

Eco- Friendly Practices for Sustainable Environment

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ABSTRACT

Climate change stands as one of the most profound challenges of the 21st century; it doesn't just reshape the environment, but also actively influences how humans think, adjust for food, heat, and lifestyle, migration, urbanization, energy demand, water behavior, disaster preparedness, and shift in values. Climate extremes also influence political will and public backing for green policies and organizing societies. In the last few decades, the evidence shows that the interplay between human activity and environmental processes has reached a critical threshold, demanding urgent rethinking of development paradigms. Earth's ecosystems are overstressed; climate change, biodiversity loss, deforestation, water scarcity, and pollution are pushing the planet beyond planetary boundaries. Without sustainable practices, we risk ecological collapse that directly undermines human survival. A sustainable society ensures that future generations inherit resources, ecosystems, and opportunities, not depleted landscapes. A sustainable society promotes fairness in access to food, water, health, and energy key to stability and peace, too. The main objective of the study is to find out the behavioral change for a sustainable society. The analysis underscores that sustainability cannot be achieved through technological interventions alone; it requires systemic transformations in human values, institutional frameworks, and global cooperation. Everyday, human behavior lies at the heart of achieving a sustainable society. From food consumption and transport choices to energy use and waste management, habitual actions cumulatively shape environmental trajectories at local, regional, and global scales. The research is based on primary data. The comparative as well as descriptive method is followed. This paper explores the cumulative impact of individual and collective behaviors in advancing sustainability, showing how small, consistent actions can cascade into systemic change. The finding shows a gap is actually found between awareness, which does not match with consistent practice; and also found some hindrance which comes in the way of adopting sustainable practices.

Keyword: Climate change, Sustainable society, Human behavior, Cultural shift, Eco-Friendly, Environment.



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Introduction

The 21st century faces climate and sustainability crises. Individual lifestyle choices now play a major role in environmental health. Eco-friendly practice means daily habits that reduce negative environmental impact. In other words, these are actions, technologies, and lifestyle choices that reduce environmental harm and support the sustainable use of natural resources. A sustainable environment maintains a balance between human development and the earth's natural systems. In present times, they are not just about reducing pollution, they are about redesigning how we live, produce, and consume to align with Mother Earth's limits. Unsustainable consumption patterns have emerged as a major driver of environmental degradation, placing increasing pressure on natural resources and ecological systems worldwide. Contemporary research highlights that household consumption significantly contributes to greenhouse gas emissions and extensive use of land, water, and material resources, thereby intensifying environmental challenges [10]. Similarly, food waste has become a critical global concern, with approximately one-third of all food produced for human consumption being lost or wasted, and resulting in substantial environmental and economic costs [6]. Growing population demands and resource scarcity are further expected to widen the gap between water supply and demand in the coming decades [27]. In response to these challenges, scholars emphasize the importance of promoting sustainable consumption behaviors, as changes in individual lifestyles can substantially reduce environmental impacts.

Studies indicate that adopting energy-efficient practices and environmentally sustainable dietary patterns can significantly lower greenhouse gas emissions and resource consumption [5][19]. Consequently, increasing awareness of human-induced environmental pressures has led to the development of behavior-change initiatives and sustainability education programs aimed at fostering responsible environmental practices and supporting long-term sustainable development. Environmental challenges such as climate change, biodiversity loss, ecosystem degradation, and resource depletion have intensified due to unsustainable human activities, leading scholars to characterize the current era as the Anthropocene [20]. Rapid globalization, population growth, and changing consumption patterns have significantly increased pressure on natural systems beyond their regenerative capacity [9][26]. Consequently, sustainable development efforts increasingly emphasize behavior change as a critical component of environmental conservation. Behavioral science provides theoretical frameworks and intervention strategies that encourage sustainable lifestyles and responsible consumption, supporting long-term environmental sustainability and the achievement of global development goals [14][21].

Objectives

- To identify common eco-friendly habits in the daily life of people
- To assess awareness and adoption levels among individuals
- To understand barriers to sustainable living
- To recommend actionable strategies for greener lifestyles

Database and Methodology

This study adopted a mixed-method design, integrating both qualitative and quantitative approaches. The qualitative component involved a descriptive and analytical review of existing literature on eco-friendly practices and sustainability frameworks. The quantitative component included a primary survey conducted through a structured questionnaire to gather first-hand data on individuals' eco-friendly habits, awareness levels, and behavioral motivations toward sustainable living of Prayagraj district of Uttar Pradesh in the year 2024. The survey was conducted mainly among school children and among college students. This combination allowed for a comprehensive understanding of both theoretical insights and real-world behavioral patterns. A total of 500 samples are collected from all age groups. The study employed **purposive sampling**, targeting respondents who are likely to have awareness or engagement with environmental issues. Respondents represented urban and semi-urban areas, ensuring diversity in gender, age, and occupation.

