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CONTEMPORARY CULTURAL CHANGES AND THEIR IMPACT ON ACHIEVING THE GOALS OF SUSTAINABLE AGRICULTURAL DEVELOPMENT IN THE RURAL AREAS OF DAKAHLIA GOVERNORATE, EGYPT

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ABSTRACT

This study aimed to analyze contemporary cultural changes in Egyptian rural society and to examine both their degree of occurrence and their impact on achieving the goals of sustainable agricultural development, in light of selected personal characteristics of the respondents. The study adopted a descriptive analytical approach, drawing on field data collected from a simple random sample of 200 respondents from villages in the El Senbellawein and El Gamalia districts of Dakahlia Governorate. Data were gathered through a structured questionnaire administered via personal interviews during January and February 2025. The study addressed cultural change through two main dimensions. The first comprised intangible cultural changes, including value systems, agricultural work ethics, consumption patterns, and rural customs. The second focused on material cultural changes, encompassing technological change in agriculture, modernization of rural housing, and the use of communication and social media technologies. Weighted means, simple correlation coefficients, and the chi-square test were employed for data analysis. The findings indicated that material cultural changes recorded high levels in terms of both occurrence and impact, particularly agricultural technological change and the use of communication technologies, whereas intangible cultural changes were found to be at moderate levels. The results also showed that respondents' perceptions of the impact of these changes were significantly associated with certain cognitive characteristics, most notably age and educational level. The study concludes that cultural changes constitute an influential framework shaping the trajectory of sustainable agricultural development, which necessitates the adoption of development approaches that integrate the cultural dimension alongside economic and technological considerations.

KEYWORDS: Contemporary Cultural Changes, Sustainable Agricultural Development, Egyptian Rural Areas, Rural Culture, Intangible Cultural Change.

1. INTRODUCTION

Agricultural systems across the world are experiencing accelerated transformations toward the adoption of sustainable agricultural development strategies driven by growing awareness that achieving economic and social development requires sound management of natural resources particularly land and water, which are increasingly under pressure as a result of traditional production patterns and unsustainable resource use (Abdallah, 2025). Within this context, agricultural sustainability has emerged as a global framework guiding contemporary development policies, as it represents the most effective approach for balancing the enhancement of agricultural productivity with safeguarding the rights of future generations to healthy and viable natural resources.

These challenges are particularly evident in the Egyptian context where agricultural development faces a range of structural constraints including the limited availability of arable land fragmentation of landholdings increasing water scarcity and the growing impacts of climate change. The literature also indicates that existing agricultural policies have not yet achieved optimal resource use nor attained the desired level of food security (Soliman et al., 2022) placing rural development in Egypt before an urgent need to reassess the determinants of sustainable development. In this regard, rural culture in both its material and intangible dimensions represents one of the key determinants exerting direct and indirect influence on the capacity of rural communities to adopt sustainable agricultural practices. The material components of rural culture have undergone profound transformations most notably the shift from traditional production tools to mechanized and modern technologies that have reshaped the structure of agricultural labor. At the same time, intangible components such as values, beliefs, attitudes and social norms have experienced significant change including the declining value attached to land and agricultural work changes in rural customs and shifts in consumption patterns. These changes are closely linked to the broader social and economic transformations that rural Egypt has witnessed over recent decades (Fadel, 2024).

The literature further reveals that culture is not a secondary factor but rather constitutes an institutional pillar of sustainable development. Studies conducted in Mediterranean contexts have demonstrated that preserving cultural identity contributes to the promotion of sustainable agricultural practices and the achievement of social and economic well-being (Azzini et al., 2020;

Cerquetti et al., 2022). Evidence also suggests that integrating culture into development strategies for example through rural tourism contributes to income improvement diversification of livelihood sources and enhanced resilience of rural communities (He et al., 2021). Moreover, the literature emphasizes that investment in agricultural education and training represents a critical axis for empowering farmers to adopt sustainable practices by strengthening culturally embedded agricultural knowledge and developing the technical skills necessary to improve productive efficiency (Adefila et al., 2024). Within this context integrating the cultural dimension into agricultural resource management enhances policy effectiveness and supports sustainable production (Ye et al., 2023; Soto et al., 2025). Accordingly, contemporary cultural changes in rural Egypt should not be viewed merely as social phenomena but rather as strategic developmental determinants that may either support or hinder the trajectory of sustainable agricultural development depending on their direction and intensity. Therefore, analyzing these changes represents a scientific necessity for understanding the capacity of rural communities to achieve sustainability goals.

2. RESEARCH PROBLEM

Over recent decades the Egyptian countryside has experienced accelerated cultural transformations affecting both the material and intangible components of rural culture. These transformations have encompassed social value systems, customs and traditions consumption patterns as well as changes in production tools and agricultural work practices, within a broader context of economic, social, and technological change. Although such transformations may be interpreted as, a natural trajectory of social modernization recent literature indicates that cultural dimensions are no longer a marginal element in the development process. Rather they have become a decisive factor influencing the outcomes of sustainable rural development by either supporting or constraining it (Gobattoni, 2015; Ancuța, 2023).

The literature reveals considerable variation in assessing the impact of cultural change on sustainable rural development. Some studies emphasize that culturally driven transformations associated with modernization and technology can enhance productive efficiency and contribute to the diversification of income sources. In contrast other studies suggest that the erosion of traditional agricultural values and local patterns of cooperation may weaken agricultural sustainability and

undermine rural self-sufficiency (Gobattoni. 2015). In addition a growing body of research highlights that neglecting the cultural dimension particularly the complex interaction between its material and intangible components represents a key shortcoming in contemporary rural development policies and practices (Ancuța. 2023).

Accordingly the research problem is defined by the lack of an integrated scientific understanding of the nature and direction of the impact of contemporary cultural changes in both their material and intangible dimensions on the achievement of sustainable agricultural development goals within Egyptian rural society. This limitation is further compounded by the scarcity of field-based studies that analytically address this interaction within the local context. Such a shortcoming reflects a clear research gap that necessitates a systematic investigation aimed at analyzing this impact and identifying its dimensions and implications for the trajectory of sustainable agricultural development.

In light of this the study seeks to answer the following main research question:

What is the impact of contemporary cultural changes in the Egyptian countryside on achieving selected goals of sustainable agricultural development?

This main question gives rise to the following sub questions:

1. What is the degree of occurrence of contemporary cultural changes in Egyptian rural society?
2. What is the impact of contemporary intangible cultural changes among rural populations on achieving sustainable agricultural development goals?
3. What is the impact of contemporary material cultural changes among rural populations on achieving sustainable agricultural development goals?

3. RESEARCH OBJECTIVES

Based on the preceding presentation of the study introduction and research problem the objectives of the study can be identified as follows

1. To identify the level of occurrence of contemporary cultural changes in the rural community under study.
2. To examine the impact of contemporary intangible cultural changes among rural populations on achieving the goals of sustainable agricultural development.
3. To examine the impact of contemporary material cultural changes among rural

populations on achieving the goals of sustainable agricultural development.

4. To analyze the relationship between the personal and social characteristics of the respondents and their level of perception of the degree of occurrence of contemporary cultural changes in the rural community.
5. To analyze the relationship between the personal and social characteristics of the respondents and their level of perception of the impact of contemporary cultural changes on achieving the goals of sustainable agricultural development.

4. THEORETICAL FRAMEWORK

4.1. First: Contemporary Cultural Changes

Culture represents the framework within which individuals' lives are organized as it reflects their ways of living beliefs and patterns of interaction with both the natural and social environment. Society is not formed merely as a human aggregation in a specific time and place but rather as a system of symbols meanings and values that regulate behavior and ensure the continuity of the social structure. Accordingly culture has acquired a central position within the social sciences due to its role in explaining societal stability or transformation and in distinguishing traditional societies based on inherited practices from modern societies that employ technology and innovation to meet their needs (Al-Tabi'i & Al-Bahnasawi. 2007; Istaitieh. 2012).

