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POST AND PRE-INDEPENDENCE BEVERAGES IN INDIA AND THEIR IMPACT ON HEALTH

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ABSTRACT

Objective
Beverages are consumed by the majority of the population throughout the world. Traditionally, based on geographical location and tradition, beverages are formed. Due to the advancement of brand-based soft drinks, traditional beverages are not known in the modern era. This paper is aimed at evaluating the impact of beverages consumption on the health of the country. It will try to explain the difference in the post and pre-independence health scenarios of the country.

Methods
To achieve these objectives, this study will analyze the secondary data on the impact of beverages on the country's health. In order to provide a comprehensive picture, this study will also look at the economic contribution of the industry. This examination provides information about traditional beverages and their health impacts. After the independence lot of soft drinks have emerged, this research intended to critically examine the health impact of traditional beverages and soft drinks. It is evaluated based on research articles about tradition.

Results
The result of the analysis shows that traditional beverages exhibit significant health benefits rather than soft drinks. It also shows that this industry has contributed significantly to the GDP of the County.

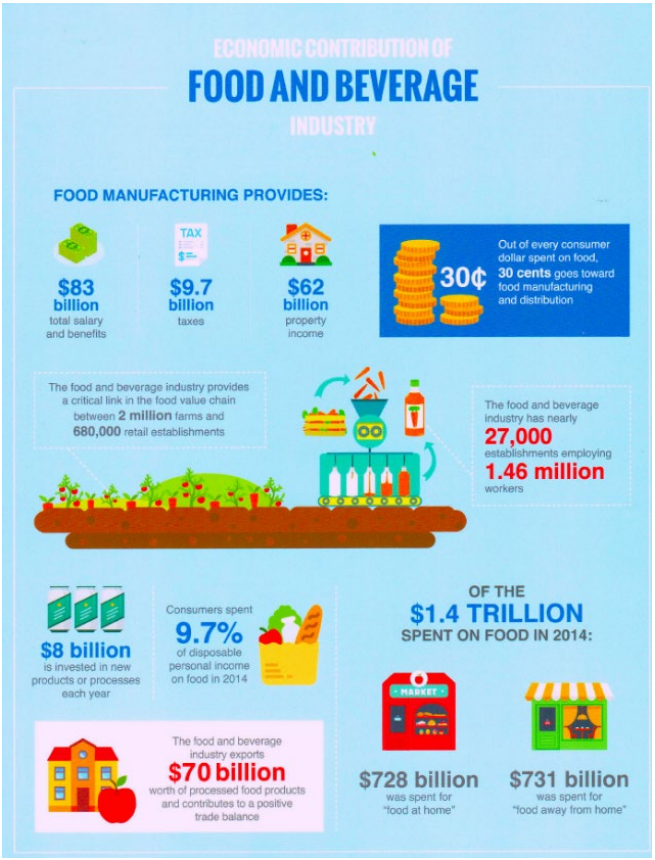
Conclusion
The beverages industry needs to incorporate good innovation and reformulation for improving nutrient and phytonutrient profiles. With technological advancement, products need to concentrate on nutritional benefits with reduced sugar, artificial ingredients, and increased nutrient density. The nutrients can be improved with the composition of dietary, fruit, and vegetable juices to develop nutrients.

Keywords: Beverages, Soft Drinks, Fermented, Milk Based, Traditional Drinks, Beers

1. INTRODUCTION

In India, beverages are considered an integral part of the food for a significant population. India is subjected to a vast range of diversity in geographical, climatic conditions. This impacts the myriad options based on whether that need to be quenched [1]. People need hot beverages in the winter season and cold drinks in summer. People utilize ingredients assortment with available herbs, spices, and flavors [2]. Those beverages are available in streets shop to posh hotels with flavourful aspects. Culture is expressed as a pattern involved in collaboration or people's behavior over a particular region for a specific period. The pattern of collaboration in culture consists of customs, beliefs, morals, art morals, traditions, and laws [3]. In other terms, culture comprises the people living way with an area of defined time frame. Culture includes a pivotal role in the pattern identification of individuals or institutions and relies on cultural philosophies. Culture impacts on consumption pattern of influence on foods. Based on geographical and cultural factors, beverages are produced in India [4]. However, after independence, beverages were subjected to a vast range of growth due to the establishment of soft drink-based brands. The advancement of brands involved in developing branding strategies with dominant philosophy culture integrated with specific fiber brands.

