



CHANGES IN FOOD CONSUMPTION PATTERNS AND THEIR CONSEQUENCES FOR HOUSEHOLD FOOD SECURITY

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Abstract

This study examines the shift in household food consumption patterns from local foods toward processed foods, fast food, and imported products, and analyzes how this shift affects family food security across economic, health, and self reliance dimensions. Using a qualitative approach through literature review, this study synthesizes theoretical perspectives and empirical findings from various disciplines to understand the mechanisms through which changing consumption patterns influence household expenditure structures, nutritional status of family members, and the capacity to utilize local food resources. The findings reveal that the transition toward processed and imported foods increases household vulnerability through multiple pathways, including reduced efficiency of food expenditure, elevated risk of non communicable diseases, and erosion of local food knowledge and coping capacity. These interconnected factors create a condition where households with high dependence on processed and imported foods face greater food insecurity compared to those maintaining consumption based on local food sources. This study contributes to the conceptual development of family food security that incorporates consumption dynamics and provides policy recommendations for strengthening local food systems and consumer protection in the context of changing consumption patterns.

Keywords: food consumption, family food security, processed food, local food, household vulnerability.

Introduction

Food is a basic human need whose fulfillment determines the quality of human resources and the social stability of a society. In the last two decades, the global food consumption landscape has undergone a fundamental shift triggered by urbanization, changes in family structures, and the massive penetration of the processed food industry and fast-food restaurants. Societies that previously relied on local food ingredients processed traditionally at home are now turning to instant food products, ready-to-eat meals, and imported food ingredients that offer convenience and a uniform taste. This transformation of consumption patterns not only changes what individuals consume but also shifts the relationship between households and the broader food system. Household independence in meeting food needs is beginning to be eroded by a dependence on industrial processed products whose supply chains are beyond the consumer's control. This change brings widespread consequences, ranging from household expenditure structures and the nutritional quality consumed to the family's ability to survive in the face of food price volatility and supply disruptions. Family food security, which was originally measured by the ability to provide sufficient, nutritious, and sustainable food, now faces new challenges arising from changes in consumption behavior itself. Consumption patterns that are increasingly moving away from a local resource base create new vulnerabilities that need to be scrutinized because they concern the foundation of family welfare in the long term (Tefft & Jonasova, 2020).

Changes in family food consumption patterns cannot be separated from the socio-economic dynamics taking place in modern society (Tacoli, 2017). The increasing participation of women in the workforce has led to a reduction in the time available to prepare meals at home, thereby encouraging families to seek more practical alternatives. The food industry responds to this need by providing a variety of processed products that are ready for consumption with minimal preparation time. Aggressive marketing through various media channels reinforces the perception that fast food and processed products are choices that are modern, prestigious, and in line with a contemporary lifestyle. On the other hand, modern food distribution systems such as supermarkets and large-scale retail outlets are increasingly dominating the market, shifting

the role of traditional markets which have long been the distribution centers for local food. This change in retail structure results in consumers being increasingly exposed to food products originating from long supply chains that often involve imported raw materials. The affordability of mass-produced processed food products is also a particular attraction for families with limited budgets, even though the nutritional value of these products is not necessarily equivalent to fresh local food. This phenomenon shows that the shift in food consumption patterns is the result of a complex interaction between demographic factors, economics, and the transformation of the food system taking place simultaneously.

The implications of shifting food consumption patterns on family food security are multidimensional and interrelated. On the economic dimension, household expenditure for food that was originally allocated to buy raw food ingredients is now shifting to processed products with higher added value, so that the physical amount of food obtained with the same budget tends to decrease (Nguyen et al., 2019). Dependence on processed products and fast food also makes the family food expenditure structure more rigid because the prices of these products are relatively inelastic to changes in income. On the health dimension, shifts in consumption patterns are often accompanied by an increase in the intake of sugar, salt, and saturated fats, which are risk factors for various degenerative diseases. Children who grow up with consumption patterns dominated by processed food tend to have taste preferences that deviate from the natural flavors of fresh food, which can continue into adulthood and form a consumption cycle that is difficult to change. On the dimension of food independence, households that rely on processed and imported products lose the capacity to utilize the local food resources available around them. When supply disruptions occur, whether due to natural disasters, global price fluctuations, or international trade policies, families with high dependence on processed and imported products will face greater vulnerability compared to families that maintain food consumption based on local resources.

