



Impact of tourism on energy consumption in India

Subhalakshmi Akkinapalli

Student, Amity School of Economics, Noida, Uttar Pradesh

ABSTRACT

Tourism has been a rapidly growing industry in the recent years but it comes not only with the increasing revenues but also with a quite lot of negative impacts on the environment. In order to curb the increasing pressure on the natural resources, the concept of Sustainable Tourism and Ecotourism has been introduced across the globe. India has been receiving an increasing footfall of tourists in the recent years including domestic and international. The government has realized this fact and has decided to take up adequate measures in order to raise awareness not only amongst the tourists but also the local people to conserve the natural habitat and environment sensitive areas, natural resources and the heritage and culture of the tourist destinations. Energy is an important component of the economies to develop but extreme exploitation of energy resources do have repercussions on the growth of an emerging economy. Hence this paper aims to study the impact of tourists (domestic and international), population and steel industry on the energy consumption.

Keywords: Sustainable Tourism, Ecotourism, Tourists, Energy Consumption.

1. INTRODUCTION

The tourism industry is the largest as well as the fastest growing industry in the world, leave alone India because of increasing incomes of the growing population and demand for leisure and peace. The tourism industry employs around 260 million people around the globe and also contributes to 10.7% of the total world GDP (*World Tourism Organization*). Hence there is increasing need of planning and management in order to control this rapidly expanding industry not only to regulate the safety and comfort of the tourists but also to protect and conserve the biodiversity of the tourist places. Sustainable tourism is the key to address such grave issues as it is all about giving importance to the culture, heritage and the tradition of the particular tourist places and conserves the natural resources and the environment and it also helps contribute a huge chunk to the country's economy.

According to the *World Tourism Organization (Sustainable Tourism Development)*, sustainable tourism is defined as "tourism that takes account its current and future, economic, social and environmental impacts, addressing the needs of visitors, the industry, environment, and the host communities." So sustainable tourism is something that deals with an approach through which tourism can be ecologically supportable in the years to come. The most important job of sustainable tourism is to conserve the natural resources which are depleting at an alarming rate and also to preserve the local heritage and cultural practices of the tourist places which are disturbed by the incoming of tourists from various cultures. Hence in order to make sure that these tourist places are preserved with their beauty and grace for the future generations to come, it is very important that every country on the globe should adopt policies and programs in order to increase the use of sustainable tourism. Sustainable tourism is that aspect of the economy which not only generates employment and income but also alleviates the problems causing the deterioration of environment by lessening the deeper negative impacts on the environment and the local heritage and culture of that tourist location.

There is an urgent need for the development and increase in sustainable tourism development which is only possible through the informed and great participation of all the stakeholders, and mainly the support of the political leadership or the strong government which helps in ensuring wide participation and consensus building. In order to achieve sustainable tourism, it is very important to constantly monitor the deteriorating impacts of the tourism industry on the lifestyle, heritage, culture, tradition, biodiversity, and in whole the environment of the tourist location. Constant monitoring is not the only measure which needs to be taken but also the preventive measures to preserve the environment and cure to the destruction already done due to increasing air and noise pollution, solid waste and littering, sewage, polluted lakes and seas, aesthetic pollution, increasing construction activities and infrastructure development, intensified and unsustainable use of land and the depletion of natural resources. For such situations, necessary preventive or corrective measures must be introduced and employed before it's too late.

Sustainable tourism includes all the elements like conserving the environment, preserving the natural resources, increase the local culture, heritage, and traditional values. The goals of ecotourism and sustainable development are more or less the same, but the latter one has broader goals and objectives since ecotourism only involves the conservation of the environment, wildlife and aims the well-being of the local people and is called as the nature-based tourism. While sustainable tourism involves ecotourism as well as many other components which need to be given attention by the governments, local people, and the tourists.

This main objectives of this project are to study the impact of increasing tourism on sustainable development due to the exploitation of natural resources. Although there are various impacts on the environment due to the increasing tourists which are categorized broadly into three groups. The first one is the depletion of natural resources like water resources, local resources kike energy, food and other raw materials, land degradation- due to exploitation of minerals, fossil fuels, degradation of the fertile soil, deforestation- as in the cutting down of trees for various purposes on a large scale, wastage of wetland, exploitation of both renewable and non-renewable resources. The second one comprises of pollution including air and noise pollution, solid waste and littering, sewage polluted lakes, aesthetic pollution because of roads, employee housing, parking etc. The third one is the physical impacts of construction activities and infrastructure development and intensified and unsustainable use of land and marine development. Other areas which are affected include trampling, anchoring and other marine activities and hence the alteration of the ecosystem by tourist activities.

Hence this chapter has outlined the aims and objectives of this study, while the next chapter will evaluate the dependent and independent variables and the essential components of research. The subsequent chapter will establish the multiple regression models by explaining the dependency of energy consumption on the other independent variables. The fourth chapter will establish the link between economic growth and energy consumption, while the next chapter will give policy recommendations to foster the concept of sustainable tourism in order to make tourism a profit-making industry. The last chapter will exemplify the future prospects of tourism and conclude the study.

2. COMPONENTS OF RESEARCH

This chapter aims to evaluate the various set of variables which are the dependent variable and the independent variables. This data was collected in order to carry out a multiple linear regression models through which the study will establish a relationship between the dependent and the independent variables.

