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Organic food consumption as a preventive lifestyle investment: Household evidence from Kerala

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Abstract

Understanding household level determinants of organic food consumption is critical for designing effective public health strategies and market expansion frameworks in emerging economies. While organic adoption has been extensively examined in Western contexts, limited empirical evidence exists from Indian states where socio-cultural transitions and economic modernization intersect uniquely. This study investigates the structural and motivational drivers of organic food consumption across four districts of Kerala; Palakkad, Thrissur, Ernakulam, and Alappuzha. A cross sectional descriptive design was employed, covering 240 organic food consuming households selected through multi stage stratified sampling. Data were collected using structured interviews and analysed through descriptive statistics to assess district-level variations and structural associations. Findings indicated that organic consumption in Kerala is predominantly concentrated among economically stable nuclear families (60.83%), particularly households with four members (39.58%), three or more adults (51.67%), no senior citizen (54.58%), with two children (40.01%). Dual-income structures (55.42%) significantly support purchasing capacity, while the majority of households head where men (96.67%), reported no major prior health conditions (57.08%), and no health disorders (53.33%), suggesting that organic adoption is largely preventive among consumers. District wide variations reflect differing levels of urbanization, with Ernakulam and Thrissur demonstrating stronger modernization patterns compared to Palakkad. The study concludes that organic food consumption in Kerala represents a proactive, value based lifestyle investment embedded within modern family structures and preventive health consciousness, rather than a reactive or status driven behaviour. These findings offer important implications for targeted health promotion and market segmentation strategies.

Keywords: organic food consumption, household characteristics, consumer behavior, family structure, Kerala, preventive health, nuclear families

Introduction

The global organic food market has experienced significant transformation over the past two decades, driven by increasing consumer awareness of health, food safety, and environmental sustainability, reflecting the growing demand for chemical free food products and environmentally responsible production systems (Willer and Lernoud, 2024) [15]. The expansion of organic markets has also been supported by rising disposable incomes, changing lifestyles, and growing distrust of conventional food systems associated with pesticide residues, synthetic fertilizers, and genetically modified foods (Hughner *et al.*, 2007; Aertsens *et al.*, 2009) [4, 1]. In recent years, millennials and younger consumers have emerged as a key segment driving organic food demand, often associating organic products with healthier lifestyles and sustainable consumption patterns. Despite the global expansion of organic markets, consumption patterns vary considerably across regions and socio-economic contexts. In emerging economies such as India, the adoption of organic food reflects a combination of economic, cultural, and behavioral factors rather than purely environmental motivations. Studies indicated that increasing

awareness of food related health risks, changing dietary patterns, and the growth of the middle class have significantly influenced organic food demand in developing markets (Singh and Verma, 2017; Tandon *et al.*, 2021) [12, 13]. At the same time, traditional agricultural practices and indigenous knowledge systems in many parts of India have contributed to renewed interest in chemical free food production and consumption (Aygen, 2024) [2]. These factors make emerging markets particularly relevant contexts for examining the determinants of organic food consumption. Within the Indian context, Kerala provides a particularly compelling setting for examining household level determinants of organic food consumption. High levels of education and health consciousness among Kerala's population have been associated with greater sensitivity toward food quality, safety, and nutritional value. Additionally, recent empirical studies from districts such as Thrissur indicated that a substantial proportion of consumers are willing to pay a premium for organic food products, reflecting growing trust in organic agriculture and increasing concern about chemical contamination in conventional food systems (Parvathy and Raghunath, 2021)

[9]. Although a growing body of research has examined organic food consumption, much of the existing literature focuses on individual consumer attitudes, environmental awareness, or willingness to pay.

However, in many developing societies including India, food consumption decisions are often made collectively at the household level rather than by individuals alone. Previous studies highlighted that socio-demographic factors such as household income, family size, and educational background significantly influence organic food purchasing behavior (Aertsens *et al.*, 2009; Hughner *et al.*, 2007) [1, 4]. Consequently, understanding household dynamics becomes essential for explaining how consumption decisions regarding organic food are formed and sustained. Therefore, examining organic food consumption within the context of household dynamics provides a more comprehensive understanding of how purchasing decisions are formed in developing societies.

Methodology

The present cross-sectional study examined household characteristics of organic food consumers across four districts in Kerala; Palakkad, Thrissur, Ernakulam, and Alappuzha. These districts were selected to represent varying degrees of urbanization and economic development, with Ernakulam and Thrissur characterized by high urban density and commercial activity, while Palakkad and Alappuzha exhibited relatively more rural characteristics. A multi-stage stratified sampling approach was employed to ensure representative coverage across districts and urban-rural gradients. Four districts were purposively selected based on organic market presence and agro-ecological zones distribution. In the second stage, organic retail outlets, farmers' markets, and community supported agriculture networks were identified as sampling sites within each district. In the third stage, systematic random sampling was applied to recruit consumers at these locations. The total sample comprised 240 organic food consumers, were selected for the study.