The significance of rural culture in Egypt is particularly evident given its close association with a complex productive system. Any transformation in rural values work patterns or perceptions of land and agricultural labor inevitably alters local social dynamics and the capacity of rural communities to respond to the requirements of sustainable agricultural development. This has been emphasized by recent studies documenting profound shifts in the structure of rural culture over the past two decades (Fadel. 2024; Basiony. 2023).

4.1.1. Definition of Culture

Culture is defined as "the complex and evolving whole" that encompasses both material and intangible elements including beliefs. Values, Knowledge, Arts, law. and customs which collectively shape the pattern of life within a society (Al-Tabi'i & Al-Bahnasawi. 2007. p. 46). Istaitieh (2012. p. 226) further emphasizes that culture represents an intellectual and value based content that distinguishes one society from another and

reflects the cumulative outcomes of human material and mental activity over time. Accordingly, culture includes what individuals inherit from their society in terms of values, attitudes, and knowledge, as well as what they produce in the form of tools and activities arising from human interaction with environmental and social resources.

Contemporary rural literature indicates that culture should not be viewed merely as a static reservoir of knowledge, but rather as a dynamic framework that changes under the influence of economic, social, and technological forces shaping rural life (El-Maghraby, 2023; El-Sharaa, 2020). Changes in social values, perceptions of land and agricultural work, transformations in customs and consumption patterns, along with the impact of modern technology and digital communication, all represent key entry points for understanding contemporary cultural transformations in the Egyptian countryside and their implications for agricultural production, community participation, and rural livelihoods.

4.1.2. Cultural Change

Cultural change represents a continuous process reflecting transformations in both the material and intangible elements of a society's cultural structure, whether through addition, omission, or modification of patterns, values, and traditions that constitute the identity of the rural community (Al-Rashdan, 1999, p. 258). El-Sharaa (2020) explains that these transformations extend beyond individual behavior to reshape social structures, roles, and functions, rendering cultural change a fundamental lens for understanding broader social and economic transformations.

Over recent decades, the Egyptian countryside has experienced a distinct wave of cultural change driven by globalization, improvements in infrastructure, and the diffusion of modern technology. These forces have facilitated shifts toward new modes of living and working, leading to profound transformations in traditional cultural structures (Abdel-Moneim, 2023). In addition, climate change and the growing pressures of agricultural sustainability have contributed to the reconfiguration of economic and social roles within rural communities, particularly through changes in production patterns and farming practices (Okoronkwo et al., 2024).

Within this context, the intangible component of culture, encompassing values, attitudes, and customs, emerges as particularly significant. Recent studies indicate that social values are no longer as

stable as they once were, but are instead characterized by tension between deeply rooted traditions and newly emerging norms shaped by economic and social change (El-Maghraby, 2023, p. 2). In this regard, Basiony (2023, pp. 114–125) documents substantial changes in the rural value system in Egypt, including the declining status of agricultural labor, the transformation of land from a social symbol into a purely economic asset subject to disposal, and the erosion of values related to community participation and traditional saving practices as a result of economic pressures.

Exposure to social media has also played a role in reshaping rural customs and traditions. Continuous interaction with new cultures has contributed to the decline of certain collective practices and the emergence of more individualistic orientations among younger generations, a trend documented by recent studies on the impact of digital modernity on rural societies (Kumar et al., 2021). These findings are supported by other research indicating that rural engagement with digital platforms has led to the reinterpretation of social relationships and family roles in everyday life (Heffner & Twardzik, 2022).

The literature further indicates that agricultural education and specialized training constitute key factors in directing cultural transformations toward more positive outcomes, as they enhance awareness of sustainability values and facilitate the integration of traditional agricultural culture with more efficient modern practices (Adefila et al., 2024). With increasing attention to contemporary rural practices, international studies propose successful models for integrating local culture with sustainable agriculture, emphasizing the importance of community cooperation and policies that explicitly incorporate cultural considerations (Ye et al., 2023; Soto et al., 2025).

Based on these perspectives, cultural change in the Egyptian countryside should not be perceived solely as a decline or loss of traditional values and customs. Rather, it reflects a dynamic process of reconfiguration that creates new opportunities to integrate culture into the trajectory of sustainable agricultural development, particularly when supported by educational and awareness oriented policies that respect local specificities and respond to community needs.

4.1.3. Changes in Social Customs and Traditions

Social customs and traditions constitute one of the most important components of intangible culture, as they reflect practices that individuals have become accustomed to to the extent that they form part of

collective behavior. Despite their association with stability, these customs have undergone noticeable change in the Egyptian countryside as a result of economic and social transformations. Traditional practices of social solidarity, such as sharing part of the agricultural harvest with neighbors or exchanging agricultural products, have declined, while monetary transactions have increasingly replaced in-kind exchanges. In addition, traditional methods of grain storage have largely disappeared in favor of more modern and efficient alternatives. Recent studies indicate that exposure to digital communication technologies has reshaped social relationships and contributed to the adoption of new individualistic patterns, particularly among younger generations (Kumar *et al.*, 2021). This trend points to a structural transformation in the nature of social interaction within rural communities (Heffner & Twardzik, 2022).

4.1.4. Changes in Consumption Patterns or Behavior

Consumption behavior represents a key indicator of cultural change, as it reflects individuals' decisions regarding the acquisition and use of goods (Abd El Ghani *et al.*, 2025). Available evidence suggests a clear shift in rural consumption patterns, as rural households have moved from a reliance on self-production toward greater dependence on ready-made goods. Studies indicate an increase in the consumption of subsidized bread among rural households compared with urban areas, after home production of bread had previously been a common practice. This shift has contributed to a greater burden on wheat imports (Dabbous, 2023). Other studies have shown that exposure to modern media and communication has altered rural preferences toward dietary patterns characterized by higher consumption of processed foods (Azzini *et al.*, 2020). Such changes intensify pressure on food resources and increase the responsibility of the state to ensure the provision of essential commodities (Okoronkwo *et al.*, 2024).

4.1.5. Material Change in Rural Culture

Material culture in the Egyptian countryside has undergone accelerated transformations driven by the communications and information revolution, which has reduced distances and encouraged rural communities to adopt more modern living and production patterns. This transformation has contributed to reshaping agricultural work patterns, production relations, and rural settlement structures, reflecting a shift from a traditional rural system

reliant on simple tools toward one that is more integrated into the modern economy (Mariné *et al.*, 2020). The spread of agricultural mechanization represents one of the most prominent features of this transformation. Agricultural technology is no longer limited to machinery alone, but now encompasses the adoption of improved inputs, modern irrigation methods, and advancements in storage and livestock production. Swanson (1984, pp. 3–4) emphasizes that agricultural technology constitutes an integrated system of knowledge and practices that requires updated skills and capacities among farmers. In this regard, Abu Hadid (2014) notes that the adoption of mechanization among rural populations has contributed to reducing production costs, increasing productivity per feddan, improving soil characteristics, and minimizing water losses. It has also transformed livestock from a source of draft power into a primary means of meat and milk production, representing a fundamental shift in the structure of the agricultural process.

Material change has also extended to the rural built environment. Villages have shifted from compact mud housing to modern concrete buildings, accompanied by wider streets and the separation of animal sheds from residential units. Abdel Moneim (2023, pp. 350–353) shows that this urban transformation coincided with a shift in housing patterns from the extended family house to the independent dwelling. This change reflects the influence of the modern urban model on rural areas and the declining productive role of the rural household in favor of a more individualistic lifestyle, supported by the availability of electricity, water, sanitation, and transportation services. The literature further indicates that these material transformations are a direct outcome of rural openness to technology and communication, as digital infrastructure has facilitated the adoption of modern tools for agriculture, production, and construction (Kumar *et al.*, 2021). Consequently, material change has become an integral component of a broader transformation in the structure of rural culture and its economic and social roles.