Literature Review

Human activities have increasingly transformed natural ecosystems, with rapid globalization, population expansion, economic development, and changing consumption patterns intensifying environmental pressures. These factors have accelerated resource depletion, pollution, and climate change, highlighting the urgent need for sustainable development strategies that balance human well-being with environmental protection [9]. Behavior change has become a central focus in sustainability research because achieving sustainable development requires the widespread adoption of environmentally responsible practices across societies. Scholars have developed several theoretical frameworks to explain how and why individuals modify their behaviors. One of the earliest contributions is Lewin's Change Theory, which conceptualizes behavior change as a dynamic process involving unfreezing existing habits, implementing change, and refreezing new behaviors [13]. Lewin argued that enduring behavioral transformation occurs when changes are supported by the broader social environment rather than by individual efforts alone. Building upon the social dimensions of change, Rogers' Diffusion of Innovations Theory explains how new ideas, technologies, and behaviors spread through social systems over time [18]. The theory emphasizes the role of communication channels, social networks, opinion leaders, and adopter categories in influencing the rate and extent of behavioral adoption. In the context of environmental sustainability, these frameworks have been widely applied to understand the diffusion of pro-environmental behaviors and sustainable lifestyles. Furthermore, behavior-change literature generally categorizes explanatory models into three broad perspectives: theories that focus on individual motivational factors, such as beliefs, attitudes, and intentions; theories that incorporate contextual and social influences, including cultural norms and institutional structures; and theories that explain the maintenance of long-term behavioral change through habit formation and social reinforcement. Together, these theoretical approaches provide a comprehensive foundation for understanding and promoting pro-environmental behavior at both individual and societal levels.

Behavioral change toward environmental sustainability is influenced by individual beliefs, attitudes, perceived behavioral control, and social norms.

Research in the Lower Mekong region revealed significant knowledge gaps regarding the connection between consumer demand and illegal logging, highlighting the need for targeted environmental awareness initiatives to promote responsible consumption behaviors [30]. Household consumption has emerged as a major contributor to global environmental degradation, significantly influencing greenhouse gas (GHG) emissions and the use of natural resources. Research demonstrates that household consumption is responsible for more than 60% of global GHG emissions and between 50% and 80% of total land, water, and material use worldwide [10]. Using the EXIOBASE 2.2 multiregional input-output database, the study traced global supply chains across 43 countries and revealed substantial disparities in environmental footprints among regions. Wealthier nations were found to exert disproportionately higher environmental impacts due to greater consumption levels and demand for resource-intensive goods and services. The study further identified a strong relationship between household expenditure and environmental pressure, indicating that rising incomes often lead to increased consumption of non-essential products with significant ecological consequences. Among consumption categories, food, mobility, and shelter were recognized as the largest contributors to environmental footprints. Food consumption, particularly meat, dairy, and processed products, accounted for a substantial share of land and water use, while transportation and housing were associated with high carbon emissions and material consumption. These findings underscore the importance of promoting sustainable consumption patterns and resource-efficient lifestyles as critical strategies for reducing environmental impacts and achieving long-term sustainability goals.

UNESCO's Belgrade Charter (1975) and Tbilisi Declaration (1977) established key principles for environmental education, promoting awareness, values, and integration into formal and non-formal education worldwide [17]. Environmental education during childhood and adolescence fosters knowledge, ethical values, and responsible behaviors essential for addressing environmental challenges, promoting sustainable living, and developing environmentally conscious global citizens [16]. A strong sense of environmental responsibility encourages sustainable behavior among children [2]. When children develop a meaningful connection with nature and recognize their role in its conservation, they are more likely to engage in environmentally friendly practices and adopt lasting eco-conscious habits. Studies indicate that school children's sustainable behavior is shaped by internal factors—environmental knowledge, values, responsibility, self-efficacy, motivation, and cognitive development—and external influences, including family, peers, teachers, schools, media, community support, policies, and resource availability. Their interaction significantly determines pro-environmental attitudes and behaviors [16][11].

Effective integration of environmental education into school curricula requires comprehensive policies that ensure its mandatory inclusion, cross-disciplinary application, and adaptability to local contexts. Teacher training, inclusive education, experiential learning, and technology integration are essential for enhancing environmental literacy and sustainability competencies. Collaboration with communities, environmental organizations, and policymakers strengthens real-world learning experiences.

Additionally, establishing green campuses, implementing robust assessment frameworks, and developing monitoring mechanisms support continuous improvement and accountability. Such policy measures foster environmentally responsible attitudes, knowledge, and behaviors among students, preparing them to address contemporary environmental challenges and contribute to sustainable development [31][16][25]. The work on “Eco-Friendly Practices Impact on Organizational Climate: Fostering a Sustainable Work Culture” emphasizes that environmental sustainability is a key driver of organizational effectiveness and workplace well-being [23]. It highlights how excessive paper consumption, transportation-related emissions, unsustainable procurement, and poor waste management contribute significantly to environmental degradation. Organizations can reduce their ecological footprint by promoting paper conservation, adopting recycled materials, implementing digital documentation, and encouraging responsible printing practices. Sustainable transportation strategies, including vehicle optimization, fuel-efficient driving, and reduced travel, help lower greenhouse gas emissions, operational costs, and health risks associated with pollution.