In India, due to the alluring face of the business landscape, those are highly sensitive and withstand customer demand [5]. The increase in Indian brands provides superior product quality with reasonable prices. In this scenario, global brands are involved in attune towards culture and local conditions. In India, the food processing industry comprises USD 65 billion, in which the beverage industry comprises around USD 230 million [6]. Also, in the beverage industry, tea and coffee comprise significant contributions effectively in domestic market and exported overseas market economy. In India, tea is one of the dominant beverages that ruling both domestic and international market scenarios. Over the past decades, after post-independence Coca Cola, Nestle and Pepsi are considered learning beverages ruling the Indian beverage market. In the International market, tea and coffee are manufactured and exported, succumbing demand of the individual world [7].



In independent societies involved in identifying fermented food products at minimal cost, improved nutrition and quality of product to improve product characteristics [8]. The fermentation process in beverages highly impacts on promotion of health. Evidence suggested that fermentation of rice, fruit, and honey gain extreme attention during 7000 B.C. Those beverages provide significant promotion in health based on attributes with hardness in the advancement of biotechnological techniques for functional beverages [9]. Globally, functional beverage exhibits drastic development in the food industry with consciousness on consumer health to reduce diseases. For instance, yogurt milk products offer significant benefits for functional beverages with 1.5 fold food production [10]. It is observed that food companies are targeted to promote healthy food products regarding healthiness for production and development of products. The Dietary Guidelines recommended utilizing beverages that need to be considered milk, alcohol, and fruit juice [11].

This paper evaluated the traditional beverages that are not available to people after independence. This paper evaluated the classification and type of beverages those are available to people before independence. Based on the classification, beverages prepared from milk, alcohol, and plants are examined.

2. HISTORICAL DYNAMICS OF THE BEVERAGES INDUSTRY IN INDIA

After all, the history of food and beverage is as old as humans themselves. Nonetheless, no significant advances occurred until the nineteenth century, when Nicholas Appert developed canning and Louis Pasteur discovered pasteurization. Food became a product that could be stored and packaged for later use due to these processes. World War II created a rich ground for food sector advancements. Improved preservation and flavoring agents were created as the food was rationed and prices were regulated. This paved the path for ready-to-eat foods. Distribution advancements are a critical component of the food industry's growth. Before the Industrial Revolution, people primarily ate and drank at local marketplaces. Food can now be transported to stores anywhere due to transportation and cold storage facilities.

Globally, India is rich socio-cultural and heritage diversity with culinary delicacies and diverse gastronome [12]. The socio-cultural heritage and geographical expansion play a decisive role in shaping the country's diet people. Within the traditional food segment, fermented foods are included in those exhibits with similar historical benefits over others. Those fermented foods are identified in culture over 7000 - 8000 B.C, and those are highly observed in Indus Valley civilization [13]. In fermented processing, the Harappan civilization incorporates various clay pots to prepare foods and drinks [14]. In the Vedic era, Cow is considered one of the essential holistic animals. The milk produced from the Cow is mentioned in Rig Vedas in the Vedic Periods. The traditional fermented beverages milk products are Shrikhand, Dahi, Lassi, or Chaash, prepared and commercially adopted throughout India. Commercially, overall milk production in India comprises 2.53% of milk in the Dahi district [15]. The other fermented milk products such as Mishti Doi, Rabdi, Chhurpi, Pachadi, Chilka-curd, Mohi, Guru, Mar, and Churkam are originated based on the location. The fermented milk products are utilized for commercialization rather than global recognition. Concerning geographical location, India comprises five spots that are actively involved in the generation of fermented milk products. The spots are West India, South India, Himalayan India, East and North-East India [13]. However, only a few research considers microbial diversity in which functionality of traditional India is involved in fermented milk products. Several researchers, subjected to limited conventional plating and molecular methods [16].

