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# AN ANALYSIS OF ECONOMIC AND ENVIRONMENTAL SUSTAINABILITY THROUGH GREEN PRODUCTS

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**Abstracts:**

Economic and environment Performance of Green products of Eco-friendly industries in rural areas. Green products are a potentially important concept which plays a role to achieve sustainable development and empower the rural society. Now the world needs a new serious innovation and implantation, which would lead to a better environment. The basic objective of the study is to realize the challenges and opportunities of green products of Eco-friendly industries, green products and services are very essential in the economy. So, this study focused on try to identify the negative impact of **non-green products** (chemical fertiliser, LPG, Plastic, Non-renewable energy, waste water) **and** evaluated the positive impacts of **green products** (Vermicompost, Bio-Gas, Areca leaf plates, green products energy, treated water supply) For the purpose of the study, a particular in rural area of Karnataka.

**Key Words:** Green products, Green Economy, economic and environmental sustainability green entrepreneurship (**Vermicompost, Bio-Gas, Areca leaf plates, green products energy, treated water supply**) waste management, Green Economy Theories and Concepts)

**Introduction:** India is a vast country with diverse population. The economy of India was undertreated during pre-reforms period. after the launching of economic reforms, the Indian economy progressed very well lead to the growth of GDP and employment generation. Industrial growth is one of the key aspects of a country's development. The Government of India wants to enhance the manufacturing sector's contribution to India's gross domestic product, raising it to a 25 per cent share over the course of a decade and creating 100 million jobs. Currently, there are nearly 3,000 designated industrial zones in India. Some of these, such as the industrial corridors, investment regions and manufacturing zones, are very large. The risks associated with industrial

development include higher pollution levels, overuse of natural resources and increased amounts of waste and waste water posing a threat to ecosystems. In 2009, the Central Pollution Control Board declared that 150 stretches of river and 43 industrial areas were critically polluted. Pollution caused by hazardous substances from industry (such as waste, waste water and emissions) and the overuse of natural resources puts sustainable development at considerable risk.

**Sustainability approach**: Sustainability approach in a long run maintains the natural environmental potentiality for human being. Human welfare as well as economic welfare is based on the usage of green products, usage of natural resources for manufacturing the green products determines the environmental sustainability. Sustainability is the ability to continue a defined behavior indefinitely (Costanza Robart, 2012). The definition of Sustainability reveals the systems of ecological functions and natural systems. Economic growth and civilizations change the pattern of usage of natural resources. Day by day environmental damage influenced the change from traditional life to modern life thereby increasing the dependency on natural resources and inelegancy of environmental protection increased the level of pollution. Sustainability approach reduced the environmental pollution and improved the quality of natural resources through clean and green products which means Sustainability approach introduced the green economy approach. There are three key foundations for the term sustainability (Kates Robert W, 2005). Process of development and attitude of consumption maximized the utilization of natural resources and imbalance in the per capita income and quality of life of the people. Industrialization and employment creation activities increased the growth of economy, at the same time increased the waste and pollution with decreased availability of the forest and natural resources and loss of the environmental standard and failure in eco systems protection and control of the ecological balance (Lau Xin Yi 2017). So Environmental Sustainability focused on identification of eco-friendly and user-friendly alternative development systems. Green goods and services are the most important factor to determine the economic growth as well as environmental pollution. Green goods and services and consumption pattern depends on eco-friendly growth pattern of the economy. Without Green goods and services it is not possible to develop the economy (P.J. Sudhakar, 2009).

**Green economy**: green economy has recently emerged as a key concept on the global sustainable development agenda. Over the last decade, India's rapid growth has created job opportunities and helped improved the standard of living. However, its remarkable growth record is restricted by a degrading environment and depleting natural resources, which has necessitated taking major steps to achieve a green and decarbonized economy.

According to Paul Stone man, financial incentives are necessary if the market for green products is to improve and grow. According to Mintel's report, 66% of consumers in United States do not buy green products because of high cost, while 34% say there is lack of availability of green products in the market. This shows the huge potential for untapped market and customer demand and requirement for eco-friendly products which the companies can exploit for capturing the market share and thereby enhancing the profitability and sustainability of the organization in the global competitive scenario.