It has been seen that environmental knowledge alone does not guarantee sustainable behavior. Studies indicate that social norms, perceived expectations, and contextual influences strongly affect environmental actions. Individuals are more likely to engage in behaviors such as recycling and waste reduction when these practices are commonly observed and socially reinforced within their communities [28]. Sustainable living emphasizes the responsible use of natural resources through environmentally friendly practices and technologies that reduce waste and ecological degradation. Studies highlight that integrating green technologies, such as solar energy systems, energy-efficient appliances, and electric vehicles, can significantly reduce carbon emissions and dependence on fossil fuels. Traditional practices rooted in harmony with nature further support sustainable lifestyles. Researchers emphasize that achieving sustainability requires collective efforts from individuals, communities, industries, and governments to promote environmental protection and ensure long-term ecological resilience [28][29].

India is increasingly adopting sustainable environmental practices despite its large population and development challenges. Several states have implemented bans on single-use plastics, encouraging alternatives such as cloth bags and metal straws. Sustainable farming methods, including organic cultivation, reduced chemical fertilizer use, and native seed adoption, are improving soil health and conserving water. Eco-friendly festivals now promote biodegradable idols, sustainable decorations, and reduced firecracker usage. India is also expanding solar energy through rooftop installations and large-scale solar plants, supporting the transition to renewable energy. Furthermore, cities like Pune and Bengaluru are advancing waste segregation and recycling initiatives to reduce landfill pressure and improve environmental quality. [7][15][8].

Result and Discussion

Demographic Profile

The demographic characteristics of the respondents also provide important insights into the study findings. 70 percent of participants were from urban areas, while 60% were graduates, indicating that the sample largely consists of educated urban residents.

Urban populations generally have greater exposure to sustainability campaigns, educational opportunities, digital media, and environmental policies than rural populations, which may explain the relatively high awareness levels observed. Everyday environmental behaviour is closely shaped by the socio-cultural and institutional contexts in which individuals live [12]. The gender composition of the sample shows a strong predominance of female respondents (95%), compared with 4% males and 1% preferring not to disclose their gender. It also reflects a commonly observed trend in sustainability research where women are often more willing to participate in environmental surveys and demonstrate greater concern for environmental issues. Women frequently report stronger pro-environmental attitudes and greater engagement in environmentally responsible household practices, including waste segregation, energy conservation, and sustainable consumption [21].

The age profile of the respondents indicates that the majority belong to the 15–25-year age group. This distribution was intentionally targeted because young people represent a critical segment for understanding behavioural change toward environmental conservation and the adoption of eco-friendly practices. Young adults are generally more receptive to sustainability messages, technological innovations, and social media campaigns than older generations. Diffusion of Innovations theory suggests that younger populations often act as early adopters of new ideas and practices, accelerating the diffusion of sustainable innovations within society [18]. Furthermore, the United Nations Development Programme [26] recognizes youth as essential agents in achieving sustainable development due to their capacity to influence future consumption patterns and social norms. The high representation of young respondents is particularly relevant because behavioural habits developed during adolescence and early adulthood often persist throughout later life. Research on pro-environmental habits indicates that repeated daily actions eventually become automatic behaviours that require less conscious decision-making [1]. This supports the argument that promoting sustainable practices among youth can generate long-term environmental benefits through the establishment of enduring pro-environmental habits.

Awareness of Sustainable Practices

The findings indicate that 87% of the respondents reported being aware of sustainable practices, suggesting a relatively high level of environmental consciousness among the study population. This finding is consistent with contemporary research indicating that awareness of sustainability issues has increased considerably, particularly among younger and educated populations due to greater access to digital information and environmental campaigns [4]. The present study further reveals that social media is the leading source of sustainability awareness (45%), followed by educational institutions (35%) and news/media (20%). These findings reflect the growing role of digital platforms in shaping environmental perceptions and influencing sustainable lifestyles. Recent studies have highlighted that social media has become an important channel for disseminating environmental information, promoting eco-friendly behaviours, and encouraging public participation in sustainability initiatives.

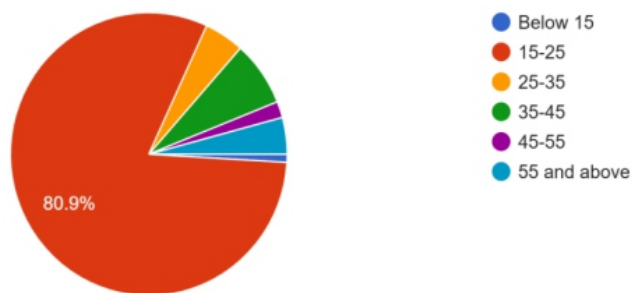


Figure 1: Age Groups of the Respondent

Table 1: Adoption of Major Eco-friendly Practices

Practice	Adoption (%)	Remarks	Reason
Waste Segregation	72%	Well adopted in cities	Awareness, government support
Energy-saving	81%	Most common habit	Monetary savings by reducing electricity bills
Plastic Reduction	59%	Struggles with convenience	Lack of support and awareness
Green Transport	36%	Needs better infrastructure	Need for better infrastructure, energy, and financial assistance
Water Conservation	77%	Widely practiced	Water scarcity encourages conservation

