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ANALYSIS AND RECOMMENDATIONS FOR IMPROVEMENT ENERGY AVAILABLITY OF INDIA WITH SPECIFIC EVALUATION OF MAHARASHTRA

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ABSTRACT

Energy is an essential and key tool even to achieve the base personal satisfaction. Manageable improvement of a locale depends fundamentally on the wellbeing of renewable assets like soil, water, vegetation, domesticated animals and hereditary assorted qualities. The incorporated advancement of every one of these segments is basic for ecologically stable improvement. The acquisition of energy is additionally mindful in shifting degrees for the progressing deforestation, and loss of vegetation and top soil. While energy accessibility is a deciding component for rural profitability, customary utilization of horticultural deposits for energy generation prompts soil impoverishment. The as of now in effective energy use in different divisions is surely in charge of hindering effects on nature. Thus, solid approach and administration choices must include three components: financial matters, condition and energy, which must be considered in the look for approaches to enhance current energy supplies. This requires advancement of preservation exercises among nearby groups and utilization of customary naturally solid advances.

Keywords - Energy Conservation, Energy Scenario, Energy Parameters in India, Energy in Maharashtra

I. INTRODUCTION

Energy generation, utilization, preservation and optimization are critical for the financial advancement of a nation. The energy distribution is a part of the economy and in addition it itself comprises of parts, for example, energy supply and energy request collaborating with each other. Energy is required for all the monetary exercises. The monetary advancement is for the most part reliant on the energy arrangement of the nation. In India, an assortment of wellsprings of energy is being used. Like kindling, rural waste, creature manure and human power are the customary wellsprings of energy which still keep on meeting the heft of energy prerequisites in country India. These customary fills are step by step getting supplanted by business energizes, for example, coal, petroleum, regular gas and power (Tiwari, 2000).

Detailed survey was conducted

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Energy is one of the paramount and non-ignorable parameter for the upliftment as well as overall growth of any state. Maharashtra is one of the biggest population of more than 110 million upto now is second in the generation and optimization of renewal energy in the country.

In this research work, the specific case scenarios of rural segments of Maharashtra are fetched to evaluate the initiates and developments in the energy optimization, conservation, development and related growth with the research datasets released by the government sources on assorted portals.

As there are so many sources of energy for the upliftment and growth of the state including solar energy, wind energy, electricity and many others, this work underlines such aspects whether taken in consideration by the government initiatives.

The other factors and dimensions are considered here to extremely extract the statistics and analytic reports in the domain of energy consumption as well as optimization

II. BACKGROUND OF RESEARCH

Energy is the most vital factor playing role in the National GDP development, development of the human being in aspects like health, economy, and overall quality of life in Urban and Rural Area.

The GDP is the strong and significant indicator of the national growth In terms of Industry, Agriculture, Service and other significant sectors. This thesis tries to analyze the positive relationship between the energy consumption and GDP and other linked Factors. The Research fetches conclusion that the rural area, which has a large population has still least priority and access to energy means with the existing structure which has to be improved with proper Goal setting.

The energy consumption per capita has to be increased to increase the GDP while we have pressure of import fuel cost and dependency on it. This thesis focuses on the micro evaluation of the Present energy consumption patterns and associate factors with it. Also India's present energy consumption pattern and review of potential of Renewable energy Usages. The income level of individual influences fuel preferences and options that to some extent depend on the economic situation of the country considered. Technological advances and energy infrastructure also influence the cost, accessibility and affordability of different fuel options. Population growth and the rate of urbanization limited the access to any fuel other than fuel wood and these also exert pressure on both fuel wood supply and demand. Globally, over 2 billion people depend on firewood for cooking but 1.5 million of these have daily difficulty in finding sufficient supply. Increases in population have put pressures on the use of firewood to the point where its collection is destructive and un sustained. (Bob, 1996).

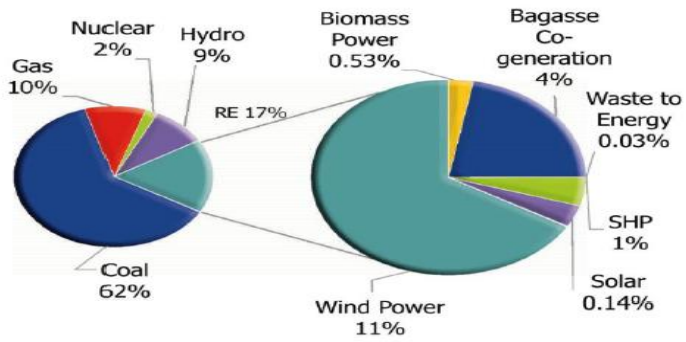

Figure 1.1. Distribution Aspects of Assorted Energy Factors

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Table 1.1: Resource wise installed capacity in Maharashtra (2014)

