

Challenges of Consumer Culture and Solid-waste to the Environment Protection in Pokhara Metropolitan City, Nepal

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Abstract

Changing consumer culture and increasing solid-waste have become global environmental issues leading to myriad challenges for management, especially in urban spaces. Against this backdrop, this study explores the challenges of solid-waste attached to changing consumer culture in the context of Pokhara, an urbanized tourist city in Nepal. The study has followed the qualitative research design generated through primary and secondary data. For this purpose, five informants have selected by purposive sampling and gathered their experiences, knowledge, and understanding of the relationship between changing consumer culture and increased solid-waste through in-depth interviews. The findings reveal that the leading cause of the environmental problem in this area is due to changing consumer culture along with rapidly growing urbanized cities and an increased attachment towards readymade items, which are in forceful demand with the stretching of the global market. It leads to an increase in solid-waste, and now it is a burning issue for protecting the environment in this area. Hence, consumer culture and solid-waste have interconnected aspects and contributing factors to an environmental problem in Pokhara.

Introduction

Consumer culture and solid-waste production have become an issue of global concern regarding environmental discourses. Consumer consumption is an activity of basic needs fulfillment, and the culture of people in modern societies is shifting from consumption to consumptive in its meaning (Umanilo, 2019). The emission of waste and proper disposal management as a widespread issue (Abdel-Shafy & Mansour, 2018) have created environmental challenges in the urban areas of least developed nations like Nepal. As the consumer culture is the activities of consumers based on buying and consuming the commodities and services from the market, it has been understood with multiple meanings about socio-cultural, symbolic, and experiential dimensions of consumption (Garanti & Berberoglu, 2018). It is a material consumption practice of consumers promoted by the market. As Arnould and Thompson (2005) stated, the changeable interrelationship between the marketplace and consumer behavior has embedded in cultural meaning. Moreover, the exchange between consumer behavior and farm products (Kadirov & Varey, 2011) changes over time and transforms with the link of marketing (Grace, 2021). Agarwal (2021) has stated that solid-waste as garbage material generated from day-to-day anthropogenic activities has been categorized into municipal[1] waste, hazardous[2] waste and biomedical[3]Waste. Upcycling using green technology (Wilson, 2016) has reduced consumption and waste generation (Szaky, 2014), but it is under-theorized (Anderson, Hamilton, and Tunner, 2018). The consumer culture has come up with increasing solid-waste production with impacts of globalization and urbanization (Adams et al., 2016; Rabkin, 2020) in the household of urban and rural settlements, and it is one of the major causes of environmental degradation. Globalization and urbanization are gradually changing the consumer culture globally (Hanus, 2018). The changing consumer culture and habits have produced solid-waste and created the problem of its disposal globally. Similarly, it becomes a significant cause of environmental pollution in fast urbanizing areas adopting newly produced industrial goods.

The emergence of global consumer culture has appeared as a powerful force in the political economy for affecting local consumer culture to accumulate global products nowadays (Steenkamp, 2019). Furthermore, it has impacted solid-waste production while adopting global products. On the contrary, nature has been utilized as fodder for consumption and production in industrial farms, and overconsumption could be dangerous for the ecosystem (Besthorn, 2003). On the other side, the increasing solid-waste has become problematic for collection and disposal in urban areas, which has embedded with the urban environmental problem (Abdel-Shafy & Mansour, 2018). Therefore, the changing consumer culture is a leading cause of the increase in solid-waste. It is not only a matter of environmental issue but also a sociologically vital concern.

According to Wilk (2017), consumer cultures have varied according to time, space, and context to overcome human priorities such as health, education, and quality of life. People's interest in comfortable and convenient life has changed to modern utilities, temperature regulations such as air conditioning, heating and cooling equipment, personal transportation, and industrial products. Moreover, people's excessive dependency on these has resulted in ecological catastrophe. In addition, it has ultimately increased non-biodegradable[4] waste and impacts on severe environmental deterioration.

The changing trends of consumer culture and increment of solid-waste have been observed in urbanized cities of both developed and underdeveloped nations; however, the problems are genuine in underdeveloped countries. As the concerns are emergent, it has opened the possibilities and priority of study on the challenges of consumer culture and solid-waste issues in the research fields. After the country's reformation, Pokhara Metropolitan City, the provincial headquarters of Gandaki Province in Nepal, became a rapidly growing urban city. This rapidly growing city is not only increasing in population and access to modern infrastructure and technology, but it is also simultaneously changing the consumer culture. People are consuming well-packed, readymade items, rapidly increasing waste production. In 2019, it was estimated that household waste production in Pokhara is 117.11 tons per day, where 62.65 percent of the waste is biodegradable.[5] which had become a significant factor affecting the environment (Maharjan et al., 2019). Moreover, it has become a concern to protect Pokhara from environmental deterioration caused by changing consumer culture and solid-waste production, besides sound pollution, air pollution, and overconsumption of natural resources. Furthermore, there is a gap in studies concerning consumer culture and management of solid-waste as an environmental concern. The preceding limited research has opened the exploration of issues and focused on the probability of concern as Pokhara is a rapidly urbanizing city in Nepal. The studies conducted at different times have revealed either consumer culture or solid-waste management broadly at the international level and a few at the national level. So, it is needful to contribute to the relationship between consumer culture and solid-waste management for environmental protection through existing literature. Besides, it must link consumer culture and solid-waste management with the environmental issue, a sociological concern today. In this context, the paper addresses the problem: how do consumer culture and solid-waste impact environmental degradation? Thus, the study on the challenges of consumer culture and solid in Pokhara has aimed to explore the challenges brought forth by consumer culture and solid-waste in environmental degradation in Pokhara.