Source: Primary survey data, 2024

Use of Bio-degradable Products

The survey findings indicate that respondents are increasingly adopting environmentally friendly alternatives in their daily lives. A majority (57%) reported using cloth bags for shopping and other purposes, replacing single-use plastic bags. Additionally, 42% of respondents preferred reusable containers made of metal, ceramic, or earthen materials instead of plastic. Smaller proportions reported using recycled toilet paper (15%) and cleaner household energy technologies such as gas cylinders, biomass boilers, or hydrogen boilers (12%), while 15% stated that they did not practice any of these environmentally friendly alternatives. The widespread use of reusable shopping bags reflects increasing public awareness regarding plastic pollution and sustainable consumption. The United Nations Environment Programme [29] emphasizes that replacing single-use plastics with durable and reusable products is one of the most effective behavioural changes individuals can adopt to reduce environmental pollution. Similarly, the circular economy framework advocates minimizing waste by extending product life cycles through reuse and sustainable material choices [4]. The preference for cloth bags and reusable containers among respondents therefore, demonstrates a positive shift toward circular consumption practices. However, the relatively low adoption of products such as recycled toilet paper and renewable household energy technologies suggests that environmentally responsible behaviour is influenced not only by awareness but also by product availability, affordability, and convenience. Further environmentally significant behaviour depends upon a combination of personal values, contextual conditions, and institutional support rather than awareness alone [22]. These findings are also supported [24], who found that consumers' purchasing decisions in the circular economy are strongly influenced by environmental concern, attitudes, and perceived usefulness of sustainable products. Likewise, household-level behavioural changes, including the adoption of reusable products and resource-efficient technologies, can substantially

reduce environmental impacts and greenhouse gas emissions [5].

Assessment of Household Clothes Washing Frequency

Respondents were asked about the frequency with which they wash their clothes each week because laundering consumes considerable amounts of water, electricity, and detergent, thereby contributing to household environmental impacts. The findings reveal that 46.5% of respondents wash clothes daily, while 20% wash clothes twice a week, 16% wash clothes three times a week, and 14% wash clothes once a week. Although maintaining personal hygiene is essential, frequent washing increases household consumption of water and energy while releasing detergent chemicals and microfibers into aquatic ecosystems. Household consumption patterns, including laundering practices, as significant contributors to environmental footprints [10]. Similarly, the Food and Agriculture Organization [6] emphasizes that responsible consumption of natural resources at the household level is critical for sustainable development. Therefore, encouraging behavioural interventions such as washing full loads, using cold water, reducing unnecessary washing, and selecting eco-friendly detergents can significantly reduce environmental impacts without compromising hygiene.

Sustainable Transportation Choices and Environmental Responsibility

Transportation choices represent another important dimension of environmentally responsible behaviour. Nearly 48% of respondents reported that they prefer walking for short-distance travel rather than using motorized transport. Among those using vehicles, 24% reported using electric bikes or scooters, 20% travelled by e-rickshaw, and 4.5% used electric cars. The preference for walking is particularly encouraging because it represents one of the most sustainable forms of transportation, producing no greenhouse gas emissions while simultaneously promoting physical health. The shifts toward low-carbon transportation systems as essential for climate change mitigation [9]. Electrification of transport combined with active mobility such as walking and cycling, is critical for reducing urban carbon emissions [8].

Sustainable Management of Unused Clothing

Fast fashion has significantly increased textile consumption and waste generation worldwide, making clothing disposal an important sustainability issue. The present study investigated respondents' practices regarding unused clothes. The results show that 42% of respondents donate their old clothes to others, 35% continue to reuse them for household purposes, 12% exchange them for household goods such as utensils or slippers, while only 1.8% reported burning, burying, or discarding them. These findings indicate that most respondents engage in behaviours aligned with the principles of reuse and resource conservation. Donating and reusing clothing extends product life cycles, reduces textile waste, and supports circular economy objectives by minimizing resource extraction and landfill disposal. The relatively low proportion of respondents who burn or discard clothing is encouraging because open burning contributes to air pollution and greenhouse gas emissions, while landfilling textiles increases solid waste generation.

The United Nations Environment Programme [30] recommends promoting repair, reuse, donation, and recycling as key strategies for sustainable consumption and waste reduction. Overall, the findings demonstrate that respondents exhibit positive sustainable consumption practices in several aspects of daily life, particularly in the use of reusable products, environmentally friendly transportation, and clothing reuse.