Table: Variables of the research and their description

Name of the Variable (Y) Dependent Variable (X) Independent Variable	Description of the Variable in the Study
(Y) Energy Consumption	The unit of the data is in kilowatt hours.
(X1) Domestic Tourists	The unit of the data is in billions.
(X2) International Tourists	The unit of the data is in billions.
(X3) Total Steel Output	The unit of the data is in billions.
(X4) Population	The unit of the data is in billions.

Table: Data set for the year of 2006-2014

	kilowatt hours	Billions	billions	billions	billions
Year	Energy Consumption	Domestic tourists	International tourists	Total steel output	Population
2006	467.5468932	46.2439	1.1747	0.04945	1.162
2007	486.553847	52.67	1.3267	0.053468	1.1797
2008	503.0364723	56.3034	1.438	0.057791	1.1971
2009	546.1773528	66.88	1.4372	0.063527	1.2143
2010	563.1594387	74.7703	1.791	0.068976	1.231
2011	579.4094537	86.4532	1.9497	0.073471	1.2472
2012	600.4434574	104.5047	1.8263	0.077264	1.2631
2013	606.8743425	114.2529	1.9951	0.081299	1.2786
2014	637.4293575	128.2801	2.2334	0.087292	1.2939

Data Sources:

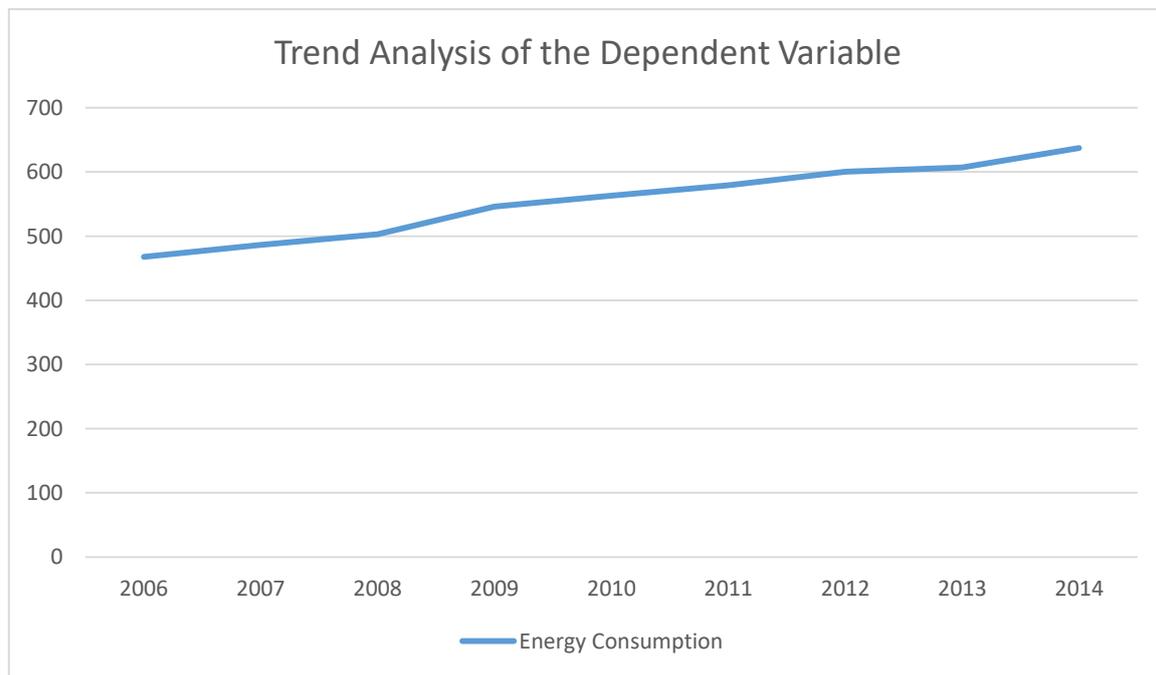
The study deals with the secondary data. Data is collected from the World Bank data site and also from different Government of India sites such as Ministry of Statistics and Programme Implementation. More data was collected from the Statistical Yearbooks of various departments.

Dependent Variable

Energy consumption (Y)

The data for the rising trend of energy consumption was collected from the Energy Statistics Report, Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India, 2017. Energy consumption was taken as the dependent variable and as one of the components of research because this project aims to show the impact of increasing tourists, exploding population and the total steel production output on the increasing demand of natural resources and calls for its exploitation. Out of all the natural resources, total energy resources, both renewable and non-renewable were seen to be influenced and impacted by the increase in tourists.

There is a rising trend of energy consumption for the time period of 2006-2014 which is depicted in the following graph.



Independent variables

The independent variables are taken such that to exhibit the impact of tourism on sustainable development. Hence two types of tourists which are domestic tourists and international tourists have been considered. These two types include all the other kinds of tourists which are medical tourists, leisure tourists, adventure tourists, etc. The other two components of research which are population and the total output of the steel industry in the country from the time period of 2006-2014 have been considered as the independent variables for the research because they also play a huge role in the increasing trend of energy consumption.

Domestic Tourists (X1)

Domestic tourists are one of the main components of the tourists who majorly contribute in the exploitation of natural resources because whichever particular destination there is a huge tourist footfall, all those tourist destinations are completely overburdened with the already increasing demand of natural resources from the exploding population.