Family food security, which has been understood as the ability of households to access sufficient and nutritious food at all times, now needs to be reviewed because changes in consumption patterns have altered the parameters that determine the achievement of this condition (Putra et al.,

2020). Households that are economically capable of purchasing food in sufficient quantities do not necessarily achieve food security if the food consumed does not meet the nutritional standards required for an active and healthy life. The phenomenon known as "hidden hunger" is becoming a serious threat amidst the abundance of processed foods that are energy-dense but nutrient-poor. Furthermore, family food security cannot be separated from the sustainability of the food systems that support it. Consumption patterns that rely on imported products and industrially processed foods contribute to a larger carbon footprint and weaken the local food production base. In the long term, this will erode domestic food production capacity and increase vulnerability to external shocks. Therefore, understanding how changes in food consumption patterns affect family food security is crucial for formulating policies that can encourage the realization of a more resilient and sustainable food system. An approach that only focuses on food availability at the national level without considering the dynamics of consumption at the household level will lose the essential substance of the food security issue itself.

Changes in food consumption patterns also reflect a shift in food values and knowledge within society. Younger generations growing up in environments with easy access to processed and fast foods often lack adequate knowledge about processing fresh food ingredients into healthy meals. Cooking skills, which are a heritage of local culinary culture, are beginning to be eroded by the habit of consuming food produced outside the home. The loss of knowledge about local food, including harvest seasons, processing methods, and the nutritional value of various types of food ingredients, causes society to lose the capacity to utilize the food resources available around them. Yet, such knowledge is a vital component of family food security because it enables households to adapt to changes in food availability. On the other hand, the food industry invests heavily in marketing and consumer education designed to shape consumption habits that benefit their products. Narratives regarding the practicality, safety, and nutritional value of processed products are delivered massively, while information about additive ingredients, production processes, and the environmental impact of these products does not reach consumers in a balanced way. This information imbalance creates an asymmetry that

reinforces the dominance of processed food within the household consumption structure (Baker et al., 2020).

The main problem arising from changes in food consumption patterns is the disruption of the traditional mechanisms that have historically maintained family food security. Historically, families relied on a combination of self-produced food, purchases from local markets, and stocks kept as reserves to cope with fluctuations in availability. This system was built upon knowledge of local food resources and social relationships with surrounding food producers. The shift in consumption patterns toward processed and imported foods breaks this chain because the food products consumed are no longer connected to local production cycles and the accompanying knowledge. Households lose the ability to directly assess food quality because processed products come in packaging that obscures their origin and production process (Reardon et al., 2021). Dependence on supplies originating from long distribution chains leaves families with no alternatives when disruptions occur. Yet, in emergency conditions such as natural disasters or economic crises, the ability to switch to local food sources becomes a determining factor for family survival. The shift in consumption patterns away from a local food base, therefore, not only changes what families eat but also alters the structure of vulnerability inherent in their food fulfillment systems.

Another problem lies in the gap between national food policies and the reality of consumption at the household level. Thus far, food development policies have focused more on achieving self-sufficiency in strategic commodities such as rice, corn, and soybeans, as well as addressing macro-nutritional issues like protein-energy malnutrition. Meanwhile, shifts in consumption patterns marked by the increased consumption of processed foods, fast food, and imported products have not received adequate attention within the national food policy framework. Regulations governing the processed food industry are still more oriented toward food safety aspects and business licensing, rather than addressing the dimension of consumption pattern impacts on family food security. Food subsidies provided by the government are also mostly aimed at specific commodities, while families whose consumption patterns have shifted toward processed products are not reached by these protection schemes. Consequently, food policies designed to ensure national food

security are not yet fully capable of responding to the consumption dynamics evolving at the household level (Pingali et al., 2019). This gap creates a situation where food security indicators at the macro level may show positive results, yet individual households experience increasing vulnerability due to changes in consumption patterns that are not accommodated in policy.

This study will review changes in food consumption patterns and their implications for family food security, rooted in the need to build food policies that are more responsive to the socio-economic dynamics of society. In recent decades, the structure of household food consumption in various developing countries has undergone a very rapid shift, exceeding the ability of food systems and public policies to adapt. If this trend continues without adequate intervention, family food security will become increasingly fragile as it depends on food products with complex supply chains that are vulnerable to disruption. On the other hand, the healthcare costs resulting from diseases related to unhealthy consumption patterns will increasingly burden the national health system. Investments to rebuild local food production capacity and food knowledge will also become more difficult if the shift in consumption patterns has persisted for a long time and involves entire generations (Popkin et al., 2020). Therefore, comprehensively understanding how changes in food consumption patterns affect family food security is a crucial first step toward formulating strategies that can redirect food development onto a path that is more sustainable and supportive of family welfare.

This study aims to analyze the influence of shifting food consumption patterns on family food security by focusing on three main dimensions: household spending patterns, the health status of family members, and food independence. The analysis is conducted by tracing the relationship between the shift from local food consumption toward processed, fast, and imported foods against changes in food expenditure structures, emerging health risks, and the weakening capacity of households to utilize local food resources. The results of this study are expected to provide a theoretical contribution to the development of the concept of family food security that considers consumption dynamics, as well as a practical contribution to the formulation of food policies that are more adaptive to changes in public behavior.

