture." They possess the knowledge and skills to take the organization's mission, vision, and values, and reinforce a strong, values-driven organizational culture with their many Human Resource systems. Such an approach has been implemented successfully in many companies that wanted to create, for example, a Total Quality culture (e.g. Blackburn, 1993; Ulrich, 1993). Modern HR executives are different than the old Personnel administrators. They have a better understanding of the business and the industry. Then, they utilize a Strategic HR, Human Capital Management approach to successfully implement the change management effort needed to create the new environmentally-oriented work environment. Those HR Departments that take a comprehensive approach, by addressing many of the HR systems described below, are more likely to achieve success in creating a sustainability culture (Daily, & Huang, 2001), which can lead to financial success for the business. Recent research suggests that a comprehensive HR approach can lead to more successful environmental initiatives in companies (Martin-Tapia, Aragon-Correa, & Llamas-Sanchez, 2008). It is not likely to be sufficient if only one or two HR systems are changed. Many HR systems need to be changed in order to create the new environmentally-oriented organizational culture. According to AdineMees and Jamie Bunham at the Canadian Business for Social Responsibility, "CSR minus HR is just PR!" (Note 4) As such, the first step in creating a sustainability culture is for the Sustainability Coordinator and the HR executive to obtain senior management support.

## **2. SUSTAINABILITY IN HUMAN RESOURCE MANAGEMENT**

Thom and Zaugg (2004) defined Sustainable Development in HRM as, "those long-term leaning concrete approaches and actions aimed at a collectively conscientious and cost-effectively appropriate recruitment and selection, development, operation, and release of employees." Thus sustainability in HRM is considered more as a cross functional tool for avoiding issues related to organizational change, job insecurity, lack of efficiency in performance, inadequate training, compensation issue, scarcity of skilled human resource, etc. Thom also suggested three major goals of HR department which are important to achieve sustainable development they are; Human Resource Advancement, Positive Reward System, and Developing Organizational culture which strive for sustainable development.

### **2.1. Human Resource Advancement**

To improve individual and group performance and to achieve competence and productivity levels trainings are common tools which can be used. Through advancement of human resource an organization can meet its strategic goals, acquire and retain employees. Thus, organization should focus on creating ladders for employees towards their personal growth which ultimately aims to growth of organization.

### **2.2. Developing a Positive Reward System**

Need and process theories of motivation explains about the factors which motivate employees and the way through which this can be achieved. Reward system is one of the effective way to motivate personnel. This gives boost to

performance; increases work enthusiasm and excitement and create healthy competition. This also works as a tool to prepare career path of employee. Reward system can be based on monetary or non-monetary factors depending upon the objective.

### **2.3. Organizational Culture**

Bro Uttal (1983) defined organization culture as “a system of shared values (what is important) and beliefs (how things work) that interact with a company’s people, organization structures, and control systems to produce behavioral norms (the way we do things around here).” Parker (2000) declares that employees drive pleasure in commanding themselves or each other it give them sense of fulfilment. The manager’s task is considered to be the design of favorable culture that can trigger performance and employee can cope with. The approach of cultural theories is seen peculiar in areas in which direct control and guidance mechanisms are disadvantageous to both employees and organizational owners (Parker, 2000).

### **3. ORGANIZATIONAL PERFORMANCE**

Performance is “the action or process of performing a task or function.” It is the transformation of organization’s input into desired or (sometimes) undesired output. Based on performance an organization can understand the achievement of goals as well as performance gaps helps organization to know the weak areas. Organization’s performance can be measure through three main areas: financial performance, market performance and shareholder value performance. Sustainable development through HR practices and policies helps organization to achieve these goals.

### **4. SENIOR MANAGEMENT SUPPORT**

If senior management has not yet decided that the benefits of sustainability are worth pursuing, then the HR executive and the Sustainability Coordinator can provide them with information demonstrating the benefits of a sustainability strategy. Senior management and the company owners need to see evidence that a sustainability culture will lead to lower costs and higher sales. Once management has chosen sustainability to be an area of focus or a core value, then the Human Resource professionals (with advice from the Sustainability Coordinator) can modify the many HR systems to create the strong, values-driven culture. Ulrich, Brockbank, and Johnson make the point that many HR systems need to be aligned with each other in order to increase the likelihood that the organization will achieve its strategy (2009).

### **5. HUMAN RESOURCE SYSTEMS**

#### **5.1 Recruiting**

Employees need to be able to trust management that the company will first seek to recruit internally before looking externally. It is not unusual to have a situation in which a seasoned employee believes he/she is ready to be promoted, and then the company brings in someone from the outside to fill that position, which is then disheartening for the seasoned employee. Management would need to have career plans for their people, much as a chess player envisions several chess moves into the future. There needs to be enough time to train and develop current employees for them to transition into their new roles, be they lateral transfers or vertical promotions. [www.ccsenet.org/jsd](http://www.ccsenet.org/jsd) Journal of Sustainable Development Vol. 3, No. 4; December 2010 52 ISSN 1913-9063 E-ISSN 1913-9071 Only when there are no internal people near ready to move into a new role should the organization look to recruit externally to find those with the desired skill set.

The HR staff can explain in their external recruiting messages that they are looking for people with strong teamwork and collaboration skills (Goleman, 2010; Johansson, 2006), as these skills are needed to brainstorm product and service ideas in the “sustainability sweet spot” of doing good and doing well (Savitz, 2006).

Recruiters can also explain that they are looking for applicants who care about protecting the environment. There is growing indication that the younger generations of employees (Generation X and Generation Y) increasingly prefer to work for a company that includes a focus on the environment among its core values (SHRM, 2008).

#### **5.2 Employee Selection**

The HR staff also can screen applicants more carefully for their people skills to identify those with strong teamwork skills and collaboration skills, those with a desire to protect our natural resources and decrease pollution, and those who are adaptable to change, who are inclined to take risks and experiment to find creative solutions to complex problems. Behavioral interviewing questions (Note 9) should be developed to assess the applicant’s values and people skills. Management should refrain from hiring applicants who possess only strong technical skills, while lacking the important people skills. At Aveda, a cosmetics company, applicants are informed about the company’s environmental mission and how it permeates their business strategy. This way, the candidates can determine if their values will fit the company’s values (Jarventaus, 2007).

#### **5.3 New Employee Orientation**

During the onboarding process, new employees should be informed of the company's core values and environmental programs. The best time to make an impression on employees is at the beginning when they are first hired. New employees can be taken on tours to see the company's nearby environmental projects. That would certainly foster a sense of pride in their new employer. Clif Bar, for example, incorporates an explanation of the company's many environmental projects in their orientation program (Fox, 2008). At Toyota Motor Sales USA, new employee orientation includes presentations on the company's environmental programs (Jarventa, 2007). Management should also explain to the new employees how the company's core values are incorporated into the performance appraisal and compensation systems. For example, the Port of Houston's Environmental Affairs Department created an Environmental Compliance Policy that is the foundation of the port's commitment to pollution prevention, environmental compliance and continual improvement. The policy is communicated to all employees during their new employee orientation.

#### **5.4 Training & Development**

The HR Department can offer leadership development workshops to help managers develop their "front wheel" soft, people skills, or behavioral competencies, in teamwork, diversity, managing change, and collaboration. As Savitz suggests, company negotiators can learn that instead of viewing complaints from various stakeholder groups as threats, they should view those complaints as "gifts" which, if addressed, can enable the company to become much more profitable. Similarly, instead of just thinking, "How can we minimize this problem?" Company negotiators should be thinking, "How can we gain by addressing this problem?" That would be the way to identify the sustainability sweet spot. More and more people are passionate about environmental stewardship, and appreciate the opportunity to obtain training in this area. Employees should have access to workshops and conferences on "back wheel" technical, ecologically-friendly (eco-friendly) topics, such as recycling, green building materials, energy conservation, and waste reduction. For example, Esty and Winston noted in their book, *Green to Gold*, that, at Rio Tinto Alcan, all employees and all of the top 800 managers, including the CEO, take a four-day training program on environmental, health and safety issues. Andrew Hoffman, in his book, *Competitive Environmental Strategy*, recommends that managers be taught how to prepare a Return on Investment cost-benefit analysis of an environmental initiative. An ROI analysis of dollars saved by the initiative, as compared to the dollars spent to implement the initiative, would be more likely to garner the attention of senior management.

#### **5.5 Performance Management**

Managers need to get into the habit of talking with each of their employees about their performance all throughout the year, not just at annual appraisal rating time. Informal feedback from the manager throughout the year can help the employee to continuously grow, change, and improve.

The HR staff should modify the performance appraisal rating system to include dimensions for rating people on the following behavioral and technical competencies: Teamwork, Collaboration, Diversity, Innovation, and Environmental Stewardship. Such competencies would reinforce the company's core values. For example, PPG has a comprehensive model of competencies that they call Success Factors (e.g. Promote Teamwork, Resolve Conflict, Drive Change). Employees are rated on the Success Factors, and then they have opportunities to strengthen various factors via training and development programs. (Note 11) Relatively few companies include Environmental Stewardship as a dimension on their performance appraisal rating forms. This could be a real opportunity for management to use the performance appraisal system to reinforce the desired culture.

Another area to address involves goal setting. Identifying a specific, challenging goal is the first step to achieving it.

#### **5.6 Compensation – Reward and Recognition Programs**

Senior management should be encouraged to publicize the employees' successful sustainability initiatives (Bhattacharya, Sen, & Korschun, 2008). As suggested by Ashok Gupta, companies need to design energy efficient products and processes, and devise incentives to accelerate their acceptance (2008, p. 4). At IT Services Company, Logical, management is careful not to issue edicts on how staff had better behave. Rather, the focus is on creating an environment in which the employees will want to act in an environmentally-friendly way

#### **5.7 Job Security**

The HR staff should impress upon management the need to provide employees with job security if at all possible. Employees are not likely to offer their creative ideas if they do not trust management. If they believe that they will be laid off as a result of their own efficiency-improving suggestion, then they will not offer any such suggestions. Many of the best companies to work for have a policy of avoiding layoffs if possible.

#### **5.8 Succession Planning**

The HR staff can formalize the succession planning system, making note that to be considered for promotion into management, candidates must possess (or develop) teamwork, collaboration, empowerment, delegation, diversity,



innovation, and environmental stewardship competencies. Managerial candidates would need to be assessed on these behavioral and technical competencies. This could be done by using upward feedback surveys, 360-degree surveys (Note 17), personality tests, and/or assessment centers. People should not be promoted prematurely into leadership roles without these critical competencies. As an alternative, individuals, who possess strong, valuable scientific and technical skills, but lack strong people skills, should have access to promotional opportunities via a dual career ladder. Such an alternate career path could provide scientists with the status and income of a managerial executive, without the responsibility for managing other people.

### **5.9 Mentoring**

Before a person retires, it is important for the outgoing individual to work with the incoming individual for a period of time. In too many organizations, the incoming individual doesn't begin the job until months after the outgoing individual has quit or retired. It would be very advantageous if there was a smoother passing of the baton. If at all possible, the new incoming person should be able to work with the senior, outgoing person for closer to one year. The outgoing individual possesses so much valuable knowledge; it is a shame when that person leaves without passing all that knowledge on to the new person. The mentoring program should be formalized (Warner, 2002) to help the mentees, or protégés, develop their teamwork, collaboration, innovation, empowerment, delegation, diversity, and environmental stewardship competencies. Formal mentoring programs have been successful in developing up-and-comers faster and more effectively, especially those mentees from under-represented demographic groups. Actually, there are also benefits to be gained by the mentors, who learn new perspectives (often regarding new technology) from their mentees.

### **5.10 Innovation**

The HR staff can also recommend to management that they create various policies to enable employee to develop their innovative creative ideas. A culture needs to be created in which employees are comfortable taking risks and experimenting. This might involve redesigning the physical layout of the buildings to provide more spaces for impromptu group meetings. It could involve creating small budgets to support sustainability projects that employees are working on. It might be encouraging the formation of cross-functional sustainability taskforces. Such task forces could meet monthly face-to-face, or they could meet virtually. Employees should be encouraged to include external stakeholder group representatives on their task forces. Google, following in the footsteps of 3M and Genentech (Frauenhymeim, 2006; Mediratta, 2007), has a 20 percent policy, allowing their engineers to spend up to about 20-percent of their time working on pet projects, so that they are free to work on what they are really passionate about.