A structured interview schedule was developed based on literature review and expert consultation. The questionnaire was pre-tested with 40 consumers and refined for reliability and validity appropriateness. Data were entered into SPSS version 26.0 and analyzed using descriptive and inferential statistics. Household characteristics were summarized using frequencies and percentages. District wide variations in key characteristics (family type, family size, children, earning members) were assessed.

Results and Discussion

Household demographic characteristics

Family type

Nuclear families constituted the dominant household structure across all four districts, comprising 60.83% of the total sample (Table 1). District-level analysis revealed notable variations, with Ernakulam demonstrating the highest proportion of nuclear families (78.33%), followed by Alappuzha (61.67%), Thrissur (55%), and Palakkad (58.33%). Joint families represented 39.17% of households, with inverse distribution patterns indicating stronger traditional family structures in less urbanized districts.

Table 1: Distribution of family type by district (N=240)

Family type	Palakkad	Thrissur	Ernakulam	Alappuzha
Nuclear	58.33%	55%	78.33%	61.67%
Joint	41.67%	45%	21.67%	38.33%

The overwhelming prevalence of nuclear families across all districts reflects Kerala's ongoing structural transformation in household organization. This pattern aligns with broader urbanization trends documented across Kerala, where nuclear family formation accelerates with economic development and employment mobility (Cyriac and Firoz, 2022) [3]. From a consumer behavior perspective, nuclear family dominance has profound implications for organic food adoption (Lee, 2008) [5]. Unlike joint families characterized by collective decision-making and tradition bound food practices, nuclear households demonstrate greater autonomy in dietary choices (Onyango *et al.*, 2007) [8]. This structural shift enables faster responsiveness to health information, quality cues, and lifestyle oriented consumption patterns. Parents in nuclear families exercise direct control over children's nutrition without negotiating with extended family members who may prioritize cost or traditional preferences over health attributes. The behavioral autonomy of nuclear families intersects with educational exposure and health consciousness documented in prior Kerala studies. Well educated parents in nuclear settings actively seek organic options as part of child centric preventive health strategies, unconstrained by collective family dynamics. This finding supports theoretical predictions from the Theory of Planned Behavior regarding perceived behavioral control nuclear family consumers experience fewer structural barriers (family resistance, collective budget constraints) in translating organic food attitudes into actual purchases (Aygen, 2024) [2].

Family size

Medium sized households of four members represented the modal category (39.58%), followed by three member households (31.25%), two member households (21.67%) and five and above members (7.5%). The dominance of four member households as the core organic consumer segment represented more than demographic coincidence it reflects a behavioral equilibrium balancing multiple factors.

Table 2: Distribution of family size by district (N=240)

Family size	Palakkad	Thrissur	Ernakulam	Alappuzha
2 members	18.33%	10.02%	16.66%	16.66%
3 members	28.33%	36.66%	25%	35.02%
4 members	43.33%	46.66%	51.66%	41.66%
5 and above members	10.01%	6.66%	6.88%	6.66%

Medium sized families optimize the intersection of nutritional responsibility, financial capacity, and health vulnerability awareness. Four member households typically comprise two parents and two children, a configuration that maximizes child centric health concerns while maintaining manageable economic burden. This structure contrasts with smaller two member households, which may lack children driven health motivations, and very large households, which face greater budget constraints despite potential for income pooling. However, it aligns with research emphasizing that

optimal household size neither too small to lack health motivations nor too large to face prohibitive costs facilitates organic adoption (Magnusson *et al.*, 2003). The Kerala context, with relatively strong economic indicators and dual income prevalence, enables four member households to absorb organic premiums while responding to child health concerns. Additionally, multi adult presence in many households suggested multigenerational elements even within nuclear family structures, possibly including recently married adult children or elderly parents.

Number of children

Households with two children comprised 40.01% of consumers, establishing child presence as a dominant characteristic of organic consumer households (Table 3). Specifically, 35% reported one child, 20.41% reported no child, and 4.58% reported three or more children. District wise analysis revealed that Thrissur and Palakkad demonstrated higher proportions of two child households, while Alappuzha showed relatively greater prevalence of one child households.

