



## Social Integration in Sustainable Agriculture: a Sociological Study of Multiethnic Cultural Values and Norms in West Wonggeduku, Southeast Sulawesi, Indonesia

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### ABSTRACT

This study explores social integration in sustainable agriculture in West Wonggeduku, Southeast Sulawesi, Indonesia. Using a qualitative approach with survey and interview techniques that focus on multiethnic cultural values and norms. Using Durkheim's theoretical framework on social solidarity and cultural norms, this study analyzes the role of inter-ethnic cooperation in realizing the sustainability of agrarian ecosystems. The findings show that cultural values, such as knowledge, social, art, religion, and economics, are systemically integrated in the farming practices of the Tolaki, Javanese, and Bugis communities. Technological innovation, social harmony, mutual cooperation, and adherence to community norms create cross-ethnic collaborations that strengthen social solidarity and support the sustainability of the agrarian ecosystem. This research contributes theoretically to the understanding of cultural norm-based and practical social integration in the empowerment of local communities, by offering strategies for strengthening multiethnic cultural values to support innovation and sustainability of the agricultural sector

## INTRODUCTION

Sustainable agriculture is important to maintain the sustainability of the ecosystem through the integration of environmentally friendly practices and farmers' economic productivity. Sustainable agriculture in Brazil is a strategic key, and contributes to sustainability, crop-livestock integration, and agroforestry, supporting SDG targets such as food security and poverty alleviation (Nacimento et al., 2024). With the Ecological agriculture artificial neural networks approach, EA-ANN has optimized the smart technology ecosystem, conserved natural resources, increased productivity, and minimized negative impacts such as pollution and waste (Cheng, 2023). Maintaining ecosystem sustainability through social integration requires an environmental nutrition approach that optimizes nutritional adequacy, utilizes precision technology, and prioritizes environmental quality and ecosystem welfare (Abbaspour, 2021). Pesantren in Indonesia can support social integration and environmentally friendly practices, there has been an integration of environmental awareness and sustainability in the curriculum and the government's Eco-Pesantren program (Safei & Himayaturrohman, 2023). And The utilization of biodegradable solid waste through environmentally friendly practices, such as composting, can increase farmers' economic productivity while supporting sustainable waste management in urban communities (Twesigye et al., 2022).

The social integration perspective emphasizes community collaboration to adopt innovative technologies that support sustainable agriculture collectively. To face global challenges, the achievement of the SDGs requires social integration based on community collaboration that combines technology, innovative policies, and environmental sustainability for social and economic equality (Ruhana et al., 2024). The adoption of 4IR technology in smart irrigation in sub-Saharan Africa requires community collaboration to address infrastructure, cost, and expertise challenges, driving irrigation sustainability and food security (Wanyama et al., 2024). The adoption of innovative technologies through FinTech plays an important role in supporting the financing and efficiency of sustainable agriculture in Sub-Saharan Africa, especially for smallholder farmers (Mapanje et al., 2023). And the resilience of smallholder organizations in oil palm replanting, highlighting the importance of collective action for sustainable intensification in supporting the productivity and sustainability of smallholder farms (Jelsma et al., 2024).

The farmer education factor is key in raising awareness about the ecological and economic benefits of sustainable practices. In-cage fish farming is essential to improve fisheries yields and aquaculture development in Uganda, which requires education and training for farmers to improve their knowledge and attitudes (Mutyaba et al., 2024). But antimicrobial abuse exacerbates antimicrobial resistance (AMR) in the laying hen sector in Zambia, where a lack of awareness and education exacerbates the AMR problem among smallholder farmers (Mudenda et al., 2023). *Tithonia diversifolia* A. Gray, as an invasive plant in Northeast India, demonstrates the importance of farmer awareness in managing its ecological and economic impacts for sustainability (Rai &

Vanlalruati, 2022). The design-based learning (DBL) approach is effective in developing individual sustainability competencies in engineering education, which supports students' ability to face sustainability challenges (Huang et al., 2020).

Access to resources, such as capital and technology, accelerates the adoption of more efficient and sustainable farming methods. In the face of climate change and resource scarcity, new technologies such as precision agriculture, IoT, AI, and blockchain can improve access to resources for farmers, especially smallholders (Saikanth et al., 2024). Farmers in Jere L.G.A, Borno State, are hampered by limited access to capital and government policies in adopting agroforestry systems for sustainable environmental conservation (Ibrahim, Iro I. & Nabage, O. H. A., 2023). Digital development in rural areas is an important driver for green agricultural production, but the low digital literacy of farmers hinders the adoption of green agricultural technologies and methods (Gong et al., 2024). Precision agriculture driven by artificial intelligence (AI) optimizes agricultural practices through crop monitoring, resource management, and automation, improving efficiency and sustainability (Adebunmi Okechukwu Adewusi et al., 2024). The important role of social capital bonding and bridging in the adoption of sustainable technologies, as seen in the Landcare program in Claveria, supports the sustainability of soil conservation technology practices (Datoon et al., 2023).