Method

This research is a literature study that utilizes a qualitative approach with a focus on the tracing and analysis of library materials relevant to the topic of changes in food consumption patterns and family food security. According to Dudley (2005), literature research in the social sciences requires the ability to synthesize various written sources to build a coherent argument regarding a problem. The approach used in this study is normative because the objects of study are concepts, theories, and findings from previous research discussing the dynamics of household food consumption and the factors affecting food security. Lancaster (2007) emphasizes that research with a qualitative approach in library studies must be able to demonstrate how the various sources reviewed relate to one another and contribute to a more complete understanding of the phenomenon under investigation. In this study, the collected library materials include scientific literature, research reports, policy documents, and publications from international organizations discussing food consumption patterns, household shopping behavior, nutritional status, and food security. Scheurich (2014) suggests that in qualitative research, the researcher's position in interpreting library sources is a vital factor that determines the quality of the resulting analysis. Therefore, the researcher adopts an interpretive approach in reading and understanding various library sources while adhering to the principles of academic caution so that the conclusions drawn can be scientifically justified.

The technique for collecting library materials in this research was conducted through systematic searches of academic databases, digital libraries, and institutional collections relevant to the research topic. Adler and Clark (2011) state that in social research using a literature approach, the success of the study highly depends on the researcher's ability to identify sources that possess authority and high relevance to the problem being studied. The collection process began by establishing keywords covering terminology related to consumption patterns, food shopping behavior, family food security, and lifestyle changes. The gathered library sources were then selected based on criteria of relevance, year of publication, and the credibility of the publisher or author. The analysis of library materials was performed using the qualitative content analysis

method, which allows the researcher to identify key themes emerging from various sources. Lancaster (2007) adds that analysis in literature research requires a source triangulation process to ensure that the findings obtained are not based on a single point of view. In this study, triangulation was carried out by comparing findings from various sources originating from different disciplines, including nutritional science, household economics, food sociology, and public policy. The results of the analysis were then systematically organized to answer the formulated problem while maintaining the coherence of the arguments built from all the library materials successfully gathered.

Result and Discussion

The shift in food consumption patterns from local food toward processed and fast food directly affects the structure of household food expenditure. Households that rely on processed foods and prepared meals tend to allocate a larger proportion of their income to food compared to households that process raw food ingredients themselves. This occurs because processed food products contain added value in the form of processing, packaging, distribution, and marketing costs that are not found in raw food ingredients. Furthermore, shopping patterns that have become more frequent but with smaller amounts for each transaction—a characteristic of purchasing ready-to-eat meals and snacks—cause households to lose the ability to perform efficient shopping planning. From a household economics perspective, this change results in reduced real purchasing power because, with the same amount of money, households obtain a smaller volume of food compared to if they purchased raw food ingredients (Wachyuni & Wiweka, 2020). This condition is even more difficult for the lower class due to patterns of poverty and social segregation in urban areas that make economic access increasingly limited (Fauzi, 2021). Additionally, product price competition in the market depends heavily on how a product is marketed and how its strategy is managed to remain attractive to consumers (Negara et al., 2021). This phenomenon becomes more significant when linked to the price fluctuations of processed foods, which tend to be more unstable than the prices of raw food ingredients. When food inflation occurs, households with a high dependence on processed foods will experience greater

pressure because the available substitution options are more limited. Thus, the shift in consumption patterns not only changes the composition of food expenditure but also alters the elasticity of food expenditure toward changes in income and prices, which ultimately affects the economic vulnerability of households in meeting their food needs.

The implications of changing consumption patterns on the health of family members is the dimension that receives the most attention in the literature, yet it is often separated from discussions on food security. High consumption of processed and fast foods contributes to an increased intake of energy from saturated fats, added sugars, and sodium, while the intake of fiber, vitamins, and minerals from fresh vegetables and fruits tends to decline. This change in nutritional intake composition can, in the short term, lead to issues of overweight and obesity, especially among children and adolescents who are the group most vulnerable to the influence of processed food marketing (Firdaus & Cahyono, 2017). These health problems certainly place a heavy burden on women in the household who often have to bear double roles, both working and caring for the family (Khairi, 2021). In the current modern era, psychological pressure within society also influences how a family makes decisions in daily life (Darmawan et al., 2021). In the long term, these consumption patterns become a major risk factor for non-communicable diseases such as type 2 diabetes mellitus, coronary heart disease, hypertension, and various types of diet-related cancers. These health consequences have a reciprocal relationship with family food security because chronic diseases increase household health expenditures, reduce the productivity of sick family members, and ultimately reduce the household's ability to access sufficient and nutritious food. Furthermore, children experiencing nutritional problems due to unhealthy consumption patterns will face obstacles in growth and cognitive development, impacting the quality of human resources in the long run. Thus, the shift in food consumption patterns toward processed and fast food creates a double burden: an increasing prevalence of non-communicable diseases on one hand and a decline in the quality of future generations on the other, both of which have implications for family food security in a long-term perspective.