Literature Review

The consumer culture and solid-waste management have become affecting factors to the environment in urban cities of both developed and developing countries (Ferronato & Torretta, 2019). Similarly, these issues are affected by the movement of globalization and urbanization (Achankeng, 2003; Kellner, 2021). The changing consumer culture has been detected in the present days by spreading consumer goods through the globalization and urbanization process. It has made easy access to integration, interaction, and interrelation among the people globally, which has impacted consumer behavior and change in livelihood patterns. Likewise, urbanization has taken place due to the effect of industrialization. Cities' populations have become dense by migrating people from rural to urban areas for better education, employment, and easy survival, creating solid-waste problems in the urban area. Based on the globalization and urbanization perspectives, the research gap has been created by reviewing previous literature on two thematic aspects of consumer culture and solid-waste generation for environmental degradation in the context of Pokhara.

The Issues of Consumer Culture and Solid-waste

Consumer culture is social, economic, and cultural practices connected with market products and buying industrial goods (Swaidan, 2012). As the mass products are available in the market, the consumer culture is embedded with the socio-economic and cultural prospects. According to Besthorn (2003), the recent consumerism trends have been influenced by the high range of material accumulation, consumption, accompanying and reducing happiness by increasing social stratification. On the other hand, increasing solid-waste production by changing consumer culture is devastating the ecosystem due to inadequate disposal of solid-waste. Besthorn's view has specified the need for collective consciousness and initiating action with sound policy to overcome the worsening ecosystem. It has also demanded adequate research to advocate for policy formation at the national and international levels.

Similarly, Coleman and Tutton (2017) have argued that human engagement with nature in social organization and capitalist economy has brought unexpected environmental changes, which indicates an uncertain future. Furthermore, studies on consumer culture have revealed that it is about the consumption of not only physical goods but also anything consumable, such as services, lifestyles, symbols, and images as commodities. The commodities are made from the market and are connected and associated with choice, market relation, individual freedom, and modernity (Steenkamp, 2019). However, the process of globalization and urbanization is guiding and shaping the consumer culture more progressively and contributing to solid-waste increment at the household level, which has a direct impact on environmental degradation. It has opened issues or gaps for further research studies. Likewise, Evans (2019) has pointed out that all domestic, communal, and state consumption are provisional from the market, and the geological epoch of human society has primarily shaped the environmental system. This literature has suggested that the relation between market and consumer culture is reciprocal for the environmental system. Umanailo (2019) has maintained that community consumption as a practice pattern shifted to global behavior by modern facilities. It has created social changes spreading the consumerist culture and

nationalizing the structure of community culture. However, it has not only meant fulfilling the necessity of people but also become a medium of environmental degradation by increasing solid-waste while consuming newly developed goods.

Similarly, Skandalis et al. (2019) have revealed that the consumer's experiences have been disclosed by negotiation with market-based structural and nonstructural domains. In contrast, Liechty (2020) has argued that there is changing consumer culture among city dwellers due to the accessibility of various material goods from bedsheets to banquets entering the social setting. It has increased opportunities for consumption in the local economy to aim to produce and calming distinction. Similarly, To quote Wink (2021)

Everything we buy, wear, eat, and drive connects us in some way to the natural environment through long chains of connections. And today, those connections span the globe, so the things we consume may have traveled through several countries as they make their way from places they are produced and processed to our tables and closets (p. 418).

As global consumers, our desires, tastes, and choices have affected the environment and people globally in modern societies. Furthermore, it has discoursed the impacts of contemporary material goods consuming culture on the environmental degradation of the urbanized cities. It has directly contributed to the localization of global consumer culture, but a waste generation from consumer culture has not been discussed.

Solid-waste is waste particles produced while consuming goods by people. Regarding the issues of waste, Alam and Ahmade (2013) have opined that population growth and increasing urbanization has become the major causes of the increasing trend of solid-waste, which has created proper disposal problem in urbanized municipalities. The increased population and urbanization have interconnected with the disposal problem of solid-waste in urbanized cities. However, for the management of solid-waste in developing countries like Nepal, Maharjan et al. (2019) have suggested the necessity of an adequate strategic framework and legal policy provision to create a sound waste disposal management system in all three tiers of the Nepalese government. It could reduce the increasing environmental problem due to the rising solid-waste.

On the contrary, Bharadwaj et al. (2020) have expressed that the mechanism of reuse and recovery by recycling plastic waste has contributed to sustainable financing for waste management, which could support environmental harm reduction in developing countries. Similarly, a study done by Pathak et al. (2020) has explained that the amount of solid-waste generation in municipalities in Nepal has been influenced by geography, population size, urbanization status, and household expenditure. The study has revealed that the average waste generation per household, including plastics, paper products, rubber, and textile, is 115 gm per day. Furthermore, the disposal management of municipal solid-waste has become an issue of challenge and poses serious environmental problems such as groundwater, air, land, and the like for the government authority of developing countries (Khanal et al., 2021). This prior literature has a

clear gap in the interconnection between consumer culture and solid-waste, which could create challenges in environmental issues in an urbanized city like Pokhara.

Globalization, Consumer Culture, and Solid-waste

The process of spreading global products and services across cultures and national borders has been taken as globalization (Totonchi & Manshady, 2012), which is connected with global free trade relations between countries. According to Engel et al. (1978), the expansion and rise of globalization have impacted the recognition of global commodities, and people are interested in international products, which has changed consumer culture and impacted environmental issues. In this connection, Antonis (2011) has reported that "the triangle megacities – globalization – waste management is presented as a framework to understand the challenge of waste management" (p. 1). Similarly, Vergara and Tchobanoglous (2012) have stated that from a global perspective, increasing waste quantities and consumption patterns have become more complicated as the diffusion of electronic and plastic products has affected people's health and the health environment. It has pointed out that the increasing quantities of waste have been connected with the diffusion of modern products for consumption. The high level of consumption has resulted in increased production, and the higher level of production has exploited energy, natural resources, and material (Orecchia and Zoppoli, 2012). It has ultimately contributed to waste generation as byproducts and has become the leading cause of environmental deprivation.