The rapid acceleration of the global fast-fashion industry has culminated in severe ecological crises, epitomized by monumental textile waste accumulations in Chile's Atacama Desert and Panipat, India. In the Atacama region, approximately 39,000 to 59,000 tons of non-biodegradable, chemically treated synthetic garments from major Western and Asian markets are discarded annually, generating vast desert "clothing graveyards" visible from space. Conversely, Panipat functions as a global recycling hub—the "cast-off capital"—where hundreds of tons of daily international textile imports are mechanically downcycled into reclaimed yarn for disaster-relief blankets. Despite localized circular economy interventions, such as the fabrication of thermal insulation panels from waste in Chile and extensive material shredding in India, the sheer volume of the world's 92 million tons of annual garment waste continues to overwhelm municipal infrastructures. Consequently, this systemic crisis has catalyzed an international race among nations like China, India, and Sweden to pioneer advanced, AI-driven sorting mechanisms and sophisticated textile recycling facilities to mitigate the profound environmental degradation [32].

Sustainable Food Consumption and Leftover Food Management

Food waste has emerged as one of the major global sustainability challenges because it not only represents the loss of valuable food resources but also contributes significantly to greenhouse gas emissions, water depletion, and unnecessary consumption of energy and land resources. Everyday household practices related to food purchasing, storage, consumption, and disposal therefore, play a crucial role in achieving sustainable consumption patterns. The survey investigated respondents' behaviour regarding the management of leftover food. The findings reveal that 54% of respondents reported feeding leftover food to animals or birds, 42% stated that they consume the leftovers later, 31% reported sharing leftover food with another person, such as domestic workers or individuals in need, while only 6.5% admitted that they dispose of leftover food in the dustbin. These findings suggest that a considerable proportion of respondents attempt to reduce food waste by adopting reuse-oriented practices. Consuming leftovers at a later time represents one of the most effective household strategies for reducing food waste and maximizing the utilization of available food resources. Similarly, sharing surplus food with others contributes to food security while reducing unnecessary waste generation.

Household Electrical Safety Awareness and Preventive Behaviour

Electrical short circuits and household fires are common safety hazards, particularly during the summer season when high temperatures and increased electricity consumption can overload electrical systems. Such incidents can result in significant property damage, injuries, and loss of life.

As a preventive measure, many households adopt safety practices such as unplugging electrical appliances and switching off lights before leaving home for an extended period, especially during travel. The findings indicate that the majority of respondents demonstrate good electrical safety practices by unplugging electrical appliances before leaving their homes. This behavior reflects a positive level of awareness regarding fire prevention and household electrical safety. However, approximately 13.8% of respondents reported that they do not follow this precautionary practice. The reasons cited include forgetting to unplug appliances or believing that leaving them connected does not pose a significant risk. These findings suggest that although awareness is generally high, a small proportion of the population remains vulnerable due to complacency or lack of consistent safety habits. The results are consistent with previous research emphasizing that human behavior and adherence to preventive safety measures play a crucial role in reducing the occurrence of residential fires. Educational campaigns and regular public awareness programs can further encourage safe electrical practices and minimize preventable fire incidents.

Leaving appliances plugged in when not in use creates "phantom load," drawing continuous standby power. Individually, this draw is minuscule, but collectively, it costs the average US household roughly \$165 annually, wasting billions of dollars of electricity nationwide. While heating and cooling systems consume the most energy, everyday electronics, especially those with remote-control sensors, silently inflate utility bills. Many devices continue to draw power even when switched off. Unplugging chargers, TVs, and laptops not only reduce energy waste but also lower electricity bill. Events like the National Day of Unplugging or National Energy Conservation Day observed in India on December 14 promote this awareness. Campaigns and studies emphasize that even though turning off a single LED light yields a small direct saving, community-wide adoption of unplugging habits significantly reduces the collective carbon footprint and demand on fossil fuels [33]. Adopting eco-friendly practices at home can significantly reduce environmental impacts while lowering household expenses. Key sustainable habits include following the principles of reduce, reuse, and recycle to minimize waste and conserve resources. Using energy-efficient appliances and LED lighting decreases electricity consumption and carbon emissions.

Use of local Products

The survey also examined the use of locally produced goods as an environmentally responsible consumption practice. Approximately 30% of respondents reported regularly purchasing local products, while 52% did so occasionally and 17% did not prefer local products. Buying locally produced goods can reduce transportation-related greenhouse gas emissions, thereby lowering the carbon footprint associated with consumption. The predominance of occasional rather than regular local purchasing suggests opportunities for policies and awareness campaigns promoting sustainable consumption.

Environmental Conservation Behaviour among Respondents

The findings indicate that respondents demonstrate varying levels of commitment toward environmental conservation through individual and community-based practices.

Among the environmental conservation measures adopted, 44% of respondents preferred tree plantation, making it the most common practice. This was followed by water conservation (34%), energy conservation (29.5%), and the use of compost pits (10.6%). Notably, 34.6% of respondents reported practicing more than two conservation measures simultaneously, reflecting a multidimensional approach to environmental stewardship. However, 6% of respondents did not engage in any environmental conservation practices, suggesting the need for greater awareness and motivation to encourage sustainable behavior. Participation in organized environmental initiatives was comparatively low. More than half of the respondents (54.4%) had not joined any environmental group or organization, whereas 27% participated in local environmental groups, 13% were associated with national organizations, and only a small proportion engaged in international environmental programs. This finding indicates that although individual environmental practices are relatively common, active participation in collective environmental action remains limited.