Government policy support and incentive programs play a major role in encouraging agricultural sustainability with a community-based approach. Innovation in agricultural systems promotes sustainability through the application of technology that is tailored to local needs, with government support that drives policies and incentives for farmers (Betancourt et al., 2022). Accompanied by an understanding of the factors that affect the adoption of green production technology (AGPT) by farmers, it is important to encourage agricultural sustainability, through government policies and supportive market incentives (M. Liu & Liu, 2024). And the factors that affect the use of sustainable agro-industry through renewable energy and environmental management performance, as well as government policies that promote agricultural sustainability and farmland protection (Anggono et al., 2023). Social and policy trends are driving change towards more sustainable agricultural systems, with agricultural landscape design based on a trans-disciplinary approach, involving the vision of the food system and community actors (Young et al., 2023).

However, reality shows that if sustainable agriculture is not implemented, it can trigger environmental degradation that worsens food security and weakens rural social integration. There is a significant influence of poverty and urbanization on environmental degradation in Sub-Saharan Africa, and the non-linear relationship and importance of multi-stakeholder green policies (Rakshit et al., 2023). That economic policy uncertainty, including environmental degradation, worsens food security in Nigeria through an asymmetrical impact on exchange rate instability, inflation, and government spending in the agricultural sector (Kotur et al., 2024). Cases of farmer and farmer activities support food security, but conflicts triggered by poor social integration, such as

language and cross-cultural marriage, undermine rural harmony in Nigeria (Aderinoye-Abdulwahab et al., 2023).

The loss of arable land due to conventional agricultural practices creates economic inequality that deepens social conflicts between community groups. However, the loss of arable land due to conventional agricultural practices can be overcome through no-till farming (NT) that improves soil health, crop productivity, and sustainable climate change mitigation (Jayaraman & Dalal, 2022). On the other hand, the practice of alternative agricultural extension challenges the economic inequalities caused by conventional agriculture by supporting Latino smallholder farmers through work that builds trust, and inclusivity, and redefines the role of farmers in the midst of Agri capitalism (Aysha Peterson et al., 2024). The case of economic inequality deepens social conflicts, where since apartheid ended in 1994, deep economic inequality in South Africa has exacerbated social conflicts, while Kwame Nkrumah's philosophy of consciences has been proposed as a solution to strengthen social cohesion (Shozi et al., 2024)

Ecosystem damage makes it difficult for local communities to maintain harmonious social relations because dependence on natural resources is disrupted. Cases of human-wildlife interactions outside protected areas, such as in the Tarangire ecosystem in Tanzania, exacerbate ecosystem damage that makes it difficult for local communities, posing physical security threats, economic impacts, and psychosocial trauma due to wildlife attacks (Raycraft, 2023). Excessive use of synthetic fertilizers damages ecosystems, making it difficult to harmonize social relationships, but research shows that coffee grounds can improve soil, support wheat growth, reduce water needs, and potentially be a sustainable organic fertilizer along with algae biomass (Ragauskaitė & Šlinkšienė, 2022). and the dynamism of resource redistribution, local involvement, and empowerment/empowerment processes greatly affect the impact of resource retrieval by companies, by strengthening dependency and empowerment within local community patronage networks (Pijpers, 2024). in addition to the implementation of the conservation of Biological Natural Resources and ecosystems in Indonesia, with a focus on the inhibiting and supporting factors as well as the impact of ecosystem damage and disruption of natural resources due to lack of sustainable management (Riyadi et al., 2023).

Barriers, such as lack of access to training and green technologies, exacerbate social disparities and marginalization of smallholders. In the case of lack of access to digital training, it exacerbates social disparities and hinders the empowerment of women entrepreneurs in Latin America's tourism sector, where they face competency challenges and limited digital infrastructure (Khoo et al., 2024). And smallholder farmers' lack of access to environmentally friendly technologies, such as water pumps, leads to their marginalization in agricultural intensification, while the use of these technologies has the potential to increase production, income, and women's empowerment at the household level (Aheeyar et al., 2019). In Uganda, the gender gap in the agricultural sector hinders women farmers from developing business relationships between organizations, leading to marginalization and economic hardship, but small-

scale cooperatives can improve gender equality and economic empowerment (Theeuwes et al., 2021).