4.1.6. Changes and Developments in Communication and Social Interaction Tools

Since the late twentieth century, the Egyptian countryside has experienced a profound transformation in its communication system, driven by the expansion of digital infrastructure and the widespread diffusion of the internet. Modern communication technologies have become a central channel linking rural and urban areas and reshaping

patterns of interaction and knowledge within rural society. This transformation has enhanced the flow of agricultural information and raised farmers' awareness of technological innovations and production challenges, in line with the literature emphasizing the role of communication in supporting agricultural innovation and achieving sustainable development (Al Zahrani et al., 2021).

Social media platforms, in particular, have emerged as strategic tools for exchanging expertise and technical information among farmers, experts, and agricultural institutions. They provide rapid access to sustainable agricultural practices and contribute to improving productivity and rationalizing costs. Fadel (2024) confirms that these platforms have strengthened communication between farmers and marketing entities and suppliers, thereby increasing the efficiency of agricultural value chains and supporting the achievement of sustainable agricultural development goals.

4.2. Second: Sustainable Agricultural Development

Sustainable agricultural development constitutes a fundamental pillar for ensuring food security and improving the living standards of rural populations. It is based on the rational use of natural resources, the promotion of social equity and the strengthening of adaptive capacity to economic and climatic changes, in a manner that ensures meeting the needs of both present and future generations (Food and Agriculture Organization of the United Nations [FAO], 2014; Veblen, 2015). El Sherbiny (2024) notes that agricultural sustainability is grounded in the integration of economic, social, and environmental dimensions, thereby achieving a pattern of growth capable of continuity without depleting available resources.

The Arab Organization for Agricultural Development (AOAD, 2022) has identified a set of strategic objectives for sustainability, most notably the eradication of rural poverty, the improvement of resource management efficiency, the enhancement of agricultural integration and marketing, and the strengthening of rural communities' capacity to adapt. In the same vein, Egypt's National Strategy for Agricultural Development 2030 (Nassar, 2022) emphasizes the importance of increasing productivity, enhancing competitiveness, creating employment opportunities for youth and women, and improving rural incomes.

4.2.1. Constraints to Achieving Sustainable Agricultural Development

Despite the growing importance of sustainable agricultural development, the agricultural sector in Egypt continues to face a range of challenges that limit its capacity to achieve this transformation. Among the most prominent constraints are the inefficient use of agricultural resources, water scarcity, soil degradation, and the rising costs of production inputs.

In addition, the adoption of modern agricultural technologies remains slow due to farmers' limited technical and financial capacities (Abu Hadid, 2014; Swanson, 1984).

The declining role of agricultural extension services, along with weaknesses in marketing and storage infrastructure, further contributes to reduced productivity and competitiveness. Moreover, social and economic transformations in rural areas, including the erosion of the value of agricultural work and shifts in consumption patterns, have increased reliance on imported products and reduced levels of rural self-sufficiency (Basiony, 2023; El Maghraby, 2023). Institutional and governance related challenges, as well as weak coordination among agricultural agencies, also constrain the state's ability to design and implement long-term policies that effectively support sustainability (Nassar, 2022).

4.3. Scope and Depth of the Study

The study was limited to examining selected contemporary intangible cultural changes, namely changes in the value of agricultural land, the value of agricultural work, consumption patterns, and rural customs.

It also focused on selected contemporary material cultural changes, including technological change in agriculture, modernization of the rural dwelling, and rural populations' use of communication and social media tools.

4.4. Operational Definitions

4.4.1. Sustainable Agricultural Development

Sustainable agricultural development is defined as the optimal use of agricultural economic resources, particularly agricultural land and water, in a manner that meets the needs of present and future generations. It also refers to enhancing resilience to climate change, making sustained efforts to achieve food security, and working to reduce poverty rates among rural populations.

4.4.2. Contemporary Cultural Changes

Contemporary cultural changes refer to any change occurring in specific aspects of rural culture.

With regard to the intangible dimension, these changes include shifts in the value of agricultural land, the value of agricultural work, consumption patterns, and selected rural customs. As for the material dimension, they encompass technological change in agriculture, modernization of the rural dwelling, and rural populations' use of communication and social media tools. These changes influence the structure of rural society or its functional performance.

4.5. Research Hypotheses

1. There is a statistically significant relationship between the following personal variables of the respondents, namely age, gender, educational level, employment status, approximate monthly household income, household size, size of agricultural landholding measured in qirats, cultural openness, and ambition, and their level of perception of the overall occurrence of contemporary cultural changes among rural populations.
2. There is a statistically significant relationship between the following personal variables of the respondents, namely age, gender, educational level, employment status, approximate monthly household income, household size, size of agricultural landholding measured in qirats, cultural openness, and ambition, and their level of perception of the overall impact of contemporary cultural changes among rural populations on achieving the goals of sustainable agricultural development.

For the purpose of testing these two research hypotheses, they were formulated in their null form.

5. METHODOLOGY

5.1. Study Area, Population and Sample

This study was conducted in Dakahlia Governorate as the geographical field of investigation, given that it ranks second among Egyptian governorates in terms of rural population size.

The total rural population of Dakahlia Governorate amounts to 4,948,648 individuals, including 2,517,547 males and 2,430,101 females (Central Agency for Public Mobilization and Statistics [CAPMAS], 2024).

The process of selecting the study sample was carried out through several successive stages, as follows

1. The rural population in each administrative

center of Dakahlia Governorate was identified based on data from the 2023 population census. Table (1).

2. The average rural population of the governorate was calculated by dividing the total rural population of the governorate by the number of its administrative centers, as follows: Average rural population of the governorate = $4,948,648 \div 17 = 291,097$
3. The Districts of the governorate were classified into two levels based on the average rural population size, namely centers above the average rural population and centers below the average rural population, as follows
 - a. **District above the average rural population**
The rural population in this category ranged from 360,890 to 669,899. This group includes the centers of Mit Ghamr, Mansoura, El Senbellawein, Aga, Belqas, Sherbin, Talkha, El Manzala, and Dikirnis.
 - b. **Districts below the average rural population**
The rural population in this category ranged from 64,689 to 288,360. This group includes the centers of Nabroh, Meniet El Nasr, Tami El Amdid, El Mataria, El Gamalia, Bani Ubaid, Mit Salsil, and Mahallat Damna.
4. One administrative center was randomly selected from each level based on rural population size. El Senbellawein was selected from the above average category, while El Gamalia was selected from the below average category.
5. The total rural population of El Senbellawein and El Gamalia centers, amounting to 720,584 individuals, was considered the study population. A simple random sample of 200 respondents was selected and proportionally allocated between the two centers according to the size of the rural population in each center.
6. The study sample was distributed between the selected centers based on their respective rural population sizes. Accordingly, 160 respondents were drawn from El Senbellawein Center, and 40 respondents from El Gamalia Center.
7. Two main villages were randomly selected from each of the two study centers. El Haggayza and El Rawda were selected from El Senbellawein Center, while El Mahallawi and Mubarak villages were selected from El Gamalia Center.
8. The sample size allocated to each center was further distributed among the selected villages according to the population size of each

village. In El Senbellawein Center. 118 respondents were selected from El Haggayza village and 42 respondents from El Rawda village. In El Gamalia Center. 27 respondents were selected from El Mahallawi village and 13 respondents from Mubarak village.

9. Each village was divided into four residential blocks. and the sample was selected using simple random sampling from each block through personal interviews with the respondents.

Table 1: Rural Population by Administrative Center in Dakahlia Governorate.

Source: Central Agency for Public Mobilization and Statistics. Egypt in Figures 2024. Results of the General Census of Population, Housing and Establishments 2024. p. 9. Published data.

