A Review of Trends and Determinants of Food Consumption Patterns in Developed Countries

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ABSTRACT- The evolution of food consumption patterns in industrialized nations is examined in this essay, with particular attention paid to the notable changes in dietary practices brought about by urbanization, globalization, economic growth, and technological improvements. Developed countries, which historically relied on plant-based diets, have experienced a noticeable "nutrition transition," which is defined by a decrease in complex carbohydrates and dietary fiber and an increase in processed foods, animal products, added sugars, and saturated fats. Non-communicable diseases like obesity, type 2 diabetes, cardiovascular disease, and several types of cancer have increased as a result of these dietary changes and more sedentary lifestyles. The study examines per capita yearly consumption trends from 1964 to 2030 using longitudinal data from the FAO and other international sources. It finds that consumption of meat, dairy, vegetable oils, fruits, and vegetables increased while consumption of cereal and pulses steadily decreased. These trends are significantly shaped by socioeconomic indices, such as GDP growth, urban life, income distribution, and education. Furthermore, public health emergencies, food safety issues, and cultural considerations have impacted consumer behavior and regulatory reactions, especially in nations like the US, Canada, Germany, and Japan. A resurgence of interest in plant-based, organic, and locally sourced foods, motivated by ethical, environmental, and health-conscious factors, has surfaced despite the mounting health concerns. Through policy, food education, and preventive care initiatives, governments, educational institutions, and healthcare systems are realizing more and more how important it is to encourage active lifestyles and healthy eating. This study conclusion that, despite the substantial health costs associated with dietary excesses in industrialized nations, there is a vital chance to transform food systems into models that are sustainable and health-promoting through coordinated, multisectoral interventions.

Keywords - food consumption patterns, developed countries, health implications, urbanization, economic development, dietary patterns etc.

INTRODUCTION- The dietary choices and habits of people or populations, including the kinds, amounts, and frequency of foods consumed, are referred to as food consumption patterns. A complex interaction of economic, cultural, environmental, and technological factors shapes these patterns. Dietary and physical activity patterns have changed globally, with a growth in high-fat, energy-dense meals and a tendency toward sedentary, urban lives (Lloyd, *et .al* 2020). The urban environment is a highly complex interactive socio-physical system with competing expectations and priorities. Public health interventions have always played a fundamental role in the control of diseases in cities (D'Alessandro, 2020). Plant-based, organic, and locally grown foods are becoming more popular at the same time that people are becoming more conscious of sustainable and health-conscious eating (Willett *et al.,* 2019). High calorie intake, a move away from traditional diets, and an increase in animal-based and processed meals are characteristics of developed nations' unique food consumption patterns. Living in an urban environment or having a high socioeconomic status is linked to generally healthier eating habits in low and middle-income countries (LMICs). Nevertheless, it is also linked to increased consumption of energy, cholesterol, and saturated fat. The prevention and management of noncommunicable illnesses in LMICs should take social disparities in dietary intake into account. The use of fast food and processed foods in urban areas poses a threat to nutrition security. Higher income levels in urban areas are frequently cited as the reason for observed disparities in consumption between urban and rural areas (d'Amour, e*t al* 2020). Food waste is a major worldwide issue. Households in the Global North are both a big source of food waste and a major source of remedies to the problem (Aloysius, *et al* 2023). The "nutrition shift" is characterized by both qualitative and quantitative dietary changes. Maintaining a nutritious diet throughout life helps avoid a variety of noncommunicable diseases (NCDs) and illnesses, as well as malnutrition in all its manifestations. However, eating trends have changed as a result of growing processed food production, fast urbanization, and evolving lifestyles. Many people do not eat enough fruit, vegetables, and other dietary fiber, including whole grains, and they are consuming more meals high in energy, fats, free sugars, and salt and sodium (WHO, 2020). A higher risk of obesity and chronic disease has been linked to diets heavy in energy-dense foods, such as processed meats, and high-energy sugar-sweetened beverages (Livingstone, *et al* 2022). However, food shortages and vitamin deficiencies still exist in developing nations. Over time, diets change due to a variety of circumstances and intricate relationships. Dietary consumption patterns are influenced by a complex interplay of

income, costs, personal tastes and beliefs, cultural customs and regional, environmental, social and economic factors. For human health advantages, food composition is essential (Jakše et al., 2020). Eating enough of safe, high-quality meals is essential to a balanced diet.