Without the support of inclusive government policies, socio-economic imbalances in rural areas are sharpened and undermine overall social integration. At the beginning of the 21st century, albeit without policy support and social imbalances in the countryside, profound reforms in the Common Agricultural Policy (CAP) took place, triggered by the important role of Commissioners Franz Fischler and Marian Fischer-Boel (Azcárate, 2021). Rural depopulation causes economic imbalances, threatens regional food security, and loses local culture and institutions, so place-based policies are needed to trigger rural development through economic diversification and increased productivity of the agricultural-livestock sector (Tenza-Peral et al., 2022). The integration of gender and youth in agricultural R&I is important to address the socioeconomic imbalances that undermine social integration, especially in Africa, by empowering women and youth through equal access to resources, innovation, and decision-making (Yami et al., 2024).

The right solution is sustainable agriculture that requires social integration, through multiethnic cooperation to create environmentally friendly practices based on local values. The conceptual approach in the study of peri-urban areas emphasizes land-use changes and informal settlements due to urban expansion, where sustainable agriculture requires social integration through community participation, adaptive governance, and collaborative networks (Torres-Lima et al., 2022). As well as managing the labor potential of Ukraine's agricultural sector in the face of EU integration, with a comprehensive strategy that includes European standards and innovations to support agricultural sustainability through improving the quality of labor and social integration (Vasylchak et al., 2023). And the social integration of multiethnic communities in Durian Village through a functional structural perspective, shows that tolerance, sociolinguistic skills, problem solving, and local leadership encourage cooperation and social stability based on local wisdom values (Roffies et al., 2019). Accompanied by the support of local wisdom in multiethnic communities such as what happened in Langsa, it encourages social integration through cooperation, solidarity, and tolerance, thereby strengthening social resilience and creating peace in Aceh's post-conflict society (Rahman et al., 2022). apart from local community-based CSR practices have resulted in eco-friendly practices such as sustainable products, and encouraged the identification of biosphere consumers, demonstrating the importance of local values in the Company's CSR strategy (Kuah et al., 2022).

Sociological studies show that multiethnic cultural norms are able to build group solidarity in maintaining the sustainability of the agrarian ecosystem collectively. Building solidarity through the education of multiethnic cultural norms, which can help economic solidarity, where this factor is partly influenced by the economic security resulting from education (Gelepithis & Giani, 2022). During the COVID-19 lockdown in Shanghai, social exchanges influenced by multiethnic cultural norms in online groups strengthened community social solidarity, building functional, emotional, and communal attachments between

citizens (Zhou & Dong, 2023). and the solidarity economy as an alternative to poverty alleviation, with the principle of sustainable development, shows the importance of policies that strengthen rural productive associations through group solidarity to maintain the sustainability of agrarian ecosystems (Gómez-Ceballos et al., 2021). Economic developments that generate inequality encourage the emergence of solidarity entrepreneurs, such as small agricultural cooperatives in the Los Ríos Region, which require strengthening social and human capital to maintain the sustainability of the agrarian ecosystem (Fernandes & de Nazaré Aguiar Silva, 2022).

Respect for multiethnic cultural values encourages sustainable agricultural innovation through cross-cultural dialogue and empowerment of local communities. As cultivated in Highland Aynoka Puno, Peru, shows that the multiethnic cultural values in agriculture, such as potatoes and quinoa, encourage innovation in sustainable agriculture to strengthen economic, environmental, and social resilience (Calizaya et al., 2023). and Based on two exploratory case studies, this article shows how intangible cultural heritage can drive sustainable agricultural innovation through multiethnic community collaboration in preserving cultural values and improving tourism development and quality of life (Shakya & Vagnarelli, 2024). In addition to being needed for residential tourism in Langa, Cape Town, faces challenges related to safety, infrastructure and community participation, but offers the potential for cross-cultural dialogue and empowerment of local communities through ethical tourism practices (Donaldson et al., 2023). An exploratory climate adaptation project launched by a Taiwanese organization in two rural communities in Nepal and the Philippines, involving cross-cultural dialogue and empowerment of local communities through capacity building and knowledge exchange (Y. C. Liu et al., 2023).

This conceptual framework is based on Émile Durkheim's theory of social integration which emphasizes the importance of social solidarity in building community cohesion. "The book *The Birth of the Gods* discusses Durkheim's attempt to understand the basis of social integration, emphasizing the importance of solidarity built through collective representation, totems, and emotional rituals, as well as how human individualism tendencies can be overcome in Favor of the collective good (Maryanski, 2018). In the context of modernity, work as a praxis is often associated with economic issues, but its approach is often incompatible with the structure of the capitalist labor market; Émile Durkheim's theory of social solidarity is therefore important for understanding the relationship between labor and morality in a fragmented and exploitative capitalist system of production (Assusa, 2014). The relationship between the mental representations of actors (such as beliefs and goals) and the conflicts that arise between them, as well as between individual and social conflicts, can be explained through solidarity in building social cohesion according to Emile Durkheim, who made conflict an important part of democracy (Castelfranchi, 2015). And Durkheim's classic premise that division of labor influences social integration built through the perception of commonality or interdependence, by showing that solidarity and social cohesion develop

differently in teams with task specialization and teams with overlapping tasks (Chin, 2017).