**Green marketing**: The subject of green marketing is vast, having important implications for business strategy and public policy. Clearly, green marketing is part and parcel of the overall corporate strategy (Menon and Menon, 1997). Green marketing also ties closely with issues of industrial ecology and environmental sustainability such as extended producers liability, life-cycle analysis, material use and resource flows, and eco-efficiency. The larger perception in India among businesses and policy makers remains that environmental protection comes at the cost of economic growth and development. Financial markets for green investments are at a nascent stage and systems to direct funding towards green and responsible investments are inadequate. Green technology is generally thought of as unreliable and not cost-competitive. The thinking that India cannot afford to 'pollute now, clean up later' has still not gained mainstream acceptance.

**Internal Benefits of Green Market:** Marketing starts before a business begins advertising or promoting its products. It includes strategies covering product development, pricing and distribution. In addition to helping boost sales, green marketing can help companies reduce operating and production costs, specifically by lowering energy usage. Environmentally sensitive companies are more attractive to potential employees who seek to become part of a positive corporate culture.

**External Benefits of Green Market:** When a business uses energy efficient lighting, heating and cooling, reduces its water use, recycles office materials, organizes employee community cleanup activities, uses recycled materials and creates less waste, it generates positive public relations in its community and industry and with customers. It can advertise itself as a green company or its products as green on its product packaging, in its advertising and on its website. This can create brand preference or loyalty and boost sales and profits. Green marketers also can qualify as vendors or suppliers with government agencies and businesses that prefer to do business with these types of businesses

**Green economic Policy**: Encourage the application of clean and sustainable mechanisms for basic need provisions such as climate smart agriculture for food, renewable energy for electrification, and green construction materials for housing. The National Action Plan on Climate Change (NAPCC) has priorities for both mitigation and adaptation to combat climate change, missions included the the areas of Renewable energy, energy efficiency, sustainable habitat of waste management, sustainable agriculture system, Promote the Green products. National Water Mission and National Mission on Sustainable Agriculture are redesigning the policy and prioritized the wate and land resource conservation it is included the organic forming, improve the soil health, improve the water quality and treatment and waste management must be looked at holistically and preference must be given to reduction of waste at the source. There should be efforts to institutionalize informal sector and modernization of recycling technologies. Promote the micro-irrigation and waste management systems amongst farmers and in command areas will have significant implications on organic farming and energy demand. Appropriate encouragement, incentives, and subsidies for farmers to adopt these systems are necessary, along with awareness and training on deployment and use of these systems. Greening the economy is not fully recognized as a tool to achieve social prosperity and environmental sustainability. Five high-impact sectors to the Green Economy transition in India are Agriculture,( Organic farming & Soil Health) Construction( green norms and regulations), Power (renewable energy) , Manufacturing (adoption of green energy, green products forestation norms and regulations), and Transport (promote electric vehicles end

implemented the emission rules and regulations) and India must be adopt practice a green national accounting system, Adopt fiscal and monetary policy instruments to that incentivize green economic activity, Use public procurement practices to create high-volume and long-term demand for green goods and services to encourage firms to innovate and get the advantages of economies of scale, and Redirect investment into nature through promotion of livelihood models that maintain and enhance natural resources like land, and water systems. Provide support in the form of incentives, risk coverage, regulatory framework, technology, and infrastructure to promote green businesses especially in rural economy.

