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ENHANCING ORGANIC FOOD CONSUMPTION IN SAMARKAND: CONSUMER PREFERENCES, PRICE WILLINGNESS, AND CERTIFICATION TRUST

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Abstract

This study investigates the initiative by the Samarkand region, under the direction of the President of the Republic of Uzbekistan, to develop organic agriculture and organic food products between 2020 and 2025. This strategic approach towards sustainable agriculture includes certifying land areas according to Good Agricultural Practices (Global G.A.P.) standards for major exportable crops and planning a gradual transition to organic production. The initiative aims to enhance the export potential of the industry while providing quality food products to the population. Through the use of primary data collected from surveys among different demographic segments, this research explores consumer awareness, buying habits, and willingness to purchase organic products. The findings reveal a high level of confidence among the population in their knowledge of organic food, a willingness to pay a premium for organic products, and a strong preference for a diverse range of organic products in the market. Additionally, the study delves into consumer behavior towards food selection factors such as price, appearance, origin, packaging, and volume, and the importance of certification in distinguishing organic products. The results underscore a nuanced understanding of consumer preferences and the potential for organic agriculture to meet market needs effectively.

Key words: Organic agriculture, Samarkand region, sustainable agriculture, Global G.A.P., consumer behavior, food certification, Uzbekistan, market potential, organic food products.

Introduction. The initiative by the Samarkand region, as directed by the President of the Republic of Uzbekistan, to develop organic agriculture and the production of organic food products between 2020 and 2025 reflects a strategic approach towards sustainable agriculture. By certifying land areas according to the international standard of Good Agricultural Practices (Global G.A.P.) for main types of exportable crops, and planning a gradual transition to organic production, this initiative aims at enhancing the export potential of the industry while ensuring the provision of quality food products to the population (Babakholov 2022). The adoption of ecologically oriented agricultural production and Global G.A.P. standards, coupled with the conduction of monographic studies and surveys to gauge the demand and supply potential for organic food, underlines a comprehensive effort to align with global sustainability trends and consumer preferences towards organic products.

Organic farming practices emphasize the use of natural substances and physical, mechanical, or biologically based farming methods to the fullest extent possible. This approach minimizes the environmental footprint by reducing pollution and conserving water and soil quality. By focusing on crops with export potential and adhering to internationally recognized standards, Uzbekistan aims to tap into the growing global market for organic products, potentially leading to increased agricultural revenue and economic growth. Organic products are perceived as healthier due to their reduced exposure to pesticides and chemicals. This initiative not only promises better health outcomes for consumers but also aligns with increasing consumer demand for organic and natural products (Azimovna 2022).

Certification according to Global G.A.P. standards can serve as a powerful marketing tool, opening up access to international markets that demand high standards of quality and safety in agricultural products. The conduction of monographic studies and surveys to understand the demand and supply dynamics for organic food products indicates a data-driven approach to policy implementation. This can help tailor strategies to meet actual market needs effectively.

Literature Review. Agricultural sustainability is a critical aspect of modern farming practices, aiming to meet current food needs without compromising future genera-

tions' ability to produce food. Organic agriculture, characterized by the avoidance of synthetic fertilizers and pesticides, plays a significant role in this domain. Uzbekistan, with its rich agricultural heritage, has increasingly focused on sustainable agriculture to ensure food security, environmental protection, and economic viability. Babakholov et al. (2022) provide an overview of Uzbekistan's commitment to sustainable agricultural practices, particularly through the adoption of organic farming methods. The country's initiative, as guided by the President, emphasizes transitioning to organic production to enhance export potential and improve food quality for the population. This strategic move aligns with global trends towards organic consumption and sustainable agricultural practices.

Organic agriculture combines traditional and modern methods based on nature conservation. This method includes crop rotation, natural pest control, diversification, compost and soil enrichment with organic fertilizers (Reganold and Wachter 2016). Organic farming is a production method based on minimal use of artificial ingredients such as synthetic fertilizers, pesticides, genetically modified organisms. This method includes increasing productivity, enriching the soil with mineral nutrients, using organic fertilizers to control pests and weeds, and using natural methods of tillage (Прижукков 1991) (Боинчан 1999) (El Hage Scialabba and Hattam 2002) (Willer and Kilcher 2011). Organic production is a sustainable farming approach that aims to promote ecological balance and biodiversity. He prefers to use natural processes and materials. The productivity of organic farming may be lower than that of conventional farming, but with the help of modern techniques and methods, this deficiency can be compensated. Research has shown that organic systems can produce equally well under certain conditions (Seufert 2012).