About 828 million people were deemed undernourished in 2020, marking the fourth consecutive year since 2016 that undernourishment has increased (FAO et al., 2022). According to Micha e*t al.* (2020), 39 million children under the age of five are overweight, and approximately 20% of young children worldwide suffer from chronic undernutrition or stunting. Currently, 2 billion persons suffer from overweight and obesity, contributing to a substantial risk of non-communicable diseases linked to diet (Micha et al., 2020). Food systems can either prevent or prolong food insecurity and all types of malnutrition. Food processing plays a major role in addressing issues related to food security by minimizing waste and preventing spoiling (Angurana et *al*,2022). The food sub-groups include bread and cereals, meat, fish, dairy products, oils and fats, fruit and vegetables, beverages and tobacco, and other food products. Developed and developing nations experience different effects of income growth on shifting trade patterns. Developing and industrialized nations respond differently to changes in income and prices due to differences in diets, food budgets, and food expenditure. This study focuses aims at to examine the food consumption patterns and dietary practices that are common in developed nations.

Developed countries: A country that has attained a high degree of economic growth, technological advancement, and social well-being is referred to as a "developed country." Classifying nations as "developing" or "developed" is a complicated subject that takes into account a number of political, social, and economic variables. Economic indicators were frequently used as the basis for classification in the past, but as time has gone on, a wider range of factors have been included in the understanding of development. India's riches were indeed transferred to Britain during British colonial control via a number of methods. The colonial exploitation of India's industries and resources by the British East India Company had a long-lasting effect on the economic climate of the nation. India encountered numerous developmental obstacles after gaining independence. Early mixed outcomes were part of the economic trajectory, which was followed in the 1990s by the revolutionary changes of globalization, privatization, and liberalization (Aggarwal *et al.* 2023). Top most developed countries in the World: Germany, United States, Japan, Canada, Australia, China, Switzerland, Italy, France etc.

Characteristics of Developed Countries: The gross domestic product, or GDP, is a gauge of a nation's overall economic activity. The GDP per capita is usually high in developed nations. The HDI, or Human Development Index, Life expectancy, education, and per capita income are all included in the HDI, a composite measure. It provides a broader view of progress beyond economic factors. Developed nations typically possess highly developed energy, communication, and transportation networks. Developed nations typically have highly educated and skilled labor forces due to their high levels of education. Longer life spans and reduced death rates are a result of developed nations' often sophisticated healthcare systems. Developed nations often have a high standard of living, which encompasses things like having access to a wide range of consumer products, sanitary facilities, and decent housing. Developed nations are typically at the forefront of both innovation and technology breakthroughs. Developed countries often have a more equitable income distribution than developing ones, yet economic inequality can occur in any country.

GLOBAL, REGIONAL AND INTER-COUNTRY FOOD CONSUMPTION PATTERNS

Global patterns of food consumption have changed significantly as a result of urbanization. Urban and rural diets typically diverge greatly due to the distinct lifestyles of urban and rural inhabitants, the larger demand on urban people' time, the greater availability of food, and the higher spending power in metropolitan areas. The way that food is consumed in developed nations has changed dramatically due to the demand for convenience and quality as well as growing health and safety consciousness. Thirty years later, the United States' consumption of poultry rose from 21 to 38 percent of total meat consumption, while the country's intake of red meat fell from 79 percent in 1970 to 62 percent. Similarly, between 1977 and 1999, the United States' per capita consumption of fruits and vegetables rose by 25%. Trade in horticultural and high-value processed goods has expanded to satisfy the growing demand worldwide, which is primarily being pushed by developed nations, thanks to advancements in shipping technology. Different countries have different consumer demands for safety and unique quality features. Countries also differ in how they view and manage the dangers posed by disease-causing organisms, mostly due to differences in access to and utilization of scientific advancements, detection technologies, and mitigation strategies. As a result, wealthier nations that are better informed about the threats to food safety typically demand stricter regulations for both imported and domestically produced food. Additionally, they are typically prepared to pay extra for these improved