The Indian Government has made a clear commitment to achieving industrial growth while also protecting the environment. At the same time, the private sector is increasingly interested in adopting modern processing techniques for clean and resource-efficient industrial production. Indian public and private-sector stakeholders are jointly implementing strategies for efficient, environment-friendly and climate-friendly industrial development, The Sustainable & Environment-Friendly Industrial Production project is being implemented jointly by GIZ and the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India. The aim of the project is to mitigate a number of nationally significant environmental problems, with the main focus placed on industrial waste water management. The project demonstrates methods for the reduction of acute environmental pollution and for improving resource efficiency in industrial production. This involves piloting technical solutions as well as business and management models at selected sites, achieving positive results and direct impacts in terms of improved environmental conditions. These pilot approaches will serve as examples for subsequent replication nationwide. These activities focus on the conveyance, treatment, recycling and reuse of waste water, the management of sewage sludge, monitoring systems, and improving processes in individual industries. The measures are complemented by training and skills development, as well as the creation of a virtual platform for the exchange of best practice technologies. it proposes new measures for the policies, plans and support programmes intended to prevent or reduce pollution and to improve resource efficiency in industrial zones

**Rural development programs and Green Economy policy**: India is also recognized as rural India because a greater number of people are living in rural areas and its strong agrarian background. Sustainability concept is based on ecological balance and environmental protection with sufficient level of usage of natural resources in present and future. Rural economy and development: The Ministry of Rural Development (MoRD) spearheads the country's efforts to reduce poverty in the rural areas. Until recently, its work was divided among three departments: (i) Department of Rural Development (ii) Department of Land Resources (iii) Department of Drinking Water & Sanitation. This Ministry's main objective is to alleviate rural poverty and ensure improved quality of life for the rural population especially those below the poverty line Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), National Rural Livelihoods Mission (NRLM), integrated Watershed Development Programme (IWDP), National Rural Drinking Water Programme (NRDWP)and Nirmal Bharat Abhiyan (NBA) are directly and indirectly encouraged land and water conservation and waste management activities the individual development of rural peoples. Above the programmes promote the green economic system and it is focused on Improved resource conservation, Improved resource efficiency, reduced

negative environmental impacts, Strengthened climate resilience of communities and Contribution to climate change mitigation

**Needs and opportunities and challenges of Green products:** businessman needs to move forward in the creation of industries to move into a low carbon economy. Studies have shown that green companies that make more efficient use of energy and reduce carbon emissions also make more profit. Green businesses also considered much more valuable, as environmental, social and governance factors become increasingly important for investors. Green business is good business.

Green business in India is gaining popularity within the new business network. This helped businesses transform the products into a new business line known as environmentally friendly products and services. Green business fulfils evolving human desires and expectations by mitigating the harmful effects generated by such behavior on the environment. Considering that resources are depleting each second and human demand is rising each minute, the reduction of waste of resources to protect the environment is very important. The environmental issues affect business practices, as companies have started to view environmental issues and take on strategic changes, many businesses are implementing environmentally friendly marketing strategies to achieve competitive advantage. Industries in the process of increasing environmentally friendly customers have started marketing green goods to highlight their efforts to prevent the disposal of dangerous items in human life and the environment. Several companies are unable to change their climate in green terms. The green business includes green processes and procedures, sourcing of goods and services, labour practices and methods of shipping. Green business aims to remove all adverse environmental impacts, both locally and globally. A green business must take a rational approach to manage the waste, to reduce the carbon footprint, and to avoid harmful practices. Green companies focus heavily on the environment. Such businesses understand that any action they take will benefit or harm the environment. Environmental-friendly buildings and methods create the basis for a green enterprise. Green companies are also very much focused on the people who influence their businesses. This involves not only their workers but also their consumers and society as a whole. The foundation of green business is socially responsible business decisions. They are aimed at supporting people's health, development and wellbeing. A key element of green business is the procurement and distribution of goods. Ingredients used in these companies ' products are safe, non-toxic, and advantageous to people and the environment.

they search for other green companies to create an environmentally friendly supply chain from the beginning to the end. Green businesses typically offer products and services that make living an eco-friendly life easier for their customers. A green company takes care of your environmental, community and people impact.

In addition to making the world a better place for a green business, you target a wide audience committed to ethical consumption that allows your company to prosper. World Bank estimates that India's environmental damage amounts to 9.7 billion U.S. equivalent to 5% of GDP. Again, the apocalyptic air pollution in the north of India reminds us that serious environmental problems are threatening our future. The Indian long-term development model must ensure that economic growth and environmental sustainability are closely linked.