Despite the positive outlook, the organic agriculture sector in Uzbekistan faces several challenges (Ahrorov F. 2012). The transition from conventional to organic farming practices requires significant changes in farmer knowledge, attitudes, and behaviors. The lack of a well-established organic certification system within the country further complicates this transition, as consumers and international markets often demand certified organic products.

While the literature provides valuable insights into the current state and challenges of organic agriculture in Uzbekistan, several research gaps remain. First, there is a

need for more empirical studies on the socio-economic impacts of transitioning to organic farming practices, particularly on smallholder farmers who constitute a significant portion of the country's agricultural sector.

Second, research on consumer attitudes and willingness to pay for organic products in Uzbekistan is limited. Understanding consumer preferences and demand for organic products is crucial for developing effective marketing strategies and for the overall growth of the organic sector.

Third, studies focusing on the impact of organic farming on biodiversity and soil health in Uzbekistan's unique agro-ecological zones are scarce. Such research could provide important data to support the environmental benefits of organic agriculture.

Finally, there is a gap in the literature regarding the effectiveness of policy and institutional support mechanisms in promoting organic agriculture in Uzbekistan. Comparative studies with other countries could offer valuable lessons and strategies for enhancing the organic agriculture sector.

Data and methods. The study was carried out, particularly focusing on collecting primary data through surveys conducted among the population. These surveys were aimed at exploring the demand and supply potential for organic food within different demographic segments. The questionnaire for consumers sought to assess their awareness of organic food, their buying habits, and their willingness to purchase organic products. The consumer questionnaire consisted of 34 questions, structured in several sections with varying question types. The initial part of this questionnaire aimed to gauge consumer perceptions, employing Likert scale-based questions. Each question presented five response options reflecting levels of agreement: "completely disagree," "disagree," "indifferent," "agree," and "completely agree."

The Likert scale is a method for measuring attitudes by requesting respondents to express their level of agreement with presented statements (Likert 1932). This approach seeks to capture both the cognitive and affective components of attitudes. Likert-type or frequency scales, which use a fixed-choice response format, are designed to assess attitudes or opinions. These ordinal scales are used to gauge degrees of agreement or disagreement. Likert-type scales are predicated on the assumption that the intensity of an experience is linear, spanning from strong agreement to strong disagreement, and suggest that attitudes can be quantitatively assessed. Respondents typically select from five to seven, or sometimes nine, predefined responses, with a midpoint representing a neutral stance of neither agreement nor disagreement (Bowling 2014). Ultimately, the Likert Scale is a five (or seven) point scale enabling individuals to express their agreement or disagreement with specific statements.

The survey utilized a simple random sampling (SRS) method, a technique where a subset of individuals is selected from a larger group (the population). In this method, every individual has an equal chance of being selected at any point in the sampling process. This ensures that every possible group of individuals has the same likelihood of being chosen as any other group, regardless of characteristics such as gender, age, or education level (Yates 2008). The data collection took place from July 15 to August 22, 2023, within the Samarkand region of Uzbekistan. The research design called for a total of 100 completed questionnaires while the number of participants consisted 98 due to some respondents either not finishing the questionnaire or providing answers that were deemed inaccurate, leading to the exclusion of such

responses from the final data analysis.

Results and discussion. The survey's findings reveal an average rating of 4.2 when it comes to the population's perceived knowledge about organic products. This high rating suggests that most of the population is confident in their understanding of organic food, though this confidence might not accurately reflect their actual level of knowledge. The standard deviation of 1.27 indicates the diversity in respondents' opinions, highlighting the variability of their perceptions across the scale. Furthermore, the standard error of 0.23 supports the assertion that the sample accurately represents the population's average opinion.

Differences emerged in the survey regarding respondents' awareness of the current or potential pricing of organic food compared to conventional food. A third of the participants (33%) strongly believe that organic food is more expensive than its conventional counterparts, whereas only a minor fraction (6.6%) strongly disagrees with this viewpoint. According to the data presented in Table 1, the interquartile range (IQR) is noted to be 2. This figure indicates a greater dispersion of responses regarding the price perception compared to their confidence in their knowledge of organic food. Nonetheless, the smaller median in this context signifies a less pronounced trend compared to the respondents' self-assessed knowledge, suggesting nuanced perceptions among the population regarding the cost of organic versus conventional food.