Environmental Cleanliness Practices and Public Involvement

Regarding participation in environmental cleanliness initiatives, 50.9% of respondents had participated in cleaning activities during National Service Scheme (NSS) camps or college and university programs. In comparison, 18% participated during school activities, 7.3% through community engagement, while 23% had never participated in such activities. Respondents reported involvement in initiatives such as Swachh Bharat Abhiyan, Namami Gange Mission, local irrigation department campaigns, market and road cleaning drives, park sanitation, beach clean-up activities, and environmental awareness programs conducted in schools, workplaces, and communities. These findings demonstrate that educational institutions play a significant role in encouraging environmental responsibility and civic participation among young people. Expanding community-based environmental programs may further strengthen public participation and foster long-term pro-environmental behavior. Overall, the findings suggest that while respondents exhibit positive attitudes toward individual environmental conservation practices, greater efforts are needed to increase participation in organized environmental groups, promote sustainable consumption, and encourage community engagement in environmental protection activities.

Energy Type Used at Home

The study reveals that liquefied petroleum gas (LPG) is the dominant cooking fuel among respondents, with 88% reporting its use. This is followed by induction cooktops (25%), electric heaters (13%), firewood (9%), cow dung (5.5%), kerosene (1.4%), and coal (0.9%). The widespread adoption of LPG and induction cooking reflects a positive transition toward cleaner household energy sources. Compared with traditional solid fuels such as firewood, coal, and cow dung, LPG and electricity produce lower levels of indoor and outdoor air pollutants, thereby contributing to improved public health and environmental sustainability. The relatively limited use of kerosene and coal is particularly encouraging because the combustion of these fuels emits particulate matter, carbon monoxide, sulfur dioxide, and greenhouse gases that contribute to air pollution and climate change.

These findings indicate increasing awareness of clean energy practices among households and align with global efforts to promote access to sustainable and modern energy.

Stopping Littering in Public Places

Environmental responsibility is also reflected in respondents' attitudes toward littering. Approximately 75% reported that they had discouraged others from littering in public places, while 25% believed that such interventions have limited effectiveness because responsible behavior is primarily shaped through family upbringing and school education. The high proportion of respondents taking action against littering demonstrates a positive sense of civic responsibility and environmental consciousness. Although behavioral change begins through education and socialization, public intervention and peer influence are also recognized as effective strategies for promoting environmentally responsible behavior and maintaining clean public spaces.

Utilization of Reverse Osmosis (RO) Wastewater

The increasing use of reverse osmosis (RO) systems in urban and semi-urban households has also resulted in greater volumes of reject water. The study found that 45.2% of respondents reused RO wastewater for cleaning floors or watering gardens, 19.8% used it for cleaning utensils, 14.3% for washing clothes, and 9.7% for bathing. However, 38.2% of respondents discharged the rejected water without any reuse. Considering the growing scarcity of freshwater resources, the reuse of RO wastewater for non-potable purposes represents an important water conservation practice. Promoting awareness regarding the safe reuse of reject water could substantially reduce household water wastage and contribute to sustainable water resource management.

Water Conservation Practices

The findings further indicate that 77.4% of respondents preferred taking a bath using a bucket and mug, while 15.7% used a shower, and less than 5% bathed under a continuously running tap. Bathing with a bucket and mug is widely recognized as one of the most water-efficient household practices, whereas running taps generally consumes considerably larger volumes of water. These findings suggest that respondents have largely adopted water-saving behaviors. In addition to efficient bathing practices, other household conservation measures—including repairing leaking taps, installing water-efficient fixtures, and encouraging the reuse of water—can further enhance water conservation and contribute to sustainable management of freshwater resources. Overall, the results demonstrate encouraging levels of environmental awareness among respondents in terms of adopting clean cooking energy, reducing littering, conserving water, and reusing wastewater. Nevertheless, the continued use of traditional fuels by a minority of households and the disposal of RO reject water without reuse indicate areas where further environmental education and policy interventions are needed. Strengthening public awareness campaigns and promoting sustainable household practices can significantly contribute to environmental protection and the achievement of the Sustainable Development Goals (SDGs), particularly SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), and SDG 13 (Climate Action).

Household Ownership of Mobile Phones

The study indicates that mobile phones have become an essential household commodity, reflecting their importance in communication, education, employment, and access to digital services. While 19% of respondents reported owning only one mobile phone, 26% indicated having more than two phones, 18.9% had three phones, 18.4% had four phones, and 17% owned five phones within the household. The increasing number of mobile phones corresponds with growing family size, rising household income, and the expanding role of digital technologies in everyday life. However, the rapid replacement of electronic devices also contributes to increasing electronic waste (e-waste), making responsible disposal and recycling increasingly important for environmental sustainability.