The aspect of family food independence eroded by shifting consumption patterns is a dimension that often escapes attention in food

security discourse. Food independence at the family level refers to the ability of a household to meet its food needs by optimizing the resources available around them, whether through self-production, purchasing from local producers, or utilizing knowledge of local food (Firdaus & Cahyono, 2017). In fact, Indonesia has great potential in various types of plantation crops that could be developed to strengthen the economy (Darmawan et al., 2021). However, vulnerable groups are often marginalized from social structures and lose access to these resources (Hartono, 2021). Changes in consumption patterns toward processed and imported foods break the connection between households and the local food systems that have traditionally sustained food independence. Households lose knowledge of local commodity harvest seasons, fresh food processing methods, and proper storage techniques to maintain food availability. This loss of knowledge leaves households without the capacity to switch to alternative food sources when disruptions occur in the processed food supply or when the price of imported products spikes. Yet, women's involvement is crucial in making decisions to choose consumption that is more environmentally friendly and healthy for the family (Halizah & Nuraini, 2021). On the other hand, the weakening relationship with local food producers reduces household access to quality food at more competitive prices, as modern food distribution systems relying on processed and imported products tend to ignore local commodities that are seasonal and non-uniform. Low food independence also means households lose the ability to diversify their food based on local resource availability, making them highly dependent on the food choices provided by the food industry and modern retail networks. In the context of family food security, food independence is not merely about the ability to produce one's own food, but more broadly about the household's capacity to maintain access to nutritious and sustainable food without relying on a fragile system vulnerable to external shocks.

Changes in food consumption patterns also affect the social structure of the family, which plays a role in household food management. Traditionally, household food management involved the processes of menu planning, food shopping, storage, processing, and serving performed collectively by family members with roles divided by age and gender. The shift toward the consumption of processed and ready-to-eat foods alters this dynamic because the food processing that should occur inside the

home moves outside or even to factories (Giordani & Costa, 2021). This is exacerbated by the phenomenon of urbanization, which often creates social inequality and weakens the bonds between residents in urban environments (Mardikaningsih, 2021). Furthermore, global challenges such as the emergence of excessive nationalism sometimes affect social integration within society (Fariz, 2021). Cooking skills passed down through generations are beginning to vanish because the younger generation is no longer involved in food preparation activities at home. The loss of the shared meal ritual, which serves as a moment for family interaction, is also a consequence of the increasing consumption of food purchased outside or consumed individually. Yet, the local wisdom possessed by the community is vital to integrate with modern science to preserve nature and our food sources (Nurmalasari & Nuraini, 2021). In the long term, these changes affect family cohesion and the transfer of food knowledge from parents to children. In fact, food knowledge is an important asset for family food security because it enables future generations to make healthy and sustainable food choices. When this knowledge is no longer transmitted through daily practices within the family, then family food security will become increasingly fragile as it loses the cultural foundation that has supported it. Thus, changes in food consumption patterns are not merely individual but have widespread implications for the social structure of the family, which serves as the basic unit in the community's food system.

The most significant driving factor behind the shift in food consumption patterns is the transformation of the food retail system occurring in various countries. The dominance of supermarkets, hypermarkets, and other modern retail outlets has fundamentally changed how society accesses food. Modern retail offers the convenience of one-stop shopping with a diverse selection of products throughout the year, including imported products that were previously unavailable seasonally (Junior & Borges, 2019). Aggressive marketing strategies, including discounts, loyalty programs, and strategic product placement, are designed to encourage impulsive purchases that tend toward processed products with high profit margins. On the other hand, traditional markets, which serve as the base for local food distribution, experience heavy competitive pressure due to limitations in facilities,

management, and the ability to offer a shopping experience equivalent to modern retail. The displacement of traditional markets results in farmers and local food producers losing access to consumers, while consumers lose access to fresh local food at more affordable prices. This retail transformation creates a structured food system where the flow of food is controlled by a few large corporations that have the power to determine what is consumed by the public. In such a system, consumer choice is no longer entirely free because it has been shaped by the structure of availability determined by commercial interests. Consequently, family food security becomes highly dependent on the smooth operation of supply chains controlled by corporations whose orientation is more toward profitability than the sustainability of the food system itself.