International Tourists (X2)

International tourists include all kinds of medical tourists, adventure tourists and leisure tourists who come with great expectations to fulfill their luxurious demands and hence are one of the main reasons for the exploitation of natural resources and the increasing energy consumption.

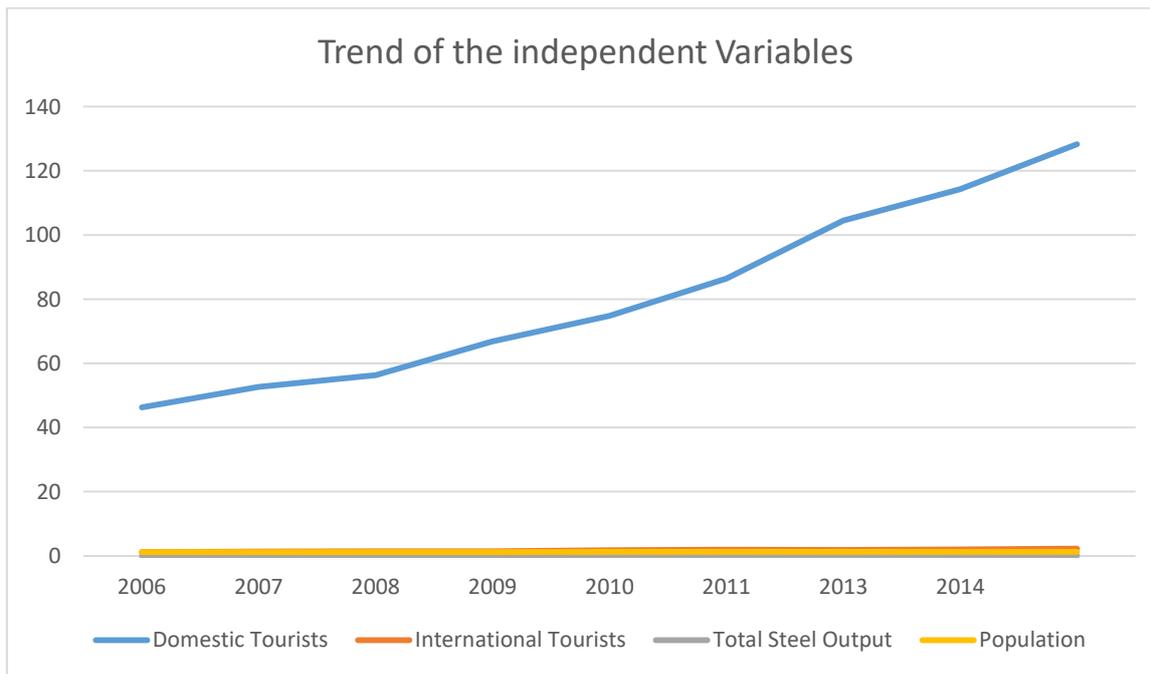
Total steel output (X3)

India has a vast amount of steel production because of its expanding demand in every sector of the economy, including household, industrial, agricultural, railways, etc. In order to meet these requirements, the steel production has been increasing at a rapid rate, and for this to continue successfully, huge amounts of energy resources are exploited.

Population (X4)

The population of India has been exploding at an alarming rate since the last few years. Hence in order to satisfy the demand, needs, and requirements of the population, the exploitation of natural resources has been taking place and hence the exploitation of energy resources has also been increasing.

There is a rising trend in all of these components which have been taken as the independent explanatory variables which are depicted in the following graph.



Hence the relationship established in this chapter among the dependent and independent variables have been further worked in order to facilitate a multiple linear regression models and also establish the dependence of energy consumption on the components of research which are domestic and international tourists, population and total steel output.

3. DATA ANALYSIS WITH MULTIPLE LINEAR REGRESSION MODEL

This chapter aims to establish the multiple linear regression models with the help of the components of the research explained in the previous chapter. The equation thus would be formed with one dependent variable and four independent variables. The following equation is a general equation thus formed with the variables chosen for the study.

$$\text{Total Energy Consumption} = \beta_0 + \beta_1 \text{ Domestic Tourists} + \beta_2 \text{ International Tourists} + \beta_3 \text{ Total Steel Output} + \beta_4 \text{ Population} + u_i$$

In the above equation $\beta_0, \beta_1, \beta_2, \beta_3,$ and β_4 are the parameters of regression which are there with the independent explanatory variables- domestic tourists, international tourists, total steel output and population. While u_i is the error term which explains the minor variations in the model which can otherwise not be explained by the independent explanatory variables. The following table shows the regression summary output obtained by running the multiple regression analysis with the variables of the study. As reflected in the table below, total energy consumption in India from time period 2006-2014 is affected by domestic tourists, international tourists, total steel output, and population, where total energy consumption is the dependent variable and domestic tourists, international tourists, total steel industry output and the total population are the explanatory or the independent variables.