No.	District	Rural Population	Level
1	Mit Ghamr	669899	Above average
2	Mansoura	627649	
3	El Senbellawein	*576989	
4	Aga	545406	
5	Belqas	540657	
6	Sherbin	434784	
7	Talkha	400083	
8	El Manzala	368520	
9	Dikirnis	360890	
10	Nabroh	288360	Below average
11	Meniet El Nasr	273305	
12	Tami El Amdid	201611	
13	El Mataria	186335	
14	El Gamalia	*143671	
15	Bani Ubaid	135284	
16	Mit Salsil	76826	
17	Mahallat Damta	64689	
Total		4948648	

5.2. Measurement Instruments and Quantitative Data Processing

In light of the study objectives, a structured questionnaire was designed to collect data through personal interviews. The questionnaire comprised two main sections.

The first section addressed the personal characteristics of the respondents, including age, gender, educational level, employment status, approximate monthly household income, household size, size of agricultural landholding measured in qirats, cultural openness, and ambition.

The Second Section included the following components

5.2.1. Assessing Respondents' Perceptions of the Degree of Occurrence of Contemporary Cultural Changes

A. Intangible Cultural Elements

Intangible cultural elements included cultural changes across eight items, namely changes in the value of agricultural land, the value of agricultural work, the value of participation and cooperation, consumption patterns, rural customs, social relations, the value of female education, and popular

beliefs. The degree of change in each item was measured using a four category scale consisting of major change, moderate change, minor change, and no change. Scores of 3, 2, 1, and 0 were assigned, respectively. The total score was calculated to express the level of change in the intangible cultural component.

B. Material Cultural Elements

Material cultural elements included changes across six items, namely technological change in agriculture, modernization of the rural dwelling, access to public utilities in households, use of communication and social media tools, modernization of road networks and infrastructure, and use of household electrical appliances. The degree of change in each item was measured using the same four category scale of major change, moderate change, minor change, and no change, with corresponding scores of 3, 2, 1, and 0. The total score was calculated to represent the level of change in the material cultural component.

Subsequently, the overall score was computed to express respondents' perceptions of the overall degree of occurrence of contemporary cultural changes among rural populations.

5.2.2. *Second: The Impact of Contemporary Cultural Changes among Rural Populations on Achieving the Goals of Sustainable Agricultural Development*

A. The impact of contemporary intangible cultural changes on achieving the goals of sustainable agricultural development

This dimension was measured by eliciting respondents' opinions through 24 statements, with six statements allocated to each of the following dimensions: changes in the value of agricultural land, the value of agricultural work, consumption patterns, and rural customs. These statements were designed to assess the impact of change in each dimension on achieving the goals of sustainable agricultural development. Responses were measured on a four category scale comprising affects to a great extent, affects to a moderate extent, affects to a small extent, and does not affect, with scores of 3, 2, 1, and 0 assigned, respectively. The total score was then calculated to determine the overall impact of changes in each intangible cultural dimension on achieving the goals of sustainable agricultural development.

B. The impact of contemporary material cultural changes on achieving the goals of sustainable agricultural development

This dimension was measured by eliciting respondents' opinions through 22 statements, distributed as 7, 8, and 7 statements, respectively, across the following dimensions: technological change in agriculture, modernization of the rural dwelling, and the use of communication and social media tools. These statements were intended to assess the impact of change in each dimension on achieving the goals of sustainable agricultural development. Responses were measured using the same four category scale of affects to a great extent, affects to a moderate extent, affects to a small extent, and does not affect, with corresponding scores of 3, 2, 1, and 0. The total score was calculated to determine the overall impact of changes in each material cultural dimension on achieving the goals of sustainable agricultural development. Subsequently, the overall score was computed to express the aggregate impact of contemporary cultural changes among rural populations on achieving the goals of sustainable agricultural development.

Following the completion of the questionnaire design, the preliminary version was reviewed by a panel of experts in rural sociology and agricultural extension to establish face validity. Based on the outcomes of this review, statements that obtained less than 80 percent of the maximum validity score were excluded to ensure a high level of instrument

validity. Thereafter, a pilot test of the questionnaire was conducted with 30 respondents, drawn from outside the main study sample, in El Rawda and El Mahallawi villages. This pilot test aimed to verify the clarity, appropriateness, and comprehensibility of the questionnaire items from the respondents' perspective.

5.3. *Data Collection*

Following the completion of the pilot testing of the questionnaire and its refinement into the final version, the main data were collected during January and February 2025 through personal interviews with the respondents in the study area. After data collection and coding were completed, the data were entered into a computer for analysis using the Statistical Package for the Social Sciences (SPSS). The data were presented and analyzed using frequencies and percentages, weighted means, simple correlation coefficients, the chi square test, and the phi coefficient.

5.4. *Description of the Study Sample*

Table (2) presents a set of demographic and social characteristics that contribute to explaining cultural changes in the Egyptian countryside. The relatively balanced age distribution across the three age groups indicates that the sample represents different generations actively engaged in agricultural activity, which enhances the reliability of the findings. The predominance of males, accounting for 82 % of the sample, reflects the male dominated nature of agricultural activity. In addition, the relatively high proportion of respondents with formal educational qualifications, at approximately 70 %, indicates a noticeable improvement in rural educational attainment, which may help explain a greater propensity to adopt modern technologies.

Employment status further shows that 60 % of the respondents are still engaged in agricultural activities, while 30.5 % have shifted to non agricultural occupations. This pattern represents a clear indicator of occupational transformation within rural areas, driven by the declining economic viability of agriculture. Moreover, the income distribution reveals the predominance of the rural middle class, a condition associated with relative stability alongside economic pressures that encourage the search for alternative sources of income.

With regard to landholding size, medium sized holdings were predominant, accounting for 52 percent of the sample, a pattern that directly influences income levels and opportunities for

investment in modern agricultural inputs. Cultural openness also emerges as an important indicator. with 48 percent of respondents exhibiting a moderate level of openness and nearly 30 percent demonstrating a high level of openness. This reflects the influence of media and technology in reshaping rural values and behavior. In addition. the majority of respondents display a moderate level of ambition. amounting to 64.5 percent. a finding that is consistent

with a rural environment characterized by limited opportunities yet oriented toward improving living conditions. Overall. the table depicts a rural community undergoing gradual transformation. in which educational attainment. income patterns. cultural openness. and occupational shifts collectively contribute to the reconfiguration of rural culture and its orientation toward sustainable development.

Table 2: Distribution of Respondents According to Their Personal Characteristics (N = 200).

N = 200 respondents, Source: Field survey data. 2025.

Variable	Category	n	%	Variable	Category	n	%
Age	27-39 years	59	29.5	Gender	Female	36	18.0
	40-52 years	71	35.5		Male	164	82.0
	53-65 years	70	35.0				
Educational level	Illiterate	21	10.5	Employment status	Does not work	19	9.5
	Reads and writes	12	6.0		Works in agriculture	120	60.0
	Primary education	27	13.0		Works in non-agricultural activities	61	30.5
	Preparatory education	72	36.0				
	University education	68	34.0				
Monthly household income	< EGP 6.000	61	30.5	Household size	3-4 members	22	11.0
	EGP 6.000-< 12.000	89	44.5		5-6 members	156	78.0
	EGP 12.000-15.000	50	25.0		7-8 members	22	11.0
Landholding size	10-18 qirats	53	26.5	Cultural openness	Low (4-6)	45	22.5
	19-27 qirats	104	52.0		Medium (7-9)	96	48.0
	28-36 qirats	43	21.5		High (10-12)	59	29.5
Ambition	Low (9-11)	39	19.5				
	Medium (12-15)	129	64.5				
	High (16-18)	32	16.0				

6. RESULTS AND DISCUSSION

6.1. First: Level of Occurrence of Contemporary Cultural Changes in the Rural Community under Study

The results presented in Table (3) indicate that the Egyptian rural community is experiencing a noticeable level of contemporary cultural change. particularly with regard to intangible cultural components. The weighted mean for these components reached 2.29. reflecting a general tendency toward the reconfiguration of the traditional value and social system. The findings reveal a clear decline in the value attributed to agricultural land and agricultural work. alongside a weakening of rural cooperation practices. This pattern points to a gradual shift in rural perceptions of land and work. moving from their former status as social and symbolic assets toward being viewed as resources of limited economic viability. especially in light of rising production costs and declining

agricultural returns.