Beverages are stated as drinks that are consumed for quenching the thirst of people. The word beverage is derived from the Latin word “bible," which provides the meaning of "to drink." In several cases, especially in hotels & restaurants, the term beverage is altered by the word "drinks" in the beverage industry. Generally, the term beverage is commonly used for all types of drinkable liquids [19]. At present, beverage exhibits immense applicability over the food industry, comprising 30% of the total market share. In post-independence, beverages are explained in terms of consideration of different brands such as Fanta, Coca-cola, Sprite under Coca-Cola and Pepsi, 7UP, and Mirinda are under Pepsico India. In humankind, beverages comprise a large part of food consumption, which can be taken regularly and occasionally. Usually, humans like to have some drinks and regular foods that can be soup or drinks. Also, those beverages can be either alcoholic or non-alcoholic drinks. The example for alcoholic beverages are Spirits, Wines, and beers. In the case of non-alcoholic drinks, carbonated, noncarbonated fruit juices, tea, and coffee are considered [20].

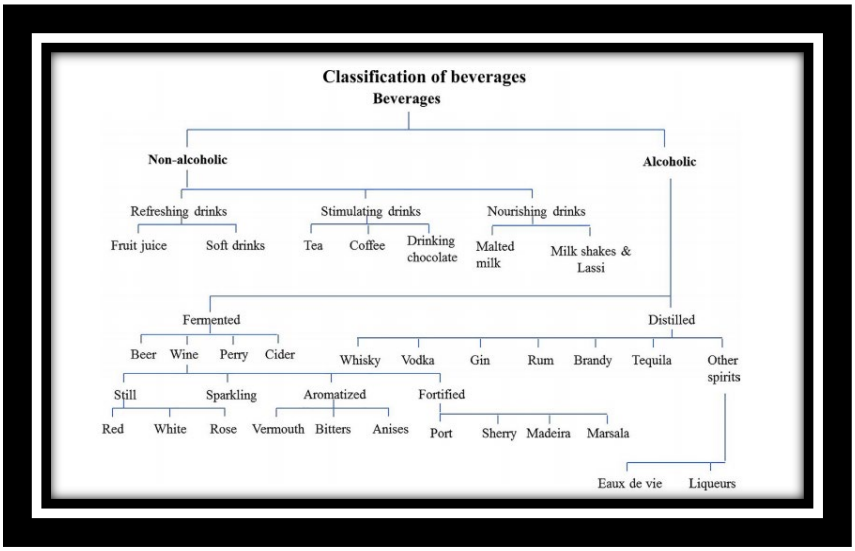


Figure 1 Classification of Beverages [24]

As per a document issued by the Confederation of Indian Industry (CII) and Grant Thornton, India is anticipated to become the world's fifth-largest consumer market by 2025. Food and beverages are the most popular consumption categories. The huge agriculture industry supports the F&B sector: India is the largest producer of pulses and the second-largest producer of rice, wheat, sugarcane, and fruits and vegetables. It is also the largest producer of milk and buffalo meat and the sixth-largest producer of poultry. Other advantageous qualities include extensive areas of agricultural land, a favorable climate, a long coastline, and inexpensive salaries. The early 1990s saw the economy liberalized, lowering business restrictions. With the emergence of modern retail systems such as supermarkets, the sector has gained increased market access.

Meanwhile, logistics for shipping and storage have improved. Other advantages for the industry include a large population (1.27 billion in 2015) and a growing middle class. Approximately half of the population is under the age of 30, and many of them begin working at a young age to improve their quality of life. Consumers with greater income levels have more disposable income. Lifestyles have shifted, and more families are dining out and discovering new cuisines. Working couples are increasingly buying ready-to-eat items. Consumers have become more demanding, and those living in cities, in particular, rely on branded items to deliver on their quality promises. A segment of the consumer population has grown particularly health-conscious. This market shifts away from carbohydrate- and fat-laden foods and toward protein-rich foods and fruits and vegetables. Customers who value quality have driven the bottled water business to $50 million. The beverage business, excluding alcoholic beverages, is estimated to be valued at approximately $16 billion. The most popular beverages are tea and coffee, followed by soft drinks (carbonated drinks and juices), health drinks, milk-based drinks, flavored drinks, and energy drinks. Unpackaged tea and coffee account for half of the total consumption in the country. The market for alcoholic beverages is projected to be worth around $35 billion, with whiskey, beer, and wine as the most popular drinks. To gain more consumer trust, the food and beverage industry would be wise to follow global quality and safety standards.