**Challenges of Green business in India:**

Green business in developing nations is a new concept for enormous masses. There are no people who are **aware** of numerous green products and services. Consumers must be informed about the harm to health and the environment caused by non-green goods. Indian literate and urban consumer is getting more aware about the merits of green products. But it is still a **new concept** for the masses. The consumer needs to be educated and made aware of the environmental threat. The investors and corporate need to view the environment as a major long-term investment opportunity, the marketers need to look at the long-term benefits from this new green movement. It will require a lot of **patience** as there will not be immediate results. Since it is a new concept and idea, it will have its own **acceptance period.** The first rule of green marketing is focusing on **customer benefits** i.e., the primary reason why consumers buy certain products in the first place. Do this right and motivate consumers to switch brands or even pay a premium for the greener alternative. It is not going to help if a product is developed which is absolutely green in various aspects but does not pass the customer satisfaction criteria. Worldwide consumers have become environment conscious. Some scholars believe that consumers are ready to pay premium for green products because they often prefer attributes over traditional product attributes such as price and quality **(Consumer behavior).** The claims of the market and non-market forces of going green must be done through proper auditing procedure but there is no legal authority to verify or evaluate such claims. Even we see some political parties are not interested to implement environment protective measures (**Social Auditing and Green Accounting**). Greening from development to sale first calls for enormous investments. A lot of money is needed to be used to produce and sell green goods for research and development activities, which raise product **costs**. Since green goods are expensive technology, they will be cost-effective in the long term. The long-term business plan is only sustainable for green goods. A huge investment in green business technologies will minimize income. (**Reduced the Profit**) Because of its long-term profits, green companies are to intensively seek to receive support from stakeholders. Many **stakeholders do not support** green companies each year because of the lack of profit. Green goods serve as a bridge between consumer and environmental protection. Every mis judgment or overemphasis on the protection of the environment or customer satisfaction (**imbalance**) at the detriment of others is costly. Companies have made **misleading environmental** claims for certain items such as greenwashing. Recognizing false propaganda by customers would affect the company's goodwill for the rest of its life. There is **no standardization** to authenticate these claims. There is no standardization currently in place to certify a product as organic. Unless some regulatory bodies are involved in providing the certifications there will not be any verifiable means. A standard quality control board needs to be in place for such labelling and licensing.

**What is green products**: The product which are manufactured through green technology and causes no environmental hazard are called green products. Promotion of green technology and green products are necessary for conservation of natural resources and sustainable development. We can define green products as Products which are less toxic, Products which are more durable, Products which contains securable materials, Products which are made from recyclable material, Products which are originally grown, Products which are biodegradable, Products with naturally ingredients, Products that will not be harmful for environment and Products that have eco-friendly packaging i.e. reusable, refillable, and containers etc.

**Needs of Green products generations:** Issues like Global warming and depletion of ozone umbrella are the main for the healthy survival. Every person rich or poor would be interested in quality life with full of health and vigoro and so would the corporate class. Financial gain and economic profit is the main aim of any corporate business. However, harm to environment cost by sustain business across the globe is realized now though off late. This sense is building corporate citizenship in the business class. So green marketing by the business class is still in the selfish anthological perspective of long-term sustainable business and to please the consumer and obtain the license by the Governing body Industries in Asian countries are catching the need of green marketing from the developed countries but still there is a wide gap between their understanding and implementation.

prompting brands to resort to sustainability by default. Consequently, with the aid of the government and corporations, India must make the transition to a circular economy. it must simultaneously charter a path to economic recovery in order to mitigate the adverse impact of climate change and promote long-term sustainable and inclusive development. The country must prioritize investment in sectors assisting the transition to a green economy and reduce social risk related to health hazards. Concept According to the American marketing Green Marketing is the marketing of products that are presumed to be environmentally safe. Thus, green marketing incorporates aboard range of activities, including product modification, changes to the production process, packaging changes as well as modifying advertising.

yet defining green-marketing is not a simple task. Thus, Green-Marketing refers to holistic marketing concept wherein the production, marketing consumption and disposal of products and services happen in a manner that is less detrimental to the environment with growing awareness offspring. it becomes significant to assess perception of people towards their affinity for green products sources such as Vermicompost, Bio-gas, Green products equipment's, Areca leaf plates and Treated water can be of paramount significance. With this motivation, in this Proposal the emphasis is made on assessing the interest or affinity of people towards green products