This trend is consistent with the findings of Basyony (2023). who highlighted changes in the symbolic meanings of agricultural land within rural consciousness. It also aligns with the theoretical framework proposed by Al Nouei (2008). which emphasizes the organic relationship between transformations in value systems and broader social change. Moreover. it corresponds with the observations of El Maghraby (2023). who documented an intensifying tension between traditional values and emerging consumer oriented values within rural communities.

The results further indicate that disruption in consumption patterns ranked first among the intangible cultural changes. with a weighted mean of 3.00. This reflects a transition in rural areas from patterns of production and self sufficiency toward increasing reliance on market based and subsidized goods. This trend is supported by reports from the Ministry of Supply. which document higher

consumption of subsidized bread among rural households compared with urban ones (Dabbous, 2023). It is also consistent with the findings of Fadel (2024), who demonstrated that the spread of digital media has deepened this shift by reinforcing new consumption patterns more closely aligned with urban culture. The results also reveal a noticeable decline in the strength of social relations and traditional support networks, which recorded a moderate to relatively high level of change. This finding reflects the erosion of daily forms of cooperation and mutual support among rural populations and aligns with El Sherbiny's (2024) observations regarding the growing individualistic orientation and the diminishing influence of neighborhood and kinship networks in the Egyptian countryside amid expanding economic and technological pressures.

In contrast, the value of education, particularly

female education, recorded a high degree of change, indicating a fundamental transformation in rural perceptions of education as a pathway for social mobility and improved economic opportunities. This finding is consistent with Fadel (2024), who linked the diffusion of modern communication technologies to increased acceptance among rural families of girls' education as a form of social and economic investment. The results further show a relative decline in certain popular beliefs related to optimism and pessimism, folk medicine, and magic, although such beliefs remain present to varying degrees. Abdel Moneim (2023) attributes this decline to improvements in educational attainment, changes in housing patterns, and the spread of digital media. At the same time, El Maghraby (2023) notes the partial persistence of these beliefs due to their symbolic power and deep cultural embeddedness within rural society.

Table 3: Weighted Mean of Respondents' Perceptions of the Occurrence of Contemporary Intangible and Material Cultural Changes.

N = 200 respondents, Source: Field survey data, 2025.

S	Contemporary Cultural Changes among Rural Populations	Perceived Level of Change								Weighted Mean	Rank
		Large		Moderate		Small		Did not occur			
		F	%	F	%	F	%	F	%		
-1	First: Contemporary Intangible Cultural Changes among Rural Populations	140	70.0	60	30.0	-	-	-	-	2.70	2
-2	Decline in the value attributed to agricultural land.	68	34.0	132	66.0	-	-	-	-	2.34	4
-3	Erosion of the value of agricultural work.	125	62.5	75	37.5	-	-	-	-	2.62	3
-4	Weakening of the value of participation and cooperation among rural populations.	200	100	-	-	-	-	-	-	3	1
-5	Disruption in consumption patterns.	-	-	72	36.0	128	64.0	-	-	1.36	7
-6	Changes in rural customs and traditions.	-	-	146	73.0	54	27.0	-	-	1.73	5
-7	Weakening of social relations among rural populations.	200	100	-	-	-	-	-	-	3	1
-8	Decline in the perceived value of education, particularly female education.	-	-	121	60.5	79	39.5	-	-	1.60	6
Overall weighted mean of intangible cultural changes										2.29	
-1	Second: Contemporary Material Cultural Changes among Rural Populations	197	98.5	3	1.5	-	-	-	-	2.98	2
-2	Technological change in agriculture.	190	95.0	10	5.0	-	-	-	-	2.95	4
-3	Modernization of the rural dwelling in terms of construction.	195	97.5	5	2.5	-	-	-	-	2.97	3
-4	Access of rural households to public utilities (water, electricity, and sanitation).	99	46.5	54	27.0	47	23.5	-	-	2.26	6
-5	Modernization of road networks and infrastructure in rural areas.	104	52.0	70	35.0	26	13.0	-	-	2.39	5
-6	Use of household electrical appliances by rural populations.	199	99.5	1	0.5	-	-	-	-	2.99	1
Overall weighted mean of contemporary material cultural changes among rural populations										2.75	

At the level of material cultural changes, the results show a high weighted mean of 2.75, reflecting the expanding scope of modern material transformations within rural areas, particularly in agricultural technology, modernization of the rural dwelling, access to public utilities, and the use of

electrical appliances. This finding is consistent with Swanson's (1984) assertion regarding the role of agricultural technology in increasing productivity, reducing losses, and improving soil characteristics, as well as with Abu Hadid's (2014) analysis highlighting the contribution of mechanization to

enhancing production efficiency and lowering costs. In addition, Abdel Moneim (2023) documents profound transformations in rural settlement patterns toward a more urbanized lifestyle as a result of infrastructure and service development. This perspective is further supported by El Sherbiny (2024), who emphasized the role of utilities and digital connectivity in reshaping patterns of communication and social relations within rural villages.

Overall, the results presented in Table (3) reveal an interconnected set of intangible and material cultural changes that are reshaping the cultural and social structure of the Egyptian countryside. These transformations are directly reflected in living patterns and economic behavior and provide an important analytical framework for understanding the trajectory of social change that may either support or constrain the achievement of sustainable agricultural development.

6.2. Second: The Impact of Contemporary Cultural Changes among Rural Populations on Achieving the Goals of Sustainable Agricultural Development

This section examines respondents' assessments of the impact of contemporary cultural changes on achieving the goals of sustainable agricultural development, through an analysis of both the intangible and material dimensions of these changes. The aim is to identify the direction and intensity of their effects within the rural community under study.

(a) The impact of contemporary intangible cultural changes on achieving the goals of sustainable agricultural development

The results presented in Table (4) indicate that contemporary intangible cultural changes exert multi-level effects on the achievement of sustainable agricultural development goals. The weighted means reveal variation in both the strength and direction of this impact across key dimensions, including rural value systems, the value of agricultural work, consumption patterns, and rural customs. This finding suggests that cultural transformations in the Egyptian countryside have moved beyond being purely social phenomena to become fundamental determinants of the agricultural sector's capacity to achieve sustainability under current economic and social conditions.

6.3. First: The Impact of the Decline in the Traditional Rural Value System

The results related to the value of agricultural land reveal a relatively low weighted mean of 1.43,

indicating that respondents perceived the impact of changes in the value of agricultural land on achieving the goals of sustainable agricultural development to be limited. This perception reflects an awareness among rural populations that transformations associated with land value, despite their social and economic significance, no longer constitute a decisive or direct factor in supporting the trajectory of sustainable agricultural development under current conditions. This view is consistent with the findings of Basiony (2023), who noted that declining economic returns from land and rising agricultural production costs have reduced its effective developmental role compared with earlier periods. It also aligns with the theoretical perspective advanced by Al Nouei (2008), which argues that changes in value systems accompanying broader social transformations may lead to a reordering of priorities among social actors, thereby constraining the direct influence of certain traditional values on development pathways within traditional societies.

6.4. Second: The Negative Impact of Transformations in the Value of Agricultural Work

The results for the value of agricultural work indicate a weighted mean of 1.99, reflecting a moderate level of perceived impact of changes in the value of agricultural work on achieving sustainable agricultural development goals. This suggests that rural respondents recognize a relatively limited influence of transformations related to agricultural work on sustainability, particularly in light of the growing tendency to shift toward alternative occupations outside the agricultural sector. These perceptions are consistent with El Maghraby (2023), who documented a gradual movement of rural populations toward economic activities not directly linked to agricultural production. They also correspond with El Sherbiny's (2024) assertion that the declining relative status of agricultural occupations contributes to weakening the traditional productive structure of the Egyptian countryside.