Table: Output of Regression

SUMMARY OUTPUT					
Regression Statistics					
Multiple R	0.75931237				
R Square	0.76862521				
Adjusted R Square	0.79725041				
Standard Error	3.06439259				
Observations	9				
ANOVA					
	df	SS	MS	F	Significance F
Regression	4	27284.33784	6821.084	726.3812	5.66E-06
Residual	4	37.56200787	9.390502		
Total	8	27321.89985			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1418.41875	511.125589	2.775089	0.050069	0.693394485	2837.5309	0.693394485	2837.530885
Domestic tourists	0.94045327	0.215979345	4.354367	0.012116	1.540108071	0.340798	1.540108071	0.340798478
International tourists	0.656240553	15.5860274	4.210441	0.013581	108.8978048	22.35031	108.8978048	22.3503058
Total steel output	0.85588306	2145.44679	5.900324	0.004128	6702.115361	18615.546	6702.115361	18615.54584
Population	0.725117513	517.1639643	2.419301	0.007282	2687.052492	184.70222	2687.052492	184.7022227

Multiple R Square in the regression model is the correlation between the two different vales which are the response values and the fitted values. In the above table, the Multiple R Square is equal to 0.7593 which represents a satisfactory degree of correlation between the dependent and the independent variables.

While R Square explains the actual variation in the dependent variable caused by the independent variables. In the above table, R Square is 0.7686, which implies that 76% of the variation in the dependent variable can be explained as caused by the variations in the independent variables. This explains the dependency of energy consumption on the domestic and international tourists, total steel output and population.

Hence with the help of the multiple linear regression analysis, the parameters which have been taken along with the independent explanatory variables have been calculated and hence the equation on which this study is based is formed:

$$Y = 1418.41875 + 0.94045327 X_1 + 0.656240553 X_2 + 0.85588306 X_3 + 0.725117513 X_4$$

Hence it can be established that there is a positive relationship between the increasing energy consumption and the growing footfalls of domestic and international tourists, increasing total steel output and exploding population.

This exemplifies the increasing influence of the domestic tourists on the increasing energy consumption. It can be understood by the above equation that with an increase in the domestic tourists, total energy consumption in the country can be expected to increase by 94.04% within the time period of 2006-2014. Secondly, the equation also exhibits that an increase in the international tourists can influence the energy consumption by 65.62%. Similarly, an increase in the total steel output increases the energy consumption by 85.58% according to the equation and there is an increase in the energy consumption by 72.51% with an increase in the population in the country in the stipulated time period of 2006-2014.

Hence by summing up, it can be established that the model indicates that if other parameters remain constant, then the coefficient for domestic tourists is 0.94. The coefficient indicates that for every additional increase in domestic tourists over the years, there is an increase in the energy consumption by an average of 0.94. Similarly, holding all other variables constant, every increase in the number of international tourists leads to increase in the total consumption of energy in India by an average of 0.65. Same is the case of total steel industry's output of India, where an increase in the steel output of India over the years has resulted in an increase in the energy consumption by an average of 0.85. Another parameter affecting the energy consumption of India by an average of 0.72 is the growing population of India which is another independent explanatory variable while keeping other variables constant.

Therefore, this model represents a positive relationship between the increasing energy consumption in India (dependent variable) and factors affecting it i.e domestic tourists, international tourists, the total output of steel industry and the total population of India.

4. ECONOMIC GROWTH AND ENERGY CONSUMPTION

This chapter will facilitate the effects of increasing energy consumption on the growth of Indian economy.

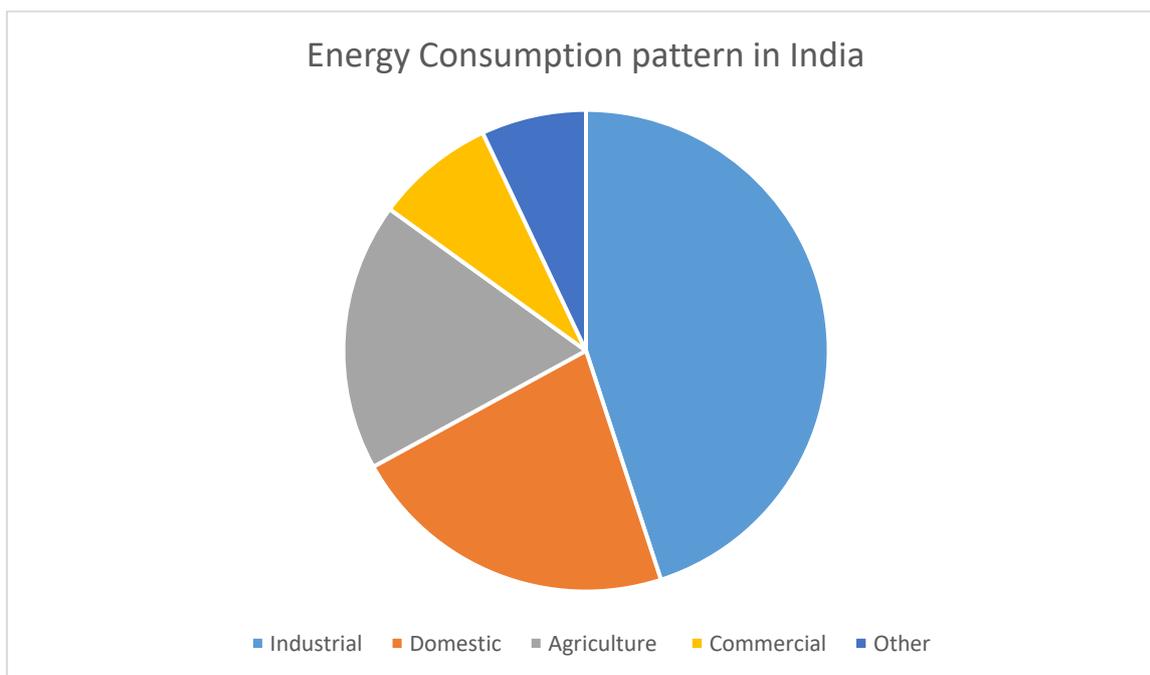
Energy is one of the most major sources for the economic development of a country. In recent years, India energy consumption has been increasing at a relatively fast rate due to population growth and economic development. Energy plays a substantial role in economic growth, hence the relationship between energy consumption and economic growth is an important issue for economists. Energy has been identified as a key tool to counter climate change and enhance energy security. The growth of the economy has been of vital importance and a key concern for all the policy makers and the government hence in order to increase the economic development of India, heavy demand has been placed on the renewable as well as the non-renewable energy resources. But this increase in the rate of demand placed on the natural resources has been alarming the policy makers as it is not enhancing sustainable