In the context of sustainable agriculture, social integration through multiethnic cooperation is essential to create environmentally friendly agrarian practices. Multiethnic cultural norms and values act as the glue of organic solidarity, where people with different backgrounds unite through a complementary division of labor. Respect for local cultural values allows for cross-cultural dialogue, which further strengthens the empowerment of local communities to adopt sustainable agricultural innovations. With cultural norms as the basis for collective action, multiethnic groups can maintain the sustainability of the agrarian ecosystem. This concept is in line with Durkheim's view that social solidarity is able to strengthen community stability and encourage collaboration in achieving common goals. The hypothesis in this study is that social integration in sustainable agriculture can be achieved through multiethnic cooperation, which reflects cultural norms that strengthen group solidarity and the sustainability of agrarian ecosystems. Based on Émile Durkheim's theory of social integration, respect for multiethnic cultural values will encourage sustainable agricultural innovation through social solidarity and empowerment of local communities. The results of this study make a theoretical contribution in enriching the understanding of social integration in sustainable agriculture, as well as a practical contribution in developing multiethnic collaboration strategies that strengthen social solidarity and the sustainability of agrarian ecosystems.

## **LITERATURE REVIEW**

### **Theoretical Frameworks on Social Integration and Agriculture**

Social integration within agricultural communities has been widely discussed in sociological and anthropological literature. Durkheim's theory of social cohesion emphasizes the role of shared norms and values in fostering unity within diverse communities (Durkheim, 1893). Similarly, Bourdieu's theory of habitus (Bourdieu, 1986) highlights the importance of ingrained cultural practices in shaping agricultural behaviors and social relationships.

### **Cultural Values and Norms in Multiethnic Communities**

West Wonggeduku is home to various ethnic groups, including the Tolaki, Bugis, Javanese, and Balinese, each bringing unique agricultural practices and cultural perspectives. Research indicates that cultural values such as gotong royong (mutual cooperation) play a significant role in sustainable farming practices (Geertz, 1983). The preservation of traditional ecological knowledge, passed down through generations, further contributes to sustainable agricultural methods.

### **Social Integration and Sustainable Agriculture**

Studies have shown that successful social integration fosters collaboration among ethnic groups, leading to improved resource management and agricultural productivity (Pretty, 1995). The role of customary institutions and local governance structures in mediating conflicts and promoting inclusive participation is crucial in this regard. Moreover, interethnic marriage and shared

economic activities enhance social bonding and cooperation in farming communities.

### **Challenges to Social Integration**

Despite the benefits, several challenges hinder social integration in sustainable agriculture. Ethnic tensions, competition over land and resources, and differing traditional farming methods can create conflicts. Additionally, modern agricultural policies that do not align with local customs may disrupt established social structures and practices.

## **METHODOLOGY**

This research was carried out in West Wonggeduku, Southeast Sulawesi, Indonesia. This research method uses a qualitative approach with survey and interview techniques to explore the understanding of social integration in sustainable agriculture, with a focus on multiethnic cultural values and norms. Questions asked in the survey and interviews include: how do multiethnic communities view cooperation in sustainable agriculture? What is the role of cultural norms and values in building social solidarity among different groups? How do cultural norms affect the acceptance of environmentally friendly agricultural practices? To select the sample, this study uses a purposive sampling technique, by selecting individuals representing multiethnic groups in agricultural areas that implement sustainable agricultural systems. The sampling criteria were based on the availability of participants involved in agricultural activities and knowledge of sustainable agricultural practices as well as local cultural values. Durkheim's framework of thinking that emphasizes social solidarity and the influence of cultural norms is the basis for analyzing how cooperation between different ethnic groups can create social integration that supports the sustainability of agrarian ecosystems. The results of the survey and interviews can illustrate the important role of cultural value-based social solidarity in driving sustainable agricultural innovation and empowering local communities.