The change in food consumption patterns also cannot be separated from the shift in food development policies occurring in recent decades. Food trade liberalization policies implemented in many countries have opened the doors to the mass entry of processed and imported food products with low tariff barriers. These policies are based on the assumption that free trade will increase food availability and stabilize prices through market mechanisms. However, in implementation, trade liberalization has instead led to an increasing dependence on imported food and weakened the local food production base, which is unable to compete with imported products supported by economies of scale and subsidies in their countries of origin (Fanzo & Davis, 2021). On the other hand, agricultural development policies that are more oriented toward export commodities rather than domestic food security result in the conversion of agricultural land to non-agricultural use and a reduction in the diversity of locally produced food. Food subsidy policies mostly aimed at specific commodities like rice also create distortions that encourage less diverse food consumption. This demonstrates how important it is to understand behavioral principles within a system or organization so that major goals can be properly achieved (Darmawan, 2013). Furthermore, in the present age, the use of big data has brought many new things and changes in the way we conduct our daily social lives (Wahyudi et al., 2021). The accumulation of these various policies creates a conducive environment for the growth of the processed food industry

and the entry of imported food products, while local food producers and diverse traditional food consumption do not receive adequate support. Thus, the shift in food consumption patterns does not occur in a vacuum but is the result of a series of policy choices that shape the food system in a specific way. Understanding the relationship between policy and consumption patterns becomes essential for formulating interventions that can redirect consumption patterns onto a path that better supports family food security.

The implications of shifting food consumption patterns for family food security become more complex when linked to urbanization dynamics and changes in household structure. Urban households with limited land and time constraints due to high mobility have a greater vulnerability to shifts in consumption patterns compared to rural households. The lack of access to land to produce their own food makes urban households entirely dependent on purchasing food through the market. Time constraints for shopping and cooking encourage them to rely on processed and ready-to-eat foods that offer convenience (Pingali et al., 2019). In busy urban environments, people often form new social networks through communities with similar interests to stay connected (Rejeki, 2021). However, we also often see a tug-of-war between the desire to live freely as individuals and the responsibility to remain caring and maintain solidarity with those around us (Saputra & Darmawan, 2021). On the other hand, households with smaller family structures, such as single-parent families or childless couples, have different food management dynamics than large families. Consumption patterns that tend to be individualistic and the lack of economies of scale in food processing make it more difficult for small households to maintain the habit of processing food from raw ingredients. Urbanization and these changes in family structure are ongoing trends that are difficult to reverse; therefore, efforts to strengthen family food security must consider these social realities. Interventions that rely solely on traditional approaches assuming families have the time and resources to process their own food will become irrelevant. More innovative approaches are needed that can accommodate the limitations of modern households without sacrificing nutritional quality and food independence. This includes the development of processed food products that maintain good nutritional content and

use local raw materials, as well as the provision of infrastructure that enables easier access to fresh and nutritious food in urban environments.

Changes in food consumption patterns also affect family food security through mechanisms related to vulnerability toward price and supply shocks (Pingali et al., 2019). Processed and imported foods are characterized by long and complex supply chains, involving many intermediaries, storage, and transportation that are prone to disruption. When shocks occur such as rising energy prices, weather disruptions affecting production in the country of origin, or export restriction policies by producing countries the prices of processed and imported foods tend to increase rapidly and sharply. This is where the active role of the community is highly needed, as citizen participation in democratic life and social movements can become a great force in facing various existing dynamics (Rojak et al., 2021). Households that rely on these products will face significant expenditure pressure without having many substitution options. On the other hand, households that still maintain the consumption of local food and process raw food ingredients themselves have greater flexibility to adjust their consumption patterns to price changes. They can switch to other local commodities that are more affordable or utilize food reserves stored in the form of raw materials. The ability to perform such substitution is an important component of food security that is often not reflected in conventional indicators such as food expenditure or nutritional intake. In the context of climate change, which increases the frequency and intensity of shocks to the food system, the ability of households to adapt becomes increasingly crucial. The shift in consumption patterns away from local food and toward processed and imported food thus reduces the adaptive capacity of households, which ultimately increases their vulnerability to various shocks that will occur more frequently in the future.