### **5.11 Collaboration**

The HR staff can help ensure that employees and managers possess strong collaboration and negotiation skills, by either screening applicants for those skills, or by providing training on the topic. Procter & Gamble's web-site states that innovation is P&G's lifeblood. One of their programs promoting innovation is called Connect + [www.ccsenet.org/jsd](http://www.ccsenet.org/jsd) Journal of Sustainable Development Vol. 3, No. 4; December 2010 Published by Canadian Centre of Science and Education 55

Develop, to encourage employees to connect with people outside the company to brainstorm new product ideas. Their recently retired CEO, A.G. Lafley, stated, we want P&G to be known as the company that collaborates —inside and out — better than any other company in the world. Their new CEO, Bob McDonald says that Connect+ Develop is at the heart of how P&G innovates.

## **6. CONCLUSION AND RECOMMENDATIONS**

The recommendations in this article might be considered a new area of focus for the practical implementation of sustainable development in a company. Obviously, there are a plethora of roadblocks that could stall an organization's sustainability effort. The lack of top management support, insufficient resources, an inability to obtain buy-in from employees, and insufficient collaboration among departments can all lead to failure, temporarily. However, perseverance can ultimately lead to success. It truly requires a comprehensive approach to managing change. Following the guidelines offered in this article can frequently move the organization along the path to sustainability. When companies are able to reduce their costs, and increase their sales via their sustainability initiatives, the surrounding communities benefit. Not only are there decreases in water and air pollution, but when the companies are financially healthier, there is less of a need for layoffs and unemployment compensation, the local tax base is greater, people have more spending money, and that supports increases in regional commercial development.

To the extent that general managers, Sustainability Coordinators, and Human Resource executives can take a comprehensive, Strategic HR approach by incorporating many of the components described above, their organization can achieve a sustainability culture, leading to sustainable financial success for the organization, and for the surrounding community.



Organizations should articulate their sustainable HRM clearly, if possible explicitly in codified form. For example, this could be done by publishing the sustainable HRM in the employee's handbook, on the company website or through any suitable media. Every individual has different culture and beliefs that govern the way he works, and when he joins an organization that has a completely different culture and set of beliefs from his own, he should be allowed to internalize himself first with the organization's culture and values to know whether he can cope with them or not. It is the ability of the employee to cope with the organization's culture that will determine how well he will perform on his job. This is an important factor to consider especially during the employee's probationary period. In the event where a change is necessary in the organizational culture, employees must first of all be notified beforehand and made to learn the change of the new culture as this will affect their performance. Sustainable HRM must be binding on all members of the organization as this will encourage uniformity among members of the organization and thus enhance commitment and group efficiency. This includes taking an oath of allegiance and signing duties and obligation schedules. Organizational leaders should align the culture of their respective organizations with sustainable human resource management to avoid contradiction in the way things are done. This can be carried out through the review of the performance appraisal tools and system, where any oversight will be duly tackled. Organizational performance should be evaluated with reference to organizational culture and human resource management practice through holistic adherence to performance standards and the use of relevant appraisal tools. Human resource managers and employees should immediately report about any values or norms of the organization that are found to be outdated or counterproductive, in order to achieve expected outcomes more easily and to avoid the impediment of organizational objectives.

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

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P.L.Lokhande marg, Chembur (W), Mumbai, India,

### A Study on Green Banking In Mumbai City

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**Abstract:** Present paper has made an effort towards explaining the importance of green banking. The concern for environment has given rise to green banking. The concept of green banking is contributing not only to banking industry it is also contributing to economy of the country. It is more conscious about environmental friendly activity. Green banking mainly has taken birth for the sustainable development which is contributing for future generation. Green banking is a global effort. In this effort banks and other financial institution plays very important role to make our planet a better place to live for present as well as future. Green banking is an initiative made by India's commercial bank. The products and services offered by green banks are little different as compared to other banks. Green banks reduce carbon footprints from banking activities. Today we see every sector of the world economy is talking about environment and taking initiative towards it. It is necessary to identify various initiatives on the concept of green banking to make the customer environment friendly. The paper tries to understand various initiatives taken by commercial bank by adopting green banking.

**Key words:** Green banking, Sustainable development, Carbon footprints, Environment.

#### 1. INTRODUCTION

Banking sector is one of the major sources of financing investment for commercial projects. So it is one of the most important economic activities for economic growth of the country. The new concept used by banking industry for sustainable development of country is called **GREEN BANKING**. Green banking means promoting environmental friendly practices and reducing carbon footprints. Green banking is like normal banking which considers all social and environmental factors. In simple words we can say that "green banking is a banking activity which took birth with an aim to protect environment". Like other bank green banks are also controlled by same authorities but with an additional agenda to protect environment. Using online banking instead of branch banking is green banking. Green banking is also called as sustainable banking. Some products of green bank are mobile banking, green saving account, internet banking etc.

#### 2. OBJECTIVE

- 2.1. To identify the benefits and drawbacks of green banking.
- 2.2. To identify initiative taken by one public and one private bank for development of green banking.
- 2.3. To study about different banking products encouraging green banking.
- 2.4. To create awareness among public about use of green banking.

#### 3. STATEMENT OF THE PROBLEM

Green banking has taken place in the economy because of increasing pollution in the environment. By introducing green banking activity instead of branch banking will reduce the pollution. The banking is also a very effective measure for saving tree because if the paper work will be less than the cutting of tree will also be less, so in this context the present paper tries to analyze the different initiative taken by authorities to promote green banking.

#### 4. RESEARCH METHODOLOGY

Descriptive research method is used for this study. The source of data is secondary and primary data both. The secondary data is collected from different sources such as various website, banking related book, published reports and other research papers. The primary data collected from the sample respondent collected through interview method and observation method. Samples of fifty respondents are used. Semi structured questionnaire is used to collect the information from the sample respondent.

## 5. BENEFITS OF GREEN BANKING

- 5.1. **Less paper work** – Green banking means ethical banking. Where the main focus is on environmental friendly activities. They avoid paper work as much possible. They prefer mostly doing online or electronic transaction. Online or electronic transaction means no paper work, no paper work means less cutting of tree which is benefit for environment and contributing towards sustainable development.
- 5.2. **Time saving and reduction of carbon footprints** – Green banking also benefit us with time saving. Electronic or online banking is a banking activity which can be done by sitting anyplace. Green banking promotes online banking instead of branch banking. Branch banking means waiting in a long queue and doing banking activity which consume more time. Here green banking allow you to perform online banking which saves time and reduce carbon footprints as well.
- 5.3. **Low interest rate** – Types of loan awarded under the category of green banking, the rate of interest on that is comparatively less with normal banks because there main focus is on environmental friendly practices. Natural resource conservation is also important factor kept in mind while granting loans.
- 5.4. **24 x 7 banking** – Green banking promotes online banking instead of branch banking. Branch banking has got some working time limit. But online banking is available 24 x 7. 24 x 7 means banking transaction or activity can be done any time beyond the bank working hours. The transaction using electronic means is much faster compared to branch banking.
- 5.5. **Customer satisfaction**– Green banking provide customer satisfaction as well. By performing green banking customers are contributing towards environment and also saving their own time from visiting physical bank branch. This activity provides satisfaction to customers.

## 6. DRAWBACKS OF GREEN BANKING

- 6.1. **Complication** – Green banking prefer online banking instead of branch banking. For doing online banking person should visit banks website and do online banking. For doing online banking there are some steps involved in the banks website. Sometimes it may create complication for people who are doing online activity first time due too many difficult step involved in it. People require time to be comfortable with it.
- 6.2. **Security concern** – Online banking involve different types of security threats. Even in todays improved technology, banking transaction through electronic means has been encrypted still the cyber threat remains. Cyber threats like Hacking, Phishing etc., Is a reason behind less number of green banking users.
- 6.3. **No face to face interaction** – In green banking there is no face to face interaction between bank and customer. If customer wants any information regarding any of his or her banking activity, the information should get through customer care service where no face to face relation is maintained. In this case customers hesitate to the activity and prefer doing branch banking.
- 6.4. **Technological errors** – Online banking occurs lots of technological errors. Due to frequent users banks website may slow down or sometimes it may completely stop working. This technological error cause barrier in the performance of banking activity through online or electronic means.

## 7. INITIATIVE TAKEN BY PUBLIC BANK TOWARDS GREEN BANKING.

### State bank of India

- In the year 2010 July 1, SBI (state bank of India) took its first step towards green banking by installing green channel counter
- In 7052 branches green channel counter is available.
- SBI is the first bank in the country to set Tamil green power.
- The annual report of the bank given to shareholders is in electronic form rather than in physical form.
- The average number of daily transaction carried on through green channel counter is 10,000.
- SBI also encourage its shareholders towards charity by contributing nominal sum to children's welfare fund.
- SBI has undertaken tree plantation program during monsoon and more than 40,000 trees were planted during three years.
- In number of bank building, rainwater harvesting project has been implemented.

## 8. INITIATIVE TAKEN BY PRIVATE BANK TOWARDS GREEN BANKING

### ICICI bank

- ICICI bank has made variety of services available for customer under one roof by adopting green banking activity.
- They have introduced different types of banking products and services which can be accessed by sitting at home which reduce internal carbon footprints of the customer.
- ICICI bank has set up fully electronic branch where all banking activities can be done electronically.
- More than two thousand annual reports have been sent in electronic form which saved more than 60 tonnes of papers.
- Bank also launched 'GO SOCIAL' campaign, where employee or individual posted their green initiative pictures on social networking sites like Facebook, twitter etc. and spread the message of green banking.
- ICICI always encouraged the customer about online activity like online bill paying, online credit card bill pay etc.
- Automatic passbook printing system was also introduced.

## 9. TYPES OF BANKING PRODUCT ENCOURAGING GREEN BANKING

- **DEMAT account** – DEMAT account is an account physical form of share certificate are moving to electronic form. Now a days every transaction of shares take place through DEMAT account. The introduction of DEMAT account benefited only the shareholders but also the environment by reducing the use of paper. The introduction of DEMAT is really a good step towards green banking.
- **Solar powered ATM** – Solar powered ATM are mostly located in rural areas. It is an ATM designed to enable low cost model ATM for delivering banking services in rural area. This ATM is eco-friendly ATM. This ATM reduce the branch banking activity in rural area because comparing with conventional ATM, solar ATM are very easy and convenient for people who are illiterate or less literate.
- **Mobile banking** – Mobile banking is a banking activity done through mobile phone by sitting at a place. It is also called anytime anywhere banking. Mobile banking has contributed a lot towards environment, by reducing paper and internal carbon foot prints. Basic requirement for mobile banking is a mobile phone with internet connection.
- **Green mortgages** – Green mortgages is a facility given under green banking. In this green mortgage facility individual customer can get lower interest rate on green loan as compared to market. These loans are available for those who are ready to purchase energy efficient homes or investment in energy efficient appliances'.
- **Green card** – Green card include debit card and credit card connected to environmental activities. Green card offered by credit card company or bank contribute towards NGO performing environmental activity. Approximately one-half percent of every transaction done by card owner using green card contribute towards green banking.

### Green banking awareness among sample respondents in underdeveloped area

Awareness about green banking	yes	no
Online bill payment	20	30
Internet banking	22	28
Online account opening	25	25
Cash deposit machine	19	31
Solar ATM	8	42

Above table shows the response about green banking among sample respondents. In the above table we can see that public have very less awareness about green banking or use of technology in banking activity. They still prefer doing branch banking. Some of the reasons given by sample respondents are security threats, lack of awareness about the introduction of new technology etc. According to them still some banks are lacking behind from providing this facility.

## 10.FINDINGS

- Among 50 sample respondents 80% are females and 20% are males.
- Among 80% of females i.e. 40 ladies, 60% are aware about online bill payment.

- Among 20% of males i.e. 10 gents 80% aware about online bill payment and Online account opening.
- Most common thing seen among the sample respondent who are aware about this technology is that, they are aware about this initiatives but cannot use it due to lack of operating knowledge.
- According to sample respondents steps involved in online account opening is little complicated.
- Among the entire sample respondent, very rare people know about solar ATM.

## **11. CONCLUSION**

Indian banks and financial institution are playing important role in sustainable development. Both public and private banks are creating awareness about green banking. Banks are introducing new products and services to make banking activity easier. Indian banks are working hard to attain green banking than foreign banks. It is a very effective step towards the sustainable development of the country. Bank should encourage customer towards green banking.

## **12. SUGGESTION**

- Bank should organize green banking awareness camps at least once in a year.
- Bank should organize tree plantation camp for employees.
- Bank should provide additional facilities for those customers who are performing green banking.
- The complicated steps involved in online banking should remove or if can't remove completely then at least steps can be made easier.
- Bank should conduct special seminars on green banking for their customers.
- Bank should have a department only dealing with green banking.
- The interest of customers should be protected by introducing advance security measures while performing internet banking and mobile banking.