## **RESULTS AND DISCUSSION**

### **1. Variation of Cultural Values and Social Integration**

Cultural values are the highest guidelines, where there are knowledge values, social values, artistic values, religious values, and economic values. Cultural values determine certain attitudes and ways of thinking in citizens, and subsequently this mindset influences their actions and behaviors in daily life. The variation in the cultural values of multiethnic farmers can significantly affect social integration. When individuals have diverse values, there may be differences in perceptions, norms, and beliefs, which can create tension or conflict in social interactions. Social integration can also be strengthened through a process of dialogue and cross-value understanding.

Where there are diverse cultural values, multiethnic farmers can adapt to diversity, allowing tolerance and mutual respect. The existence of a variety of cultural values can be key for multiethnic farmers to build strong social integration, respect individual differences while promoting solidarity and togetherness within the framework of shared values. The diversity of cultural values of multiethnic farmers is an effective catalyst for social integration.

Diversity in agricultural practices, they share traditional knowledge with each other, strengthening inter-ethnic solidarity. Joint involvement in agrarian activities creates strong bonds, promotes cross-cultural understanding, and enriches the social framework. Thus, the variety of cultural values is the foundation of social harmony in a multiethnic peasant society.

Table 1. Cultural Values and Social Integration Process of Farmers

No.	Cultural Values	Tolaki Ethnicity	Jawa Ethnicity	Bugis Ethnicity	Integration Process	Nature of Integration
1.	The value of knowledge	<i>tekono</i> (truth), <i>koakala</i> (innovative), <i>tepokulalo Mengaka</i> (performance), <i>mombekaman a'ako</i> (objective) and <i>mandora</i> (creative),	<i>bener, bebener</i> (kebenaran), <i>seserep anyar</i> (inovatif), <i>karyo kang</i> (prestasi), <i>mituru sakbenere</i> (obyektif), <i>ubet karepe dewe</i> (kreatif)	<i>Ada' Tongeng</i> (truth), <i>Litabbaruanna</i> (innovation), <i>menre' dalle'na</i> (performing), <i>mannessa</i> (objective) and <i>matanre akkaleng</i> (creative),	All farmers uphold the value of knowledge, apply it through innovation and the use of technology together in doing rice field work.	Systemic integration
2.	Social Values	<i>Teatoro</i> (order), <i>metawa</i> (loyalty), <i>tepokono</i> (conciliation), <i>sosombonaa</i> (harmony), <i>Metewatu atora</i> (discipline), <i>Mombeka Ponapora ako</i> (tolerance), <i>Tunggu Dawa</i> (responsibility), <i>Mengaka</i> (competitive), <i>Tono Pinona'ako</i> (self-esteem) <i>Tepehawa</i>	<i>Runut</i> (orderly), <i>Satuhu</i> (loyal), <i>Guyup</i> (get along), <i>Pantes, Sak-trep</i> (harmonious), <i>Ngetrepi aturan/adicoro</i> (discipline), <i>Tepo Sliro</i> (tolerance), <i>Ngugemi Amanah</i> (responsibility), <i>ISO Ditanding</i> (competitive), <i>Ajining</i>	<i>Mattarette'</i> (ordered), <i>Mattette'</i> (loyal), <i>Siame'-ame'</i> (rukun), <i>Mappasikaam peang</i> (harmoni), <i>Malitutu Riwettu</i> (discipline), <i>Malomo Situlung-Tulung</i> (Supplied), <i>Taro ada' Taro Gau'</i> (responsibility), <i>Reso Silellung-Lellung</i>	All farmers uphold social values, apply them through social processes inside, in groups, communities and rice fields. Also accompanied by the application of philosophy or principles of	Systemic integration

		(self-control), <i>Mombeka Tulu-Tulingi ako</i> (please help), <i>Mesambepe</i> (deliberation) and <i>Samaturu/Ma pokoaso</i> (togetherness)	<i>Sariro</i> (self-esteem), <i>Pengime Sedyo</i> (self-control), <i>Tulung tinulung</i> (please help), <i>rembugan</i> (musyawarah) and <i>kaguyupan</i> (togetherness)	(competitive), <i>Matanre Siri'</i> (self-esteem), <i>Asabbarakeng nge</i> (self-control), <i>assitulut-tulungeng</i> (please help), <i>tudang sipulung</i> (musyawarah) and <i>assiddingeng</i> (equality)	community life.	
3.	Art Value	<i>momehe</i> (Beauty)	<i>endah</i> (Beauty)	<i>makessing</i> (Beauty)	All farmers uphold the value of art, which contains the value of beauty, cooperation and brotherhood	Systemic integration
4.	Religious Values	The divinity of <i>keombu'a</i> , the faith of the irony, the cleanliness of <i>moroa</i> , the salvation of <i>the salama</i> , the glory of <i>pineowose</i>	Divinity, faith, connection, cleanliness; salvation of <i>slamet</i> ; glory of <i>mulyo</i>	Divinity <i>appaseuangen g ripuang allataala</i> , faith <i>teppe'</i> cleanliness <i>appaccingeng nge</i> , salvation <i>salama'e</i> ; glory <i>makessing gau'</i> ;	All farmers uphold and apply religious values in society and rice fields	Systemic integration
5.	Economic Value	<i>ihtiar</i> or <i>mousahai</i> business, save <i>menggindo</i>	<i>ihtiar</i> or <i>upoyo</i> business, thrifty, <i>economical</i>	<i>ihtiar</i> or <i>maddennuan g effort</i> , save <i>marippe</i>	All farmers uphold and apply economic values in everyday life	Systemic integration