Similarly, globalization has an economic, political, socio-cultural, and consumer cultural front, which has driven increasing trends of migration, advancement of technology, and media to affect, regulate and shape the modifying behavior and living standard of people around the globe (Jain, 2016). It has influenced global relations with consumer culture. Moreover, Rai (2017) has discovered that population growth and industrialized settlement have increased air pollution and waste disposal, worsening the quality of water and the like, which has exacerbated biosphere, habitat, and climate change along with damage to the existing other environmental properties. Despite the efforts to address the issue, this literature is experienced as insufficient to build up the connection between consumer culture and solid-waste generation on real ground.

Urbanization, Consumer Culture, and Solid-waste

Urbanization is a process of shifting the population from rural to town for financial and social benefit, and it is the state of industrialization changing from the agriculture system (Dwyer, 1990). It has promoted cities or towns as a center of trade, culture, and market products. Urbanization and globalization have affected perspectives on consumer culture and solid-waste management issues. Achankeng (2003) has offered that urbanization and globalization have appeared as both the benefits of available new commodities and troubling problems to environmental protection. In addition, Vij (2012) has stated that urbanization has directly contributed to waste generation, health hazards by unscientific waste handling, and increased urban environmental problems.

On the contrary, Bai et al. (2017) have considered urbanization as social transformation in the modern era by the magnitude of the economic, social, environmental, and political process, which has multifaced and manifested at all levels from global to local scale. To be succinct, the emerging consumption trends due to urbanization have witnessed a greater flow of waste and an alarming rate of natural resource depletion, which has appeared as a significant cause of environmental degradation (Ara, Khatun, and Uddin, 2021). According to the World Bank (2020) report, the per capita waste generation in Pokhara in 2019 was 354 gm per day. The data shows an increase of per capita waste by 60%, from 220 gm per capita per day to 2012. The daily garbage production by the population of Pokhara is 182 metric tons, where the proportion of organic waste, plastic waste, paper waste, and mixed waste (glass, textile, rubber, and metal) are 57%, 19%, 11%, and 13% respectively. This literature has reported the effect of urbanization on consumer culture and the generation of solid-waste, but how consumer culture and solid-waste in urbanized cities like Pokhara have become a challenge and environmental issue is unanswered. So, it has remained a researchable issue. In this regard, this research has been done as the problem is genuine and significant in this post-modern era following globalization and urbanization.

Conceptual Framework

This study explores the challenges of consumer culture and solid-waste to environmental protection in Pokhara from the perspectives of globalization and urbanization. The changing lifestyle of people by the process of globalization and urbanization has an impact on people's consumer culture and the emission of solid-waste. It has become the primary concern of environmental impact in developing nations.

Methodology

The study has adopted the qualitative research design. It has followed the conceptual framework of the entire study, where the research issue is observed from the globalization and urbanization perspectives. The research is situated for perceiving consumer culture and the status of solid-waste in Pokhara in terms of globalization and urbanization, which has a gap in the literature. Likewise, the study's primary concern is the interrelation between consumer culture and solid-waste disposal status, which directly impacts environmental issues in Pokhara. Employing an interpretative paradigm as a research philosophy, the study has used qualitative insights into the social phenomenon of consumer culture and solid-waste production at the household level. As the investigation has aimed to observe, perceive and explore the phenomena of people's experiences regarding consumer culture and the status of solid-waste, it has incorporated a phenomenological approach. This research study has adopted the categories of analytical accommodation to perceive accurate information (Tuckett, 2014) as a phenomenological approach. The analysis of people's experiences and feelings about consumer culture and solid-waste has become a primary concern in exploring the status of the environment due to changing consumer culture and increasing solid-waste.

Pokhara, one of the biggest urbanized cities in Nepal, is composed of 33 wards and is Gandaki Province's headquarters. It consists of 518,452 total population with 143,137 households (Central Bureau of

Statistics, 2022) that, is an increase in the figure from 68,398 households and 402,995 people from the observed data of national census 2011 (Central Bureau of Statistics, 2012). The location has been chosen as it is a rapidly urbanized city with population growth and a center of changing consumer culture with globalization (Raut, Chaudhary, and Thapa, 2020). The study has initiated in September 2021 and will be completed in December 2021. The purposive sampling method has applied to collect information from five selected informants. The informants are from different demographic categories, such as one ethnic woman of age 37 from a middle-class family (informant A), two male municipal staff of age 45 and 50 involved in solid-waste management (informant B and C respectively), and two sociopolitical leaders one female (informant D) and one male (informant E) of age 35 and 55 respectively. The study used secondary data from previous literature reviews and municipal records for solid-waste management. Focusing on the Pokhara Metropolitan City of Nepal, the study has applied qualitative descriptive research. The study has adopted cross-checking with municipal data, consulting expert in the local area, and cross-checking with informants visiting to reduce possible bias before and during the research study to ensure trustworthiness. The study has not relied on a preplanned plan, and subjective reality has become a significant concern for data collection. The data saturation method has generated the central theme following optimum possibilities to get new information. After assuring no recent report, the collected data are evaluated with a triangulation mechanism verifying the data with local experts.

The non-numerical data are collected by conducting five series of open-ended and in-depth extended interviews. The researcher has observed consumer culture practice and solid-waste generated in households, communities, and streets, which have taken additional sources of information. The conversation with informants through open-ended questionnaires, based on thematic issues, is incorporated during information collection where probing questions as the conversation has applied to clear experience and feeling of informants on the research issue. The collected information is analyzed by categorizing statements, meaning themes, and meaning experiences of people in general to explore the essence of the feeling and experiences of informants. Informants' experiences with consumer culture and solid-waste have generated themes by interpreting and analyzing the field note, interview transcripts, and researcher observations. As Pokhara is fast growing city in Nepal, it has a changing trend of consumer culture and an increasing trend of solid-waste. It is the reason behind selecting the location to explore people's perception of the challenge of environmental problems, and the research issue has seemed to be a genuine concern for the study.