development which is also a key goal of the country. Thus, there is need to enhance energy security along with reducing greenhouse gas emissions.

Energy is a fundamental resource in the economy. Any activity requires energy in some form. Consequently, economic growth is directly related to energy consumption. As Alam (2006) puts it, “energy is the indispensable force driving all economic activities.” According to Ojinnaka (2008), energy consumption runs hand in hand with the national product. His study revealed that energy consumption per capita is an important indicator of economic growth. Energy is one of the most important resources used in all production processes and this has increased the foreign earnings of countries that export energy products. Most countries especially the less developed countries have benefited from the transfer of technology in the process of exploration, production, and marketing. The energy industries have also provided jobs to a good number of people who were unemployed. There have been improvements in infrastructure and socioeconomic activities of communities in the process of energy resource exploitation. Base on the above arguments, consistance supply of energy, thus becomes central to the economic and infrastructural transformation of the nation’s economy. The relationships between energy consumption and economic growth have been investigated over time but there is still need for continuous research and development. Many studies are based on whether the economic growth leads to energy consumption or vice-versa.

According to the International Energy Statistics Report, it has been established that a comparative study among the emerging Asian economies for the relative consumption from various sources of energy as a percentage of the world total, India stands at the third position after China and Japan. Hence this raises the question of whether India’s increasing energy consumption is helping the economic growth.

Energy is one of the most important resources in order to achieve the interrelated web of economic, social, political, and environmental aims of sustainable development. Energy is globally recognized as an important catalyst for the economic as well as human development. According to the Energy Information Administration, there is always a double-sided relationship between economic development and energy consumption. One side of the relationship claims that the growth of an economy directly or indirectly depends on the efficient use of cost-effective and environment friendly energy resources, while the other side is that the level of economic development depends on the amount of demand for energy in the economy.

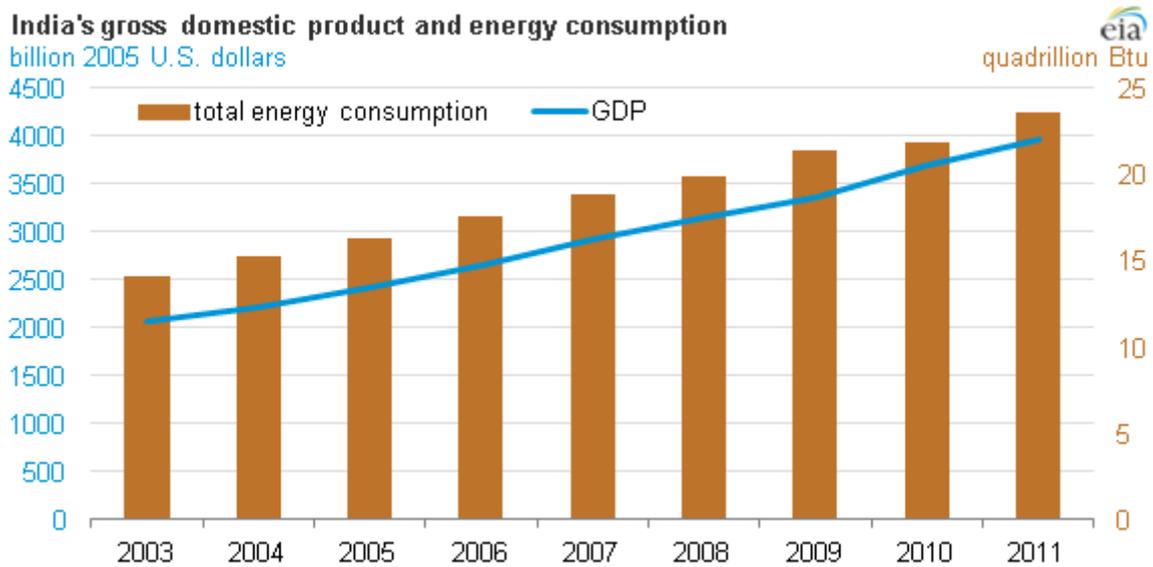


Source: Energy Policy Report, Planning Commission, India

The pie chart above shows that although all the sectors in the economy make huge consumptions of energy resources but according to the Energy Policy Report, the Industrial Sector is the highest consumer of energy resources with 45% of the consumption of the total energy, while domestic sector consumes 22%, agricultural sector consumes 8%, commercial sector consumes 8% and others consume 7%. This depicts that energy is an important resource for all production and consumption activities in the economy, whether it is household, agricultural or industrial. And to add to that is the increasing amount of technical advancement which increases the productivity in various sectors which leads to increasing requirement of energy resources. The important role played by the energy resources for the development and modernization has been recognized since the first five-year plan itself hence there have been massive investments in the energy sector to enhance the economic growth.