Source: Results of Primary Data Analysis, 2024.

Table 1 above illustrates the cultural values and social integration process embraced by the three farming ethnicities, namely Tolaki, Javanese, and Bugis, which strengthen social solidarity and support agricultural sustainability. Cultural values such as knowledge, social, art, religion, and economics are systemically integrated in farming life. Farmers from these three ethnicities uphold the value of knowledge by applying innovation and technology in rice field work, reflecting a commitment to progress and efficiency. The educational factor plays a role in the integration of cultural values, building awareness of sustainable development based on moral values, social responsibility, and intergenerational continuity, although people's understanding of social aspects is still limited and fragmented (Stoliarchuk et al., 2023). The socio-economic progress of the Gupta Kingdom was in line with the integration of cultural values with the progress of society through trade, infrastructure, art, and governance that supported the ancient Indian civilization (Vasu Deva Rao, 2023). In addition, it requires training in teamwork, and the development of programs to improve the integration of cultural values and efficiency in the post-Soviet region (Osadchaya & Yudina, 2023).

Social values that include harmony, discipline, tolerance, and responsibility create close cooperation in the community, strengthening social bonds. The value of art that emphasizes beauty, cooperation, and brotherhood also plays an important role in strengthening solidarity. That social values can strengthen solidarity through the integration of educational approaches, emphasizing the role of social support, norms, and symbols in common development (Lipai & Gevorgyan, 2023). In addition, religious values instil faith, cleanliness, and safety as moral guidelines, while economic values, such as effort and thrift, support the financial sustainability of the farming community. This integration process is systemic, because it involves the application of these values in groups, communities, and daily agricultural practices, thereby strengthening social relationships and supporting the sustainability of agricultural systems based on local wisdom. Systemic social integration is realized in time-tested terrace systems, despite facing land-use change, requiring systemic social integration that strengthens agricultural sustainability by combining traditional knowledge and new elements through collective action (Guo et al., 2021).

## **2. Cultural Norms as a Determinant of Social Integration**

Cultural norms are a set of rules that are binding and guided by all citizens in their activities. The existence of norms in society forces individuals or groups to act in accordance with social rules that have been formed and agreed upon together. The variation of cultural norms in multiethnic farmers has an important role in creating effective social integration. The cultural diversity among farmers creates a rich environment with diverse traditions, values, and practices. Although each ethnic group retains its own characteristics, daily interactions on farmland open up opportunities to understand and appreciate each other's differences. This process of cultural exchange can strengthen relationships between farmers, reduce tensions between groups, and build a sense of unity. Thus, the social integration that occurs among multiethnic farmers not only results in better agricultural productivity but also creates

harmony in the lives of local communities. Cultural diversity in farming communities is a source of social wealth that enriches shared experiences, encourages tolerance, and strengthens social bonds at the local level.

The variation of cultural norms in multiethnic farmers plays a central role in the formation of social integration. Differences in values, beliefs, and traditions between ethnic groups create dynamics that enrich the collective experience. By respecting and understanding this diversity, farmers can build a positive network of interdependence. The process of adaptation to the variation of cultural norms stimulates the exchange of knowledge and experience, resulting in more effective collaboration in the management of agricultural resources. Awareness of these differences can defuse conflicts, strengthen solidarity, and overall, create a strong foundation for sustainable social integration.