Results

The study has generated two significant themes based on the data gathered from the selected informants by applying purposive sampling at Pokhara Metropolitan City in the Kaski district. The qualitative information from five in-depth interviews with the informants and observation from the researcher on the research issue of consumer culture and solid-waste production status in Pokhara have presented two themes such as changing consumer culture as a significant factor of environmental degradation and increasing solid-waste as the primary cause of the ecological problem.

Changing Consumer Culture As A Significant Factor Of Environmental Degradation

Considering consumer culture as a significant factor in environmental issues, the study has situated for perceiving and recognizing people's experiences, knowledge, and attitudes on consumption behavior in Pokhara. The information from selected informants has explored the role of changing consumer culture and its effect on environmental degradation. In response to consumer culture on environmental degradation, informant B has reported that

the consumer culture as goods consuming practice adopted by people has become dynamic these days due to the availability of different market goods, and it is accepted as culture in Pokhara. People are practicing market products than homemade stuff. Though the market products have made it easy for a human to survive, it has supported an increase in solid-waste at the household level. The increased household waste has created pollution in water sources. Besides, it has contributed to the depletion of greenery and air pollution due to unscientific waste handling. Consequently, it is affecting public health by increasing non-biodegradable waste in the social phenomena of Pokhara.

From the expression of informant B, dynamism in consumer culture by adaptation of market-based products has increased waste particles in Pokhara. Furthermore, informant D has opined that

the consumer culture has directly connected with globalization and urbanization in Pokhara. It has indicated that people's consumer behavior is changing with the global market's localization, such as adopting new vehicles, chemical fertilizers, using plastic products, and the like. The population is increasing rapidly, but natural resources are limited. Global products and commodities are entering Pokhara and changing consumer culture to fulfill the demand of the increased population. It supports the possibility of waste generation simultaneously and becomes the cause of environmental degradation.

According to informant D, the globalization of consumer culture with the newly invented market product has fulfilled the demand of the increased population, and urbanization has contributed to generating solid-waste in Pokhara. Informant E, in this respect, puts forth he says as

The process of urbanization has increased the density of Pokhara. On the one hand, the city is turning into concrete infrastructure, and on the other hand, the natural resources are not increasing. It has contributed to sky-rocketing market-based commodities. It has changed the consumer culture and contributed to solid-waste generation at the household level. It has become the cause of environmental degradation.

From the view of respondent E, the dense population has demanded market-based products, which has contributed to solid-waste generation and become an environmental problem. Informant C has shared the experience that

the population of Pokhara was not so high in the past. People were using the domestic product for survival, and life was more accessible, but the narrative was different now. The population density is higher, the narrow spacing between the infrastructures, limited cultivating land, and no balanced production growth at the household level. We depend on market goods, packaging foods, plastic products, and electronic appliances. Our consumer culture is changing. It is responsible for generating waste and environmental degradation.

According to the experience of informant C, Pokhara has become more compact than past. Life of the people has depended on market products and created waste problems which have become the cause of environmental degradation. Informant A has provided the view that.

People are using the new market product as fashion. Plastic products, electronic appliances, and liquor bottles are new fashion among city dwellers. It has become a culture to try and enjoy new products arriving in the market. The recent trend of trading centers, marketplaces, public gathering centers, and the like provides market products. The dense population with no land to produce local goods has contributed to the adoption of market products as a daily routine for survival and has shifted into the modern consumer culture. It has impacted a household waste generation. The environment of our surroundings is getting polluted due to the lack of adequate disposal management in the city.

For informant A, Pokhara has become the fashion center for market products. It has contributed to changing consumer culture, becoming the leading cause of solid-waste generation. The emission of waste and changing consumer practices by city dwellers have created problems in environmental protection.

Increasing Solid-waste As A Major Cause Of Environmental Problem

Solid-waste generation has become a common issue in the social phenomena of urbanized cities. The study has collected information on solid-waste and its relation to environmental problems from the selected informants. The conversation during the in-depth interviews with five informants has generated the theme that increasing solid-waste is a significant cause of environmental concern. In response to solid-waste and environmental problems, all the informants have provided similar views. Informant E has reported that

solid-waste is increasing in Pokhara due to population growth. Urbanization has limited land for local production, creating a supportive environment for entering global markets commodities to fulfill the daily needs of the dense population. Biodegradable waste with goods by wrapping and packaging is also in increasing trends. There has seemed to be a high level of waste generation from the high consumption of market-based products. The increasing trend of waste particles has become a significant cause of the environmental problem.

According to respondent E, the reasons behind the increment of solid-waste in Pokhara are the population growth and the high rate of consumption of market products. It has increased the solid-waste with goods as byproducts. Similarly, informant D has argued that

the reason behind an increase in household waste is the growth of the population, the low level of production at the local level, and the high rate of importing goods from global markets. Globalization and urbanization have contributed to free market competition among the market products. It has affected waste generation in Pokhara and has become a challenge to environmental protection.

From the experience of respondent D, Pokhara has a low level of local production and increment in market product consumption which has contributed to importing more goods. It has supported waste generation and environmental pollution. Furthermore, informant C has stated that

the disposal management of non-biodegradable solid-waste generated by the dense population has become a problem for environmental protection in Pokhara. It has contributed to the spread of diseases and air, environment, and groundwater pollution, simultaneously impacting people's health. It is the primary cause of the environmental problem.

The expression of informant C explained that the main problem of environmental production in Pokhara is non-biodegradable waste produced by the dense population. In a similar vein, informant, A has shared that

the increased solid-waste has degraded natural beauty and polluted air, water, and the environment. The plastic waste generated at the household level has become the primary cause of soil pollution, contributing to low agro-production. The market-based globalized products have become sources of plastic waste in a globalized and urbanized city like Pokhara. It is an environmental problem.