Table 3: Distribution of number of children by district (N=240)

Number of children	Palakkad	Thrissur	Ernakulam	Alappuzha
No child	23.33%	16.66%	20.01%	21.67%
One child	26.67%	30.01%	35%	48.33%
Two children	43.33%	46.67%	41.66%	28.33%
Three or more child	6.67%	6.66%	3.33%	1.67%

The strong presence of children in organic consumer households confirmed children as primary catalysts for organic adoption. This finding resonates with extensive literature documenting child effects on organic purchases globally (Pieniak *et al.*, 2007)^[10], but the Kerala data reveal particularly strong child centric patterns given the state's emphasis on education and child welfare. Children amplify perceived health risks through multiple psychological mechanisms described by the health belief model (Parvathy and Raghunath, 2021)^[9]. Parents experience heightened perceived susceptibility regarding chemical exposure, pesticide residues, and long term developmental impacts when children are present. Perceived severity of potential health consequences also increases, as parents consider cumulative lifetime exposures beginning in childhood. These vulnerability perceptions drive precautionary dietary behavior, positioning organic food as health insurance against uncertain but potentially serious risks. The behavioral implications extend beyond immediate purchases. Child presence creates long-term organic consumption habits, as children raised with organic foods may develop lasting preferences. This generational transmission effect has important market implications, suggesting that current child focused organic consumers represented the foundation for future adult organic markets.

Number of adults

Multi adult households (three or more adults) constituted 51.67% of the sample, and while two-adult households comprised 48.33% (Table 4). The prevalence of multi adult configurations indicated continued relevance of multigenerational co-residence patterns despite nuclear family dominance.

Table 4: Distribution of number of adults by district (N=240)

Number of Adults	Palakkad	Thrissur	Ernakulam	Alappuzha
Two adults	45%	70%	55%	23.33%
Three and above adults	55%	30%	45%	76.67%

Senior citizens (Age ≥ 60 Years)

Most households (54.58%) reported no senior citizen members, while 32.08% included one senior citizen member and 22.5% included two or more senior citizen. District patterns showed relative consistency, though Thrissur and Palakkad demonstrated slightly higher proportions of households with senior citizens compared to other two districts.

Table 5: Distribution of senior citizen by district (N=240)

Number of senior citizens	Palakkad	Thrissur	Ernakulam	Alappuzha
No citizen	75%	38.34%	71.66%	33.33%
One citizen	10%	33.33%	11.68%	36.66%
Two citizens	15%	28.33%	16.66%	30.01%

Number of earning members

Dual income households dominated the sample at 55.42%, followed by single earner households (32.08%) and households with three or more earning members (12.5%) (Table 6). District analysis revealed that Ernakulam and Alappuzha exhibited the highest proportion of dual income households (60.0%), consistent with its greater urbanization and employment diversity. Thrissur and Palakkad showed relatively higher prevalence of three or more earner households, potentially reflecting agricultural and traditional occupation patterns.

Table 6: Distribution of earning members by district (N=240)

Earning members	Palakkad	Thrissur	Ernakulam	Alappuzha
One member	28.33%	31.67%	35%	33.33%
Two members	53.33%	48.33%	60%	60%
Three or more members	18.33%	20%	5%	6.67%

The dominance of dual income households establishes economic stability as a critical structural enabler of organic consumption. Organic food in Indian markets typically commands price premiums of 20-50% above conventional alternatives (Hughner *et al.*, 2007)^[4], creating significant affordability barriers for single income households. Dual earning arrangements provide financial buffering capacity, allowing households to absorb premium costs without compromising other essential expenditures. The gender dimension of dual income patterns has important behavioral implications, women's employment not only increases household income but often strengthens women's influence in food purchasing decisions, potentially reinforcing health oriented choices given documented gender differences in health consciousness (Singh and Verma, 2017)^[12]. However, the substantial presence of single earner households consuming organic food challenges purely economic deterministic models. These findings suggested that organic adoption reflects not merely income abundance but deliberate prioritization and budget reallocation. The small segment of households with three or more earners

likely represents extended family configurations with multiple working adults, combining multigenerational co-residence with modern dual career norms. This hybrid structure potentially offers optimal economic capacity for premium food purchases. Overall, the dual income pattern suggested that organic market expansion in Kerala and similar contexts depends on continued growth in female labor force participation and household income diversification.

Household head

Male headed households constituted 96.67% of the sample, reflecting prevailing socio cultural norms in Kerala despite the state's progressive gender indicators. Female headed households represented only 3.33%, with minimal district level variation. Across all the districts majority of households were headed by men.