6.5. Third: The Impact of Consumption Transformation on Rural Food Security

The results for consumption patterns recorded a relatively high weighted mean of 2.49, indicating that respondents demonstrate an increasing awareness of the impact of changing consumption patterns on the rural food security system. This level of impact reflects rural perceptions of a gradual transition from consumption patterns associated with self-production and relative self-sufficiency toward

patterns increasingly dependent on external markets and subsidized goods. Such a shift reshapes the relationship between rural households and agricultural production. This perception is consistent with reports from the Ministry of Supply highlighting the growing reliance of rural households on subsidized commodities compared with self production (Dabbous. 2023). It is further reinforced by Fadel (2024). who showed that the spread of digital media has deepened the adoption of new. urban oriented consumption habits. thereby weakening the traditional role of household based production systems and redirecting rural consumption patterns away from local agricultural production.

6.6. Fourth: The Contraction of the Role of Rural Customs in Supporting Coexistence and Production Networks

The rural customs dimension recorded the lowest weighted mean. at 1.54. indicating that respondents perceived the impact of changes in rural customs on achieving sustainable agricultural development goals to be limited. This suggests an awareness among rural populations of the declining functional role of traditional practices that previously constituted a key foundation for coexistence and production networks within rural society. such as crop exchange. cooperative bread making. and the sharing of productive roles among women. At the same time. this does not imply their complete disappearance from rural life. Rather. the findings indicate that although such customs persist to some extent. they no longer exert the same influence in supporting agricultural production systems or reinforcing the associated forms of social cohesion. These results are consistent with Abdel Moneim (2023). who documented the gradual erosion of rural customs under the influence of urbanization. the spread of concrete housing. and changes in rural dwelling patterns. all of which have reshaped modes of interaction and cooperation within rural villages.

The Impact of Contemporary Material Cultural Changes among Rural Populations on Achieving the Goals of Sustainable Agricultural Development

The results presented in Table (4) indicate that material cultural changes within the Egyptian countryside have become a decisive factor in shaping the trajectory of sustainable agricultural development. This is reflected in the high weighted means recorded across the various dimensions. The dimension of technological change in agriculture ranked first. with an overall weighted mean of 2.91. indicating a wide and effective diffusion of modern

agricultural technologies within rural society.

6.7. First: The Impact of Technological Change in Agriculture on Achieving the Goals of Sustainable Agricultural Development

The findings related to technological change in agriculture show that this dimension is perceived by respondents as the most influential among contemporary material cultural changes in achieving sustainable agricultural development goals. The overall weighted mean reached 2.91. reflecting a clear recognition of the central role of agricultural technology in supporting the sustainability of agricultural activity. The use of modern agricultural mechanization recorded the highest level of impact. with a weighted mean of 2.98. followed by indicators related to the use of improved crop varieties. fertilizers and biofertilizers. and advanced irrigation methods. These results reflect respondents' awareness of the direct relationship between technological modernization and improved efficiency of agricultural production.

These quantitative indicators are consistent with Swanson's (1984) assertion that agriculture has gradually shifted from a traditional activity based on inherited experience to one increasingly reliant on technology and knowledge as key inputs for enhancing productivity and achieving sustainability. They also align with findings from local literature. particularly the study by Abu Hadid (2014). which highlighted the role of agricultural mechanization in improving the efficiency of production processes. reducing losses. and enhancing farmers' economic returns. This helps explain rural respondents' perception of the strong impact of these technologies on achieving sustainable agricultural development goals.

The results further indicate that the use of artificial insemination in livestock and appropriate transportation and storage methods for fruit and vegetable crops also fell within the high impact category. This reflects respondents' recognition of the importance of technology not only during the production stage. but also in post harvest stages. and its role in reducing losses and improving the quality of agricultural products.

In contrast. the adoption of smart farming systems and digital transformation tools. such as the Farmer Card. recorded a relatively lower weighted mean. although it remained within the high impact range. This suggests that such practices are still in the process of diffusion and adaptation within rural areas. despite the growing recognition of their organizational and developmental significance.

Overall, the findings of this dimension indicate that technological change in agriculture represents, from the respondents' perspective, the most direct and effective entry point for achieving the goals of sustainable agricultural development compared with other dimensions of material cultural change. This underscores the importance of investing in the dissemination of appropriate agricultural technologies and strengthening farmers' capacities to adopt them as a fundamental pillar for supporting agricultural sustainability in the rural community under study.

6.8. Second: The Impact of Rural Housing Modernization on Achieving the Goals of Sustainable Agricultural Development

The results for the rural housing modernization dimension indicate a high weighted mean of 2.83, reflecting respondents' perceptions of a clear impact of transformations in living conditions within Egyptian villages on achieving the goals of sustainable agricultural development. The findings show that the availability of basic utilities, the widespread adoption of concrete construction, the separation of animal sheds from residential units, and the increasing reliance on gas and electric ovens have become common features in rural areas. These changes collectively indicate an improvement in the residential environment and overall living conditions.

These perceptions are consistent with the findings of Abdel Moneim (2023), who documented that the Egyptian village no longer functions solely as a productive unit, but has gradually transformed into a predominantly residential unit with urban characteristics.

This transformation has been reflected in changing living patterns, social relations, and the economic role of the rural household. Accordingly, the modernization of rural housing, as perceived by respondents, contributes indirectly to supporting the goals of sustainable agricultural development by enhancing residential stability and creating a more favorable environment for the continued engagement in agricultural activities.

6.9. Third: The Impact of Using Communication and Social Media Tools on Achieving the Goals

of Sustainable Agricultural Development

The results related to the use of communication and social media tools indicate a relatively high weighted mean of 2.80, reflecting respondents' perceptions of the growing role of digital media in supporting the achievement of sustainable agricultural development goals within rural communities. The findings show that these tools have become a key mechanism for compensating for the relative shortage of formal agricultural extension services by facilitating access to agricultural innovations, supporting certain marketing activities, and enhancing environmental and community awareness, particularly among rural youth. This is consistent with Fadel (2024), who highlighted the expanding advisory role of digital communication in rural contexts.

At the same time, the results reveal respondents' awareness of parallel negative social effects associated with the use of social media, including reduced family interaction, the spread of rumors, and time wastage. This reflects the dual nature of this dimension, encompassing both development enhancing aspects and others that may constrain its effectiveness. These findings align with El Sherbiny's (2024) observation that digital transformation in the Egyptian countryside has weakened certain traditional social ties and reshaped patterns of interaction within families and villages.

A comparative analysis of the weighted means for the three material dimensions, which ranged from 2.75 to 2.98, indicates a broader structural transformation affecting the nature of agricultural work, the configuration of rural housing, consumption patterns, and modes of knowledge acquisition. This suggests that contemporary material changes are no longer limited to technical innovations alone, but have evolved into influential cultural forces that are reshaping the social and economic fabric of the Egyptian village. Accordingly, these transformations, as perceived by respondents, represent one of the main drivers of achieving sustainable agricultural development goals, particularly with regard to improving productivity, enhancing resource use efficiency, and strengthening farmers' capacity to adapt to economic, social, and environmental changes.

Table 4: Weighted Mean of Respondents' Perceptions of the Impact of Contemporary Cultural Changes on Achieving the Objectives of Sustainable Agricultural Development (N = 200).

N = 200 respondents, Source: Field Survey, 2025.