Household Appliance Use

Household appliances have become indispensable in improving the quality of life by reducing physical effort and saving time. The findings reveal that 67% of respondents owned a refrigerator, 60.8% an electric iron, 56.7% a mixer-grinder, 46.5% a washing machine, and 42.9% a television. Additionally, 21.2% had a reverse osmosis (RO) water purifier, 18.9% a geyser, 17.1% an air conditioner, 15.7% a microwave oven, while 29% reported possessing nearly all major household appliances. Only 3.2% indicated that they did not own any electrical appliances. Although these appliances improve convenience and living standards, they also increase household electricity consumption. Therefore, the adoption of energy-efficient appliances is essential for reducing electricity demand, greenhouse gas emissions, and household energy costs.

Waste Segregation through Separate Dustbins

Waste segregation at the household level is a fundamental component of sustainable solid waste management. The study found that 38.2% of respondents maintained separate bins for biodegradable waste, 31.3% for plastic waste, 24% for paper, 14.7% for glass, and 9.7% for metal waste. However, 36.4% still disposed of all household waste in a single dustbin. These findings suggest that a substantial proportion of respondents are aware of the importance of waste segregation. Proper segregation facilitates recycling, composting, and resource recovery while reducing the quantity of waste sent to landfills. It also enhances the efficiency of municipal waste management systems and contributes to the circular economy.

Disposal of Electronic Waste

The survey examined respondents' practices for disposing of electronic products such as mobile phones, headphones, speakers, printers, and computers. The most common practice was exchanging old devices for new ones (41.9%), followed by selling them to scrap dealers (31.3%), giving them to others for reuse (30.9%), while 10.6% discarded electronic waste in general dustbins. The preference for exchange, resale, and reuse demonstrates increasing awareness of resource conservation and circular economy principles. Nevertheless, disposing of electronic waste with municipal garbage remains environmentally hazardous because e-waste contains toxic substances such as lead, mercury, and cadmium, which can contaminate soil and groundwater if improperly managed.

Compost Pit at Home

The findings reveal that 41.5% of respondents maintained a compost pit at home, whereas 58.5% did not. Household composting represents an effective method for managing biodegradable waste, including food leftovers and vegetable peels. Composting not only reduces the amount of waste reaching landfills but also produces nutrient-rich organic fertilizer that supports home gardening and reduces dependence on chemical fertilizers. Consequently, composting contributes to waste reduction, soil fertility improvement, carbon sequestration, and biodiversity conservation. The relatively low adoption rate indicates the need for greater public awareness and technical support for household composting practices.

Household Cleaning Practices

Regarding cleaning materials used at home, 55% of respondents reported using commercial disinfectants such as Lizol and phenyl. Other respondents used water with salt (8.5%), brooms (8.9%), detergent with water (5.8%), cloth cleaning (4.5%), and alcohol-based cleaning agents (2%). While commercial disinfectants are effective in maintaining household hygiene, excessive use of chemical cleaning agents may introduce harmful substances into wastewater systems. Environmentally friendly cleaning alternatives and biodegradable cleaning products can reduce chemical pollution while maintaining sanitation standards.

Perception and Attitude toward Environmental Sustainability

A majority of respondents (78%) believed that individual actions can significantly contribute to environmental protection, whereas 22% expressed skepticism, believing that industrial activities have a much greater environmental impact than individual behavior. This finding reflects a generally positive environmental attitude among respondents. Previous behavioral research has demonstrated that positive environmental attitudes strongly influence sustainable consumption, waste management, and resource conservation practices. Nevertheless, strengthening public confidence through awareness campaigns and community engagement remains important for encouraging consistent pro-environmental behavior.

Barriers to Sustainable Living

The study identified several barriers preventing respondents from adopting sustainable lifestyles. The most significant obstacle was the lack of facilities (42%), followed by the high cost of environmentally friendly products (35%), time and lifestyle constraints (18%), and low personal motivation (5%). These findings suggest that both structural and behavioral factors influence environmental practices. Addressing these barriers requires government support, improved infrastructure, affordable green technologies, and public awareness programs. Policy interventions combined with environmental education can substantially improve the adoption of sustainable household practices.

Overall, the findings indicate encouraging levels of environmental awareness among respondents. Many households have adopted environmentally responsible practices such as waste segregation, electronic waste recycling, composting, and sustainable resource use.

However, greater efforts are required to improve access to waste management facilities, encourage energy-efficient technologies, and strengthen environmental education. Such measures would support national sustainability goals and contribute to the achievement of the Sustainable Development Goals (SDGs), particularly SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action).

Conclusion

The present study concludes that eco-friendly practices incorporated into everyday life play a significant role in promoting environmental sustainability and building collective environmental resilience. Although individual actions may appear small, their cumulative effect can substantially reduce environmental degradation and contribute to the conservation of natural resources. The review of literature and empirical findings demonstrates that sustainable living does not necessarily require major lifestyle changes; rather, it depends on adopting simple and consistent habits such as using environmentally friendly modes of transportation, conserving water and energy, reducing waste, composting organic materials, supporting home gardening, choosing sustainable products, and minimizing unnecessary consumption.

The findings reveal that awareness of environmental sustainability is gradually increasing among individuals. Many respondents reported adopting practices such as unplugging electronic devices when not in use, conserving water, segregating waste, and supporting environmentally responsible consumption. These behaviors align with global sustainability goals by reducing greenhouse gas emissions, conserving freshwater resources, minimizing landfill waste, and promoting biodiversity. The increasing acceptance of such practices indicates a growing recognition of individual responsibility toward environmental protection.