The level of economic activities taking place in the process determine the role of energy consumption in various sectors and hence is also considered as the key driver for the energy markets. Keeping this aspect in hand, many scholars have researched on the various assumptions to establish a relation between energy consumption and economic growth. They came up with four alternatives. The first alternative is that if there is no causality, which is the neutral assumption, establishes the fact that there is no relation between energy consumption and GDP. Therefore in such a case, no kind of conservative or expansionary policies would affect the economic growth. The next two alternatives establish the unidirectional relation where only one of them would be dependent on the other, which means that either the case would be that only energy consumption is dependent on the economic growth or only

economic growth would be dependent on the energy consumption. The final alternative is that there is a dependency of both the components on each other, which establishes the concept of bidirectional, in which case both energy consumption and economic growth are dependent on each other.



Source: U.S. Energy Information Administration, International Energy Statistics, and Oxford Economics.

The above graph clearly depicts that India's GDP and the energy consumption have a positive relationship and it exhibits that India has an increasing trend in its energy consumption and in link with it the GDP has also been showing a positive growth. Although there is a positive relationship within India for the increasing energy consumption and its efficient utilization in various economic activities and the economic growth. But there are also various repercussions of the same. Energy resources are of two types, which are renewable energy resources and non-renewable energy resources. Since India is at the third rank among the emerging Asian economies in the ranking of the energy consumption, it is quite evident that India has been increasing its energy consumption from the past few years. Some of the important reasons of the increasing energy consumption in India is the rapidly growing population, industrial developments, and increasing tourists. Increasing population is placing heavy demands on the energy for various purposes. Similarly, the iron and steel industry has been expanding its branches all across the country as it not only determines the requirement of its own industry, but also the other sectors which are influenced by the iron and steel industry and have placed heavy demands on this industry, like the railway sector, infrastructure sector, etc.

The most important component of this project is the tourists, who are increasing their footfall in India on a yearly basis. Tourism has been a great boost for the Indian economy, as increasing tourism has definitely brought in great amounts of profits and revenues and has helped the current account to stay on a positive side but with these advantages, there are also problems associated with it. The problems of the increasing tourists in the country, including domestic and international tourists, are of prime concern in the present day environment which aims to attempt the concept of sustainable tourism. Sustainable tourism includes the ecotourism which implies that tourism should be able to bring in profits by conserving the natural habitats and without disturbing the serenity of the environment, which is probably the main reason for the increasing tourism, especially in some particular destinations. These particular destinations receive a high amount of tourists due to the seasonal character of this sector. This leads those particular place to be overburdened by the increasing demands of luxury by the tourists. The basic resources are been exhausted and this leads to increasing consumption and exploitation of resources. Since tourism needs huge amounts of resources because tourists expect themselves to be surrounded by all kinds of luxuries while they are on a vacation. Hence in order to fulfill the requirements of the tourists, there is massive exploitation of natural resources due to overburdening in those particular destinations.

So energy resources are been exploited not only for the development purposes and growth of infrastructure, but it questions the problems arising due to the exhaustion of non-renewable energy resources. Although renewable energy resources offer viable option to address the increasing demand of energy for consumption and energy security concerns of the Indian economy there are also problems associated with the increasing consumption of energy as there are initial costs which have to be borne in order to get the energy resources to proper utilization.

The initial cost of the installation is generally quite high for all the renewable resources except for the hydro energy. So these costs can only be borne by heavy industries or extremely rich section of the society and not by normal households sectors who strive to make their ends meet. So hence there is heavy usage of non-renewable energy resources which ultimately exploits them and also ruins the goal of sustainable development. Although the cost of maintenance and operation and management of the renewable energy resources is comparatively cheaper since the initial costs of installation are only so high that people rarely think or volunteer to increase the utilization of renewable resources rather, they prefer to use the normal ways of energy consumption. India with its increasing population and increasing demands for the energy consumption which leads to increasing imports of various other energy resources which increases the expenses for the government as well. With the increasing use of coal, there has been an increase in the greenhouse gas emissions as well, which is in stark contrast with the sustainable development goals.

Hence it is to be concluded that although energy is a very important essential input for the overall development of the economy if it is used as much as the exact requirement is, and if it is been utilized for luxury purposes then, the energy resources are exploited. There is an urgent need to preserve energy resources and reduce energy requirements by demand-side management techniques and

by adopting more efficient and cost-effective technologies in all the sectors of the economy including the agricultural, industrial, and household and the service sectors.

5. POLICY RECOMMENDATIONS

This chapter gives the policy recommendations which must include those that help in fostering the goal of sustainable tourism by efficient utilization of resources and providing the economic benefits of tourism to the local people rather than the tourism agencies which act as the middlemen and contribute in the extreme exploitation of natural resources.