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6. foundation course – 3 Manan Prakashan



## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Importance of Hazardous Waste Management

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**Abstract:** Hazardous waste is broadly defined as solid wastes that because of their physical and/or chemical characteristics pose a risk to human health and the environment such that they merit special management. The main objective of hazardous waste management is to Reduce the amount of hazardous wastes generated in the first place stimulate and to promote "waste exchange": The hazardous waste is the processed with the methods such as Biological oxidation Chemical precipitation, oxidation- reduction, Ion exchange, Carbon adsorption, Membrane separation to reduce the toxicity of the waste. Proper handling and disposal of hazardous waste is critical to employee safety and environmental compliance and this is the main importance of hazardous waste management. For proper hazardous waste management, the containers which are used for storage must be standard quality and references to maintain safety in handling. A hazardous waste container is any portable device in which a hazardous waste is stored, transported, treated, disposed, or otherwise handled. The most common hazardous waste container is the 55-gallon drum. The main conclusion of the paper is that all studies related to this matter indicate that the hazardous wastes situation in India is grim. Thus, there is an urgent need for formulating proper hazardous waste management strategies, implementation of hazardous wastes management regulations and establishment of proper hazardous waste treatment and disposal facilities for controlling the unscientific disposal of hazardous wastes.

**Keywords:** Hazardous, Incineration, Neutralization, Environment, Toxic

## 1. INTRODUCTION

### Definition of Hazardous Waste:

"Any solid waste, other than radioactive wastes, which by reasons of physical and/or chemical or reactive or toxic, explosive, corrosive or other characteristics causing danger or likely to cause danger to health or environment whether alone or when coming in contact with other waste or environment."

**Hazardous-waste management**, the collection, treatment, and disposal of waste material that, when improperly handled, can cause substantial harm to human health and safety or to the environment. Hazardous wastes can take the form of solids, liquids, sludges, or contained gases, and they are generated primarily by chemical production, manufacturing and other industrial activities. They may cause damage during inadequate storage, transportation, treatment, or disposal operations. Improper hazardous-waste storage or disposal frequently contaminates surface and groundwater supplies. People living in homes built near old and abandoned water disposal sites may be in a particularly vulnerable position. In an effort to remedy existing problems and to prevent future harm from hazardous wastes, governments closely regulate the practice of hazardous-waste management.

## 2. CLASSIFICATION

### Classification of hazardous Waste

- Specific type of wastes from nonspecific sources.
- Specific types of wastes from specific sources.
- Specific substances identified as acute hazardous waste.
- Specific substances identified as hazardous wastes.
- Characteristic wastes.

Examples of the different types of wastes are as follows

1. Specific type of wastes from nonspecific sources: a. halogenated & non-halogenated solvents b. electro-plating sludges c. cyanide solutions from plating batches
2. Specific types of wastes from specific sources; a. oven residue from production of chrome oxide green segments b. brine purification muds from the mercury cell process in chlorine production
3. Specific substances identified as acute hazardous waste: a. potassium silver cyanide, b. toxaphene c. arsenic oxide.
4. Specific substances identified as hazardous wastes e.g. Xylene, DDT, carbon tetrachloride
5. Characteristic wastes: Wastes not specifically identified elsewhere exhibiting properties of: ignitability, corrosivity, reactivity, or toxicity

**Table 1 - Examples of Hazardous Characteristics: Extracted From U.N. Listing (1989)**

U.N. Class Number	Hazardous Characteristic
1	Explosive
3 - 4	Flammable
5	Oxidising
6	Poisonous/Infectious
7	Radioactive
8	Corrosive
9	Toxic (Delayed or Chronic)/Ecotoxic

### 3. OBJECTIVES

- Reduce the amount of hazardous wastes generated in the first place.
- Stimulate "waste exchange":
- Recycle metals, the energy content, and other useful reserve contained in hazardous wastes.
- Detect and negate liquid hazardous waste streams by chemical and biological treatment.
- Destroy combustible hazardous wastes in special high-temperature incinerators equipped with proper pollution control and monitoring systems.
- Dispose of remaining treated residues in specially designed landfills

### 4. TREATMENT OF HAZARDOUS WASTE

Treatment when used in connection with an operation involved in hazardous waste management, means any method, technique, or process, including neutralization or incineration, designed to change the physical, chemical, or biological character or composition of a hazardous waste, so as to neutralize such waste or to render such waste less hazardous, safer for transport, amenable for recovery or reuse, amenable for storage, or reduced in volume. Wastes remain after the implementation of waste minimization must be treated to detoxify and neutralize them. There are large number of treatment technologies available.

- Biological oxidation
- Chemical precipitation, oxidation-reduction
- Ion exchange
- Carbon adsorption
- Membrane separation
- Other/new technologies

#### 4.1. Biological treatment

Synthetic chemical compounds are relatively resistant to biodegradation. Microorganisms that are naturally present often cannot produce the enzymes necessary to degrade complex compounds and these compounds are toxic thus killing the biomass. Co-treatment of industrial and domestic waste with the addition of nutrients in biological systems is often a practical system that has been tested in India as a cheap and effective compared to chemical treatments. Examples of anthropogenic compounds and microorganisms that can degrade

Compound	Organism
Aliphatic (nonhalogenated) Acrylonitrile	Mixed culture of yeast mold, protozoan bacteria
Aliphatic (halogenated) Trichloroethane, trichloroethylene, methyl chloride, methylene chloride	Marine bacteria, soil bacteria, sewage sludge
Aromatic compounds (nonhalogenated) Benzene, 2,6-dinitrotoluene, creosol, phenol	<i>Pseudomonas</i> sp, sewage sludge
Aromatic compounds (halogenated) 1,2-; 2,3-; 1,4-Dichlorobenzene, hexachlorobenzene, trichlorobenzene Pentachlorophenol	Sewage sludge Soil microbes
Polycyclic aromatics (nonhalogenated) Benzo(a)pyrene, naphthalene Benzo(a)anthracene	<i>Cunninghamella elegans</i> <i>Pseudomonas</i>
Polycyclic aromatics (halogenated) PCBs 4-Chlorobiphenyl	<i>Pseudomonas</i> , <i>Flavobacterium</i> Fungi
Pesticides Toxaphene Dieldrin DDT Kepone	<i>Corynebacterium pyrogenes</i> <i>Anaerobic nidulans</i> Sewage sludge, soil bacteria Treatment lagoon sludge
Nitrosamines Dimethylnitrosamine	<i>Rhodospseudomonas</i>
Phthalate esters	<i>Micrococcus</i> 12B

Source: Extracted from Table 1 of H. Kobayashi and B. E. Rittmann, "Microbial Removal of Hazardous Organic Compounds," *Environmental Science and Technology*, vol. 16, p. 173A, 1982.

## 4.2. Chemical treatment

### Neutralisation

Waste acid with an alkali e.g. sulfuric acid with sodium carbonate:  $\text{H}_2\text{SO}_4 + \text{CO}_3^{2-} \rightarrow \text{SO}_4^{2-} + \text{CO}_2 + \text{H}_2\text{O}$

### Oxidation

Using common oxidising substances such as hydrogen peroxide or calcium hypochlorite e.g. cyanide waste with calcium hypochlorite:  $\text{CN} + \text{OCl} \rightarrow \text{OCN} + \text{ClOCN} + \text{H}_3\text{O}^+ \rightarrow \text{CO}_2 + \text{NH}_3$

### Reduction

Used to convert inorganic substances to a less mobile and toxic form e.g. reducing Cr(VI) to Cr(III) by the use of ferrous sulphate:  $14\text{H}^+ + \text{Cr}_2\text{O}_7^{2-} + 6\text{Fe}^{2+} \rightarrow 6\text{Fe}^{3+} + 2\text{Cr}^{3+} + 7\text{H}_2\text{O}$

### Hydrolysis

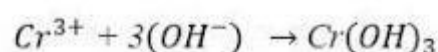
Decomposition of hazardous organic substances e.g. decomposing certain organophosphorus pesticides with sodium hydroxide.

## 4.3. Chemical precipitation

This technique can be applied to almost any liquid waste stream containing a precipitable hazardous constituent. By properly adjusting pH, the solubility of toxic metals can be decreased, leading to the formation of a precipitate that can be removed by settling and filtration. Quite often lime [Ca] or caustic soda is used for precipitation of the metal ions as metal hydroxides. For example the following reaction suggests the use of lime to precipitate the metal as hydroxide.



Chromium is precipitated as hydroxide.



#### 4.4. Ion exchange

Ion exchange is judged to have some potential for the application of interest in situations where it is necessary to remove dissolved inorganic species. However other competing processes - precipitation, flocculation and sedimentation - are broadly applicable to mixed waste streams containing suspended solids and a spectrum of organic and inorganic species. These competing processes also usually are more economical.

#### 4.5. Carbon adsorption

The principal use of vapor phase activated carbon in the environmental field is for the removal of volatile organic compounds such as hydrocarbons, solvents, toxic gases and organic based odors. In addition, chemically impregnated activated carbons can be used to control certain inorganic pollutants such as hydrogen sulphide, mercury, or radon. When properly applied, the adsorption process will remove pollutants for which it is designed, to virtually non-detectable levels. In fact, one of the first large-scale uses of activated carbon was in military gas masks where complete contaminant removal is essential. Carbon adsorption is equally effective on single component emissions as well as complex mixtures of pollutants

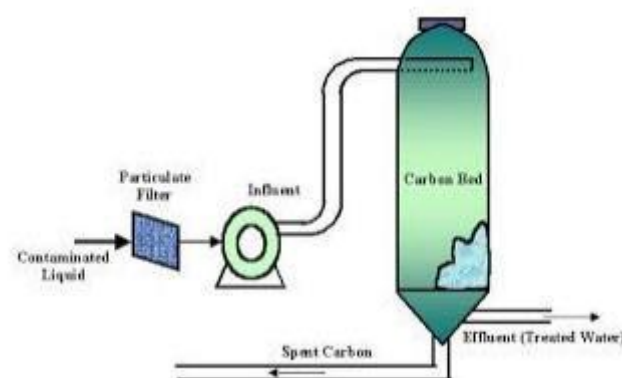


Fig. Typical fixed-bed carbon adsorption system

#### 4.6. Membrane separation: reverse osmosis

Reverse osmosis separation technology is used to remove dissolved impurities from water through the use of a semi-permeable spiral wound membrane. Reverse osmosis involves the reversal of flow through a membrane from high salinity, or a concentrated solution to the high purity, or permeate, stream on the opposite side of the membrane. Your water pressure is used as the driving force for this separation. The applied pressure must be in excess of the osmotic pressure of the dissolved contaminants to allow flow across the membrane. Spiral wound membranes are tightly packed filter material sandwiched between mesh spacers and wrapped in a small diameter tube. The membrane's operating conditions are fine-tuned to balance the flux, or the amount of water which passes through the membrane, with the specific rejection rates of Drinking Water Contaminants up to 99.8%.

#### 4.7. Incineration

An engineering process that employs thermal decomposition via thermal oxidation at high temperatures (800-1600 C) to convert a waste to a lower volume and non-hazardous material. Products from combustion of organic wastes are carbon dioxide, water vapour & inert ash.

### 5. SURFACE STORAGE AND LAND DISPOSAL

Hazardous wastes that are not destroyed by incineration or other chemical processes need to be disposed of properly. For most such wastes, land disposal is the ultimate destination, although it is not an attractive practice, because of the inherent environmental risks involved. Two basic methods of land disposal include landfilling and underground injection. Prior to land disposal, surface storage or containment systems are often employed as a temporary method. Temporary on-site waste storage facilities include open waste piles and ponds or lagoons. New waste piles must be carefully constructed over an impervious base and must comply with regulatory requirements similar to those for landfills. The piles must be protected from wind dispersion or erosion. If leachate is generated, monitoring and control systems must be provided.

### 6. IMPORTANCE OF HAZARDOUS WASTE MANAGEMENT

The improper hazardous waste storage can easily contaminate the soil and underground water supply anywhere near such an environment. People living near a site where waste disposal hasn't been managed properly can be affected in a serious way, reducing their quality of life. To keep this problem under control, waste management services are contracted, many times by the state. These services will operate based on the classification of the wastes found within

an environment, which can either be of biological or chemical nature. These materials will significantly damage the nearby area because in most cases they can be toxic, corrosive, infectious or even radioactive, in which case the environment can become de-stabilised for years to come.

## **7. CONCLUSION**

The industry driven economy of India's has resulted in hazardous waste problems, which are difficult to manage in an environmentally friendly manner. The lack of awareness, improper implementation of principles and laws, absence of proper infrastructure and centralized disposal facilities, and lack of technical and financial resources have led to the unscientific disposal of hazardous wastes posing serious threat to human, animal and plant life.