However, the study also highlights a gap between environmental awareness and the consistent adoption of sustainable behaviors. Factors such as inadequate infrastructure, the higher cost of eco-friendly products, limited access to sustainable alternatives, and the convenience of conventional practices continue to discourage individuals from fully embracing environmentally responsible lifestyles. These barriers suggest that awareness alone is insufficient to achieve meaningful behavioral change unless supported by enabling social, economic, and institutional conditions.

The integration of literature review with empirical evidence provides a comprehensive understanding of both the theoretical foundations and practical realities of sustainable living. The findings reinforce that environmental sustainability cannot be achieved solely through individual efforts or government policies in isolation. Instead, it requires a collaborative approach involving individuals, communities, educational institutions, industries, and policymakers. Public awareness campaigns, environmental education, supportive infrastructure, affordable green technologies, and effective policy interventions are essential to facilitate and sustain eco-friendly behaviors.

In nutshell, sustainable living is a shared responsibility that depends on collective action at multiple levels. Individual choices, when supported by institutional commitment and public policy, can produce significant environmental benefits and contribute to long-term ecological resilience.

Encouraging environmentally responsible daily practices not only improves environmental quality but also supports climate change mitigation, resource conservation, public health, and sustainable development. Therefore, fostering a culture of sustainability through continuous education, community participation, and policy support is essential for creating a healthier environment and ensuring the well-being of present and future generations.

Recommendations

Environmental sustainability can only be achieved through a combination of individual responsibility, community participation, institutional support, and effective public policy. While individuals play a vital role by adopting environmentally responsible daily practices, governments, educational institutions, industries, and civil society organizations must provide the necessary infrastructure, awareness, and incentives to facilitate sustainable behavior. A coordinated and collaborative approach will contribute significantly to achieving the Sustainable Development Goals (SDGs), conserving natural resources, mitigating climate change, and ensuring a healthier environment for future generations. Based on the findings of the study, the following recommendations are proposed to strengthen the adoption of eco-friendly practices and promote sustainable lifestyles at the household and community levels:

- **Strengthen Environmental Education:** Environmental education should be integrated into school, college, and university curricula to encourage sustainable habits from an early age. Practical activities such as tree plantation, waste segregation, composting, and water conservation should be promoted alongside classroom learning.
- **Promote Public Awareness Campaigns:** Government agencies, local authorities, and non-governmental organizations should conduct regular awareness campaigns on energy conservation, waste reduction, water management, and sustainable consumption through social media, community workshops, and mass communication platforms.
- **Improve Waste Management Infrastructure:** Local governments should provide households with separate bins for biodegradable and recyclable waste and strengthen door-to-door waste collection systems to encourage proper waste segregation and recycling.
- **Encourage Household Composting:** Training programs and financial incentives should be introduced to motivate households to establish compost pits for managing biodegradable waste. Composting reduces landfill waste while producing organic fertilizer for home gardens.
- **Promote Energy-Efficient Technologies:** Subsidies and incentive schemes should encourage the adoption of energy-efficient appliances, LED lighting, induction cooktops, and renewable energy technologies such as rooftop solar systems to reduce household energy consumption and greenhouse gas emissions.
- **Strengthen Water Conservation Measures:** Public awareness should emphasize the reuse of household wastewater where appropriate, repair of leaking taps, installation of water-efficient fixtures, rainwater harvesting, and responsible water-use practices to address increasing water scarcity.

- **Develop Sustainable Transportation Policies:** Governments and urban planners should improve public transport systems, cycling infrastructure, and pedestrian-friendly facilities while encouraging carpooling and the use of low-emission vehicles to reduce air pollution and carbon emissions.
- **Promote Responsible Consumption:** Consumers should be encouraged to purchase durable, repairable, and locally produced products with minimal or recyclable packaging. Such practices reduce waste generation, transportation-related emissions, and excessive resource consumption.
- **Improve Electronic Waste Management:** Easily accessible collection centers and formal recycling facilities for electronic waste should be established. Public awareness campaigns should discourage the disposal of electronic devices with household waste and promote repair, reuse, exchange, and recycling.
- **Increase Community Participation:** Residents should be encouraged to participate in environmental activities such as cleanliness drives, tree plantation campaigns, biodiversity conservation programs, and local environmental organizations. Community participation strengthens environmental responsibility and social cooperation.
- **Provide Policy Support and Financial Incentives:** Governments should introduce subsidies, tax incentives, and financial support for eco-friendly products, renewable energy technologies, and sustainable household practices to reduce economic barriers to adoption.
- **Support Further Research:** Future studies should examine long-term behavioral changes across different socio-economic groups and geographic regions. Evaluating the effectiveness of environmental education programs and government interventions will help develop evidence-based strategies for promoting sustainable living.
- Encourage green incentives (tax breaks, discounts).
- Carbon emission reduction, circular economy strategies, and biodiversity conservation.

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