Table 2. Norms and Processes of Farmers' Social Integration

<b>No.</b>	<b>Norm</b>	<b>Tolaki Ethnicity</b>	<b>Jawa Ethnicity</b>	<b>Bugis Ethnicity</b>	<b>Integration Process</b>	<b>Nature of Integration</b>
1.	Community	Involved and comply with the norms of filial service, the responsibility of implementing the party by providing financial assistance	Involved and complying with the norms of filial service, the responsibility of implementing the party by providing energy and material assistance (basic necessities)	Involved and comply with the norms of filial service, the responsibility of implementing the party by providing financial assistance	All farmers are involved and uphold the values of knowledge, and comply with them, especially community service work and the implementation of parties/celebrations by providing basic food assistance	Systemic integration
2.	Farmer groups	Engage as a member and comply with farmer group norms	Involved as chairman and member and comply with farmer group norms	Engage as a member and comply with farmer group norms	All farmers uphold the norms of farmer groups to comply with them through social processes within farmer	Systemic integration

					groups, especially water management and the schedule of stages of paddy work.	
3	Stages of paddy work	Engage and comply with norms in the stages of paddy work	Engage and comply with the norms in the level of farming	Engage and comply with the norms in the level of farming	All farmers are involved in deciding the schedule of each stage of paddy work	Systemic integration and coercive dominance

Source: Results of Primary Data Analysis, 2024.

Table 2 shows the norms and processes of social integration among farmers from three different ethnicities, namely Tolaki, Javanese, and Bugis, which strengthen solidarity and support agricultural sustainability. In community norms, all farmers are involved and comply with the values of service, especially through financial or material contributions to the implementation of traditional events and community service. This reflects systemic integration, where collaboration based on social norms builds a sense of togetherness. As in every learning, it has strengthened the character of students through collaboration with social norms, building togetherness, mutual cooperation, and cultural awareness with the support of the school and effective community involvement (Jana et al., 2024). In farmer groups, involvement as members or chairmen demonstrates adherence to group norms, especially in water management and scheduling of rice work stages, which strengthens solidarity through structured social interactions. In the norms of the rice work stage, all farmers adhere to mutually agreed schedules and processes, which reflect systemic integration as well as coercive dominance in ensuring compliance. These norms not only promote harmony between ethnic groups but also create a stable social order and support sustainable agricultural practices. Thus, this process of social integration is an important foundation in strengthening collective solidarity and sustainability in the agricultural sector. Social integration strengthens collective solidarity, especially it can strengthen the economic values of solidarity, such as cooperation, sharing, and concern for the common good (Paraschi & Arvanitidis, 2023).

### 3. Social Integration of Multiethnic Farmers and Sustainable Agriculture

Social integration is the process of uniting individuals or groups in society through values, norms, and social interactions. And sustainable agriculture is an agricultural practice that prioritizes ecological, economic, and social balance for the long term. Social integration between multiethnic farmers has a positive

impact on agricultural collaboration and sustainability. Through the integration process, various ethnic groups can interact with each other, share knowledge, and combine their skills in agricultural activities. Collaboration allows for the exchange of diverse cultures and agricultural practices, creating an environment rich in innovation. Thus, social integration strengthens cooperation among farmers, improves production efficiency, and expands access to markets. In addition, social integration also creates strong social bonds, strengthening solidarity in the face of shared challenges, such as climate change or price fluctuations. All of this contributes to long-term sustainability in the agricultural sector, creating a resilient and competitive multi-ethnic farming community.

The social integration of multiethnic farmers plays an important role in agricultural collaboration and sustainability. Harmonious relationships between ethnic groups create an inclusive and supportive work environment, allowing for an effective exchange of agricultural knowledge and techniques. Collaboration among farmers with diverse backgrounds increases agricultural productivity and resilience, through the use of different expertise. In addition, social integration forms the basis for the development of sustainable agricultural practices, as it encourages collective awareness of the importance of ecological balance and the preservation of natural resources. Thus, the social integration of multiethnic farmers is the foundation for productive collaboration and long-term agricultural sustainability.

Table 3. Social Integration of Farmers in Sustainable Agriculture

No.	Sustainable Agriculture Procession	Participation in sustainable agriculture	Values and Norms	Purpose	The Reality of Social Integration	Forms of Social Integration
1.	Multiethnic Farmer	Collaborate in farmer groups	Knowledge, social, artistic, religious and economic values are supported by written and unwritten norms	Collaboration in sustainable agricultural practices, smooth work and increased harvests	Farmers participate in every activity and based on cultural values and norms, driven by collective awareness and shared commitment	Systemic, coercive-dominative integration