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**Multidisciplinary National Seminar on  
Sustainable Development: Issues and Challenges**  
17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

## Engineering the sustainable development goals (sdgs) in India

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**Abstract:** The sustainable development goals (SDGs) are a contemporary, universal set of goals, earmarks and indicators that United Nations (UN) member states will be expected to use to frame their agendas and political policies over the next 15 years. Considered as an expansion of Millennium Development Goals (MDGs), which were drawn up by a selected group of men in the basement of UN headquarters, the UN has conducted the largest consultation programme in its history to comprehend opinion on what the SDGs should include. India along with other countries signed the declaration on the 2030 Agenda for Sustainable Development, comprising of seventeen Sustainable Development Goals (SDGs) at the Sustainable Development Summit of the United Nations in September 2015.

**Key Words:** SDGs, United Nations, Government Policy, Social and Economic Development, International Affairs

### 1. INTRODUCTION

*"Where the mind is without fear and the head is held high, where knowledge is free. Where the world has not been broken up into fragments by narrow domestic walls. Where words come out from the depth of truth, where tireless striving stretches its arms toward perfection. Where the clear stream of reason has not lost its way into the dreary desert sand of dead habit. Where the mind is led forward by thee into ever widening thought and action. In to that heaven of freedom, my father, let my Country awake!"*  
(Gitanjali: Rabindranath Tagore)

Father of the Nation, Mahatma Gandhi vocalized, "One must care about the world one will not see". "Indeed, humanity has progressed when it has collectively risen to its obligation to the world and responsibility to the future. We live in an epoch of unprecedented opulence, but also unspeakable deprivation around the world. The goals recognize that economic growth, industrialization, infrastructure, and access to energy provide the foundations of development."<sup>1</sup> Our ancient texts say, "Keep pure! For the Earth is our mother! And we are her children!"

India has a rich cultural bequest which calls our planet- Mother Earth, so it conveys a natural compulsion which comes from its culture, morality and tradition, to attain the sustainable path towards prosperity and growth. Nations have a moral and social responsibility for sustainable development. There is no greater cause than reshaping a world in which every life that enters it can look to a future of security, opportunity, liberty and dignity; and, where we leave our environment in better shape for the next generation.<sup>2</sup> SDGs have the potential to create a world where everyone is held together. The SDGs leans on the WHO constitution mandate: attainment by all peoples of the highest possible level of health.<sup>3</sup> Sustainable Development goals are interpreted as an expanded polishing of the MDGs. SDGs give the nation states a second chance to learn from mistakes and approach indispensable operations by showing them the light in the direction to achieve the universal goal of Social and Economic Development. The SDGs are a bunch of 17 specific goals, highlighting marked focus on important areas related to sustainable development that require urgent and extensive attention at present and in the near future. The SDGs framework undertakes to provide systematic solutions to the obstacles identified in case of the MDGs like inequality, sustainability, institutional resourcefulness, implementation efficacy, environmental deterioration, etc.<sup>4</sup> These goals can only be attained by two methods, First method being the financial inclusion of developing countries which are facing huge income inequalities and Second route being cooperative federalism. The role of State governments is central to implementation of these programmes

<sup>1</sup> Prime Minister Narendra Modi's Statement at the UN summit for the adoption of Post-2015 Development Agenda

<sup>2</sup> [niti.gov.in/content/pmstatement-un-summit-adoption-post-2015-development-agenda](http://niti.gov.in/content/pmstatement-un-summit-adoption-post-2015-development-agenda)

<sup>3</sup> SDGs: Big Agendas, Big Opportunities : The Hindu

<sup>4</sup> RIS – 2016 : India and Sustainable Development Goals

as well as in drafting the SDGs in order to effectively influence all social and economic parameters to achieve the SDGs. It is censorious to launch a global education programme that prepares our next generation to protect and conserve Nature. In this context, the present paper is an attempt to analyze and evaluate how India being one of the most powerful growing economic powers is coping up with the SDGs. Further, the paper also endeavors to identify the ways how SDGs can be engineered to achieve social and economic prosperity, and is also a venture at analyzing the public policies in this regard.

## **2. INDIA AND SUSTAINABLE DEVELOPMENT GOALS**

“Vasudhaiva Kutumbakam”, Vedic Indian phrase meaning 'the world is one family', consolidates the spirit of India's approach to all aspects of life including socio-economic development and foreign policy. India's Voluntary National Review Report on Implementation of Sustainable Development Goals reported, “As the fastest growing major economy of the world, today, India is uniquely placed to deliver on its commitments to inclusive and sustainable development. India has played a key role in shaping the SDGs externally and for ensuring the balance among its three pillars - economic, social and environmental. Internally, it has launched many programmes to make progress towards these goals. It acclaimed internationally that India has played an important role in shaping the SDGs and this has meant that the country's national development goals are mirrored in the SDGs.”<sup>5</sup> Therefore, it is no surprise that the country's national development goals are mirrored in the SDGs. As such, India has been effectively obligated to achieving the SDGs even before they were fully crystallized.

The expression “Sabka Saath Sabka Vikas,” which translates as “Collective Effort, Inclusive Growth” and has been popularized by Prime Minister Narendra Modi, forms the cornerstone of India's national development agenda. To direct route this agenda, the Government of India has just released a draft Three-Year Action Agenda covering years 2017-18 to 2019-20. In parallel, work is in advance stages on a 15-Year Vision, which will also include a 7-year Strategy.<sup>6</sup> All interested and ratified parties are committed to achieve SDGs Agenda 2030 consisting of 17 goals and 169 targets, spanning the three dimensions of economic, social and environmental development. Under this framework, each national government as well as other stakeholders, including local governments, business and the civil society is expected to identify, implement and report on specific actions that lead to their achievement. The national government has to translate these goals and targets into the national policies, to resource and implement these policies and to measure their implementation. On the other hand, civil society organizations are expected to play an important role in popularizing SDGs as well as take on role for monitoring the implementation of the SDGs. In a diverse country like India, it becomes necessary to first review the systems that are in place for ensuring the participation from all stakeholders- from people in the grassroots up to the highest levels of Government. Since the Government is the biggest entity with the most resources to ensure achievement of the Sustainable Development Goals (SDG) and targets that have been set, the legal and policy framework already in place in the country has to be critically reviewed to see how capable it is of achieving the SDGs and identify the gaps and challenges for rectification. The UN resolution also mentions that the business sector, non-state actors and individuals too must play a significant role in ensuring the achievement of the SDGs. Therefore, the existing efforts by these other sectors and individuals also have to be reviewed for proper planning. A year has gone by and there has been a lot of progress done on SDGs by Government of India, NITI Aayog and civil society organizations in popularizing SDGs at national and

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<sup>5</sup>India's 'Voluntary National Review Report on Implementation of Sustainable Development Goals': India presented its national review report on the implementation of the Sustainable Development Goals (SDGs) to the UN, underscoring that as the fastest growing major economy it is "uniquely placed" to deliver on its commitments. India's 'Voluntary National Review Report on Implementation of Sustainable Development Goals' was presented by former NITI Aayog Vice Chairman Arvind Panagariya at the United Nations high-level political forum on sustainable development in 2017. The report details various measures and programmes being implemented across India towards achieving the core objectives of the 17 ambitious global goals, including poverty eradication, economic growth, ending hunger and achieving food security, gender equality, promoting inclusive and sustainable industrialization and climate action. The programmes highlighted in the report are the 'Mahatma Gandhi National Rural Employment Guarantee Act', 'Beti Bachao Beti Padhao', 'Sagarmala', 'Clean India' campaign and the Aadhaar Act. "It will work towards ensuring a greater flow of finances and technology from developed countries - in alignment with their explicit commitment in the context of the 2030 Agenda - to developing and least developed nations, India believes that with combined and sustained efforts at the national and global levels, it will indeed be possible to eradicate poverty and ensure a prosperous world for all," the report added.

<sup>6</sup> Reflecting the country's long-standing federal tradition, these documents are being prepared with active participation of the States (sub-national Governments). Reflecting the country's commitment to the SDG agenda at the highest levels of Government, the Indian Parliament organized several forums including the South Asian Speakers' Summit in February 2017. These forums have focused on the elimination of poverty, gender equality, climate change and resource mobilization for SDGs. Additionally, the Speaker's Research Initiative has been launched for providing SDG-related insights to Members of Parliament.

sub national level. WNTA has called for a national multi-stakeholders' consultation on SDGs to strategies a common accountability framework for Civil Society from the prism of the most marginalized communities to achieve the agenda of 'Leave No one Behind'. The Government of India is presenting its Voluntary National Review report on SDGs at High-Level Political Forum (HLPF) on Sustainable Development 2017 in New York. The government has introduced a well occupied taskforce with different concerned ministries and agencies to prepare the report. NITI Aayog is the nodal agency coordinating this process

### **3. INDIA AND SUSTAINABLE DEVELOPMENT GOALS**

"Vasudhaiva Kutumbakam", an ancient Indian phrase meaning 'the world is one family', pithily captures the spirit of India's approach to all aspects of life including economic development. India's Voluntary National Review Report on Implementation of Sustainable Development Goals reported, "As the fastest growing major economy of the world, today, India is uniquely placed to deliver on its commitments to inclusive and sustainable development. Externally, the country has played a key role in shaping the SDGs and ensuring the balance among its three pillars - economic, social and environmental. Internally, it has launched many programmes to make progress towards these goals. It said that India has played an important role in shaping the SDGs and this has meant that the country's national development goals are mirrored in the SDGs."<sup>7</sup> Therefore, it is no surprise that the country's national development goals are mirrored in the SDGs. As such, India has been effectively committed to achieving the SDGs even before they were fully crystallized.

The expression "Sabka Saath Sabka Vikas," which translates as "Collective Effort, Inclusive Growth" and has been popularized by Prime Minister Narendra Modi, forms the cornerstone of India's national development agenda. To fast track this agenda, the Government of India has just released a draft Three-Year Action Agenda covering years 2017-18 to 2019-20. In parallel, work is in advance stages on a 15-Year Vision, which will also include a 7-year Strategy.<sup>8</sup> For implementing the SDGs agenda, the Government of India has launched several ambitious programmes, some of which are highlighted below. A noteworthy example of a crosscutting initiative is the Pradhan Mantri Jan Dhan Yojana (PMJDY) which is the world's largest financial inclusion programme. By leveraging PMJDY, Aadhaar (biometric identity system) and mobile telephony, the Government has disbursed a cumulative amount of INR 1.62 trillion (USD 25 billion) to 329 million beneficiaries through Direct Benefit Transfers.<sup>1</sup> This has helped to significantly enhance the efficiency of Government programmes. India's Nationally Determined Contributions (NDC), communicated to the Conference of the Parties (COP) of the UN Framework Convention on Climate Change, form a significant part of its SDG strategy.