food safety standards. Consumer attitudes and food purchasing habits have changed in certain industrialized nations as a result of significant food safety incidents that have raised consumer concerns in recent years. The primary food commodities for many widely defined regions of the world, including cereals, meat, fish, vegetables, and livestock products (eggs and dairy goods). Significant progress has been made in increasing food consumption per person worldwide, with daily consumption rising by over 400 kcal, from 2411 to 2789 kcal between 1969/1971 and 1999/2001 (Alexandros, 2006).

Dietary patterns: This method, which has been applied in nutritional epidemiology, particularly in recent years, attempts to quantify the human diet in its whole. In particular, pattern analysis enables the evaluation of the diet's overall impact, including the synergistic and interacting links between foods, nutrients, and eating patterns. Dietary patterns have socioeconomic determinants and are linked to environmental sustainability and health effects. The median values of each time series were examined to identify primary components, each of which described a potential dietary pattern. The first, a westernized dietary pattern, was linked to income, urbanization, and trade liberalization. It consisted of processed, high-energy foods, foods derived from animals, and alcoholic beverages, with a smaller number of fruits, vegetables, and nuts.

Table -1: Per Capita Annual Food Consumption in Developed Countries (kg/year)

Year	Cereals	Pulses	Milk products	Meat products	Vegetable oil	Fruits	Vegetables
1964-66	159.8	4.8	73.9	24.2	7.5	52.0	107.8
1977-79	162.4	4.5	77.1	27.5	8.0	55.0	110.0
1987-89	169.8	4.2	80.5	31.7	9.0	58.0	113.0
1997-99	172.5	4.0	83.0	35.0	10.0	60.0	115.0
2007-2008	170.0	3.8	85.0	38.0	11.0	62.0	118.0
2017-2019	170.0	3.5	87.0	40.0	12.0	64.0	12.0
2030	165.0	3.2	90.0	45.0	13.0	66.0	123.0

Sources*:* FAO, OECD-FAO Agricultural Outlook 2024-2033

The above table -1 shows that from 159.8 kg/year in 1964–1966 to a projected 165.0 kg/year by 2030, consumption has steadily decreased. Increased consumption of other food categories and a move toward more varied diets are reflected in this. From 4.8 kg/year in 1964–1966 to a projected 3.2 kg/year by 2030, consumption has stayed largely constant. This suggests that pulses are used less frequently in the diet. Consumption of milk products has been steadily rising, from 73.9 kg year in 1964–1966 to an estimated 90.0 kg annually by 2030, indicating a growing need for dairy products. As a result of shifting dietary habits and increased affluence, meat consumption has increased dramatically, from 24.2 kg annually in 1964–1966 to an estimated 45.0 kg annually by 2030.Vegetable oil consumption has risen from 7.5 kg year in 1964–1966 to an estimated 13.0 kg annually by 2030, suggesting a trend toward diets heavier in fat. from 52.0 kg/year in 1964–1966 to an estimated 66.0 kg/year by 2030, fruit consumption has risen significantly, in line with international health recommendations for a higher fruit intake. Although it still falls short of the daily recommended intake levels, vegetable consumption has also increased from 107.8 kg/year in 1964–1966 to a projected 123.0 kg/year by 2030.