Another aspect that needs to be scrutinized is how changes in food consumption patterns affect the distribution of food security within society. Not all social groups experience the same impact from shifting consumption patterns, and in many cases, the most vulnerable groups face the greatest risks. Low-income households are often the primary targets for the marketing of processed foods that offer affordable prices per serving but with low nutritional value. Budget constraints make it difficult for

them to access fresh food, which is relatively more expensive, causing them to get trapped in a cycle of consuming processed foods that are nutrient-poor but energy-dense (Putra et al., 2020). Children from low-income families who grow up with such consumption patterns face a double burden of malnutrition: micronutrient deficiencies on one hand and being overweight on the other. The inability to access adequate nutritious food can lead to the intergenerational reproduction of poverty because children experiencing nutritional problems cannot optimally develop their cognitive and physical potential. On the other hand, high-income groups have the ability to choose higher-quality food even though they are also exposed to processed food consumption patterns. Thus, changes in food consumption patterns are not socially neutral; rather, they reinforce existing inequalities in society. Policies aimed at strengthening family food security must consider this distribution dimension so that they are not only effective in the aggregate but also equitable in reaching the groups that need them most.

Changes in food consumption patterns also have implications for family food security through their impact on the environment and the long-term sustainability of the food system (Gbadegesin, 2020). The production of processed and imported food generally has a higher carbon footprint compared to traditionally produced local food. Industrial processing requires large amounts of energy, packaging generates plastic waste that is difficult to decompose, and long-distance transportation produces significant greenhouse gas emissions. Consumption patterns that rely on such products contribute to environmental degradation, which will eventually threaten future food production capacity. On the other hand, the consumption of diverse local foods supports the preservation of agricultural biodiversity and more environmentally friendly farming practices. Farmers who have market certainty for their local products tend to maintain a variety of local plant species that have adapted to local conditions. This agricultural biodiversity is essential for long-term food security because it provides genetic reserves that can be utilized to cope with climate change and pest outbreaks. Consequently, a family's food consumption choices do not only impact their own food security in the short term but also the food security of society as a whole in the long run. A shift in consumption patterns that ignores

environmental sustainability will create a contradiction where efforts to meet current food needs actually sacrifice the ability of future generations to meet their own needs. Understanding the relationship between consumption patterns and food system sustainability is vital for building a food security approach that focuses not only on current adequacy but also on future sustainability (Allen & Prosperi, 2016).

The role of the food industry in shaping public consumption patterns is a very significant factor, yet it often receives insufficient attention in food security discourse (Lang & Barling, 2012). The food industry invests enormous resources in product research and development, marketing, and policy lobbying to create an environment that supports their products (Baker et al., 2020). Processed food products are designed with compositions scientifically optimized to create strong taste preferences, such that consumers tend to repeat their purchases (Bilali et al., 2021; Moodie et al., 2013). Aggressive pricing strategies, including the practice of selling products at prices below production costs for certain periods, are used to build market share and create consumer dependency. Marketing targeting children through media advertisements, packaging with cartoon characters, and industry-sponsored educational programs aims to shape preferences from an early age. In this context, consumer choices no longer reflect autonomous preferences but are the result of social constructions formed by commercial interests. Family food security, understood as the household's ability to access sufficient and nutritious food, becomes difficult to achieve when consumer choices have been diverted by immense market forces. Families striving to maintain healthy consumption patterns based on local food must struggle against a food environment systematically designed to encourage processed food consumption. Therefore, efforts to strengthen family food security cannot rely solely on consumer education but require interventions at the structural level that governs how the food system operates and how food products are marketed to the public.

Changes in food consumption patterns also impact family food security through the transformation of the food knowledge system passed down between generations (Glover & Sumberg, 2020). Food knowledge which includes how to recognize quality ingredients, processing techniques, nutritional principles, and local wisdom in utilizing seasonal

food resources is a cultural heritage built through daily practices within the family and community (Bowdren & Santo, 2019). The shift toward uniform and standardized processed food consumption results in this knowledge no longer being relevant and no longer being transmitted to the next generation (Caraher et al., 1999). Younger generations growing up with the habit of consuming ready-to-eat meals lack experience in selecting fresh ingredients at the market, storing food properly, or processing it into healthy dishes. The loss of this knowledge creates a permanent dependence on processed products because they lack the capacity to perform alternatives. In the long term, society loses food independence in the most fundamental sense: the ability to manage their own food needs without having to depend on the industrial system. The reconstruction of food knowledge presents a major challenge because such knowledge cannot easily be transferred through formal education but must be rebuilt through practice and experience. Efforts to strengthen family food security must, therefore, include the revitalization of traditional food knowledge in a manner suitable for modern living conditions. This includes developing food education models involving families and communities, as well as creating spaces where food processing practices can be carried out collectively, such as communal kitchens or multi-generational cooking programs.