### **4. ENGINEERING THE SUSTAINABLE DEVELOPMENT GOALS IN INDIA**

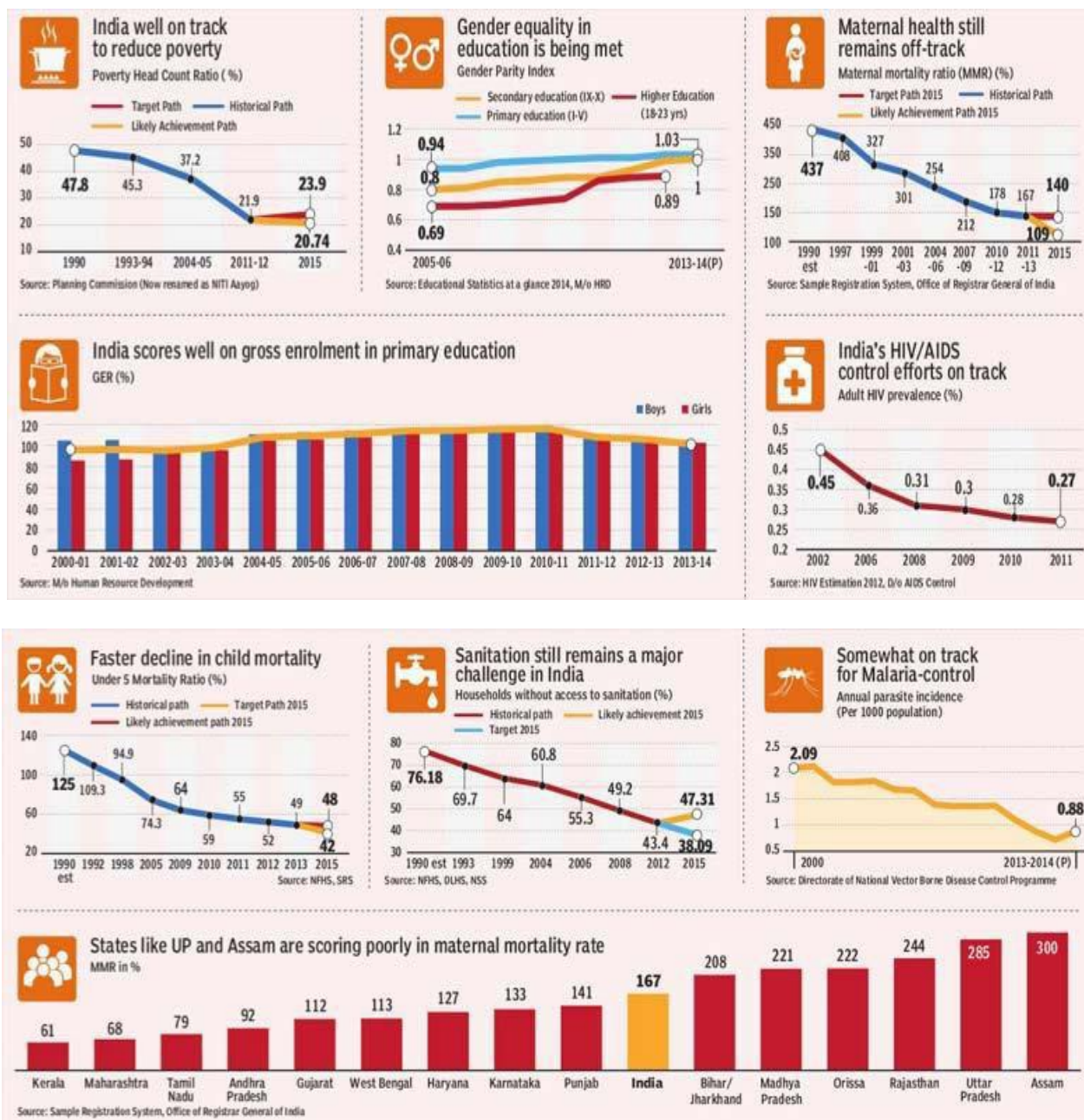
Addressing the needs of 1.3 billion poor people in the world is not merely a question of their survival and dignity or our moral responsibility. It is a quintessential urgency for ensuring peaceful, sustainable and just world.

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<sup>5</sup> India's 'Voluntary National Review Report on Implementation of Sustainable Development Goals': India presented its national review report on the implementation of the Sustainable Development Goals (SDGs) to the UN, underscoring that as the fastest growing major economy it is "uniquely placed" to deliver on its commitments. India's 'Voluntary National Review Report on Implementation of Sustainable Development Goals' was presented by former NITI Aayog Vice Chairman Arvind Panagariya at the United Nations high-level political forum on sustainable development in 2017. The report details various measures and programmes being implemented across India towards achieving the core objectives of the 17 ambitious global goals, including poverty eradication, economic growth, ending hunger and achieving food security, gender equality, promoting inclusive and sustainable industrialization and climate action. The programmes highlighted in the report are the 'Mahatma Gandhi National Rural Employment Guarantee Act', 'Beti Bachao Beti Padhao', 'Sagarmala', 'Clean India' campaign and the Aadhaar Act. "It will work towards ensuring a greater flow of finances and technology from developed countries - in alignment with their explicit commitment in the context of the 2030 Agenda - to developing and least developed nations, India believes that with combined and sustained efforts at the national and global levels, it will indeed be possible to eradicate poverty and ensure a prosperous world for all," the report added.

<sup>8</sup> Reflecting the country's long-standing federal tradition, these documents are being prepared with active participation of the States (sub-national Governments). Reflecting the country's commitment to the SDG agenda at the highest levels of Government, the Indian Parliament organized several forums including the South Asian Speakers' Summit in February 2017. These forums have focused on the elimination of poverty, gender equality, climate change and resource mobilization for SDGs. Additionally, the Speaker's Research Initiative has been launched for providing SDG-related insights to Members of Parliament.





## 5. CONCLUSION

SDGs are an all-inclusive focus on five Ps – people, planet, prosperity, peace and partnership. On its current orientation, India has already set for itself more ambitious and pioneering targets for implementation of SDGs in several areas of economic progress, social inclusion and total sustainability. Ministry of Statistics and Programme Implementation (MoSPI) has been leading discussions for developing national indicators for the SDGs. State governments are quintessential for India's sustainable progress on the SDGs Agenda and several of them have already started and implementing a clouded and well defined action on implementing the SDGs. State governments are key to India's progress on the SDGs Agenda as they are best placed to 'put people first' and to ensuring that 'no one is left behind'. State governments are giving close ears to visioning, planning, budgeting, expanding and developing implementation and monitoring mechanisms for the SDGs. In direct and immediate alliance with NITI Aayog and partners, the UN has supported thematic consultations on the SDGs to bring together various state governments, central ministries, civil society organizations and academia to deliberate on specific SDGs.

## 6. RECOMMENDATIONS

- Health must be high on the national and state agenda, as it is the cornerstone for economic growth of the nation.
- Accelerate the implementation of universal health coverage. UHC is important to prevent people slipping into poverty due to ill health and to ensure everyone in need has access to good quality health services.

- Develop a strong system for monitoring, evaluation and accountability. It is absolutely essential to regularly review and analyse the progress made for feeding into policy decisions and revising strategies based on the challenges.
- The role of local governments is equally important; 15 of the 17 SDGs directly relate to activities undertaken by local governments in the country.
- Many of the Government's flagship programmes such as Swachh Bharat, Make in India, Skill India, and Digital India are at the core of the SDGs. State and local governments play a pivotal role in many of these programmes.

“At its essence, sustainability means ensuring prosperity and environmental protection without compromising the ability of future generations to meet their needs. A sustainable world is one where people can escape poverty and enjoy decent work without harming the earth's essential ecosystems and resources; where people can stay healthy and get the food and water they need; where everyone can access clean energy that doesn't contribute to climate change; where women and girls are afforded equal rights and equal opportunities. There is no 'Plan B' because we do not have a 'Planet B.'”

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India

### Study on e-waste management

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**Abstract:** Electronic waste or e-waste is any broken or unwanted electrical and electronic appliances. It includes computer equipment's, stereos, wires, televisions and mobile phones etc. The electronics components often contains hazardous and toxic material. These materials pose a threat to human health and environment. Such items can often be refurbished or recycled, yet a large amount still finds its way to the landfill. One can reduce the environmental impact by making changes in their buying habits, looking for ways to reuse including donating and recycling.

**Keywords:** E-waste, Hazard, recycling, risk, management, environment

### 1. INTRODUCTION

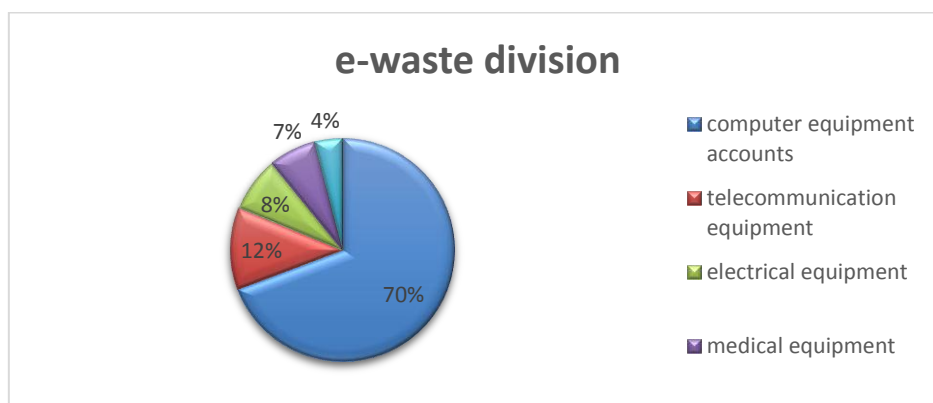
E-Waste and e-scrap, includes items such as dated computer equipment, stereos, wires, televisions and mobile phones. (Electrical and Electronic equipment's) Such items can often be refurbished or recycled, yet a large amount still finds its way to the landfill. E-waste typically includes discarded computer monitors, motherboards, cathode ray tubes (CRTs), printed circuit board (PCB), mobile phones and chargers, compact discs, headphones, white goods such as liquid crystal displays (LCD)/ plasma televisions, air conditioners, refrigerators etc.

### 2. AN ESTIMATION TO E-WASTE

India, which has emerged as the world's second largest mobile market, is also the fifth largest producer of e-waste, discarding roughly 18.5 lakh tones of electronic waste each year, a study says.

The main sources of e-waste are the government, public and private sectors. Industry body Assocham, said India's 'production' of e-waste is likely to increase by nearly three times, from the existing 18 lakh metric tons (MT) to 52 lakh MT) per annum by 2020 at a compound annual growth rate (CAGR) of about 30%.

The study on 'Electronic Waste Management in India,' conducted to mark World Environment Day, said as Indians become richer and spend more on electronic items and appliances, computer equipment accounts for almost 70% of e-waste material, followed by telecommunication equipment (12%), electrical equipment (8%) and medical equipment(7%). Other equipment, including household e-crap account for the remaining 4%.



### 3. EFFECTS OF E-WASTE ON HUMAN HEALTH AND ENVIRONMENT

The main sources of electronic waste in India are the government, public and private (industrial) sectors, which account for almost 75% of total waste generation. The contribution of individual households is relatively small at about 16 per cent; the rest being contributed by manufacturers. Though individual households are not large

contributors to waste generated by computers, they consume large quantities of consumer durables and are, therefore, potential creators of waste.

A mere 1.5% of India's total e-waste gets recycled due to poor infrastructure, legislation and framework which leads to a waste of diminishing natural resources, irreparable damage of environment and health of the people working in industry. Over 95% of e-waste generated is managed by the unorganized sector and scrap dealers in this market, dismantle the disposed products instead of recycling it.

E-waste workers in India suffer from breathing problems, such as asthma and bronchitis. Many workers are children, who are unaware of the hazards and by the time they reach 35 to 40 years of age, they are incapable of working, points out the study.

About 2/3s of e-waste workers in India suffer from respiratory ailments like breathing difficulties, irritation, coughing, choking, and tremors problems due to improper safeguards and dismantling workshops. The recovery of metals like gold, platinum, copper and lead uses caustic soda and concentrated acids.

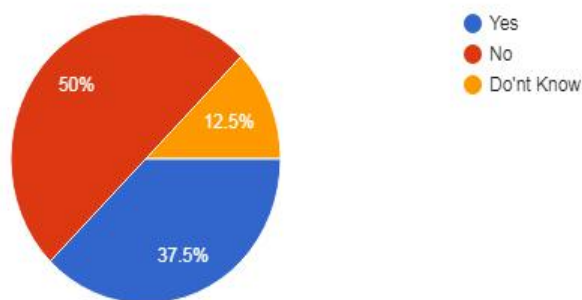
Computers, televisions and mobile phones are most dangerous because they have high levels of lead, mercury and cadmium and they have short life-spans, so are discarded more.

#### IV. PRIMARY DATA SOURCE

We have conducted a survey in the Mumbai region.

1. Do you have environmental policies (addressing E-waste) in your work place?

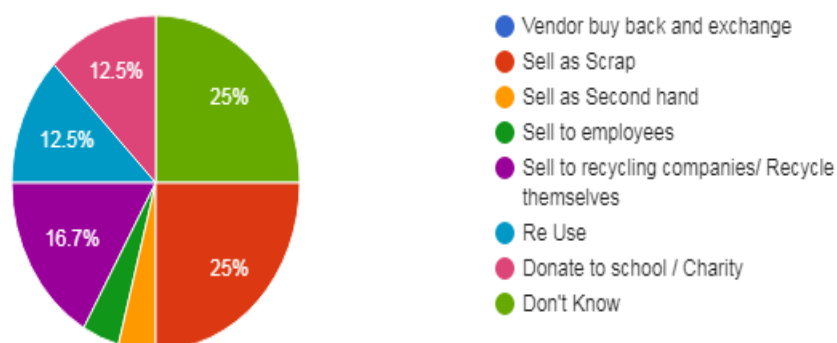
24 responses



**Interpretation:** As per the interpretation 50% of the companies are not aware about the environmental policies, 12.5% are not following the environmental policies and only 37.5% companies are following the environmental policies.