2.1. OBJECTIVES OF THE STUDY

- The study's primary objective is to analyze the impact of beverages on the health of the country.
- It will try to explain the difference in the post and pre-independence health scenarios of the country.
- In order to provide a comprehensive picture, this study will also look at the economic contribution of the beverage industry.

3. RESEARCH METHODOLOGY

The methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge. This research paper utilizes qualitative data to evaluate the health impact of traditional beverages over soft drinks. Secondary data collection is applied. The secondary data collection includes the examination of the medical benefits of traditional and modern soft drinks. To evaluate the medical benefits of beverages, qualitative data analysis qualitative research design provides the cause-effect relationship between variables. Through this, the relationship between health benefits of beverages. Since this industry has immensely contributed to the GDP of the country, so this study will utilize secondary data on the different indicators of the value added by this industry.

4. DATA COLLECTION

The data relating to health-benefits of beverages for traditional and modern factors for evaluation of journals, magazines, books, and website sources. The secondary data for analysis is collected from website sources such as J store, scientific journals, peer-reviewed journals, government databases, and traditional sources.

5. RESULTS AND DISCUSSION

In table 1 overall summary of traditional beverages classification is presented.

Table 1 Classification of Traditional Beverages

Milk Products		Alcoholic		Plant		
Beverages	**Location**	**Beverages**	**Location**	**Beverages**	**Location**	**Tribe**
Mishti Doi	West Bengal, Orissa, and Bihar	Acting	Manipur	Jou bishi	Assam	Bodos
Bappa Doi	Bengal	Kiad	Meghalaya	Hor-alank	Assam	Karbi
Chilika Curd	Orissa	Sujet	Assam	Sujet	Assam	Deori
Chhu/Shedden	Sikkim & Arunachal Pradesh	Apong	Arunachal Pradesh & Assam	Jonga Mod	Assam	Rabha
Chhurpi or Gurkha	Sikkim, Darjeeling, Ladakh	En nog/Sai Mod	Arunachal Pradesh	Bharati Jaanr	North India	Gorkha
Mohi, Phil, Shyow, and Somar	Himalaya Region	Kodo ko Jaanr	Arunachal Pradesh, Assam & Sikkim	Chu	Assam	Garo
		Maj – pani	Assam	Tchang/Jhar and Rokshi	Sikkim	
		Author	Nagaland	Haria	North India	Tea

The present beverages aimed to improves health claims of beverages. The commercial fermented products incorporate fermented Prebiotics, including fructooligosaccharides, inulin, and galactooligosaccharides, for fermentation of bacterial favorable [36]. The further analysis expressed that prebiotics such as oligofructose and polydextrose expressed positive medical benefits. Additionally, diseases related to the intestinal must comprise bioactive components such as phytosterols, isoflavones, and ω-3 fatty acids. To reduce cardiac health issues, Isoflavones, vitamin E, and phytosterols are involved in reducing cholesterol. Additionally, at end complex ω-3 fatty acids are the most effective components on isoflavones and phytosterols with defective non-fat components [37].

Phytonutrients

Green coffee comprises diverse phenolic groups with acids of chlorogenic, caffeine with mixed diesters comprises of integrated ferulic and quinic acid as primary form. Monomeric flavan-3-ols with monomeric sources are available in black and green tea with integrated theaflavins, thearubigins, and brownies [38 - 40]. The presence of phytonutrients is impaired in coffee and tea and soluble fiber, trigonelline, and diterpenes. The analyzes expressed that for the small intestine, chlorogenic and flavan-3-oils are effective for glucuronide, sulfate, and methylated.

Alcohol

Alcohol is available for traditional as well as modern beverages. The examination is based on the increased risk of breast risk. The present alcohol comprises 7.1%. Also, the research findings expressed that alcohol significantly increases breast cancer for alcoholic drinks per day [41].