Performance of Green products of Eco-friendly industries in rural area. Green products is potentially important concept which plays a role to achieve the sustainable development. Now the world needs a new serious innovation, which would lead for a better environment. The basic objective of the study is to realize challenges opportunities of green products of Eco-friendly industries, green products and service are very essential in the economy. So, this study focused on try to identify the negative impact of **non-green products** (chemical fertiliser, LPG, Plastic, Non-renewable energy, waste water) **and** evaluated the positive impacts of **green products** (Vermicompost, Bio-Gas, Areca leaf plates, green products energy, treated water supply) For the purpose of the study, a particular in rural area of Karnataka. has been selected, collected required data from various available resources, analysed with suitable statistical methods and identified facts. The study reveals that the so-called **green products has more positive impact to the environment and economy** and helps to eradicate certain issues related to **green technology of Eco-friendly industries**. It helps for the economic empowerment and sustainable development. This study focussed on the substitution and performance between **green products and non-green products** like Vermi-compost to chemical fertilisers, Bio-gas to LPG, Areca leaf plates to plastic plates, Green products power to existing non-renewable energy sources, and treated water to natural water to avoid the problem of water scarcity. This study will emphasise the solutions to those issues

through waste management/ treatment/ usage of **green products of business models** and approaches of Eco-friendly industries. The present study is intended to focus on pollution control one side and other one side **demand and supply chain management** of green products and its **contribution** to the economy and environment. This study evaluated benefits of **wastes into green products** which would not only generate income but also solve the problem of environmental degradation. This study evaluated the policy implementation **strategies in grass root level** and **benefits of integration between green business and environmental sustainability**. This study focused on evaluated the role of promoters, awareness **activities of NGOs and financial** assistances to green products generation and environmental pollution control. The study also has some limitations and a light on future research opportunities.

**Review Of Literature:** The review of literature identifies the research problems and builds the foundation of research areas. Various themes of Green product and environmental sustainability approaches considers the number of research studies conducted in different time periods at national and international levels to study and analyse varied aspects of Green product and sustainability approaches such as waste management systems eco-friendly industries techno-economic Analysis of green product systems, Cost and Benefit Analysis and green accounting Analysis of Eco-friendly industries, Level of Knowledge and Awareness of Green product, Role of Relative Advantage to Green product etc

| Authors(S) | Title | Findings/ Research area |
|---|---|---|
| Kannan Govindan (2015) | Multi Criteria Decision Making Approaches for Green Supplier Evaluation And Selection | Green supplier evaluation that considers environmental factors are relatively limited. Recently, in supply chain management decision making, approaches for evaluating green supplier performance |
| Aleksandra JezierskaThöle (2022) | Environmental, Social, And Economic Aspects Of The Green Economy In Polish Rural Areas—A Spatial Analysis | The global climate, ecological, and energy crisis has increased the interest in the green economy concept that aims to resolve environmental problems while promoting economic growth, social stabilization, In this study, the environmental, economic, and social dimensions |
| MDTAIBUR RAHMAN (2021) | Comparative Analysis Of The Green Industrialization Between Green And Non-Green Garments Of Bangladesh | Comparative Green Industrialization between green and nongreen industries in Bangladesh Due to misleading results from multi-collinearity, step-wise multiple regression and path analyses were used to explore the contribution and effect of the selected eco-friendly industries |
| Achini Shanika (2018) | Economic Sustainability Of Green Buildings: A Comparative Analysis Of Green Vs Non-Green | the purpose of this paper is to compare the life cycle cost of green certified industrial manufacturing buildings with a similar form of the conventional buildings to establish the economic sustainability of green buildings. |
| Wenfang Shang (2022) | A Game Between Green And Non-Green Supply Chains Considering Two-Way Government Intervention And Manufacturer Competition | This paper develops competition and cooperation models between two manufacturers for the green and non-green supply chain under two-way government intervention to explore the impact of manufacturers' profits of supply chain systems of eco-friendly industries |