2. How does your organization deal with their e-Waste?

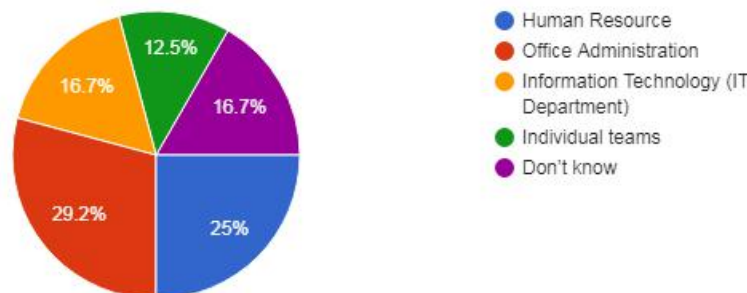
24 responses



**Interpretation:** As per the interpretation 12.5% of the companies buy back and exchange the product with vendor, 25% companies sell as scrap, 4.2% companies sell as second hand, 4.2% sell to employees, 16.7% companies sell to recycling companies or recycle themselves, not aware about the environmental policies, 12.5% companies reuse, 12.5% companies donate to schools and charity and 25% companies don't know.

### 3. Who is responsible for managing e-Waste in your organization?

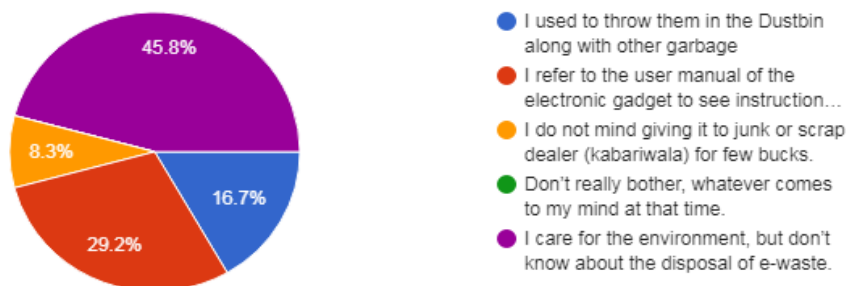
24 responses



**Interpretation:** As per the interpretation in 25% of the companies Human Resource is responsible for e-waste management, 29.2% Office administration is responsible for e-waste management, 16.7% companies IT department is responsible for e-waste management, 12.5% companies individual department is taking care of e-waste management and 12.5% companies don't know about e-waste management.

### 4. You must be using electronic equipments such as Computers, Printers, Mobile, I-Pads in your day to day life. H...nger useful or have outlived its utility.

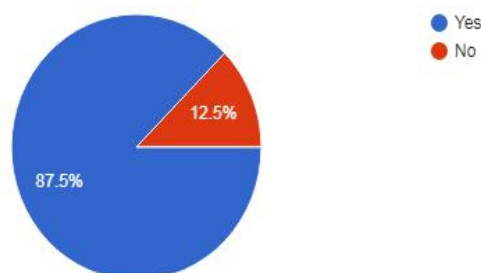
24 responses



**Interpretation:** As per the interpretation 16.7% people throw them in the Dustbin along with other garbage, 29.2% refer to the user manual of the electronic gadget to see instructions to safely dispose them off, 8.3% do not mind giving it to junk or scrap dealer (kabariwala) for few bucks, 0% Don't really bother, whatever comes to their mind at that time and 45.8% care for the environment, but don't know about the disposal of e-waste.

### 5. Do you upgrade your device by exchanging new device with old one for betterment of service?

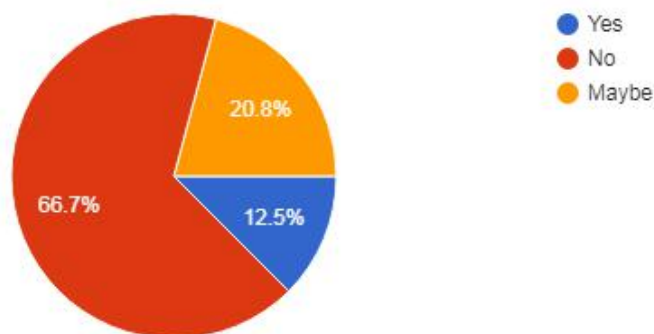
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**Interpretation:** As per the interpretation 87.5% companies exchange the old device with new one and 12.5% don't exchange the devices.

## 6. Does your local area has facility of collecting and recycling of e-waste?

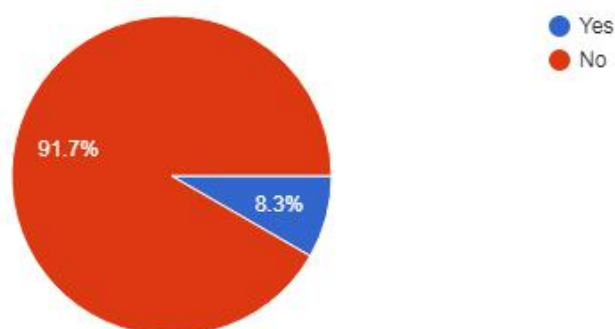
24 responses



**Interpretation:** As per the interpretation in 66.7% area are not having e-waste management facility, 20.8% are not aware about the e-waste management facility and only 12.5% areas are having e-waste management facility.

## 7. Do you know any government initiative for e waste management?

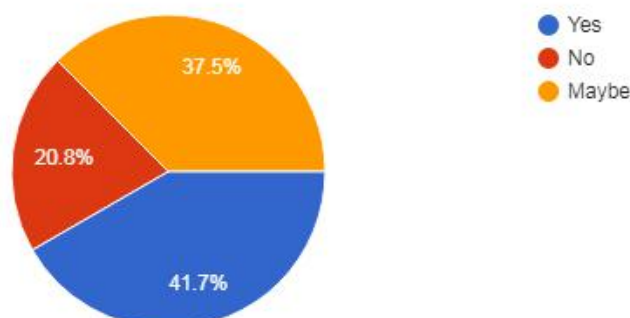
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**Interpretation:** As per the interpretation 91.7% companies are not aware about the initiative taken by the government and they have not implemented it. Only 8.3% companies are aware about the government initiative.

## 8. When you buy electronic device, does the user manual give information about recycling measurements?

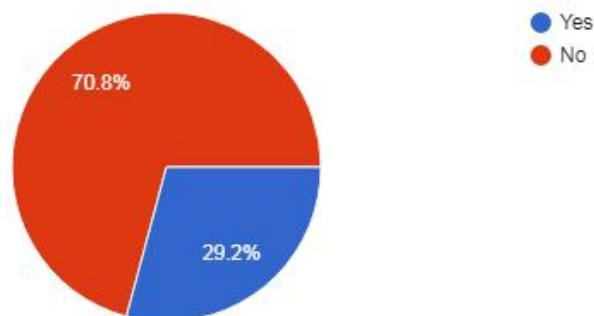
24 responses



**Interpretation:** As per the interpretation 41.7% companies says that the user manual includes e-waste management information, 20.8% says the user manual does not include the e-waste management information and 37.5% are not confirm.

9. Do you know government has passed e waste management rules in 2016?

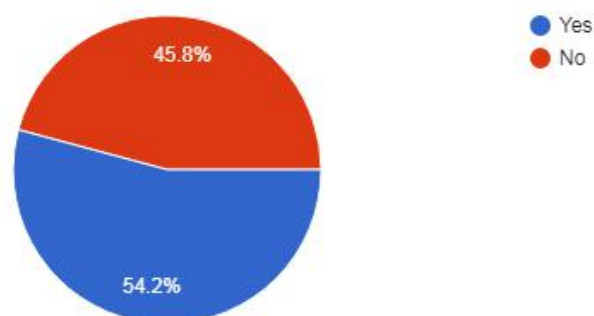
24 responses



**Interpretation:** As per the interpretation 70.8% companies says that they are not aware about the e-waste management rules passed by the government in 2016. Only 29.2% companies are aware about the e-waste management rules passed by government.

10. Are you aware about hazardous substances in used electronic devices ?

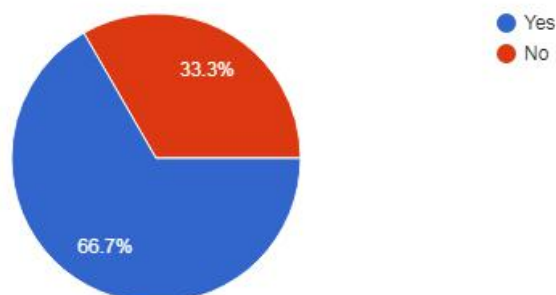
24 responses



**Interpretation:** As per the interpretation 45.8% companies says that they are not aware about the hazardous substances used in electronic devices and 54.2% companies says that they are aware about the hazardous substances used in electronic devices.

11. Are you aware that some hazardous fractions in e-waste need special treatment in order to be safely disposed of?

24 responses



**Interpretation:** As per the interpretation 33.3% companies says that they are not aware that some hazardous fractions in e-waste need special treatment in order to be safely disposed of? And 66.7% companies says that they are aware about the some hazardous fractions in e-waste need special treatment in order to be safely disposed of?



## **5. CONCLUSION AND RECOMMENDATION**

The government must take firm initiative to implement e-Waste management in India. As per the survey most of the companies have not taken proper care of e-Waste management. The manufacturing companies should take initiatives and provide the facility to exchange or upgrade the existing products with new product. The government should impose polices for e-Waste management in the companies itself. From the above survey, we have following recommendation:

- If the electronic devices are not required, we should donate it.
- The companies should include the information about safe disposal of the product in the user manual itself.
- The companies should provide the facility to recycle and exchange the products.
- The government should conduct awareness programs.

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## Corporate Social Responsibility - A Gateway for Economic Development

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**Abstract** Every business enterprise is an integral part of society. It uses the scarce resources of the society to continue and grow. Hence, it is important that no activity of business is injurious to the long run interests of the society. Society and business are complimentary to each other in their goal for sustainable development. Hence, business has a moral responsibility to contribute in enhancing larger social good. The main aim of this research paper is to analyze and understand the role of corporate social responsibility and sustainable development in India. Further, this paper will also analyze the contribution of various Indian organizations for the social upliftment. The present paper will illustrate the present status of organizations in India with regard to their compliance to social responsibility and ethical practices.

**Key Words-** Corporate Social Responsibility (CSR), Sustainable Development

### 1. INTRODUCTION

**“Earn your crores but understand your wealth is not yours, it belongs to the society”- Mahatma Gandhi**

Corporate Social Responsibility (CSR) also called corporate Conscience, Corporate Citizenship or Responsible business is a form of corporate self-regulation integrated into a business model. Every person has a responsibility towards the society in which he/she/it lives. So, a Corporate has to undertake such activities and carry out such practices that benefit society. CSR is a commitment to developing policies that integrate responsible practices into daily business operations, and to reporting on progress made towards implementing these practices.

Example- Classmate notebook, at the back it is written “for every four classmate notebooks you buy ITC contributes Rs. 1 to its rural development initiative”. It makes us feel proud that our contribution is part of it which sparks us to buy ITC products. Thus helps the company to increase its share value.

**"Desh hume deta hai sab kuch, hum bhi toh kuch dena sikhe"- Swami Vivekananda**

### 2. OBJECTIVES

- To study the role played by corporate social responsibilities in India.
- To understand the areas of CSR in which the companies are involved in India.

### 3. RESEARCH METHODOLOGY

The paper mainly based on secondary data. The secondary data was collected from various sources of publications such as journals, research articles, books, and internet and published records.

### 4. DEFINITION OF CORPORATE SOCIAL RESPONSIBILITY

As per World Business Council for sustainable development

“Corporate Social Responsibility is the continuing commitment by business to **behave ethically** and contribute to economic development while **improving the quality of life of the workforce and their families** as well as of the **local community and society at large.**”

#### 4.1. Sustainable development

Sustainable development means utilization of natural resources for a business or for any means of survival by human being in such a way which should meet the requirements of the present generation as well as requirements of all the coming generation in future

#### **4.2. Role of corporate social responsibility (CSR)**

The role of corporate sector does not end up with contributing in economic growth of a country or providing employment to the society but it goes beyond that where corporate sector must provide benefits to the society at large without harming the natural resources. Hence, the corporate social responsibility (CSR) for sustainable development has become vital today. The corporate sector must design its CSR strategy and they must put those strategies into practice in well manner.

#### **5. INDIA'S NEW CORPORATE SOCIAL RESPONSIBILITIES REQUIREMENTS**

In August, 2013- the Indian parliament passed the Indian Companies Act, 2013; which has replaced the Indian Companies Act, 1956. One of the most startling changes- which came into effect on 1<sup>st</sup> April, 2014- has been to impose compulsory corporate social responsibility obligations upon Indian Companies and Foreign Companies operating in India. These obligations mainly come in the form of mandatory amount companies must contribute remediate social problems. This is a wholly new requirement; although companies were permitted, within certain limits to make charitable contributions in the past, the New Act is essentially a self-administered tax.