Soft-Drinks

Sweetened soft drinks (SSD) or soft drinks contain the only artificial ingredient. In simple, soft drinks contain specific calories or are without any nutrients. Soft drinks are observed as adequate sugar consumption with primary sources of added sugar. However, the findings expressed no significant relationship between soft drinks and stroke rate [42].

Sports Drink

Sports drinks are intended to provide energy to athletes to retain electrolytes, water, and energy. The assessment exhibited that sports drinks offer improved water absorption capacity and maintain energy balance. The findings expressed a lack of blinding and difficulty for translation.

Energy Drinks

Energy drinks comprise caffeine to provide stimulation for mental and physical balance. Energy drinks comprise sugar or another sweetener with extracts of herbs, Vitamin B, and taurine. Energy drinks provide influential ergogenic factors with carbohydrates and caffeine [43].

Low-calorie sweetened beverages

Low-calorie sweetened (LCS) beverages comprise higher sweetness intensity, such as high-fructose corn syrup and sucrose. Specific research expressed that LCS have higher risk factors in terms of obesity. The further analysis expressed that LCS increases the risk of hypertension [44].

In figure 3 and figure 4, dietary guidance factors for SSB and LCS are presented for both men and women.

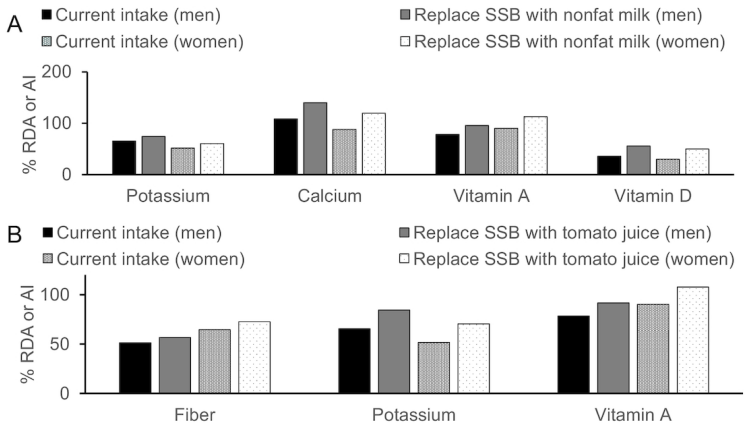


Figure 3 Dietary Guidance for SSB

Figure 4 Dietary Guidance for SSB with fruit juices

Table 2 Comparison of Intake and Pattern

Food group	Amount in the 2000-kcal level pattern	1 cup-eq or 1 oz-eq of food	1 cup-eq or 1 oz-eq of beverage
Vegetables			
Dark green Red & orange Legumes Starchy Other	1.5 cup-eq/wk5.5 cup-eq/wk1.5 cup-eq/wk5.5 cup-eq/wk4.5 cup-eq/wk	1 cup raw or cooked vegetables,2 cups green leafy salad greens,0.5 cup dried vegetables	1 cup 100% vegetable juice, e.g., tomato, carrot
Fruits	2.5 cup-eq/d	1 cup fresh fruits, 0.5 cup dried fruits	1 cup 100% fruit juice, e.g., orange, grapefruit
Grains	6 oz-eq/d		
Whole grains Refined grains	≥3 oz-eq/d≤3 oz-eq/d	1 oz dry pasta or rice,1 medium slice bread,0.5 cups cooked rice, pasta, or cereal,1 oz ready-to-eat cereal	NA
Dairy	3 cup-eq/d	1 cup yogurt,1.5 oz natural cheese, e.g., cheddar,1 oz processed cheese	1 cup milk or fortified soy milk
Protein foods	5.5 oz-eq/d		
Seafood	8 oz-eq/wk	1 oz seafood	

Meat, poultry, eggs	26 oz-eq/wk	1 oz lean meat or poultry,1 egg	NA
Nuts, seeds, soy food products	5 oz-eq/wk	0.25 cup cooked beans or tofu,1 tbsp peanut butter,0.25 cup nuts or seeds	
Oils	27 g/d		NA
Limits on calories for other uses (%kcal)	<270 kcal/d (<14%)		

The analysis of dietary guidance expressed that modern beverages provide a significantly high risk to human health. The dietary guidance suggested replacing SSB with fruit juices, milk, and water.