| | | |
|---|---|---|
| Shib Sankar (2020) | Price Competition Between Green And Non-Green Products Under Corporate Socially Responsible Firm | This article deals with a newsvendor inventory model in light of green product marketing of corporate socially responsible firms. In this model, comparison between green and non-green marketing |
| **Todirica Ioana** (2018) | Green Entrepreneurship In Rural Areas | Focused on the concept and issues of green entrepreneurship in Vietnam and its association with related background concepts such as social entrepreneurship, social responsibility, and sustainable development. |
| AnZhoua (2022) | Evaluating The Efficiency Of Municipal Solid Waste Collection And Disposal In The Yangtze River Delta Of China: A DEA-Mode | environmental protection investment, this paper is based on the existing academic research at China and abroad, with the help of the Data Envelopment Analysis (DEA) model this paper proposes suggestions for improvement from the perspective of environmental sustainability. To improve MSW collection and disposal efficiency, |
| Akhilesh Suresh (2017) | Going Green in Business-A Study On The Eco-Friendly Initiatives Towards Sustainable Development In India | Increasing awareness on the various environmental problems has led to a shift in consumer behaviour. There has been a change in consumer attitude towards a green lifestyle. |
| Solomon K (2018) | Green Entrepreneurship" – The Right Way to Sustainability and Profitability For Rural Areas. | It would be more beneficial for the society and the organization shall generate more revenue both in the short-run and long run by providing green products |
| CS Roshni (2020) | Analysis Of Green Entrepreneurship Practices in India | environmentally and socially conscious goods over their traditional counterparts. The research study addresses that there are low entry-level standards to become an entrepreneur for a variety of environmentally |
| Suganya.S (2021) | Green Entrepreneurship in Kallakurichi District | it shows the positive and critical of chance and green business aptitude. The investigation finding would uphold the public authority, strategy and apportion the assets that could offer the green business |
| Raveesh Agarwal (2015) | Waste Management Initiatives In India For Human Well Being | It is sufficed to say that we require a more stringent integrated and strategic waste prevention framework to effectively address wastage related issues. |
| Sanjeet Kumar (2020) | Issues Related to Biodiversity Hotspot In Western Ghats | Western Ghats is considered as a predominant entity in maintaining the climatic equilibrium of the state, extensive conservation mechanism is highly essential as an exigent need of the current scenario |
| Tiwari, (2018) | Special Issue: Western Ghats: Evolution and Environmental Issues | Biodiversity, ecosystems, environmental management, evolution, water resources, Western Ghats |

**Objectives:**

1. To evaluate Affordability green products.
2. To analysis the green products to improve the Environmental Sustainability

**Hypostasis**

1. $H_1$: **Rural householders are aware of environmental affordability of green products but some economic affordable factors are hindering to usage the green products**

hypothesis considers the positive interest of environmental affordability compared to some uncomfortable or discouraging factors of economic affordability

**Data Analysis:**

**Affordability green products to implement in rural economy:** green products affordability is determined by economic and environmental cost. green products are economically feasible. It does not produce any waste or pollution and contributes in reduction of environmental cost. So, affordability of green products depends on economic and environmental benefits. Economic benefits are high quality equipment's at lower price, financial support, feasible credit facility from bank, and free assistance and awareness of technological aspects. Environmental cost does not depend on cost of waste management, cost of transportation, cost of storage management, cost of energy leakages, and cost of machinery repair or replacement cost. If green products are adopted lot of environmental cost will be reduced as well as emissions and $CO_2$ will also be reduced. Waste, smoke emissions and $CO_2$ are harmful to human health as well as ecosystems.

In this study the reactions of respondents about negative impacts of human health from the emissions and $CO_2$ are assessed. This study collects the feedback regarding awareness from the respondents. The green products generation process does not produce $CO_2$ emissions or waste so respondents are ready to adopt the green products as no additional cost or environmental costs are involved. Thus it is affordable in point of environment and less cost of green products equipment's, more financial support from the Govt, financial institutions and promoting agencies (NGOs) , free cost installation of green products systems, no repair and replacement determines the economical affordability to adopt the green products. In this discussion comparisons between economic affordability and environmental affordability of green products are done.