2.	Maintain water availability as needed	Collaboration between farmers, farmer groups, <i>associations of Water User Farmers, and tertiary and worm drain water regulators</i>	Farmers, farmer groups adhere to norms based on cultural values in maintaining water availability	To keep it functioning, and incentive payments of tertiary and worm drain water regulatory officers.	The integrated associative social process of farmers in service work is based on mutual assistance, and the social process between farmers and water control officers tertiary channels and worm channels accompanied by incentives	Systemic integration and coercive dominance
3.	Maintaining soil quality and productivity	Collaboration between farmers and farmer groups	Norms in Planting vegetables twice and continued with planting rice	Can increase production and maintain ecological balance	Farmers engage in social processes in rotating crops.	Systemic integration
4.	Take care of soil fertility	Collaboration between farmers, farmer groups, village officials and field farm officers	Farmers It is mandatory to follow deliberations and recommendations on awareness of using organic fertilizers	Rice fields that are lumpy and hardened due to the use of fertile chemical fertilizers again	Social process through village deliberative meetings, where land that experiences clumping and hardening	Systemic and coercive-dominant integration

					uses liquid organic fertilizer or solid organic fertilizer	
5.	Plant pest and disease control	Collaboration between farmers, farmer groups, village officials, and field agricultural officers	Must follow deliberation and awareness recommendations using vegetable pesticides	Pests and diseases do not interfere with plants, reduce and negate chemical fertilizers	The social process goes through village deliberative meetings and decides that farmers use vegetable pesticides	Systemic and coercive-dominative integration
6.	Sustainability of crop marketing	Collaboration between Farmers, gatherers, wholesalers, retailers	Buy and sell transactions	Price deal	The farmers are involved in the process with the collecting merchants, as well as between the collecting merchants and wholesalers and retailers	Systemic integration

Source: Results of Primary Data Analysis, 2024.

Table 3 illustrates the social integration of farmers in supporting sustainable agriculture through various collaborative processes and the application of norms that prioritize cultural, social, economic, and ecological values. This social integration occurs in six main aspects, such as cross-ethnic farmer collaboration, water management, soil quality maintenance, soil fertility, pest control, and crop marketing. Each process shows the active involvement of farmers with farmer groups, village officials, and other related parties. The identified nature of integration is systemic and coercive-dominative, where

norms and recommendations become the foundation in creating a collective consciousness and shared commitment. Therefore, a new interpretation of collective action, in which action is considered collective action if it involves collective consciousness and interdependent shared commitment between individuals in collective coordination (Knudsen, 2024). For example, farmers participate in village deliberations to apply organic fertilizers or plant-based pesticides to maintain ecosystems and stable crop yields. In addition, collaboration with market players creates a marketing system that supports the economic sustainability of farmers. This integration process strengthens social solidarity because it is based on mutual cooperation and common goals, so that it is able to maintain ecological balance and increase production in a sustainable manner. This shows that effective social integration is an important foundation for the sustainability of the agricultural sector. The process of social integration can maintain ecological balance, where urbanization as a global phenomenon has positive and negative impacts, where urban green spaces play an important role in maintaining ecological balance, increasing social integration, and improving air, water, and public health quality (Tuhin Pal et al., 2023). The increasing demand for products and services due to global population growth demands the integration of modern technologies in production, so that the ecological balance is disturbed; Sustainable integration through green marketing is needed to protect the ecosystem and meet the expectations of the community (Mammadova et al., 2023). Ecological balance increases sustainable production, which can be maintained if soil microorganisms such as arbuscular mycorrhizal fungi play an important role in increasing crop yields through increased nutrients, photosynthesis, and stress resistance, supporting sustainable production and ecological balance in rainfed agriculture (Wu et al., 2022).

## **CONCLUSION AND RECOMMENDATION**

The conclusion of this study shows that social integration in sustainable agriculture can be achieved through multiethnic cooperation that reflects cultural values and norms as a reinforcement of social solidarity and sustainability of the agrarian ecosystem. Based on the analysis of the tables, cultural values such as knowledge, social, art, religion, and economics have been systemically integrated in the farming life of the Tolaki, Javanese, and Bugis ethnicities. The value of knowledge is reflected in the application of agricultural innovation and technology, while social values such as harmony, discipline, and tolerance create close cooperation in the community. In addition, community norms and farmer groups reinforce structured social interactions, while adherence to rice work schedules shows coercive dominance that ensures the sustainability of agricultural practices. This integration process is systemic, including cross-ethnic collaboration in water management, soil maintenance, pest control, and crop marketing, which prioritizes collective awareness to maintain ecosystems and economic stability. Collaboration based on social norms, village deliberations, and mutual cooperation strengthens social solidarity, creates harmony between ethnicities, and supports the sustainability of the agricultural sector based on local wisdom. Thus, social integration is the main foundation in realizing

sustainable agriculture through strengthening multiethnic cultural values and norms. The results of this research contribute to the sustainability of the agrarian ecosystem, form a strong farming community, and strengthen solidarity in achieving common goals in agriculture.

### FUTHER STUDY

His research still has limitations, so it is necessary to conduct further research related to the topic of Social Integration in Sustainable Agriculture: A Sociological Study of Multiethnic Cultural Values and Norms in West Wonggeduku, Southeast Sulawesi, Indonesia in order to improve this research and add insight for readers

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