6. THE ECONOMIC CONTRIBUTION OF THE BEVERAGES INDUSTRY

On Global Level

According to a new analysis issued earlier this month that looked at how the food and beverage business benefits the broader US economy, $8 billion is invested in new goods or processes in the food and beverage industry each year. The Economic Impact of the Food and Beverage Industry is based on government data from numerous sources, including the US Census Bureau and the US Department of Agriculture. It was written by Laurian Unnevehr, emerita professor of agricultural and consumer economics at the University of Illinois at Urbana-Champaign, and commissioned by The Conference Board's Committee for Economic Development—a non-profit, nonpartisan, business-focused public policy group. As per the Committee for Economic Development statement, collected data was examined and synthesized to emphasize how the food and beverage industry "is a large and stable contributor to the US economy as an employment, economic development stimulator, and innovation in the food system."

Here are some of the report's highlights, focusing on the food and beverage sector (described as "anything from washing and packing fruit to the intricate process of assembling a frozen entrée"). Food industry research expenditures totaled $5.4 billion each year, accounting for one-third of the global total. Venture capital firms invest an additional $3 billion in the food market and processing technology advancements.

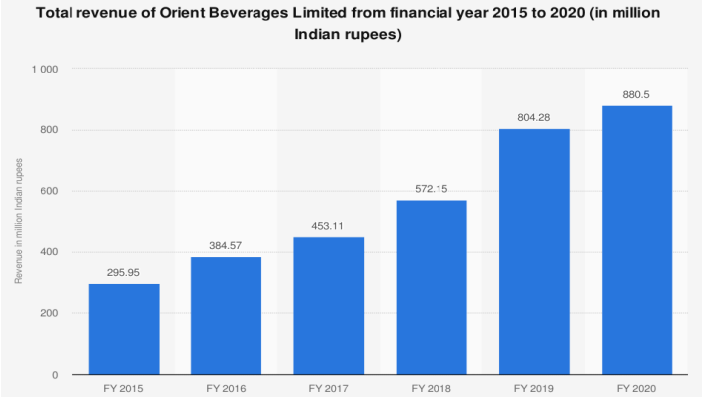
According to the research, "the food and beverage sector has responded to the dynamics of consumer demand and food retailing by providing new product options that match growing customer healthfulness and quality." According to an analysis of new ingredients and new product data, 40% of new foods and beverages were developed with good nutrition or health qualities. According to the research, processed food goods now account for more than half of US food and agriculture exports. Consumer and intermediate product exports account for $70 billion of agricultural exports, above the $63 billion generated by bulk or raw commodity exports. Dairy goods, pig products, prepared foods, and non-alcoholic beverages drive development in this sector's exports. Emerging economies account for a large portion of the expanding demand for processed exports.

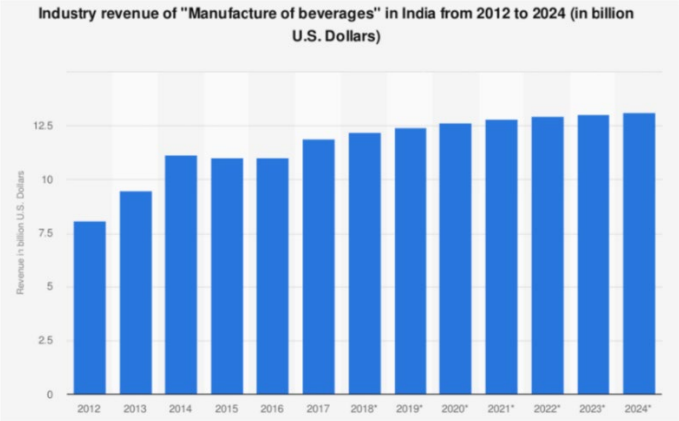
Furthermore, the sector has been a client of over 2 million farms in the United States, processing raw farm commodities from these farms into consumer food and beverage items marketed through nearly 680,000 retail and foodservice outlets in the United States alone. The food and beverage industry employs approximately 1.46 million people (excluding food processing and manufacturing), accounting for around 13 percent of all manufacturing employment in the United States and approximately 1 percent of all nonfarm employment in the United States. Bakeries and tortilla manufacturers dominate the business, accounting for 39% of all firms and 18% of all employment. It is closely followed by animal slaughter and processing, which is carried out in 14% of enterprises and by 33% of personnel.