Sr. No.	RE Technology	Potential	Achievement
1	Wind	5,4391 MW	4,079.6 MW
2	Waste to energy	287 MW	11.7 MW
3	Biogases cogeneration	1,250 MW	1,362.7 MW
4	Biomass Power	1,887 MW	182 MW
5	Small Hydro Power	733 MW	278.6 MW
6	Solar PV	4-7 MW	230.25 MW

Since 2005, India has seen a normal yearly GDP development rate in the range 7- 8.5%. India's great development is joined by a mind boggling story of expanding total energy request and developing requirement for expanding energy consideration. A large number of families in India still need access to dependable power and clean cooking energizes. As per the International Energy Association (2009) around 36% of India's populace – more than 400 million Indians – need access to electricity1. Besides, almost 70% of Indians more than 1250 million people – depend on biomass as their essential cooking fuel.

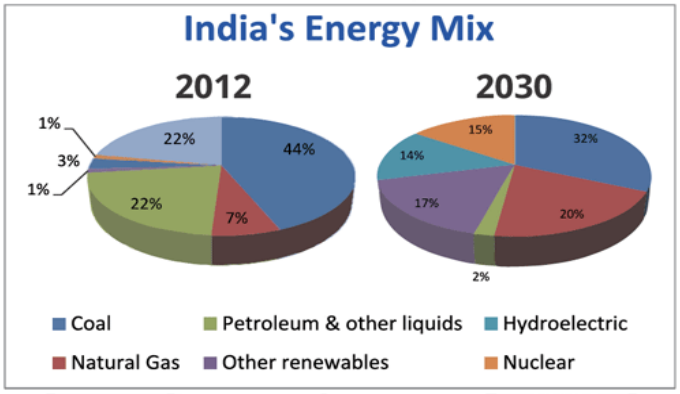

Figure1.2. India's Energy Mix and Segments

Against this background, India is seeing an upsurge in action for the advancement of new renewable energy advances, items, and administrations to meet the rising energy requests of poor family units at the "Base of the Pyramid" (BOP).

The mix of the need to economically dispose of energy destitution and the rise of new and energizing energy advancements and plans of action in India has pulled in light of a legitimate concern for multinational companies, multilateral improvement giver associations, establishments, and social wander speculators alike. This expanded premium is confirm by the declaration of the Global Cook stoves Alliance in 2010, the Shell Foundation's speculation of $25 million to grow monetarily practical enhanced cook stoves, the Government of India's dispatch of another Improved Cook stoves Mission, and the expansion of social ventures and customary organizations that look to give clean energy items and administrations to Bop purchaser sections since 2007.

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While expanded enthusiasm for creating imaginative approaches and plans of action to upgrade energy incorporation is energizing, business visionaries, financial specialists, and strategy producers confront noteworthy difficulties identified with innovation advancement, showcasing and appropriation, and arrangement and motivating force outline. Basic each of these particular difficulties, too little is right now thought about the objective market for clean energy items and administrations. Access to vigorous, open information about the energy utilization and use examples of BoP shopper fragments are hard to find.

Luckily, in India the National Sample Survey (NSS) Consumer Expenditure Survey accumulates family level information from the nation over. While this information are notable to scholastics and arrangement experts, they are moderately underutilized by business visionaries and effect financial specialists. The information displayed in the Energy Atlas are drawn from the 61st round of NSS 2004-2005 Consumer Expenditure Survey, which covers more than 124,000 family units over the whole topographical territory of India. As a component of its expansive construct information with respect to family utilization, the NSS information contain nitty gritty data on family level utilization and consumption designs on fuel and light, including amounts of fuel utilized, the estimation of the fills expended and sum families spend every month on every fuel type. The Energy Atlas concentrates particularly on the NSS cooking and lighting fuel utilization and use information to illustrate family unit level energy utilization elements at both the national and state level.