This study assessed the advantages and disadvantages of economic and environmental affordability. It explained the necessity of green products to environmental protection but economic factors controlled the green products usage. The true statements between householders are aware of environmental affordability but some economic affordable factors are hindering them from green products adoption' and 'Householders are not aware of environmental affordability but some economic affordable factors are hindering them from green products adoption'.

The above discussion explains the unhappiness of economic affordability factors over the cost of green products, inconvenience in financial support, and lack of awareness, less economic benefits, lack of trust in the technology and lack of policy support by Government.

**Table -1.1 Comparisons of Economic and Environmental Factors**

| Economic and Environmental Factors | | Aware the CO2 Radiations | | | |
|---|---|---|---|---|---|
| | | Yes | No | Total | Per cent |
| Affordability factors of green products | More Cost of applications | 53 | 26 | 79 | 19.8 |
| | Inconvenience of financial support | 41 | 14 | 55 | 13.8 |
| | Lack of awareness | 74 | 22 | 96 | 24.0 |
| | Less of Economic benefits | 59 | 13 | 72 | 18.0 |
| | Lack of trust in the technology | 42 | 19 | 61 | 15.3 |
| | Lack of Policy support of Government. | 23 | 14 | 37 | 9.3 |
| Total | | 292 | 108 | 400 | 100 |
| | Pearson Chi-Square | $H_0$ accepted and $H_1$ Rejected, null hypothesis is true and alternative hypothesis not true | | | |
| Value | 7.939[a] | | | | |
| Df. | 5 | | | | |
| Sign. | 0.160 | | | | |
| Source: Primary data SPSS Output | | | | | |

Source: Primary Data

**More Cost of applications:** Table 1.1 explains that 19.8per cent (79 out of 400) of respondents have reacted on cost of green products. Out of this 67.1 per cent (53 out of 79) respondents are unhappy over the high cost of green products but they are all aware of the problems of emissions and $CO_2$ hence they are all ready to adopt the green products. More and uncomfortable cost of green products has prevented them from green products adoption. Remaining 33.9 per cent (26 out of 79) of respondents are not aware of the problems of emissions and $CO_2$so they are not much interested in adopting the green products. Less and comfortable cost of green products and reduction of emissions ($CO_2$) have afforded the green products implementation.

**Inconvenience of financial support**: Table 1.1 explained that, 13.8 per cent (79 out of 400) of respondents have reacted on inconvenience of financial support. Out of this 74.5 per cent (41 out of 55) respondents are unhappy over the inconvenience of financial support but they are all aware of the problems of emissions and $CO_2$.As the result they are all ready to adopt the green products . Unfavourable facility and inconvenience of financial support has restricted them from green products. Remaining 25.5 per cent (14 out of 55) of respondents are not aware of the problems of emissions and $CO_2$ so they are not much interested in adopting the green products . Favourable and empathic financial support and awareness for reduction of emission ($CO_2$) have contributed to green products implementation.

**Lack of awareness:** Table 1.1 explained that, 24.8 per cent (96 out of 400) of respondents have expressed on types of awareness. Out of this 77.08 per cent (74 out of 96) of respondents are unhappy over the lack of awareness but they are all aware of the problems of emissions and $CO_2$ resulting in their willingness to adopt the green products. Inappropriate information and lack of awareness have restricted them from green products adoption. Remaining 22.9 per cent (22 out of 96) of respondents are not aware of the problems of emissions and $CO_2$ so they are not much interested in adoption of the green products . Awareness of different green products energy, cost benefits, awareness of payback period of green products application, awareness of warrantee, repair and replacement facility of green products systems and awareness for reduction of emission ($CO_2$) have made green products implementation affordable.