The gender dimension in shifting food consumption patterns is also vital to examine because women's roles in household food management are central, yet often unacknowledged in food policy (Halizah et al., 2021). Traditionally, women have been responsible for menu planning, shopping, processing, and serving food within the household. The shift toward processed and ready-to-eat food consumption actually reduces women's workload in food processing, but on the other hand, it creates new challenges regarding budget management and selecting healthy products. Women also become the primary targets of food product marketing because they are considered the gatekeepers in determining what the family consumes (Doss et al., 2018). Conversely, the increased participation of women in the workforce one of the drivers of shifting consumption patterns also alters gender dynamics within the household. When women have more limited time for household management, they tend to rely on processed food as a practical solution; however, this is often

accompanied by a sense of guilt for not being able to provide healthy, home-cooked meals for the family. This psychological burden is rarely discussed in food security discourse, which tends to be gender-neutral. Policies aimed at strengthening family food security must consider this gender dimension in a way that does not disproportionately burden women (Agarwal, 2018). This includes developing solutions that allow for a more balanced sharing of roles in family food management, as well as providing adequate support for households with various structures and differing gender dynamics.

Changes in food consumption patterns also affect family food security through mechanisms related to irreversible shifts in taste preferences (Alonso et al., 2017). Continuous exposure to processed foods containing high levels of sugar, salt, and fat causes changes in the central nervous system that regulates taste perception and reward (Gearhardt et al., 2011). Consumers accustomed to processed foods tend to perceive the natural flavors of fresh food ingredients as bland or unappealing. These altered taste preferences are difficult to reverse because they involve neuroadaptive changes that require a long time to recover (Moss, 2014). For households wishing to switch to healthier consumption patterns based on fresh food, the resistance of family members especially children to changes in taste becomes a significant barrier. Intra-household conflicts regarding food choices can arise when efforts to improve consumption patterns are confronted with strongly established preferences. In the long term, these changes in taste preference create a physiological dependence on processed foods that reinforces unhealthy consumption cycles. Family food security, measured by the household's ability to provide sufficient and nutritious food, becomes harder to achieve because nutritious food no longer aligns with the preferences of family members. Interventions to improve consumption patterns must consider these psychological and neurobiological aspects, rather than relying solely on educational approaches that assume sufficient information will change behavior. A more comprehensive approach is required, involving the creation of supportive food environments, gradual changes in the composition of consumed meals, and psychological support for families attempting to change their consumption habits.

The globalization of the food market has resulted in the homogenization of consumption patterns across various countries, including in developing nations that previously possessed a rich culinary diversity (Kalansooriya et al., 2020). The same processed food products, with the same brands and the same flavors, can be found in different parts of the world. This homogenization has led to the erosion of local food diversity, which has long been the basis of community food security. Each region has uniqueness in terms of food resources and processing methods, which are the results of adaptation to local ecological conditions. When society shifts toward uniform global food products, the genetic richness of local plants and animals that have been cultivated for centuries begins to be abandoned. The loss of this local food diversity not only reduces consumer choices but also diminishes the capacity of the food system to adapt to environmental changes. Local crops that have adapted to local conditions possess better resilience against pests, diseases, and climate variations compared to superior varieties developed for intensive cultivation. Dependence on uniform varieties also increases vulnerability to crop failure because all farmers face the same risks. Thus, the homogenization of consumption patterns, which is a consequence of food market globalization, has broad implications for food security at the family, community, and national levels. Efforts to strengthen food security must include the protection and promotion of local food diversity, both through policies that support the cultivation of local crops and through programs that encourage the consumption of diverse food based on local resources (Darmawan, 2018; Mardikaningsih et al., 2021).

Another factor that needs to be considered in analyzing changes in food consumption patterns is the role of information technology and social media in shaping consumer preferences. Digital platforms have become the main channel for food product promotion, especially those targeting the younger generation (Brouwer et al., 2021; Rounsefell et al., 2020). Food-related content in various forms ranging from product reviews and cooking tutorials to viral food challenges exerts a very large influence in determining what is considered attractive and worthy of consumption. Digital platform algorithms designed to maximize engagement tend to promote sensational and viral content, which often relates to processed foods with appealing appearances or extreme portions. On the other hand,

information regarding the health impacts of processed food consumption and the importance of fresh food consumption often loses out in the competition for attention. The influence of social media is becoming increasingly significant as the younger generation spends a vast amount of time on digital platforms, while interaction with parents and family in the context of food preparation continues to decrease (Kurniawan et al., 2021). Family food security in the digital era faces new challenges in the form of an information environment that systematically encourages processed food consumption and shapes preferences that conflict with balanced nutrition principles. Efforts to strengthen family food security must respond to these challenges by developing effective communication strategies on digital platforms and building digital literacy that enables consumers to critically evaluate the food information they receive.