GDP and food consumption patterns: Over the past 50 years, protein intake has increased dramatically worldwide, from 61 g per person per day in 1961 to 80 g per person per day in 2011, driven by economic development and urbanization. The apparent convergence of dietary models across the globe regarding the amount of meat and other animal-based protein (ABP) consumed. Utilizing FAO data for 183 nations from 1961 to 2011, the yearly per capita GDP, the level of ABP ($R2 = 0.62$), and meat consumption ($R2 = 0.62$) were calculated. They draw attention to the rise in ABP consumption in developing nations like China and Brazil, which has partially supplanted plant protein. The makeup of ABPs and the place of meat in this category, however, differ greatly amongst nations with comparable levels of economic development, indicating the possibility of historical, regional, cultural, and religious influences. A multisectoral strategy incorporating the numerous pertinent sectors in society is needed to promote healthy diets and lifestyles in order to lessen the worldwide burden of communicable illnesses. The food and agriculture industries play a significant role in this endeavor and should be accorded the weight they deserve when it comes to encouraging people to eat healthily. A healthy diet must include the eating of sufficient amounts of safe, high-quality foods. Food plans must not only focus on guaranteeing food security for everyone (Vasileska, 2012). Prior to the current diversity and globalization of food consumption patterns in industrialized nations, local

agriculture methods and availability played a major role in determining dietary habits. Using local resources, primitive tribes mostly ate what they could hunt, gather, or grow, creating distinctive regional culinary customs. Food consumption trends in industrialized nations have changed significantly as a result of globalization, urbanization, and industrialization. This change includes a decrease in the consumption of whole foods and traditional staples and an increase in processed meals, animal products, and sweetened beverages. Since obesity, type 2 diabetes, and other chronic diseases are on the rise, these changes have an impact on people's health. The agro-industrial revolution did not begin to spread to poorer nations for over a century. Beginning in the 1960s, the same forces that had sparked the agro-industrial revolution in the developed world the century before began to permeate the food and agricultural industries in certain emerging nations. There is now more food available to consumers in developing nations, thanks to a combination of high-yield cultivars, expanded and improved input sources, irrigation development, and extensive production and mechanization. Protein availability almost doubled from around 40 to 70 g/person/day since the early 1960s, while the average calorie availability in the developing world grew from roughly 1,950 to 2,680 kcal/person/day. Although 850 million people (FAO, 2004) remain food insecure, the frequency of undernourishment decreased from 37% in 1970 to 17% in 2000.

Dietary habits and chronic disease in relation: Global shifts in food consumption and lifestyle have a detrimental impact on a population's nutritional state, which raises the incidence of chronic noncommunicable diseases (Rippe & Egger, 2024). In most countries across the world, a portion of the population suffers from one or more issues related to malnutrition, either by default (caused by an acute or chronic lack of micronutrients) or by excess (energy, sugars, and fats, and deficiencies in important micronutrients). Eating habits are one of the major determinants of health. Numerous scientific studies have long demonstrated that a population's health is significantly influenced by its food. Obesity, diabetes, cardiovascular disease, cancer, non-alcoholic fatty liver disease, chronic intestinal diseases, neuropsychiatric disorders, and neurodegenerative diseases are the most pertinent causes and illnesses associated with inadequate nutrition.

FACTORS FOR PROMOTING HUMAN HEALTH AND PREVENTING CHRONIC DISEASE IS NUTRITION:

Chronic Disease Prevention via Dietary and Lifestyle Modifications: Numerous studies have verified that foods play a major part in the development of some types of cancer and, on the other hand, that other foods can stop the development of certain types of cancer. A bad diet is directly responsible for almost 30% of malignancies, both quantitatively and qualitatively, according to the American Institute for Cancer Research (AICR).

Enhancing School Nutrition Education: Opportunities and Difficulties: One of the most important things that can be done to protect health is prevention. Accordingly, the primary setting for implementing and enhancing food education programs as a preventative approach is schools, which are global institutions. This could help younger generations become sufficiently sensitive to concerns about sustainability, adopting healthy lifestyles, and individual and societal well-being.