The survey's findings reveal nuanced perceptions among the population regarding organic products and their benefits, as well as the potential drawbacks of conventionally produced foods. It appears that a significant portion of the population believes that food produced organically is healthier, while traditional agricultural methods may be detrimental to the environment and potentially harmful to human health.

The data suggest that many consumers are willing to pay a premium for organic products, associating higher prices with greater purity and safety. This willingness is partly influenced by the belief in consuming fresh, seasonal products to ensure safety. Furthermore, a prevailing belief exists among consumers that domestically produced agricultural goods are free from chemicals and fertilizers, even in minimal doses, highlighting a strong preference for naturally produced items.

The study also delved into consumers' attitudes towards labeled goods. The presence of a certification label from a reputable agency on organic food products is crucial for some consumers, acting as a marker of authenticity and, occasionally, serving as a form of advertisement. However, the importance of these labels varies, with an average response rating of 3.97, suggesting a lukewarm consensus between indifference and agreement. The standard deviation of 1.25 indicates a wide variance in opinions, possibly because many food products are sold unlabeled at farmers' markets, forcing consumers to rely on personal judgment to assess quality. This spread suggests that while labels are important for certifying organic products, the direct experience and perception of quality play a significant role in consumer decisions.

The survey aimed at understanding the public's purchasing behavior highlighted various factors influencing food selection, such as price, appearance, origin, packaging, and volume. Price emerged as a significant factor, with a mean score of 4.10 out of 5, and a standard deviation of 1.21, suggesting a wide range of responses. This indicates that while price is a critical consideration for consumers, their sensitivity to it varies.

Appearance proved to be even more critical, scoring

higher with a mean of 4.50 and a standard deviation of 1.01. This finding suggests that consumers, regardless of their income level, tend to prefer visually appealing products, associating better appearance with higher quality. However, this preference might sometimes be misleading, especially for agricultural products like fruits and vegetables, where an attractive exterior may not necessarily indicate superior quality.

The survey also explored the importance of the "originality" of goods, revealing it to be a more significant factor than price. Consumers across all age groups showed a particular interest in the origin of the products they purchase. For instance, in the case of apples in the city of Samarkand, those sourced from the Bakhmal region are highly valued by consumers for their distinctive taste and longer shelf life. This preference highlights the importance of geographic origin as a quality marker for consumers, emphasizing a deeper connection and trust in locally renowned produce.

The survey findings indicate that packaging plays a significant role in consumer decision-making, with a mean score of 4.03 and a standard deviation of 1.13. Packaging not only serves a marketing purpose but also provides crucial information about the product, such as its composition, production date, origin, and the manufacturing company. This highlights packaging's informational function, guiding consumers in understanding what they are purchasing.

Regarding the product size, the average importance score is 2.87, suggesting that while size does matter to consumers, it is not as critical as other factors. Only 33.3% of respondents deemed the "size factor" as paramount in their purchasing decisions. The importance of size diminishes particularly for products like watermelons, cantaloupes, squash, and other crops where size may be artificially enhanced with chemicals, affecting consumers' perception of natural quality.

Analysis of responses to a specific survey question revealed a strong preference among consumers for a diverse range of organic products in the market, evidenced by a high mean score of 4.36. This preference indicates that a majority of consumers (60% "strongly agree") value the ability to select from various organic options, underscoring a desire to diversify their dietary choices with organic produce. However, this does not necessarily mean that consumers are inclined to purchase the entire range of organic offerings available. Instead, it reflects a broader interest in having multiple organic choices to enhance their consumption patterns.

The survey highlighted the distinction between the quality of conventionally farmed products and organic farmed products, underscoring the necessity for clear labeling to aid consumers in distinguishing organic items. Different countries have various agencies tasked with certifying organic products, each employing its unique label. The significance of having a well-known certification agency within the country was explored, revealing that, for respondents, this factor is not as critical compared to other considerations. The analysis confirmed that consumers desire organic foods to be distinct and easily identifiable, allowing them to make informed purchases without extensive search efforts.

A significant portion of respondents, 63%, expressed agreement or strong agreement with the availability of organic food in conventional grocery stores. This preference indicates a general inclination towards incorporating a mix of organic and non-organic foods into their diets, largely influenced by the 'price factor'. The data suggest that while consumers value the option to purchase organ-

ic products, the decision is often balanced with considerations of cost, highlighting a pragmatic approach to food shopping where diversity in consumption and value for money play key roles.