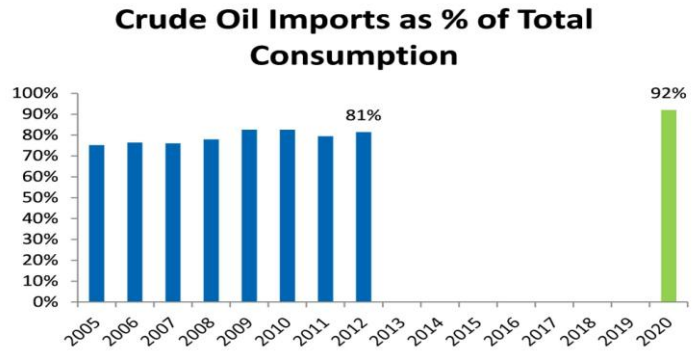

Figure 1.3. Oil Imports in India

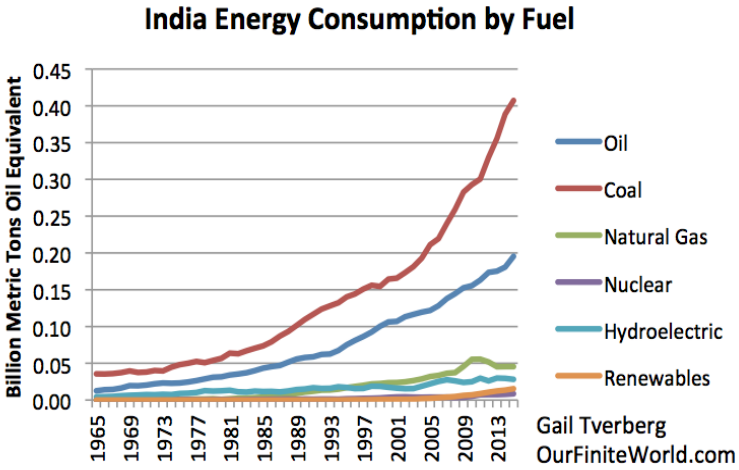

Figure 1.3. Energy Consumption in India

(Source: MNRE, GOI 2012)

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III. SAMPLING METHODOLOGY

The survey has been conducted to know the real problem with the energy supplies .

3.1 Sampling design

Sampling system or design is the technique used to select the considerable participants from the available inhabitants. A perfect sampling plan must convene the explicit needs like as measurability, financial system, goal direction and realism. The sampling techniques are of two types. They are probability sampling and non-probability sampling technique. The methods of probability sampling are:

1) Simple random

2) Cluster

3) Systematic

4) Multi stage

5) Stratified

3.4 Development of Survey Questionnaire

SERVQUAL Model based questionnaire was prepared and got filled from the respondents as rural segments of Maharashtra

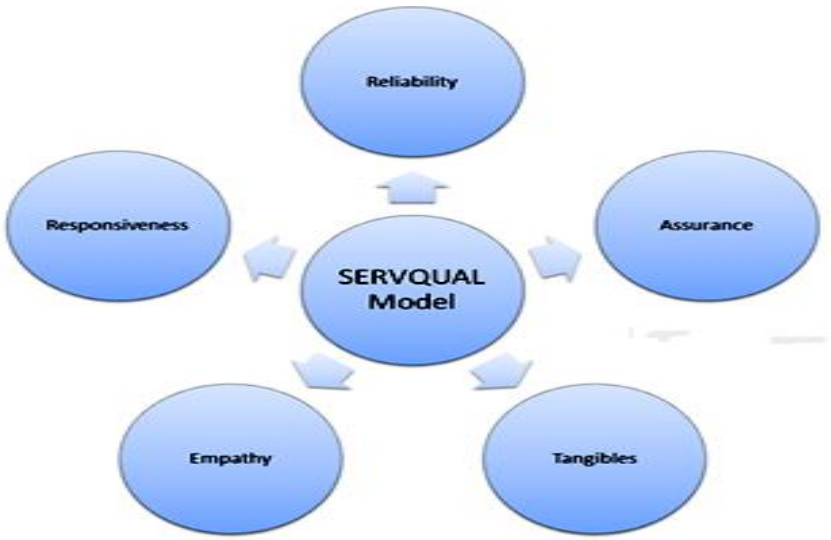

Figure 2.4 – SERVQUAL Model

The key factors for the satisfaction are

- Whether the initiatives approved on time
- Overall feedback
- The amenable / friendly behavior
- Response time towards queries / issues and procedures

3.5 Research Questioners

The research questionnaire is solely based on the SERVQUAL model for the query and data collections. The earlier title of SERVQUAL is currently named as RATER Model which includes

Reliability	*Assurance*	*Tangibility*	*Empathy*	*Responsiveness*
R	**A**	**T**	**E**	**R**

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These 5 key components of the model are used for the questions -

1. Tangibility - 3 Questions (Expectations) - 3 Questions (Actual Response)
2. Reliability - 3 Questions (Expectations) - 3 Questions (Actual Response)
3. Empathy - 3 Questions (Expectations) - 3 Questions (Actual Response)
4. Assurance - 3 Questions (Expectations) - 3 Questions (Actual Response)
5. Responsiveness - 3 Questions (Expectations) - 3 Questions (Actual Response)

The outcome of the survey is as below

1. The Per capita consumptions of Energy is low in Rural area and the same may be the reason of lower income and further suicides of Farmer.

2.Use of the Renewable means are quite low compared to the other states the reason possible is the inefficient government mechanism to make the public aware about it and also to know various schemes of Government.

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