Food regulation and oversight aspects are also factors that influence how changes in consumption patterns impact family food security (Gorton et al., 2010). Processed food products circulating in the market are subject to labeling requirements that include nutritional information, ingredient composition, and expiration dates. However, the effectiveness of labels in providing information that consumers can use to make healthy choices remains limited. Many consumers do not understand the information listed on the label, or even do not read it at all (Nguyen et al., 2019; Talati et al., 2016). Furthermore, health claims often included on processed product packaging, such as low fat, high fiber, or sugar-free, are frequently misleading because these products may still contain other components that pose health risks. Weak regulation of food advertising targeting children is also a factor driving the formation of unhealthy consumption preferences from an early age. On the other hand, the oversight of processed food safety involving various additives presents its own challenge. Many food additives are permitted for use, yet in the long term, they can have negative impacts on health. As processed food consumption increases, exposure to these various additives also increases, creating health risks that are not yet fully understood. Thus, the regulatory framework governing processed food products plays a crucial role in determining the extent to which changes in consumption patterns will impact family food security. Strengthening regulations in labeling, advertising, and the

oversight of food additives is an inseparable component of efforts to protect family food security amidst shifting consumption patterns.

Changes in food consumption patterns also have implications for family food security through their impact on household food storage and reserve systems (Mekonnen et al., 2021). Traditionally, households stored food reserves in the form of durable raw materials such as rice, corn, tubers, and other dried foods. These reserves served as a buffer to cope with fluctuations in food availability and protected families from the risk of food shortages during supply disruptions. The shift toward the consumption of processed foods, which have shorter shelf lives and require specific storage conditions, fundamentally alters household food storage practices (Reardon et al., 2021). Modern households tend to no longer store food reserves in large quantities due to space limitations, more frequent shopping patterns, and the perishable characteristics of products (Battersby, 2020; Dobernig & Schanes, 2021). The loss of this food reserve storage practice reduces the household's ability to survive short-term supply disruptions. In emergency situations such as natural disasters or economic crises that disrupt food distribution, households without food reserves will face greater risks. On the other hand, the food industry relies on "just-in-time" systems that minimize inventory at the retail level, so when disruptions occur, supermarket shelves can empty quickly. This phenomenon shows that shifting consumption patterns toward processed food not only changes what is consumed but also alters the mechanisms that have traditionally maintained family food security at the most basic level the ability to store food for difficult times. Efforts to strengthen family food security must consider the importance of restoring household food storage capacity, both through the development of processed food products with longer shelf lives and through education on the importance of maintaining adequate food reserves.

The global food crises occurring periodically over the last two decades demonstrate how vulnerable modern food systems are to various shocks (Putra et al., 2020). When a food crisis occurs, global food prices skyrocket, and food-importing countries face immense pressure. Households whose consumption patterns are dominated by processed and imported foods experience the heaviest impact because they lack the option to switch to local food that might still be available at more

affordable prices. This experience teaches the lesson that food security cannot be achieved solely by relying on the global market but requires the strengthening of local food systems that can serve as a fortress when external shocks occur. Consumption patterns based on local food not only provide benefits in terms of nutritional quality and environmental sustainability but also represent an important risk management strategy (Béné, 2020). When households have strong relationships with local food producers and knowledge of the food resources around them, they have a greater capacity to adapt to changing conditions. Thus, changes in consumption patterns that move away from local food not only affect family food security under normal conditions but especially their ability to survive in crisis conditions. Rebuilding the connection between consumers and local food producers is an essential agenda that cannot be ignored in efforts to strengthen family food security amidst increasing global uncertainty.

Conclusion

The shift in food consumption patterns from local food toward processed, fast, and imported food has a significant impact on family food security across three main dimensions. In the economic dimension, the shift in consumption patterns changes the household food expenditure structure to be more inefficient and increases vulnerability to price fluctuations. In the health dimension, the increase in processed food consumption contributes to the risk of non-communicable diseases and nutritional problems that ultimately affect the household's ability to maintain productivity and access food. In the food independence dimension, the shift in consumption patterns results in the erosion of local food knowledge, the weakening of relationships with local producers, and the reduction of household adaptive capacity to shocks. These three dimensions are interrelated and reinforce one another, creating conditions where households that have shifted to processed and imported food consumption patterns face greater vulnerability compared to households that maintain consumption based on local food.

The implication of this study is the need for a reformulation of food policies which thus far have focused more on availability aspects at the macro level to encompass consumption dimensions at the household level

more comprehensively. Suggestions that can be proposed include the need to develop food education programs that strengthen public knowledge regarding the importance of diverse and nutritious local food consumption, as well as increasing access to fresh local food by strengthening traditional markets and developing local food distribution infrastructure in urban areas. In addition, stricter regulations are required regarding the marketing of processed foods, especially those targeting children, along with the development of processed food products that utilize local raw materials and maintain good nutritional content. Further research is needed to examine the effectiveness of various interventions in directing food consumption patterns toward stronger family food security, as well as to understand the dynamics of changing consumption patterns across various different social groups.

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