According to informant A, the increasing solid-waste has become a problem for natural beauty and environmental issues with plastic waste in Pokhara. Likewise, to quote the informant B

I have observed the direct relation between urbanization and solid-waste production. Due to urbanization, the production of solid-waste such as organic, inorganic, and hazardous solid-waste is rapidly generating in Pokhara. Organic waste is produced from household food and fruit consumption, the market has inorganic solid-waste, and hazardous waste is generated from the hospital and industrial sectors. The waste generation at households, markets, institutions, hotels and restaurants, construction sites, and religious sites while consuming commodities from market products creates an environmental problem.

According to informant B, the primary three types of solid-waste are increasing due to the city dwellers' consumption habits that demand a supply of organic and inorganic goods, raw materials for hospitals and industries, and chemicals in the global consumption process.

Observation Of Consumer Culture And Solid-waste Generation In Pokhara

Pokhara Metropolitan City is a growing city in Nepal. The population density is gradually increasing, and the city model consuming culture is also rapidly growing. The residential solid-waste, such as food waste, textile, plastic, leather, and yard waste, is produced by each household. Similarly, the number of household construction, road repairment, renovation sites, demolition of **Figure 2: Improper waste dumping observed on the road of Pokhara**

buildings and broken pavement works have produced wood, steel, and concrete waste.

The number of restaurants, hotels, and marts is increasing to supply the city dwellers' needs. Processed foods from the global market in the place of domestic food have been contributing to solid-waste production in the city. Nevertheless, solid-waste products are not only associated with individual behavior but have multiple connections. Overall livelihood in the household, Commercial activities, industrial construction, municipal services, institutional activities, hospital, and the like are the sources of the daily service providers to the city dwellers, which are the primary source of solid-waste. The multiple choices of city dwellers on goods and services that are supposed to advance city culture have resulted in solid-waste along with the expansion of urbanization in Pokhara. The tourism center of Nepal, Pokhara, has been influenced by the foreign consumption lifestyle of visitors from different continents. Street vendors and seasonal fruit sellers are providing intra-street food supply to the consumer, leading to an increase. Besides, the Packaged food from hotels and restaurants and can juice, bottles, beverage, and party food culture have notably increased, due to which solid-waste production is remarkably gaining momentum in Pokhara. The increasing trend of waste generation and lacking adequate processing, disposal management, and recycling provisions have changed the face of Pokhara city and have converted it into a polluted area. It is creating problems in environmental protection.

Discussion

The study focusing on the challenges of consumer culture and solid-waste to environmental protection has explored the ecological situation of Pokhara based on consumer culture and solid-waste qualitatively. It has further tried to perceive people's experiences on consumption patterns and production of solid-waste phenomenologically to trace out the challenges in environmental degradation of Pokhara by globalization and urbanization. Simultaneously, it aims to reconnoiter the perceptions within two thematic aspects, such as changing consumer culture as a significant factor of environmental degradation and increasing solid-waste as the primary cause of the environmental problem.

Changing Consumer Culture As A Significant Factor Of Environmental Degradation

The consumer culture of Pokhara is changing rapidly, and people are adopting the global consumer culture as per the experiences, knowledge, and feelings received from the informants. Availability and competition of market-based products, localization of them, and mass consumption of those products by the dense population are the present feature of Pokhara to make it easy for survival the people. Similarly, globalization and urbanization have also contributed to people's consumer behavior. It has created the problem of waste generation and become a problem in the environment, like water scarcity, exhaustion of greenery, air, and sound pollution, and unsystematic garbage. (disposable and biodegradable waste) management and unhealthy competition among the market and industrial goods. Pokhara, the city with scenic beauty and greenery, is turning into a concrete jungle. And this has been consequent to another issue of environmental deprivation here. Furthermore, the low level of agro-based production at the local level, a high rate of commodities imports, increased organic waste at the household level, and is inorganic. produced by imported markets and industry-based commodities, and the hazardous waste from hospitals in the community has polluted the environment of Pokhara daily. It has indicated Pokhara an uncertain future has been discovered by Celeman and Tutton (2017) in their research.

The study has explored and revealed that the changing consumer culture among people due to globalization and urbanization has a significant role in waste generation, creating a challenge for disposal management, sound and air pollution, health hazard by toxic emissions, and environmental degradation. Similar to the view of Wink (2021), the people of Pokhara are habituated to global market-based products and connected with the globe, and the products come to the people passing several countries. It has contributed to generating solid-waste and has become an environmental problem at the local level.

A study conducted by Steenkamp (2019) has disclosed that the consumption of commodities and services from the global market has depended on individual choice, freedom, and market relation. It is like the consumer culture of the people in Pokhara and has indicated that the leading cause of degradation of the environment is consumer culture. People are adopting the consumer culture of market-based products. Similarly, globalization of the global market commodities where people are free to choose and order commodities from their homes has also gradually increased, due to which the consumer culture is changing in the city. Such consumer culture has contributed to the bio-degradable and non-biodegradable solid-waste generation in the surrounding inhabitants.

Furthermore, the study has revealed that the demand for the commodity has notably increased and has changed consumer culture in the city center area. As Liechty (2020) has illustrated, city people depend on the market product and create consumerism responsible for solid-waste production, and the illustration best explains Pokhara in this context. Similarly, the findings also depict that the changing consumer culture has played a significant role in environmental degradation.

Increasing Solid-waste As A Major Cause Of Environmental Problem

Informants' experience has revealed that solid-waste generation in Pokhara is increasing. The reasons behind the increment are population growth, high consumption of market-based industrial products, limited land for cultivation by a dense population, overconsumption of natural resources, etc. To add further, Pathak et al. (2020) have stated that the increment of solid-waste is based on geography, population size, urbanization status, and household expenditure. This research has indicated that the consumer culture is embedded with globalization and urbanization to increase solid-waste emission, which has become one of the causes of environmental deprivation. However, people's behavior for disposal management is equally crucial for consumption habits and environment protection, but the study has delimited consumer culture and solid-waste for environmental degradation.