The survey reveals distinct consumer preferences regarding the frequency of organic food consumption, particularly highlighting variations across different food categories. Fish consumption among respondents is relatively infrequent, with only 23% reporting they eat fish at least once a week. However, interest in organic fish increases, with 33% of participants willing to purchase it at least once a month if available, and 44% considering it once every quarter.

Egg consumption patterns differ, with a lower percentage of respondents willing to buy organic eggs on a weekly or monthly basis compared to fish. The demand for other organic products such as dairy, bread and bakery items, and meat shows a moderate frequency of consumption. Specifically, 66% of respondents expressed a desire to buy organic milk and bread products, while 60% showed interest in purchasing organic meat.

Vegetables and fruits, however, stand out for their high consumption rates, with 80% of survey participants willing to consume organic versions of these foods at least once a week. This statistic underscores a strong preference for organic produce, indicating that if organic fruits and vegetables are available, a significant majority of people would opt to include them in their diets weekly. This pattern reflects a broader trend towards healthier eating habits and a preference for organic options when accessible.

The survey findings illustrate diverse consumer preferences and willingness to pay for organic products. A significant portion of participants indicated a readiness to spend 20% more on organic food compared to conventional options. However, preferences vary widely, with 11% of respondents willing to pay a 30% premium for organic items. Smaller groups are even prepared to pay up to 40% and 50% more, representing 7% and 4% of the survey population, respectively.

Regarding certification, half of the respondents were indifferent to the presence of a certification from a well-known agency. However, a substantial majority (73%) expressed a preference for products certified by national certification bodies, reflecting a higher level of trust in domestic over foreign agencies, which only 27% of respondents favored. This indicates a general preference for the assurance of quality and safety provided by national certification, with a smaller portion of the population valuing international standards perhaps as a benchmark of global quality.

The data also revealed a strong link between the importance consumers place on the origin of their food and their likelihood to purchase organic products. Those who value the origin of the products highly tend to be more inclined towards buying organic food, suggesting that knowledge and trust in where and how food is produced significantly influence purchasing decisions. This trend underscores the growing consumer awareness and demand for transparency in food production, as well as a greater willingness to invest in healthier and more sustainable options.

Conclusion. The initiative by the Samarkand region to foster organic agriculture, as directed by the President of the Republic of Uzbekistan, represents a strategic commitment to sustainable farming practices and the enhancement of the export potential of Uzbekistan's agricultural sector. Through the implementation of Good Agricultural Practices (Global G.A.P.) certification and a focus on organic production, this initiative aims to meet the rising global demand for organic products, thereby contributing

to environmental sustainability and public health.

The comprehensive survey conducted among the population revealed insightful findings about consumer perceptions and preferences regarding organic food. The high average rating of perceived knowledge about organic products indicates a confident but potentially overestimated understanding among the population. This highlights an opportunity for further education and awareness campaigns to bridge the gap between perceived and actual knowledge.

Pricing emerges as a critical factor influencing consumer choices, with a significant portion of respondents willing to pay a premium for the benefits associated with organic products. This willingness reflects a broader trend towards health-conscious consumption and environmental stewardship. However, the nuanced perceptions of cost, particularly in relation to conventional foods, suggest the need for clear communication about the value proposition of organic products to justify their higher prices.

The importance of product appearance, origin, packaging, and the availability of a diverse range of organic options in the market underscores the complex decision-making process of consumers. These factors, combined with a strong preference for nationally certified organic products,

indicate a desire for transparency, quality, and trust in the organic certification process.

Vegetables and fruits stand out for their high consumption rates among organic products, pointing to a substantial demand for fresh, organic produce. The survey's insights into consumer willingness to pay a premium for organic products, along with a preference for nationally certified goods, underline the significance of origin and certification in purchasing decisions.

In conclusion, the survey findings indicate a positive consumer disposition towards organic food, driven by health considerations, environmental concerns, and a preference for quality and safety. To capitalize on this potential, stakeholders in the organic sector must address challenges related to pricing, education, and certification. By enhancing consumer awareness, ensuring transparency in certification, and effectively communicating the benefits of organic products, Uzbekistan can strengthen its position in the global organic market and support sustainable agricultural development. This strategic approach, rooted in comprehensive data analysis and tailored to market needs, will contribute to the long-term success of the organic agriculture initiative in the Samarkand region and beyond.

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