**Low Economic benefits**: Table 1.1 explained that, 18 per cent (72 out of 400) of respondents replied on economic benefits. Out of this 81.9 per cent (59 out of 72) respondents are unhappy over low economic benefits but they are all aware of the problems of emissions and $CO_2$. This has made them ready to adopt the green products. Low economic benefits have discouraged the green products adoption. Remaining 18.1 per cent (13 out of 72) of respondents are not aware of the problems of emissions and $CO_2$ so they are not much interested in adopting the green products. Economic benefits of different green products energy, cost benefits, economic benefits of payback period of green products application, benefits of warrantee, repair and replacement facility of green products and awareness for reduction of emission ($CO_2$) have made green products energy implementation possible.

**Lack of trust in the technology:** Table 1.1 explains that, 15.3 per cent (61 out of 400) of respondents have responded their trust in the technology. Out of this 68.9 per cent (41 out of 61) respondents are unhappy over lack of trust in the technology but they are all aware of the problems of emissions and $CO_2$ hence they are all ready to adopt the green products. Lack of trust in the technology have de-motivated in adopting green products. Remaining 31.1 per cent (19 out of 61) of respondents are not aware of the problems of emissions and $CO_2$ so they are not interested in adopting the green products . Lack of trust in the technology depends on efficiency of technology, per unit cost of production, capability absorption of green products radiation per square feet, durability of green products, services of warrantee, repair and replacement facility of green products systems have won respondent's trust in the technology and awareness for reduction of emission (CO2). All these have contributed to the affordability of green products.

**Lack of Policy support of Govt.**: Table 1.1 explained that, 9.3 per cent (37 out of 400) of respondents have opted on Policy support by the Government. Out of this 62.2 per cent (23 out of 37) respondents are unhappy over lack of Policy support of Government. But they are all aware of the problems of emissions and $CO_2$ hence they are all ready to adopt the green products. Lack of Policy support of Government has discouraged the green products adoption. Remaining 37.8 per cent (14out of 37) of respondents are not aware of the problems of emissions and $CO_2$ so they are not much interested in adopting the green products. Lack of Policy support of Government relies upon proper subsidies, strategies of encouragement (encouragement just LPG promotion activities of Government). Respondent's expected policy and economic benefits and awareness for reduction of emission (CO2) have made green products energy implementation affordable. The above discussion evaluates the unhappiness and discouragement of economic affordability of green products of respondents. Respondents are aware of the problems of emission ($CO_2$) and they are interested to adopt the green products for environmental protection.

Rural householders are interested to implement/use the green products. Affordability depends on economic and environmental factors. So, hypothesis considers the positive interest of environmental affordability compared to some uncomfortable or discouraging factors of economic affordability. Significant value (0.00per cent) has expected count less than 0.001. The minimum expected count is 9.99. That means 99.9 per cent of respondents have accepted the alternative ($H_1$) otherwise rejected the null($H_0$) hypothesis, accepted the alternative ($H_1$) hypothesis (0.000<0.001) otherwise rejected. and null ($H_0$) hypothesis (0.000>0.001) have accepted otherwise

rejected, it means that, suppose null ($H_0$) hypothesis have accepted hence alternative ($H_1$) hypothesis rejected or null ($H_0$) hypothesis have rejected hence alternative($H_0$) hypothesis accepted. In this case, Asymptotic Significance (2-sided) is more than 0.001(0.160>0.001) as more than 99.9 per cent of respondents are accepted null ($H_0$) hypothesis and rejected the alternative ($H_1$) hypothesis so the statement of null ($H_0$) hypothesis are true and alternative ($H_1$) hypothesis are not true according to respondents. This discussion concludes that rural householders are aware of environmental affordability but some economic affordable factors are hindering to usage the green products.

**Conclusion:**

This study evaluated the criteria of awareness, adoption accessibility, and affordability of Green Product consumption to economic and environmental sustainability. Two major issues are considered to be the ten common affecting factors of economic issues, environmental issues in the green economy. This discussion concludes that rural householders are aware of environmental affordability but some economic affordable factors are hindering to usage the green products. **Vermicompost, Bio-Gas, Areca leaf plates, green products energy, treated water supply are** environmental affordable but some economic affordable factors are hindering to usage

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