Health history

Despite regular organic consumption, 57.08% of households reported no prior significant health issues among members, while 42.92% reported health history. This pattern suggested that organic food consumption functions predominantly as proactive preventive measure rather than reactive response to existing health problems.

Specific health disorders

Among the total sample, 53.33% reported no current health disorders among household members. Among those with health conditions, diabetes emerged as the most prevalent (20.83%), followed by cholesterol disorders (5.83%), hypertension/blood pressure issues (10.43%), and other conditions (9.58%).

Table 7: Distribution of health disorders (N=240)

Health Disorder	Percentage
No disorders	53.33%
Diabetes	20.83%
Cholesterol disorders	5.83%
Hypertension/BP	10.43%
Other conditions	9.58%

The paradoxical finding that organic consumer households report no prior health issues represents a critical behavioral insight, organic consumption in this population functions predominantly as proactive preventive investment rather than reactive disease management. This pattern contrasts with common assumptions that organic markets primarily serve consumers with existing health problems requiring dietary modification. The preventive orientation reflects Kerala's distinctive health consciousness and educational levels. Well educated consumers accessing health information through media, healthcare interactions, and social networks develop awareness of long-term health risks associated with pesticide exposure and conventional agriculture, even absent personal health crises. This information processing supports future oriented decision-making, where organic food serves as precautionary investment against probabilistic future health threats. Simultaneously, the reporting health history demonstrated that organic consumption also functions correctively. The specific dietary adaptations documented millets and whole

grains for diabetes management, plant-based diets for cholesterol control, low-sodium preparations for hypertension reveal functional integration of organic food with medical nutritional therapy. The predominance of preventive over reactive motivation has important public health implications. If organic consumption functions primarily as proactive health investment among educated, economically stable households, then organic market growth may contribute to widening health inequalities. Lower income households facing actual health problems but unable to afford organic premiums experience double disadvantage, greater disease burden combined with limited access to preventive dietary interventions. Public health policies promoting organic agriculture and affordability could address these equity concerns.

Dietary adaptations

Among households with health disorders, specific dietary modifications were commonly reported. Diabetic consumers emphasized millets (ragi, foxtail millet), whole grains (brown rice), and pulses with low glycemic index. Cholesterol conscious households increased consumption of fresh vegetables, oats, and plant based proteins while reducing saturated fats. Hypertensive consumers focused on low-sodium preparations and potassium rich foods. These adaptations demonstrate functional integration of organic food consumption with medical awareness and self regulatory dietary management.

Conclusion

This study revealed that organic food consumption in Kerala is systematically embedded within modern household structures characterized by nuclear family organization, child centric health concerns, economic stability through dual incomes, and proactive preventive health orientation. Rather than representing luxury consumption by affluent elites, organic adoption reflects a coherent behavioral ecosystem where structural, demographic, economic, and health factors synergistically shape dietary choices (Rimal, 2000) [11]. The predominance of nuclear families establishes decision-making autonomy enabling rapid responsiveness to health information. Medium sized households of four members optimize the balance between health responsibility and economic capacity. Child presence functions as the primary catalyst through amplified risk perception and preventive orientation. Dual income arrangements provide financial stability absorbing organic premiums without compromising other needs. Critically, the majority lacking prior health issues demonstrated that organic consumption serves as proactive wellness investment rather than reactive disease management. District level variations reflecting urbanization gradients confirmed that structural modernization facilitates organic adoption through multiple pathways: nuclear family formation, employment diversification, market infrastructure development, and information exposure. However, substantial consumption in relatively rural districts indicates potential for broader market expansion beyond urban centers through appropriate strategies (Michaelidou and Hassan, 2008) [7]. These findings carry important implications for marketing practice, public health policy, and theoretical development. Marketing strategies should target medium sized nuclear

families with young children and dual incomes, emphasizing long-term child health benefits and preventive wellness positioning. Distribution networks should expand to peri urban and rural areas to reach emerging consumer segments. Public health policies promoting organic agriculture should address equity concerns, ensuring that preventive dietary options remain accessible to lower income households who may face greater health vulnerabilities but limited economic capacity.

Future research should test this framework in diverse contexts, examine causal dynamics through longitudinal designs, and explore interventions leveraging household characteristics to promote sustainable food consumption (Thøgersen, 2010). As organic markets mature in emerging economies, understanding household level determinants becomes increasingly critical for sustainable market development, equitable health promotion, and evidence based policy formulation. This Kerala study provides foundational insights into these dynamics within a context characterized by high human development indicators yet continuing economic constraints a profile increasingly common across developing regions experiencing simultaneous modernization and health consciousness expansion.

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