##### **Entities covered by the CSR obligations:**

Companies are subject to the CSR requirement if they have any Financial Year:

- A net worth of at least Rs. 5 billion;
- A turnover of at least Rs. 10 billion;
- Net profit of at least Rs. 50 million

The company spend in every financial year at least 2 % of the average net profit of the company made during the three immediately preceding financial years, in pursuance of its CSR policy.

##### **Activities may be included by the company in their CSR Policy:**

- Eradicating extreme hunger and poverty,
- Promoting of education,
- Promoting gender equality and empowering women,
- Reducing child mortality and improving maternal health,
- Combating HIV, AIDS, malaria and other diseases,
- Ensuring environmental sustainability,
- Employment enhancing vocational skills,
- Social business projects,
- Contribution to the Prime Minister's National Relief Fund or any other fund set up by the Central Government or the State Government for socio-economic development and relief funds for the welfare of the Scheduled Castes, the Schedule Tribes, other backward classes, minorities and women,
- Such other matters as may be prescribed. In exercise of the powers conferred under the Companies Act, 2013 the Ministry of Corporate Affairs has now proposed the draft CSR Rules.

#### **6. SOCIAL RESPONSIBILITY UNDERTAKEN BY INDIAN ORGANISATIONS**

India is the first country in the world to make Corporate Social Responsibility (CSR) mandatory.

##### **6.1. RELIANCE INDUSTRIES LTD. (RIL)**

- Reliance Industries provides financial and administrative assistance for supplying drinking water to villages in the area where its manufacturing industries are located.
- It is also set-up primary health care centers in the local area.
- Reliance industries distribute books every year to local schools children.
- It provides financial assistance for the cultural functions of the villagers, sports and healthcare camps.

##### **6.2. LARSEN AND TURBO LTD. (L&T)**

- L&T gives importance to social issues of health and environment.
- It looks after health, safety, environment and education in the area where its industries are located.

##### **6.3. OIL AND NATURAL GAS CORPORATION LTD. (ONGC)**

- As a responsible corporate citizen is focused on promotion of vocational education, health care and entrepreneurship in the community coupled with initiatives in water management and disaster relief in the country.

- In recognition of these initiatives, the world council of corporate governance conferred the Golden Peacock Award to ONGC for 'Corporate Social Responsibility in Emerging Economies-2006' at the 7<sup>th</sup> International Conference on Corporate Governance held in May 2006 in London.

#### **6.4. ICICI GROUPS**

- The ICICI Groups established the ICICI Foundation for Inclusive Growth (ICICI Foundation) in early 2008, to lend its efforts and focus to promote inclusive growth amongst low income Indian households.

#### **6.5. DELHI METRO RAIL CORPORATION LTD. (DMRC)**

- Delhi metro rail corporation limited has built a children's home which accommodate 125 children at Tis hazari having 5 dormitories, 2 classrooms, a playground, a library and a mess which is managed by 'Salaam Balak Trust.'

#### **6.6. TATA GROUP**

- TATA Group companies are working for various societal development programme. They are also engaged in providing many employment opportunities to women, helps in generating source of income for many people which further uses for standard of living and they take various efforts to develop the rural areas.
- Tata groups is also helping in education the people, by proving certain scholarship benefits.
- In the area of health and safety, they have taken various efforts by engaging in health care projects, making people aware of deceases and their causes.

Other areas:

- Proving empowerment to agricultural programmes
- Infrastructure Development
- Environment protection activity

#### **6.7. MAHINDRA & MAHINDRA**

- The main aim of the company is to focus on the development of education to help under privileged section in the economy. For this purpose Mahindra education trust introduced a programme titled Nanhi Kali which provide education assistance for girl child at present this trust provide education facilities around 32,000 girls.
- For satisfying the social responsibility of Mahindra foundation, they had introduced the medical facilities to the needy peoples. They provide medical assistance to those who have suffering from cancer, heart problem and burn victims. They provide facilities to those who have suffering from natural calamities.

#### **6.8. ITC Group**

ITC group has a business interest with agriculture and related sectors for creating the sources of livelihood and nature protection programme

Other areas:

- Supporting rural enhancement
- Promoting education system
- Providing healthcare facilities

Ethical behavior and corporate social responsibility can bring significant benefits to a business. Some of the benefits are:

- Attract more customers, thereby boosting sales and profits
- Reduce labour turnover and therefore increase productivity
- Attract more employees to work for the business, reduce recruitment costs and enable the company to get the most talented employees.
- Attract investors and keep the company's share price high, thereby protecting the business from takeover.

#### **7. CONCLUSION**

There is a need for corporate entities to understand their responsibility towards society. Apart from the primary objective of earning profits, every business shall remain conscious of its obligations as a responsible corporate entity to the cause of society at large by taking up activities that contribute to - promotion of social harmony, increasing

opportunities to socially and economically disadvantaged sections of society, and to mitigate environmental degradation.

Lack of transparency is another issue which needs focus. This is mainly due to the fact that there is little or no knowledge about CSR within the local communities since no sincere efforts have been made to create awareness about CSR and win the confidence of local communities.

Lastly, but not least there is a need to increase the understanding and active participation of business in equitable social development as an integral part of good business practice.

**“Successful people have a social responsibility to make the world a better place and not just take from it.”**

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## Multidisciplinary National Seminar on Sustainable Development: Issues and Challenges

17th February, 2018 at Sree Narayana Guru College of Commerce (University of Mumbai)  
P.L.Lokhande marg, Chembur (W), Mumbai, India,

### Sustainable Management Practices in selected Automobile Companies

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**Abstract:** *The concept of sustainable management has drawn worldwide attention in present times due to degradation of environment. There is a growing necessity felt among policy makers, governments, non-governmental organizations and corporations to shift to sustainable management practices. Sustainable management is the intersection of business and sustainability. It is the practice of managing a firm's impact on the three bottom lines—people, planet, and profit—so that all three can prosper in the future. Sustainable management supports a business's long-term viability, because it's preventative rather than reactive. It can take many forms including investing in fair-trade products, reducing packaging materials, and ensuring humane working conditions at supplier factories. (University of Wisconsin Sustainable management). In this context the present study attempts to investigate sustainable management practices adopted by automobile companies in India. The findings of the study show that there exists a positive relationship between sustainable management practices and overall firm's performance in terms of profitability, customer satisfaction, and enhanced corporate image.*

**Key Words:** *Sustainable management, firm performance, Automobile companies.*

#### 1. INTRODUCTION

As per Brundtland Report, Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Globally corporations are changing their operational and strategy and aligning towards sustainable management practices to achieve their top line and bottom line targets. Sustainable practices have emerged as a significant business strategy and unique selling proposition for firms to position themselves in a highly competitive market place. Environmentally conscious companies have demonstrated increased customer satisfaction, profitability and corporate goodwill. In this back drop, the study attempts to highlight sustainable management practices by automobile companies in India with reference to Maruti Suzuki, Tata Motors, Mahindra & Mahindra, Hyundai and Honda motors.

#### 2. LITERATURE SURVEY

Over the last decade, most manufacturing organizations have been experiencing pressure to incorporate sustainability practices in their supply chains. The key reasons behind this pressure may be stated as increased consumer awareness towards environmental issues, stricter environmental laws and regulations, and increased competition (Rahman, 2016). Companies are perceived as important actors in the drive for sustainability. Linked to this, and in response to increasing demands from various stakeholder groups, companies start to look at their supply chain to enhance their overall sustainability profile. (Julia Koplin, 2007) Increasing pressures from a variety of directions have caused many automobile supply chain managers to consider and initiate implementation of green supply chain management (GSCM) practices to improve both their economic and environmental performance (Qinghua Zhu, 2007). Globalization and the establishment of world trade organization have helped promote GSCM practices in manufacturing enterprises (Qinghua Zhu J. S., 2006). Sustainable supply chain practices (SSCP) not only help in reducing environmental degradation but it also has social and economic implications (as per triple bottom line approach). It is also observed that environmental and social performance have a positive relationship with economic performance (Thakkar, 2016).

#### 3. SUSTAINABLE PRACTICES AT MARUTI SUZUKI

Maruti Suzuki has been working with its dealers for improving the environmental performance of its service stations. Maruti Suzuki has an elaborate network of service stations all over India that service over 1.7 crore vehicles in a year. Maruti Suzuki's over 3,300 authorized service workshops, spread across nearly 1,600 cities, have embraced new

technology enabling them to increase energy efficiency, save paper and reduce water consumption. Some of the recent initiatives undertaken include.

**Dry wash systems:** In this system the final water wash process has been replaced with vehicle cleaning using special eco-friendly wash chemicals. The Company uses a special bio-degradable dry chemical wash that has helped reduce washing time and water consumption by over 216 Million liters per annum. In 2016-17, nearly 2.28 Million vehicles were cleaned using the dry wash system against 5.7 lakh vehicles on 2015-16, over three-fold increase. This system has been implemented in 1,130 workshops across the service network.

**Automated oil management system:** The new Automated Oil management system protects against oil spills, saving both time and effort. It also provides greater control and a method to monitor oil quantity used, thereby preventing wastage and improving productivity. As of 30th March 2017, 697 workshops have implemented the oil management System, preventing spillage and improving efficiency.

**Paint-less dent repair system:** The new paint-less dent repair system has been introduced in 520 workshops (as of 30th March 2017) for repairing minor dents without stripping the paint. This has led to a more environment-friendly, faster and cost effective way of repairing dents.

**Automatic car washing system:** The use of the new automated car and under body washing system saves up to 20% of total water consumed, claims Maruti Suzuki. As of 30th March 2017, 880 workshops are equipped with this system. **Reduction in paper consumption in service operations:** The Company seeks to conserve paper with an aim to go paperless.

#### **4. SUSTAINABLE PRACTICES AT TATA MOTORS**

Tata Motors rolled out the first batch of Tigor Electric Vehicles (EVs), which would be supplied to Energy Efficiency Services Ltd. (EESL) as part of a plan to equip the government with EVs to curb emissions. Tata Motors is required to deliver 250 Tigor EVs. It is expected to supply an additional 100 cars to EESL shortly.

The electric drive systems for this order has been developed and supplied by Electra EV, a company established to develop and supply electric drive systems for the automotive sector.

Tata Motors is committed to the government's vision for electric vehicles by 2030 and will work in a collaborative manner to facilitate faster adoption of electric vehicles and to build a sustainable future for India.

#### **5. SUSTAINABLE PRACTICES AT MAHINDRA & MAHINDRA**

Mahindra & Mahindra has started Hariyali (greening) initiative. Under this, the company has pledged to plant one million trees a year. The Hariyali initiative has planted more than 7.5 million trees in the Araku Valley. The project has reached out to 100,000 people across 350 villages. Nearly 15,000 acres have been revitalized and 14,750 farmers have benefited. The non-profit Naandi Foundation has undertaken to transform the low-carbon landscape into a high-carbon bio-diverse landscape, improving food security and generating sustainable income for the community by planting 9 million fruit trees and coffee saplings.

#### **6. SUSTAINABLE PRACTICES AT HYUNDAI**

"Hydrogen energy is the key to building a more sustainable society. Hyundai Motor Company has already taken a lead in hydrogen technology with introduction of Tucson fuel. Yet as another result of this earth-saving effort they introduced second-generation Fuel Cell Electric Vehicle which is a culmination of our cutting-edge technologies.

NEXO is Hyundai's second-generation of commercialized fuel cell electric vehicle that will be available in select markets around the world starting in early 2018. Improving upon the acclaimed Tucson FCEV, the NEXO has an estimated driving range of 370 miles, 105 more than its predecessor. Acceleration and power have increased to improve the overall performance.

Designed to handle extreme temperature and environments, the NEXO testing has proven that the vehicle is capable of starting after being subject to overnight temperatures of -20 degrees Fahrenheit. NEXO boasts cold start capability within 30 seconds which is an industry-leading achievement and the fuel cell system warms up faster for maximum performance. The NEXO also has excellent cooling performance on steep grades with temperatures exceeding 120 degree Fahrenheit.

Improvements in the air supply system, performance at high altitudes and refuelling times, along with overall efficiency and fuel economy put the NEXO in a class all its own. In addition the NEXO has improved power density and durability comparable with a gasoline-powered vehicles.

#### **7. SUSTAINABLE PRACTICES AT HONDA**

From creating awareness to introduction of eco-friendly technology (HET- Honda Eco Technology and LRR – Low Resistance Tyres), Honda continues its endeavour to make this world a better place to live and breathe.