Similarly, solid-waste such as organic, inorganic, and hazardous waste generation are rapidly increasing these days in Pokhara as Bharagava et al. (2020) have referred to the categories of solid-waste in the urbanized city in their article entitled " Introduction to Industrial Wastes Containing Organic and Inorganic Pollutants and Bioremediation Approaches for Environmental Management." In recent years, the number of households and population has increased in Pokhara due to urbanization, and people have become city centered for easy survival, employment, and educational opportunities. The internal migration from surrounding hills has also contributed to the dense population. Several options have contributed to household organic waste generation while consuming fruits and foods as household commodities. The increasing number of infrastructures, religious places, hospitals, small industries, hotels, restaurants, market centers, and public and private institutions generate solid-waste in Pokhara. These changings have ultimately subsidized for generation of organic waste at households, hotels, restaurants, religious sites, and public/private institutional sites, inorganic waste at market sites, construction sites, industrial sites, and private and public arenas, and hazardous waste at the hospital and industrial areas.

Furthermore, the process of globalization has anticipated the change in consumer culture based on market-based commodities, which has played a supportive role in increasing solid-waste generation. Bharadwaj et al. (2020) have illustrated that the mechanism of reuse and recycling of plastic waste has helped in the sustainable management of waste that supports reducing environmental problems. However, the lack of proper disposal management, such as disposable mechanisms, recycling, and adequate dumping mechanism, has devastated the greenery of Pokhara. Dumping waste particles in almost every place have polluted groundwater; air pollution is caused due to bad smell of organic garbage and the burning of plastic waste in Pokhara. The toxic emission inflammability and explosion are other possible dangers for social phenomena by the hazardous waste generated from hospitals and industries. World Bank (2020) has revealed that the generation of solid-waste in Pokhara is increasing with a significant proportion of organic and inorganic waste, which aligns with the finding obtained from this research. It has shown that Pokhara is becoming an environmentally deprived area due to unsystematic management of solid-waste, indicating that increasing solid-waste is becoming the primary cause of the environmental problem.

The study has tried to explore the challenges of consumer culture and solid-waste management in environmental degradation, reviewing the previous related literature. It has gathered the experiences of

certain Pokhara informants from a sociological perspective regarding globalization and urbanization. Based on the experiences, knowledge, and understanding of informants and observation in the research site, the finding has shown that the changing trend of consumer culture and increasing trend of the solid-waste generation directly impact Pokhara's environmental degradation. On the one hand, it shows challenges of consumer culture, which has rapidly globalized, and on the other, the increasing trend of solid-waste generation has become a problem in disposal management. Both issues have created concern in environmental protection. The study has uncovered the environmental degradation issue regarding consumer culture and solid-waste. However, it has not covered landfill site management and the policy of the Nepal government for it. So, it has laid a scope to further researchers to explore the issues from quantitative analysis, modernization perspective, and the like.

Conclusion

Globalization and urbanization are rapidly changing consumer cultures among the urban people generating waste and creating challenges for the appropriate management of solid-waste in the city. As a result, the urban environment is degrading in an uncountable manner. Now, the urban city, including Pokhara, is connecting with the global market through the readymade foods supplied by the worldwide market and the changed local consumerism habit. This changing consumer behavior has generated a large amount of solid-waste in the city. Hence, depending on market products and changing food consumption behaviors of the locale are deemed responsible for producing the solid-waste that has become the primary cause of environmental deprivation.

Urbanization, as a market product of consumer life, is changing consumer behavior in the urban area, and an increasing trend in solid-waste generation directly impacts the urban area's environmental degradation. The rapid growth of the city, migration of rural population to the city, changes in the livelihood strategy, flow of readymade items, changing preferences the market products, consumer life, etc. have changed the consuming behavior of people in the city from local to global goods. It is shifting the production and management of solid-waste from the household to the community. And finally, it supports an increase in solid-waste and has become a severe issue for environmental protection now. Hence, we cannot see the consumer culture of the urban population and the problem of solid-waste in separation or isolation. The intertwin approach is necessary to understand it.

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The authors declare that no financial or non-financial interests are to exhibit as the manuscript has prepared with the contribution of the authors.

Author Contribution

All the authors have contributed during the entire manuscript conceptualization, research design selection, method, data analysis, and manuscript preparation after the field data collected by Shukra Raj Subedi. All the authors have finalized and approved the final draft after a series of comments and revisions on the initial draft by Shukra Raj Subedi.

Data Availability

The raw data will be available once the manuscript has been accepted for publication, if required. The raw data have shared only among the authors during the manuscript preparation.

References

1. Abdel-Shafy HI, Mansour MSM (2018) Solid-waste issue: Sources, composition, disposal, recycling, and valorization. *Egyptian J Petroleum* 27(4):1275–1290.
<https://doi.org/10.1016/j.ejpe.2018.07.003>
2. Achankeng AE (2003) African Studies Association of Australasia and the Pacific 2003 Conference Proceedings -African on a Global Stage Globalization, Urbanization and Municipal Solid-waste Management in. *African Studies Association of Australasia and the Pacific 2003 Conference Proceedings -African on a Global Stage*, 1–22