The most recent example of sustainable tourism in India is presented by Kerala- the state which records a great number of tourist footfall across the year and still manages to use its resources efficiently and makes sure that the local people are benefitted and their culture and heritage is also being preserved and the natural habitat is protected which is probably why it has been conferred by the United Nations with a prestigious award. Kerala is the first Indian state to be felicitated the top United Nations Award for Innovation in Public Policy and Governance which is said to be the highest honour given to any state government for introducing creative and innovative policies, rules and regulations to foster the idea and initiate the concept of sustainable tourism. The policies implemented in Kerala must be taken into account by all the states in the country experiencing increasing tourists both domestic and international in order to improve the conditions of natural habitats and to preserve the natural environment and serenity of the particular destination.

The most significant path-breaking Responsible Tourism policy project adapted by the Kerala government in Kumarakom has won applause across the globe because it has successfully linked the local community and the people with the hospitality industry including hotels and travel agencies and the government's department of tourism which helps in the local people being more involved and creating job opportunities for them and helping them financially, thereby, creating a model for other states of the country and for empowering and developing the people in the area by adopting eco-friendly measures for sustainable tourism.

Hence the various policy measures that can adapt by states with beautiful tourist destinations without compromising with the safety and pleasure of the tourists in order to promote sustainable tourism can be developed in three directional strategies which are economic responsibility, social responsibility, and environmental responsibility.

Economic responsibility is basically established with the concept of providing the benefit of the tourism industry to all the stakeholders participating in it. On a simple basis, in order to revive the agricultural sector and also to provide job opportunities to the local people and to provide them with the financial support, the local self-governments must take initiatives and make arrangements in order to collaborate the local people with the hospitality industry. For example, they can arrange the local farmers to provide the vegetables and food grains to the hotels and restaurant through which both the stakeholders can benefit and provide support to each other. Despite such agreements, some hotels and restaurants might refuse to buy local produce directly from the farmers expressing their concerns in the price of the product, regularity in the supply of the product and the aspect of compromising with the quality of the product. In order to solve such cases, a negotiation cell must be established to enable successful negotiations between the concerned parties. Eventually, this will enhance the supply chain mechanisms to strengthen the relation between both the parties and also benefit them by alleviating their looming concerns.

Social responsibility is concerned with all the stakeholders of the tourism industry to play an active role in the enhancement and development of the local community, their people, their local heritage, culture, and traditions. The government must ensure that the tourists must comply with the rules and regulations according to the local traditions and culture of the particular tourist destination. It should be the social and moral responsibility of the tourists to make sure not to hurt the sentiments of the local people by abiding by their culture and not disrespect it. It is also the responsibility of the government, hospitality industry, travel agencies and the local people to make sure that the tourists are guided properly in the tourist destination and must be informed properly about all the rules and regulations and also to introduce and showcase their heritage, culture, and tradition. There are instances when the tourists complain of being charged with high prices for a simple service, which must be stopped and rather help the tourists.

Environmental responsibility is also again a matter of concern for each individual in the tourism industry. As sustainable tourism is something all the governments are attempting to achieve in order to increase the benefits of all the stakeholders by equitable distribution. Environmental responsibility is concerned mainly with ecotourism and sustainable tourism alike, as ecotourism is a part of sustainable tourism. There is a need to implement some codes, ethics, and guidelines during the planning and management in order to ensure the development and a huge growth in the sustainable development of the tourism industry. Not only the tourists but the local people mainly the young population of the particular tourist location must also be enlightened with the knowledge of the local heritage, values, tradition and culture, importance of the depleting natural resources, preserving the biodiversity, wildlife, and the environment. In order to make this happen and spread awareness among the people, the government must take action and measures to provide them with training and education programmes to manage them in a better way.

Sustainable tourism's tries it's best to stop the exploitation of natural resources and also to maintain the local tradition and culture of a particular location by using the resources which are the key elements in the development of tourism in an optimum manner. It should also make sure to maintain the balance in the ecological process and should contribute to preserving the local heritage and the biodiversity of the tourist place. Sustainable tourism must also ensure tourist satisfaction along with a meaningful experience of learning, understanding and gaining knowledge about the particular tourist location by raising awareness about the issues of sustainability and promote sustainable tourism practices among them.

With the increasing number of tourists both domestic tourists and foreign tourists from across the globe, the biggest need of the hour for the tourism industry like any other industry is to make planning for the development of the tourism sector and also manage it accordingly. This is possible only with the help of initiatives by the locals of the tourist location. The involvement of the local

community is very important in order to ensure the development of the tourism industry in the economy. The locals must be able to get the absolute benefits of the growing tourism sector's benefits and profits. Enabling a link between the local community and the increasing tourist's footfalls help gain them economically and socially as well.

6. FUTURE PROSPECTS AND CONCLUSION

According to the report given by the Tourism Satellite Accounting, which was released by the World Travel and Tourism Council and its strategic partner Oxford Economics has given the future prospects of the tourism industry in India. They have claimed that the demand for tourism and travel industry is expected to increase by around 8.2% between the time-period of 2010-2019 which will help in positioning India at the third rank in the world. India would be the second largest employer in the world in the travel and tourism industry by the end of 2019. Capital investment for the travel and tourism industry is expected to grow at 8.8% between 2010 and 2019. This report also has forecasted that India will receive US\$ 94.5 billion in the travel and tourism industry in 2019. India is also expected to become the fifth fastest growing business travel destination because of the increasing investments in various sectors of the economy from 2010-2019 with an estimated real growth rate of 7.6%.