Main Dimension	Sub-Dimension	Indicator	Weighted Mean	Rank
Non-Material Cultural Changes	Change in the Value of Agricultural Land	Farmers' concern for owning agricultural land	1.18	5

Main Dimension	Sub-Dimension	Indicator	Weighted Mean	Rank
Material Cultural Changes		Relinquishing and selling agricultural land	2.65	1
		Current return from agricultural land	1.29	2
		Rural tendency toward investment in agriculture	1.08	6
		Encroachment on agricultural land through construction and land conversion	1.20	4
		Contribution of agricultural land to the owner's social status	1.22	3
		Overall weighted mean (land value change)	1.43	—
	Change in the Value of Agricultural Work	Rural children/youth willingness to work in agriculture	1.14	6
		Public perception of agricultural work at present	1.18	4
		Return of agricultural work compared with other occupations	1.10	5
		Preference for salaried employment or self-employment over agricultural work	2.96	1
		Rising occupational mobility away from agricultural work	2.68	3
		Costs of livestock raising relative to returns	2.88	2
		Overall weighted mean (work value change)	1.99	—
	Change in Consumption Pattern	Farmer's reliance on self-produced food	1.13	6
		Purchasing subsidized bread, vegetables, and fruits	2.82	1
		Abandonment of home poultry keeping and purchasing from the market	2.71	5
		Spread of restaurants, ready-meal outlets, supermarkets, and bakeries in rural areas	2.81	2
		Presence of leisure consumption and spending in rural areas	2.73	4
		Shift from self-sufficiency to dependence on the external market	2.76	3
			Overall weighted mean (consumption pattern change)	2.49
	Change in Rural Customs	Exchange of food and dairy products, especially on religious occasions	1.20	5
		Farmers exchanging agricultural crops with one another	1.26	4
		Cash transactions replacing exchange via agricultural crops	2.68	1
		Cooperation among rural women in baking and cooking in traditional ovens	1.09	6
		Rural women collecting and drying animal dung and firewood for use as fuel	1.29	3
		Farmers' adherence to traditional local crop varieties and reluctance to adopt new ones	1.77	2
			Overall weighted mean (rural customs change)	1.54
Technological Change in Agriculture	Farmers' use of modern agricultural machinery	2.98	1	
	Farmers' use of improved crop varieties	2.93	4	
	Farmers' use of fertilizers and bio-fertilizers	2.86	5	
	Use of improved irrigation methods and canal development	2.86	5 (tie)	
	Use of artificial insemination in high-yield livestock breeds	2.94	3	
	Use of appropriate transport and storage methods (especially for vegetables and fruits)	2.96	2	

Main Dimension	Sub-Dimension	Indicator	Weighted Mean	Rank	
		Adoption of smart agriculture and digital transformation (Farmer Smart Card)	2.85	6	
		Overall weighted mean (technological change)	2.91	—	
	Modernization of Rural Housing		Modernity of rural houses in construction and equipment	2.87	3
			Separation of livestock shelters from the dwelling	2.81	6
			Establishment of poultry shelters outside the house	2.96	1
			Access to electricity, drinking water, and sanitation services	2.67	8
			Improved connectivity between villages and cities due to available transportation	2.88	2
			Spread of vertical housing (two floors or more) replacing horizontal patterns	2.82	7
			Housing becoming individual; disappearance of the extended-family house	2.83	5
			Reliance on gas and electric ovens instead of traditional ovens	2.85	4
			Overall weighted mean (housing modernization)	2.83	—
	Communication and Social Media Use		Use of communication/social media to learn about agricultural innovations	2.82	3
			Use of social media to market some agricultural products	2.77	4
			Social media as an extension tool to overcome shortage of extension agents	2.73	6
			Social networks for raising rural youth awareness (climate change, water saving, environment)	2.90	1
			Spread of rumors via social media	2.82	3 (tie)
			Family members' social isolation due to social media	2.84	2
			Time loss due to mobile phone use	2.76	5
		Overall weighted mean (communication/social media use)	2.80	—	

6.10. Third: Significance of the Relationship Between the Respondents' Personal Variables and Their Perceptions of the Overall Occurrence of Contemporary Cultural Changes

The results of testing the first statistical hypothesis, which assumes the absence of a relationship between the respondents' personal characteristics and their assessment of the degree of occurrence of contemporary cultural changes in rural areas, indicate the presence of a distinctive pattern of association supported by previous literature. Simple correlation analysis showed that the variables of age and ambition are positively and statistically significant at the 0.01 level in relation to respondents' assessments of cultural changes, with correlation coefficients of 0.158 and 0.441, respectively. This consistency aligns with Al-Nouei (2008), who argued that awareness of social change tends to increase with advancing age as a result of the accumulation of

social experience. It also supports the findings of El-Maghraby (2023), who reported that individuals with higher levels of ambition are more capable of perceiving cultural transformations due to their openness to new patterns of behavior and knowledge.

The results also revealed a statistically significant relationship at the 0.05 level between respondents' employment status and their level of perception of cultural changes, as the calculated chi square value reached 9.959 and the phi coefficient amounted to 0.223. This indicates that engagement in work, whether agricultural or non agricultural, contributes to shaping individuals' awareness of the nature of ongoing changes. This finding is consistent with El-Sherbiny (2024), who noted that the nature of work is one of the factors influencing individuals' openness to social and economic innovations within rural areas.

In contrast, the remaining personal variables, such

as gender, educational level, income, household size, landholding size, and cultural openness, did not show any statistically significant relationship with respondents' assessments of cultural change. This result is consistent with the observations of Fadel (2024), who noted that cultural changes in the Egyptian countryside have become comprehensive and transcend social characteristics, as a result of the influence of digital media and modern communication, which have facilitated the diffusion of new patterns across different social groups

without marked differentiation among them. Accordingly, the results show that individuals' awareness of cultural changes is influenced by certain personal characteristics related to experience and motivation, such as age and ambition, while the impact of other demographic characteristics remains limited. This reinforces what has been emphasized in the literature, namely that cultural change in the Egyptian countryside has become a general phenomenon with structural roots rather than one narrowly linked to specific individual traits.

Table 5: Values of the Simple Correlation Coefficient and Chi Square Test for the Significance of the Relationship Between the Respondents' Personal Variables and Their Perceptions of the Overall Occurrence of Contemporary Cultural Changes among Rural Populations.

No.	Personal variables	Pearson simple correlation coefficient	Chi square value	Phi value
1	Age	0.158**		
2	Gender		1.284	
3	Educational level		12.315	
4	Employment status		9.959*	0.223
5	Monthly household income	0.008		
6	Household size	0.069		
7	Size of agricultural holding (qirats)	0.033		
8	Cultural openness	0.003		
9	Ambition	0.441**		

Significant at the 0.05 level
** Significant at the 0.01 level

6.11. Fourth: Significance of the Relationship Between Respondents' Personal Characteristics and Their Perceptions of the Overall Impact of Contemporary Cultural Changes on Achieving Selected Objectives of Sustainable Agricultural Development

The results of the second statistical hypothesis test, which assumes the absence of a relationship between respondents' personal characteristics and their assessment of the impact of contemporary cultural changes on achieving the objectives of sustainable agricultural development, reveal the presence of statistically significant associations with certain individual variables.

Simple correlation analysis indicated a positive significant relationship at the 0.05 level between age and respondents' perception of the impact of these changes, with a correlation coefficient of 0.152*. This finding suggests that older individuals are more capable of perceiving the implications of cultural change for the development trajectory. This result is consistent with Al-Nouei (2008), who argued that the accumulation of life experience enhances individuals' awareness of the structural

transformations affecting rural society. It is also supported by the findings of El-Maghraby (2023), which confirmed that older age groups exhibit greater awareness of the effects of value transformation on economic and social activities in rural areas.

In addition, the Chi-square test revealed a statistically significant relationship at the 0.01 level between respondents' educational level and their assessment of the impact of cultural changes, with a Chi-square value of 23.527 and a Phi coefficient of 0.343. This indicates that education plays a pivotal role in shaping awareness of the effects of cultural change on sustainable agricultural development. This conclusion aligns with Fadel (2024), who demonstrated that education, particularly in rural contexts, enhances individuals' ability to link cultural transformations with economic and developmental dynamics. It also corresponds with El-Sherbiny (2024), who emphasized that higher educational attainment increases responsiveness to agricultural and technological innovations, thereby strengthening understanding of their developmental implications.