Their plants have zero liquid discharge and equipped with Rain Water Harvesting. The latter has helped to increase the ground water level of the area around the plants. They have taken the opportunity of Green Consumer Day to build awareness amongst the consumers on the concept of *Reduce, Reuse and Recycle*. They distributed saplings and organised various tree plantation drives. Service engineers also educated the customers about ways to reduce fuel consumption. Maintaining correct air pressure and using genuine spare parts and accessories help in increasing fuel economy. Periodic service and riding in the economy range also plays a pivotal role in conserving the environment. Honda dealers on Green Consumer Day championed the cause of *Swachh Bharat Abhiyan* by organising Clean up Drives in the vicinity of their outlets. Awareness drives were organised in schools on environment conservation. Students participated in painting competitions on the theme of *Clean India, Green India*.

## 8. LIMITATIONS

The study has relied on secondary sources of data and has covered practices related to environment. However the concept of sustainability needs to be looked from diverse angle and not just for environmental view point. A longitudinal study could be considered in getting more insights.

## 9. CONCLUSIONS

From the view point of the society, it is necessary to ensure that every company has taken some initiatives towards sustainability while looking at the profit level and growth. Sustainability is necessary for all human systems. It plays an important role in business firms. Maruti Suzuki has taken initiatives by establishing Dry wash systems, automated oil management system, Automatic car washing system and so on. Tata Motors has stepped forward by committing to the government's vision for electric vehicles by 2030. Mahindra & Mahindra started with Hariyali- greening. Hyundai Motor Company has taken a lead in hydrogen technology with introduction of Tucson fuel. Honda Motors worked on *Swachh Bharat Abhiyan* by organizing Clean up Drives, awareness amongst the consumers on the concept of *Reduce, Reuse and Recycle*. *Automobile sector is fuel intensive at the consumption end and uses natural resources reasonably at its production end. Greening initiatives and particularly application of technology to reduce natural resource use will make the sector more sustainable. Although these measures require substantial initial investments and on-going variable expenditures, their success will also depend on the changing mind-set of production agents as well as consumers. When eco-friendly practices also materialize into more profits in this sector, it will set an example of yet another success story in ecological modernization.*

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### Analysis of role of government in development of renewable energy resources in India

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**Abstract:** Energy is central to achieving the interrelated economic, social, and environmental aims of sustainable development. The availability of affordable and sufficient clean energy resources can solve other critical issues like availability of food, clean environment and poverty.

In India role of government is very important to develop and deploy new and renewable energy resources for various requirements. The present paper will compare the development of renewable energy resources with time. It also highlight on various initiatives, schemes and policies taken by Ministry of New and Renewable resources in India.

**Key Words:** Energy, sustainable development, government, renewable energy resources

#### 1. INTRODUCTION

Energy is central to achieving the interrelated economic, social, and environmental aims of sustainable development. The availability of affordable and sufficient clean energy resources can solve other critical issues like availability of food, clean environment and poverty. The utilization of renewable energy resources is important for conservation of conventional energy resources as well as for maintenance of environmental quality. In 1982 department of non-conventional energy sources is established in India. It was upgraded in 1992 with name of ministry of non-conventional energy resources and in 2006 it is named as Ministry of new and renewable energy (MNRE). The mission of the ministry is to ensure energy security through lesser dependence on conventional energy resources, maximum use of clean energy resources to produce electricity, energy availability and access to rural and urban areas as well as all sectors of economy, affordability for rich and poor and energy equity. The Ministry is carrying out research and development, international cooperation promotion and coordination in renewable energy sources like wind power, small hydro, biogas and solar power. The Ministry has developed institutions for non-renewable energy sources. The establishment of National institute of solar energy (NISE) in Gurugram, Haryana for development research technology, skill development work in the field of solar power. National Institute of Wind Energy (NIWE) knowledge base institute has been established in Chennai, Tamilnadu for improvements in the spectrum of wind energy sources. Sardar Swarn Singh national institute of Bio -Energy (SSS-NIBE) is global center of excellence in bio energy with objective of R&D, testing technology demonstration with focus on biofuels and synthetic fuels located at kapurthala, Punjab. Indian Renewable Energy Development Agency (IREDA) is financial institution established for providing loans for renewable energy projects. Solar Energy Corporation of India established in 2011 for implementation of JNNSM and achievements of targets.

The ministry has developed grid interactive renewable power as per the electricity act 2003. It has provided regulatory interventions for promotion of renewable energy sources through determination of tariff, specifying renewable purchase obligation, facilitating grid connectivity and promotion of development of markets. Grid interactive renewable power projects based on wind power, biomass, solar and hydro are driven with favorable tariff policy established by State Regulatory Commissions (SERC). The National Tariff Policy (NTP) 2006 requires the state Electricity Regulatory Commissions to fix a minimum percentage of Renewable Purchase Obligation (RPO) from such sources taking into account availability of such resources in the region and its impact on retail tariffs and procurement by distribution companies at preferential tariffs determined by SERCs. NTP has further elaborated on the role of regulatory commission, mechanism for promoting renewable energy and time frame for implementation etc.



## 2. METHODS

The role of government in development of is analyzed with the help of MNRE reports of 2010 and 2017. The books and journal have referred related to renewable resources.

## 3. OBSERVATIONS

Ministry of New and Renewable Energy has initiated an exercise to tract the evolving renewable power regulatory framework and develop a repository information in a consolidated manner. The information is planned as monthly update, consolidated renewable energy regulatory framework data and monthly renewable power generation reports.

As per the data from Ministry of New and Renewable Energy for the years 2010 and 2017, there is rapid development in generation of Grid interactive power capacity in MW of wind, solar, small hydro, biogas, waste to power and off grid captive power capacity in MW of waste to energy waste to energy, biomass cogeneration, biogas gasifiers, generators hybrid and SVM system.

Wind power projects aims at generation of competitively priced grid interactive. The programme also covers research, development, survey and assessment of wind resources.

As compare to year 2010 the capacity of wind power generation has increased by 177.35% which is addition of 20939.87MW to 32746 MW in 2017. In the world India is on 4<sup>th</sup> position for wind power generation in 2017. India's longer coastline provide sites of offshore wind power projects. Near Gujarat, Tamilnadu and Gujarat wind power projects have been developed with weather forecasting facilities. Near Gujarat and Tamilnadu first LIDAR is installed. The Online Wind Atlas on their web site have developed by NIWE to improve and increase capacity of wind power generation. In 2017 India has 20 approved manufactures with 53 models of wind turbines. Wind turbines manufactured in India are having international quality standards which lowest in cost and exported to USA and developed countries in the world. Meso scale mapping were done according to installed turbines for more than 100 meters. Bidding guidelines for wind action under section 63 of electricity act have been notified to Ministry of power. Solar power project aims to generate competitively priced solar thermal and photovoltaic power. In 2017 India is on 6<sup>th</sup> position for generation of solar power energy. The solar power generation capacity is 16611.73MW in 2017 as compare to in 2010 only 10.28MW. The solar power generation capacity is showing maximum increase in section of Grid interactive power capacity. It has increased by 16601.43MW due to different initiatives taken by government. The capacity for solar parks and Ultra solar park have enhanced. The Kornoal solar park in Andhra Pradesh is emerged world largest solar park with 1000MW capacity at single location. In 2017 more than 35 solar parks are added and 3 solar parks approved in Rajasthan, Gujarat and Mizoram with different capacities. In 2018 there are 21194 solar projects are signed under the solar scheme-2018. Government has declined the tariff to lowest as 2.44kwh. 41.80 lakh solar lightening system and 1.42lakh solar pumps have installed in India. Under the solar roof to suryamitra programme 1000 persons have trained by the government. Arun mobile application was introduce to create awareness about roof top solar projects among the people. The government have also published best practices, grid policies, technical standards and financing norms for solar projects. Under the solar city project 48 cities identified and 31 solar cities are selected for implementation of sustainable energy option through public private partnership and to enhance the capacity for future by assessing present current energy situation. Some of the selected sanctioned cities are Agra, Moradabad, Rajkot, Nagpur, Gandhi agar, Kalyan -Dombivali, Kohima, Dehradun, Chandigarh, Gurgaon, Faridabad etc.

Small hydro power aims to generate competitively priced small hydro power up to 25MW station capacity. There is 60.83% increase in capacity of small hydro projects with value 2735.42MW in 2010 and 4399.35MW in 2017.

Bio power include four sets of programmes with the aim to generate competitively price bio power, heat from agriculture, agro industrial residues and urban industrial waste. It include biomass power, non-bagasse cogeneration Biomass gasifier and urban and industrial waste.

Bio power generation capacity has increased by 271.67% that is 2199.63 MW in 2010 and 8181.7 MW in 2017. It is a result of development of National Biogas and Manure Program and loan facilities for biogas projects.

Waste to power energy generation capacity has increased by 72.62% with 64.96 MW in 2010 and 114.08MW in 2017.

The main objectives of the programmes are supporting research and development to make such systems more reliable and cost-effective, demonstration, field testing, strengthening manufacturing base.

The off-grid power project include Biomass based heat and power projects, industrial waste to energy projects for meeting captive needs, Biomass gasifier for rural and industrial energy applications, water mill for meeting electricity requirements of remote villages, Small wind and hybrid systems for mechanical and electrical application mainly where grid electricity is not available and Solar PV roof top system for abatement of diesel for power generation in urban areas.



In off grid section of renewable energy resources there is increase in capacity of biomass cogeneration by 175% from 232.17MW in 2010 to 661.41MW in 2017. The biomass gasifies generation capacity has increased by 41.23% from 122.14MW in 2010 and 163.037MW in 2017. There is only 2.22% increase in capacity of generator hybrid form 1.07MW to 3.29MW. SVP system has shown maximum improvement by 549.1% with the value of 2.46MW in 2010 and 551.56 in 2017. There is massive increase in development of family biogas plants in number from 0.15 lakh in 2010 to 42.40 lakh in 2017.

#### **4. CONCLUSION**

There is 268.98% of increase in capacity of grid interactive power and 284.38% of increase in off grid capacity of power generation from 2010 to 2017.

This improvement and increase in generation of non-renewable energy sources capacities are due to various programmes and initiatives taken by the Ministry of New and Renewable Energy.

The Clean Development Mechanism programme was developed under the United Nations Framework Convention on Climate Change (UNFCCC) 32nd meeting 2007. This programme has initiated programmatic activities in areas of solar heating, solar cooking, family biogas, medium and small biogas projects in industry and village electrification. The additional issues have been handled by CDM programme like sector specific base line and monitoring methodologies.

Green Energy corridors were identified and intrastate transmission system is implemented in eight renewable rich states Tamilnadu, Rajasthan, Karnataka, Andhra Pradesh, Maharashtra, Gujarat, Himachal Pradesh and Madhya Pradesh with cost of 10141 crores to improve grid power projects capacity. Government has stated bank loan up to 15 crores will be available for public utilities and individual 10 lakh per borrower for development of renewable energy resources. As per the Electricity Act 2003, 100% Foreign Direct Investment is permitted for development of renewable energy sources.

The International Solar Alliance (ISA) is an international body operating in 121 countries between the Tropic of Cancer and Tropic of Capricorn. India is a leading country along with France in formation of International Solar Alliance with headquarter. 47 countries have signed and 18 countries ratified the alliance.

Government has launched Atal Jyoti Yojana for installation of solar LED street lights in five states. Many commercial and big buildings are identified for roof top project. The Amendment in bylaws done for installation of roof top solar project for buildings. Solar tax free bonds have been launched. Funds were raised from bilateral international donors for green climate fund to develop renewable energy resources in India.

The supportive programmes have also introduced like Information and Public Awareness to disseminate information on new and renewable sources of energy system through variety of media like electronic, print exhibition and outdoor media.

The Special Area Demonstration Project Scheme has been introduced with objective of demonstrating various renewable energy systems at places of national and international importance, such as heritage monuments, religious locations and places of public interest to create importance and awareness of renewable energy resources. The Human Resources programme has also been implemented for giving renewable energy education and training with the goals of skill development, technological up gradation, decision making, improve efficiency of devices, energy security and technical and financial assistance. The Planning and Co-ordination Division is responsible for planning and budgeting the plans, schemes and programmes of ministry and matters related to reforms, policy measures, fiscal concessions, etc. The ministry provides supports to various educational institutes, nongovernmental organization and governmental departments for organizing workshops seminars conferences related to renewable energy sources to interact and share their views with policymaker, manager, industry representatives, students professional etc.

Technology Information Forecasting, Assessment and Databank (TIFAD) is an important change which includes establishment of dynamic mechanism for creation of data bank on information. It includes utilization of information technology tools, internet to access global database in area of renewable energy. It also provides online support, computer training programmes for solar energy projects and electronic monitoring projects.

The Ministry of new and renewable energy (MNRE) has prepared its web site in English and Hindi which gives a comprehensive picture of development and utilization of renewable energy sources in India.

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