Hence keeping these in mind, the government should strive hard to implement policies that would allocate appropriate amount of resources to tackle the huge inflow of tourists in the country and also ensure tourist satisfaction along with a meaningful experience of learning, understanding and gaining knowledge about the particular tourist location by raising awareness about the issues of sustainability and promote sustainable tourism practices among them.

With the increasing number of tourists both domestic tourists and foreign tourists from across the globe, the biggest need of the hour for the tourism industry like any other industry is to make planning for the development of the tourism sector and also manage it accordingly. This is possible only with the help of initiatives by the locals of the tourist location. The involvement of the local community is very important in order to ensure the development of the tourism industry in the economy. The locals must be able to get the absolute benefits of the growing tourism sector's benefits and profits. Enabling a link between the local community and the increasing tourists footfalls help gain them economically and socially as well.

Sustainable tourism aims to have a greater involvement of the locals because this helps and provides opportunities to the locals so that they can earn a living and have a better life. It ensures that the long-term economic processes are successfully working and are viable so that they provide better socio-economic opportunities to all the people and stakeholders who are involved and are actively participating in the tourism industry, as by being locals of a particular location or a tourist destination the profits must be fairly distributed and must be secured with stable employment opportunities and jobs and they should also get better and better incomes to provide better standard of living for themselves and their families. This should also ensure social services to the host communities in order to get benefits and must definitely make a significant contribution to the economy and help in the eradication of poverty. Above all, it lays huge stress on the integrity and development of the tourist place so that they are not exploited and are preserves for the future as well.

It is considered to help make a better understanding between the tourists and the locals of the tourist destination. This is done by providing information to the tourists about the local places in the tourist destination and understanding the significance of that particular place in a better way with the help of locals while on the other hand, the locals also get to learn the various cultures and the civilizations of the tourists. This helps enable better communication and understanding among the tourists and the locals. This makes the tourists respect the host communities, conserve the already built and the living cultural heritage and traditional values, and hence they contribute to the inter-cultural understanding and tolerance. This kind of sustainable tourism majorly helps to conserve the natural resources of whatever destination the tourists are visiting by spreading awareness amongst the locals and the tourists alike.

This study has hence, research on the dependence of the energy consumption on the increasing tourists, population and total steel output with the help of the multiple linear regression model and has established a positive relationship between the variables, which shows that the increase in tourism is driving away the goal of sustainable tourism even away. So in order to implement the policies of sustainable tourism and to ensure that it makes its way perfectly into the policy makers plans. Energy consumption has been increasing at a rapid rate because of the increasing demands of all the sectors of the economy hence cleaner sources of energy should be used so as to curb the effects of climate change which results from the consumption of fossil fuels. Energy infrastructures should be built such that they sustain and enhance for the future generations as well. This does not only involve good maintenance practices of existing energy infrastructure but it also deals with ensuring that there is an increase in such infrastructure through the issuance of licenses to the private sector for the operation of such facilities and by reducing regulatory barriers even to long-term capacity contracting. Also, natural gas infrastructures should be constructed and installed throughout the country. Availability of such facilities will increase the gas production and consumption and possibly growth. The state should encourage research and development in the Energy Sector in order to fully exploit other energy sources. There is need to increase research and development in the energy sector so that innovation can be fostered. Research and development into renewable sources of energy could be fostered and this could enhance economic growth. Lastly, the government should increase the budgetary allocation to the sector and make the release of funds as fast as possible without delays. It is certain that the renewable energy sector is capital intensive and would require a huge amount of investments but make those investments will not only reap profits in the future but also would be sustainably efficient.

Hence sustainable tourism must be at the heart of policy-making implemented in order to make the tourism a better and profit producing industry for all the stakeholders including the government tourism industry, travel agencies, local community and the tourists as well. This concludes the project as it finally attempts to exhibit the impact of tourism on sustainable development and

that of the exploitation of natural resources specifying the increasing energy consumption and its repercussions on the growth of Indian economy and hence alternative measures and policy recommendations to increase sustainable tourism.

7. REFERENCES

- [1] Steel Statistical Yearbook 2016, World Steel Association, Economics Committee
- [2] Renewable Energy in India: Growth and Targets, Ministry of New and Renewable Energy, May 13, 2015
- [3] Santosh Sahu, Trends and Patterns of Energy Consumption in India, IIT Mumbai, MPRA Paper no.16774, December 29, 2008
- [4] Industrial Sector Energy Consumption, U.S Energy Information Administration, International Energy Outlook, 2016
- [5] India Tourism Statistics at a Glance, 2015
- [6] Energy Statistics, Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India, 2017
- [7] Renjish Kumar VK, Energy Consumption In India- Recent Trends, Asia Pacific Journal of Research, Vol:I, Issue XXXVI, February, 2016
- [8] Annual Report 2015-2016, Ministry of Tourism, Government of India
- [9] Sarfaraz Hashemkhani Zolfani, Maedeh Sedaghat, Reza Maknoon & Edmundas Kazimieras Zavadskas, Sustainable tourism: a comprehensive literature review on frameworks and applications, Economic Research, Vol-28, January 19, 2015
- [10] US Energy Information Administration
- [11] International Energy Statistics Report, April 1, 2013.