By contrast, the remaining personal variables,

including gender, employment status, income level, household size, farm size, cultural openness, and ambition, did not exhibit statistically significant relationships with respondents' assessments of the impact of cultural change. This pattern can be interpreted in light of El-Maghraby's (2023) assertion that contemporary cultural changes in the Egyptian countryside have become comprehensive and cross-cutting, transcending traditional demographic distinctions, and that their influence on sustainable agricultural development increasingly surpasses

narrow individual differences due to the widespread diffusion of technology and modern communication tools. Collectively, these findings indicate that perception of the impact of cultural change on sustainable agricultural development is primarily associated with two central factors: age-related experience and educational level, while other variables play a comparatively limited role in shaping this awareness. This pattern is fully consistent with prevailing trends in contemporary rural development literature.

Table 6: Values of Pearson's Simple Correlation Coefficient and Chi-Square for the Significance of the Relationship Between Respondents' Personal Characteristics and Their Overall Perception of the Impact of Contemporary Cultural Changes on Achieving the Objectives of Sustainable Agricultural Development.

No.	Personal Variables	Pearson's Correlation Coefficient (r)	Chi-Square Value (χ ²)	Phi Coefficient
1	Age	0.152*	—	—
2	Gender	—	1.359	—
3	Educational level	—	23.527**	0.343**
4	Employment status	—	5.210	—
5	Approximate monthly household income	0.033	—	—
6	Household size	0.057	—	—
7	Farm size (qirats)	0.007	—	—
8	Cultural openness	0.024	—	—
9	Ambition	0.128	—	—

* Significant at the 0.05 level
 ** Significant at the 0.01 level

7. CONCLUSIONS

This study concludes that contemporary cultural changes in Egyptian rural society constitute a complex and multi-dimensional process in which material and non-material dimensions intersect, with clear variation in both their levels of occurrence and the intensity of their impact on achieving the objectives of sustainable agricultural development. The findings indicate that material changes, particularly those related to agricultural technology, modernization of housing patterns, and the expanding use of communication and social media, are perceived by respondents as the most influential in supporting the trajectory of agricultural sustainability, compared with the dimensions of non-material cultural change.

Conversely, although certain components of non-material change exhibit a more limited direct impact on development outcomes, the study reveals that these transformations reflect profound shifts in rural values and behavioral systems, contributing to the reconfiguration of the relationship between the rural household and agricultural activity, as well as patterns of work and consumption. This suggests that the influence of such changes extends beyond

immediate outcomes and operates over the medium and long term through their effect on the broader social context within which agricultural development is pursued.

The results further demonstrate that rural perceptions of the occurrence and developmental impact of cultural change are less associated with traditional demographic characteristics than with factors related to experience and analytical capacity, as reflected in the significance of variables such as age and educational level, in contrast to the relatively limited influence of variables such as income or farm size. This pattern indicates a shift in rural awareness from being primarily grounded in social position toward a form of awareness increasingly rooted in knowledge and lived experience.

Overall, the study emphasizes that contemporary cultural changes in the Egyptian countryside cannot be approached as isolated social phenomena, but rather as an interactive context that directly influences the effectiveness of agricultural policies and the overall course of sustainable development. Accordingly, this research contributes to deepening scientific understanding of the relationship between culture and agricultural development, and highlights the necessity of adopting integrated development

approaches that account for cultural dimensions alongside economic, technological, and institutional factors in order to ensure the long-term sustainability of the agricultural sector in rural communities.

8. STUDY LIMITATIONS

Despite the scientific and practical significance of the study's findings, several methodological limitations should be considered when interpreting and generalizing the results. The first limitation concerns the geographical scope of the research, as the fieldwork was confined to the districts of Sinbillawayn and Al-Gamalia in Dakahlia Governorate. This restricts the extent to which the findings can be generalized to the entirety of rural Egypt, given the substantial social, economic, and cultural diversity across different governorates. Moreover, the study relies on perceptual data collected through a structured questionnaire, meaning that the results reflect respondents' subjective assessments of the degree of cultural change and its impact on achieving sustainable agricultural development objectives, rather than direct objective indicators of actual impact. Such assessments may be influenced by varying levels of individual awareness and experience.

Another limitation arises from the cross-sectional design of the study, whereby data were collected at a single point in time. This design does not allow for tracking the evolution of cultural changes or their long-term effects, nor does it capture the dynamic transformations that may occur within rural society over time. In addition, the study's reliance on correlational analysis limits the ability to establish direct causal relationships between variables, restricting interpretation to the nature and direction of statistical associations. Furthermore, the research did not incorporate certain potentially influential mediating or contextual variables, such as the role of agricultural policies, the effectiveness of extension services, or the impact of governmental development programs. The omission of these factors may constrain the comprehensiveness of the explanatory framework.

In light of these limitations, the study's findings should be interpreted within their specific methodological and geographical context, while recognizing their value as analytical indicators that provide a foundation for future research of broader scope and deeper analytical rigor.

9. RECOMMENDATIONS

In light of the study's findings, a set of practical recommendations is proposed to support the

achievement of the objectives of sustainable agricultural development in rural communities, as follows

1. Enhancing the value of agricultural land and labor through targeted awareness programs and interventions directed at rural youth, thereby increasing the attractiveness of the agricultural sector and reducing occupational mobility away from farming.
2. Improving agricultural income by supporting production inputs, facilitating access to agricultural finance, and expanding the coverage of agricultural insurance programs in order to reduce production risks and strengthen the sustainability of agricultural activities.
3. Leveraging the rising level of educational awareness, particularly female education, by more actively integrating rural women into agricultural initiatives, small-scale enterprises, and agricultural value chains.
4. Utilizing digital technologies and communication tools to modernize agricultural extension services, including the establishment of simplified digital platforms that help compensate for the relative shortage of agricultural extension agents.
5. Adopting policies and programs aimed at rationalizing consumption behavior in rural areas and encouraging selected self-sufficiency practices, thereby strengthening food security and reducing excessive dependence on subsidized commodities.
6. Revitalizing rural cooperation mechanisms by reinforcing the role of agricultural cooperatives and promoting collective initiatives based on the exchange of knowledge, inputs, and crops.
7. Capitalizing on the widespread use of social media to enhance agricultural and community awareness, while encouraging the dissemination of positive and credible agricultural content, thus limiting the indirect negative effects of these platforms within rural society.
8. Continuing the development of rural infrastructure, particularly road networks, modern irrigation systems, and essential public services, given their critical role in supporting agricultural production and curbing encroachment on agricultural land.

10. FUTURE RESEARCH DIRECTIONS

In light of the findings of this study, there is a clear

need to orient future research toward developing a deeper analytical understanding of contemporary cultural changes within rural society. This can be achieved in particular through longitudinal studies that monitor the evolution of these changes and assess their implications for achieving the objectives of sustainable agricultural development over extended time horizons, thereby overcoming the limitations inherent in cross-sectional research designs. Furthermore, the study recommends conducting comparative investigations across different rural regions within Egypt, as well as between rural and urban contexts, in order to examine variations in patterns of cultural change and the intensity of their developmental impacts, and to enhance the generalizability of the findings.

The results also highlight the importance of adopting mixed research methodologies that integrate quantitative and qualitative approaches. Such designs would enable a more nuanced interpretation of the underlying social and cultural mechanisms shaping individuals' perceptions of the impacts of these changes, rather than relying solely

on perceptual measurement.

The study further proposes that subsequent research should incorporate key mediating variables, such as the role of agricultural extension services, public policy frameworks, and the level of access to digital technologies. This would contribute to constructing more comprehensive explanatory models of the relationship between cultural change and sustainable agricultural development. Finally, there is a strong need for future studies to assess the actual impact of these cultural transformations using objective indicators of agricultural productivity, resource-use efficiency, and food security, and to link these measures with the perceptual outcomes identified in the present study.

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