"The food and beverage business has been more stable in terms of employment and worker income than other manufacturing industries in the United States," according to the report, citing "consistent demand for food and competitive raw commodity prices.

In India

The food processing business in India has a total turnover of approximately USD 65 billion, with value-added goods totaling approximately USD 20.6 billion. Coca-Cola, Pepsi, and Nestle are the three biggest beverage brands that have dominated the Indian beverage market for decades. Among all beverages, tea and coffee are significantly made and exported in international marketplaces to meet individual wants worldwide. The beverage sector in India accounts for around USD 230 million of the USD 65 billion food processing industry. The key industries in India's beverage business are tea and coffee, which are popular in the native market and exported to several important international markets.





Fruit juices, pulp, and concentrates, and sauces or ketchup have done exceptionally well in India's beverage business in recent years. Various milk products, health beverages, beer, and country liquors have also played a significant role in India's expanding beverage demand. Every year, India's largest beverage companies export various products, primarily tea and coffee, to worldwide markets. Tea and coffee have seen tremendous growth in the Indian beverage sector, as these are the most popular drinks purchased in large quantities worldwide. Coca-Cola has led all leading beverage firms in India in terms of growth since its start. It accounts for over 60% of the carbonated drink sector in the Indian beverage industry. Nestle India Limited is another prominent beverage brand, accounting for 61.85 percent of Nestle S.A. Switzerland. Nestle products are heavily exported to Russia in addition to being sold in the home market.

7. CONCLUSION

In ancient days, India has a vast range of different beverages prepared based on geographical location and tribes. This paper presented details of review related to traditional beverages that are lost after independence. The examination is based on milk-based traditional beverages, fermented beverages, and natural beverage or plant beverages. The analysis expressed that traditional beverages highly rely on natural sources rice and bamboo mats. Also, a vast range of beverages is observed in Northern India, especially in Assam. To examine the health impact of soft drinks, it is observed that SSB provides negative health impacts in terms of obesity, hypertension, and stroke.

The food processing business accounts for around $130 billion of the over $400 billion Indian food and beverage industry. It accounts for 10% of agricultural GDP and 12% of manufacturing GDP. The unorganized sector accounts for more than 40% of the total output. Food processing accounts for 10% of overall exports in the country. The top export markets are the United States, Vietnam, Iran, the United Arab Emirates, and Saudi Arabia. Rice and wheat are the most important exports. Consumer goods (snacks, beverages, etc.), dairy, meat and poultry, fish, grains and cereals, and fruits and vegetables are all part of the food processing business. Fruits and vegetables and meat and poultry account for roughly 40% of total household consumption. Technology, particularly information technology, has aided the industry's evolution from simply preserving and packaging food to making foodstuffs in response to market demand. However, it has yet to utilize technology to cut waste entirely. Other significant issues include a lack of credit, a lack of clarity in government rules and food safety standards, and a shortage of employable labor.

The research findings suggested that traditional beverages provide significant health benefits with advanced content of nutrients and calories. However, modern beverages comprise nutrients and calories it subjected to a vast range of health risks. Apart from hydration, LCS and SSB offer limited health benefits. Also, those beverages are not supplemented for food with a lack of fiber, essential fatty acids, and vitamin E. In traditional beverages significant amount of phytonutrients, flavonoids, and phenolic acids are available. Based on the qualitative research analysis, modern beverages need to incorporate good innovation and reformulation for improving nutrient and phytonutrient profiles. With technological advancement, products need to concentrate on nutritional benefits with reduced sugar, artificial ingredients, and increased nutrient density. The nutrients can be improved with the composition of dietary, fruit, and vegetable juices to develop nutrients.

CONFLICT OF INTERESTS

None.

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None.

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