Nutrition's Potential to Support Behavioral and Psychological Health Being: Eating is one of the basic necessities of all living things, but it frequently serves as much more than a means of meeting a physiological demand; each meal has deeper psychological ramifications. For humans, who frequently prefer to eat in company, every meal—beginning with the three primary ones—is a crucial social occasion.

The Role of Diet and Exercise in the Prevention and Management of Chronic Conditions: The body needs constant movement in addition to the food we ingest. Our energy needs can be decreased or increased by the frequently, intensity, and habit of physical activity. As we age, we lose water in our tissues, lose bone density and muscle mass, and gain body fat, particularly visceral fat, which lowers our basic metabolism. In terms of lowering mortality, physical exercise is also a successful health intervention for the treatment of many chronic diseases. It offers advantages comparable to those of medication in the secondary prevention of coronary heart disease, post-stroke rehabilitation, heart failure, and diabetes prevention; in less severe conditions (such as osteoarthritis and back pain), it significantly improves symptoms and quality of life. The role of governments and health systems in preventing chronic diseases through environmental and policy approaches: The role of the health system in the implementation of preventive programs should be to disseminate greater scientific knowledge of the role of nutrition in the public health and economic sustainability plans of governments. Through primary prevention, an attempt is made to improve lifestyles in the population to reduce the burden of diseases. Lifestyle has a significant impact on health, as it acts on the main risk factors. Eating habits have a powerful influence on health, favoring it if body

weight is kept within optimal limits. Governments now urgently need to create long-lasting and successful public intervention models since controlling dietary habits is crucial in the fight against chronic, incapacitating diseases. The goal of meal recommendation is to give people a list of graded foods to suit their individual requirements. Food has always been essential to human existence. The only physical substance that humans consume, aside from the oxygen we breathe, is food. The challenge for early people was to find and collect food to sustain themselves. Nowadays, choosing the right diet is essential for meeting a variety of needs, including basic nutrition, calories, flavor, health, and social gatherings. The International Diabetes Federation estimates that 415 million individuals worldwide have diabetes. Food consumption habits in industrialized nations often prioritize a range of foods with an emphasis on fostering health and wellbeing. While reducing consumption of saturated and trans fats, added sugars, and sodium, guidelines frequently promote a balanced diet full of fruits, vegetables, and lean protein sources. The goal of these recommendations is to lower the risk of long-term conditions like heart disease, type 2 diabetes, and several types of cancer. Guidelines for a healthy diet are dependent on economic growth.

CONCLUSION: A multisectoral strategy involving education, legislation, innovation, and sustainability is needed to address the issues of shifting food consumption patterns in affluent nations. Important elements include initiatives to decrease food waste, better food labeling, school-based nutrition teaching, and urban planning that facilitates access to fresh produce. In order to shape the future of global diets, it will be crucial to strike a balance between the demands of fairness, health, and environmental sustainability.

RECOMMENDATIONS: Improvements in a nation's food supply and the progressive eradication of dietary deficiencies typically accompany economic development, raising the general nutritional status of the populace. Additionally, it causes qualitative changes in food production, processing, marketing, and distribution. Growing urbanization will also have an impact on people's eating habits and lifestyles, not all of which will be favorable. Even in the poorest nations, dietary and lifestyle changes—often referred to as the "nutrition transition"—are already influencing the underlying causes of noncommunicable diseases. Furthermore, it appears that these changes are happening more quickly now, particularly in low- and middle-income nations. Both quantitative and qualitative dietary changes are included in the "nutrition transition" phenomenon. A higher energy density diet with a greater role for fat and added sugars in foods, a higher intake of saturated fat (mostly from animal sources), a decrease in intakes of complex carbohydrates and dietary fiber, and a decrease in intakes of fruits and vegetables are some of the negative dietary changes.

STATEMENTS AND DECLARATIONS
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