3. Adams H, Coven C, Grippe KM (2016) An Overview of Rosacea and Its Challenges. *Physician Assistant Clinics* 1(2):255–264. <https://doi.org/10.1016/j.cpha.2015.12.002>
4. Agarwal R (2021) Solid-waste and their management. *Van Sangyan* 8(7):32–34
5. Alam P, Ahmade K (2013) Impact of Solid-waste on Health and the Environment. *Int J Sustainable Dev ...* 2(1):165–168
6. Anderson S, Hamilton K, Tunner A (2018) They Were Built to Last”: Anticonsumption and the Materiality of Waste in Obsolete Buildings. *J Public Policy Mark* 37(2):195–212. <https://doi.org/10.1177/0743915618810438>
7. Antonis M (2011) Globalization, megacities and waste management. *ISWA 2011 World Congress, Daegu, Korea, Available ..., July*, 298–312
8. Ara S, Khatun R, Uddin MS (2021) Urbanization Challenge: Solid-waste Management in Sylhet City, Bangladesh. *Int J Eng Appl Sci Technol* 5(10):20–28. <https://doi.org/10.33564/ijeast.2021.v05i10.004>
9. Arnould EJ, Thompson CJ (2005) Reflections Twenty Years of Research. *J Consum Res* 31(4):868–882
10. Bai X, McPhearson T, Cleugh H, Nagendra H, Tong X, Zhu T, Zhu YG (2017) Linking Urbanization and the Environment: Conceptual and Empirical Advances. *Annu Rev Environ Resour* 42:215–240. <https://doi.org/10.1146/annurev-environ-102016-061128>
11. Besthorn F (2003) Globalized consumer culture: Its implications for social justice and practice teaching in social work. *J Pract Teach Learn* 5(3):20–39. <https://doi.org/10.1921/17466105.5.3.20>
12. Bharadwaj B, Rai RK, Nepal M (2020) Sustainable financing for municipal solid-waste management in Nepal. *PLoS ONE* 15(8 August):1–15. <https://doi.org/10.1371/journal.pone.0231933>
13. Bharagava RN, Saxena G, Mulla SI (2020) *Introduction to Industrial Wastes Containing Organic and Inorganic Pollutants and Bioremediation Approaches for Environmental Management*. 1–18. <https://doi.org/10.1007/978-981-13-1891-7>
14. Central Bureau of Statistics (2012) Population Census 2011. Central Bureau of Statistics, Nation Planning Commission, Nepal
15. Central Bureau of Statistics (2022) *Preliminary-Report-of-National-Population-Census-2021-New.pdf*. <https://t.co/VmFv6Pt3hM>
16. Coleman R, Tutton R (2017) Introduction to special issue of sociological review on ‘futures in question: Theories, methods, practices’. *Sociol Rev* 65(3):440–447. <https://doi.org/10.1111/1467-954X.12448>
17. Dwyer D (1990) Urbanization. *South East Asian Development* 12:278–308. <https://doi.org/10.4324/9781351138703-46>
18. Engel JF, Blackwell RD, Kollat DT(1978) *27 Globalization, Culture, and Consumer Behavior*. 721–748
19. Evans DM (2019) What is consumption, where has it been going, and does it still matter? *Sociol Rev* 67(3):499–517. <https://doi.org/10.1177/0038026118764028>

20. Ferronato N, Torretta V(2019) *Waste Mismanagement in Developing Countries: A Review of Global Issues*. <https://doi.org/10.3390/ijerph16061060>
21. Garanti Z, Berberoglu A (2018) Cultural perspective of traditional cheese consumption practices and its sustainability among post-millennial consumers. *Sustain (Switzerland)* 10(9). <https://doi.org/10.3390/su10093183>
22. Grace SC (2021) The intermingling of meanings in marketing: semiology and phenomenology in consumer culture theory. *AMS Rev* 11(1–2):70–80. <https://doi.org/10.1007/s13162-021-00192-1>
23. Hanus G(2018) the Impact of Globalization on the Food Behaviour of Consumers. *CBU International Conference Proceedings*, 6(2006), 170–174
24. Jain S (2016) Globalization and its Impact on Consumer Culture and Competition Policy. *SSRN Electron J* 1–16. <https://doi.org/10.2139/ssrn.2777387>
25. Kadirov D, Varey RJ (2011) Symbolism in marketing systems. *J Macromarketing* 31(2):160–171. <https://doi.org/10.1177/0276146710393519>
26. Kellner F (2021) Exploring the impact of urbanization on consumer goods distribution networks. *J Asian Bus Economic Stud* 28(2):101–120. <https://doi.org/10.1108/jabes-12-2019-0127>
27. Khanal LN, Adhikari NP, Paudel G, Adhikari S (2021) Physicochemical assessment of leachate from Pokhara landfill site and its impact on the quality of Seti River water, Nepal. *Archives of Agriculture and Environmental Science* 6(2):194–201. <https://doi.org/10.26832/24566632.2021.0602011>
28. Liechty M (2020) Consumer Culture in Kathmandu: “Playing with Your Brain. *Suitably Mod* 87–116. <https://doi.org/10.1515/9780691221748-007>
29. Maharjan A, Kharri SB, Thapa L, Panta RR, Pathak P, Bhatta YR, Rigal K, Bishwakarma K (2019) Solid-waste Management: Challenges and Practices in the Nepalese Context. *Himal Biodivers* 7:6–18
30. Orecchia C, Zoppoli P (2012) Consumerism and Environment: Does Consumption Behaviour Affect Environmental Quality? *SSRN Electron J* 1–17. <https://doi.org/10.2139/ssrn.1719507>
31. Pathak DR, Mainali B, Abuel-Naga H, Angove M, Kong I (2020) Quantification and characterization of the municipal solid-waste for sustainable waste management in newly formed municipalities of Nepal. *Waste Manage Res* 38(9):1007–1018. <https://doi.org/10.1177/0734242X20922588>
32. Rabkin V(2020) *the Impact of Pr Technologies on Consumer Behavior in the Context of Globalization*. 135–146. <https://doi.org/10.46865/978-5-901640-33-3-2020-660-662>
33. Raut SK, Chaudhary P, Thapa L (2020) Land Use/Land Cover Change Detection in Pokhara Metropolitan, Nepal Using Remote Sensing. *J Geoscience Environ Prot* 08(08):25–35. <https://doi.org/10.4236/gep.2020.88003>
34. Singh Rai M (2017) Student of B. Tech Urban and Regional Planning 5th Sem, Guru Ram Das School of Planning. *Int J Emerg Technol* 8(1):127–129
35. Skandalis A, Byrom J, Banister E(2019) Experiential marketing and the changing nature of extraordinary experiences in post-postmodern consumer culture. *Journal of Business Research*, 97(December 2018), 43–50. <https://doi.org/10.1016/j.jbusres.2018.12.056>

36. Steenkamp JBEM (2019) Global Versus Local Consumer Culture: Theory, Measurement, and Future Research Directions. *J Int Mark* 27(1):1–19. <https://doi.org/10.1177/1069031X18811289>
37. Swaidan Z (2012) Culture and Consumer Ethics. *J Bus Ethics* 108(2):201–213. <https://doi.org/10.1007/s10551-011-1070-z>
38. Szaky T (2014) *Outsmart waste: the modern idea of garbage and how to think our way out of it.* International Journal of Environmental Studies. Berrett-Koehler Publishers. <https://doi.org/10.1080/00207233.2014.947739>
39. Totonchi J, Manshady K (2012) Relationship between Globalization and E-Commerce. *Int J E-Education e-Business e-Management e-Learning* 2(1):83–87
40. Tuckett JDF(2014) *A Phenomenological Critique of the Idea of Social Science*
41. Umanailo MCB (2019) Discourse on the Consumerist Community Consumption. *J Social Sci Res* 5(54):1181–1186. <https://doi.org/10.32861/jssr.54.1181.1186>
42. Vergara SE, Tchobanoglous G (2012) Municipal solid-waste and the environment: A global perspective. *Annu Rev Environ Resour* 37. <https://doi.org/10.1146/annurev-environ-050511-122532>
43. Vij D (2012) Urbanization and Solid-waste Management in India: Present Practices and Future Challenges. *Procedia - Social and Behavioral Sciences* 37:437–447. <https://doi.org/10.1016/j.sbspro.2012.03.309>
44. Wilk R(2017) *Without Consumer Culture, there is no Environmental Crisis.* May, 1–4
45. Wilk RR (2005) The Ecology of Global Consumer Culture. In: Haenn N, Wilk RR (eds) *Environment in Anthropology.* Issue November. New York University Press, pp 418–429
46. Wilson M (2016) When creative consumers go green: understanding consumer upcycling. *J Prod Brand Manage* 25(4). <http://dx.doi.org/10.1108/JPBM-09-2015-0972>
47. World Bank (2020) *Strategic assessment of solid-waste management services and systems in Nepal: City-level Assessment and Draft Service Improvement Plan for Solid-waste Management For Pokhara Metropolitan City*

Figures

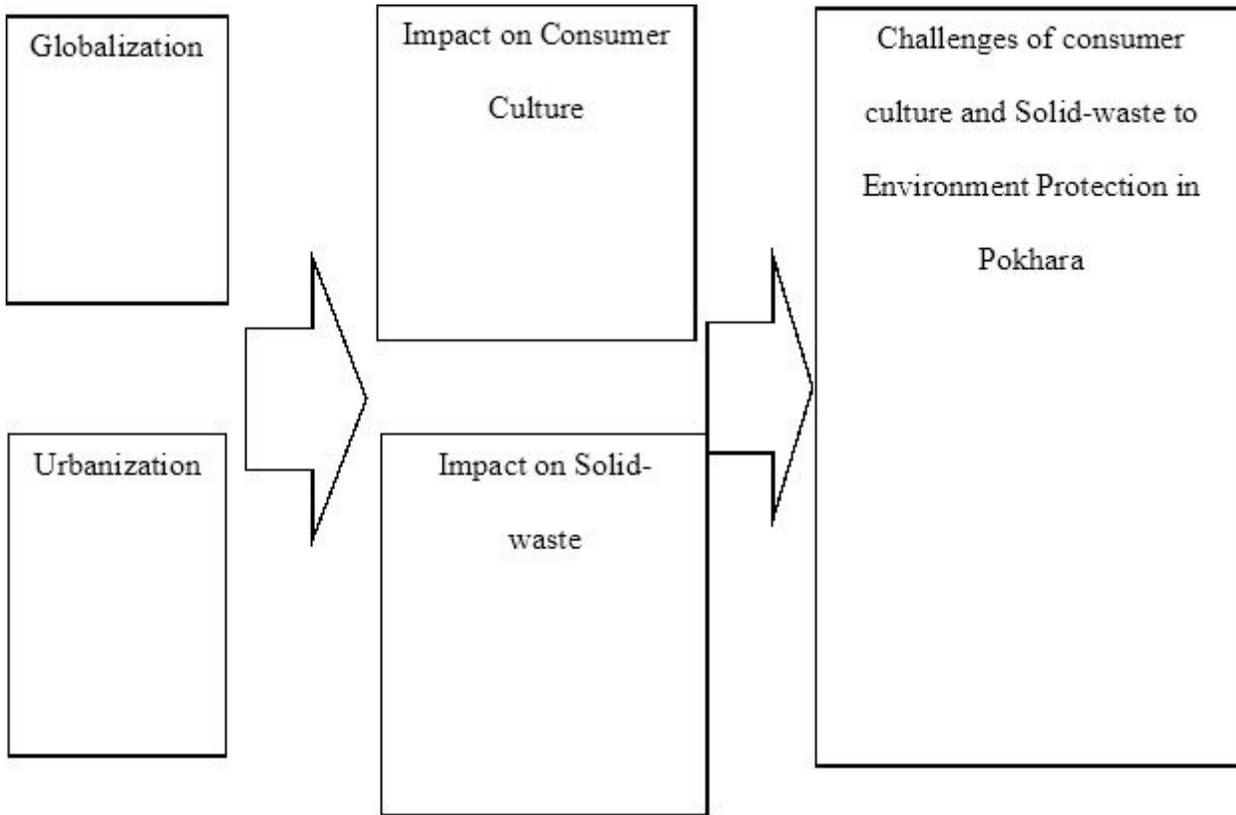


Figure 1

Conceptual Framework



Figure 2

Improper waste dumping observed on the road of Pokhara