Research Article

Social Interaction for Empowering and Encouraging Farmer Productivity in Kecamatan Rubaru, Sumenep

Arif Firmanto*, Bonaventura Ngarawula, and Catur Wahyudi

Department Ilmu Sosial, Pasca Sarjana, University of Merdeka Malang, Malang, Indonesia

Abstract.

This research focuses on social interaction and farmer empowerment in Rubaru District, Sumenep, and its impact on agricultural productivity. Social interaction between farmers plays a crucial role in increasing agricultural productivity, while farmer empowerment is an important factor in increasing welfare. This study adopts the framework of symbolic interaction theory to understand the role of communication and interaction in agricultural development. Miles and Huberman's research method was used, involving in-depth interviews, participant observation, and document content analysis with five informants. The research results show that positive social interactions between farmers contribute to increasing agricultural knowledge, skills, and innovation. Farmer empowerment involves providing knowledge, skills, and access to resources and supporting better decision-making in agriculture. The role of farmer groups and cooperatives in facilitating social interaction and empowering farmers is very important. Madurese people's myths and cultural beliefs influence farmers' understanding of agricultural practices. Field instructors need to have cultural sensitivity and effective communication. In conclusion, social interaction and farmer empowerment positively increase agricultural productivity in Rubaru District, Sumenep. Peer-to-peer education and strong relationships between field extension workers and farmers play an important role in knowledge transfer and behavior change, providing valuable insights for the development of farmer empowerment programs and sustainable agricultural development.

Keywords: social interaction, empowerment, farmer groups, productivity

Corresponding Author: Arif Firmanto; email: firmasfiraku@gmail.com

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1. Introduction

Social interaction is a pivotal element in agricultural development and farmer empowerment, particularly in regions like Rubaru District, Sumenep. This interaction is recognized as a catalyst for enhancing agricultural productivity. The imperative to empower farmers stems from the need to enhance their well-being, especially in rural locales such as Rubaru District. Elevated agricultural productivity stands as a central pathway toward achieving the overarching goal of farmer empowerment, with a specific focus on the cultivation of essential crops like rice, shallots, and corn.

In the broader context of global agricultural development, social interaction and empowerment within farming communities form the bedrock for progress. Drawing on symbolic interaction theory, communication and the exchange of messages and symbols are identified as crucial components in effective development communication [1-3]. Indonesia, amidst other developing nations, boasts a scientific record showcasing the impact of farmer interaction on crop productivity [4,5]. Comparative analysis with countries such as India and China reveals the universal significance of symbolic interactions in advancing agricultural practices [6-8].

Research on social interactions among farmers has been a longstanding focus, indicating that such interactions positively influence knowledge, skills, and innovation [9,10]. In the Rubaru District context, farmer interactions facilitate the exchange of best agricultural practices, new technologies, and strategies for environmental adaptation. This interaction aligns with effective development communication, supporting the desired outcomes of farmer groups [11,12].

The strength of farmer groups serves as a linchpin for forming social cohesion, enhancing harvesting effectiveness [13]. Concurrently, empowering farmers involves equipping them with knowledge, skills, and access to resources for informed decision-making [14]. In Rubaru District, this empowerment entails providing access to agricultural education, financial resources, and improved markets, thereby boosting agricultural productivity. Effective empowerment, as explained by Zhong et al [15], emphasizes group-driven initiatives realized on a massive scale [16,17].

The involvement of field officers becomes crucial in facilitating interactions with farming communities. Organized farmer groups and cooperatives play a pivotal role in fostering social interaction and farmer empowerment. These organizations provide platforms for collaboration, information sharing, and support in overcoming agricultural challenges. Research attests that organized farmers tend to exhibit higher productivity. Facilitation activities and two-way communication between farmers and facilitators create opportunities for transformative changes.

Studies highlight the effectiveness of field officers' social interactions in achieving empowerment outcomes [18]. The engagement of field officers with farmers emerges as a central component of effective empowerment [19]. Positive progress in crop yields is evident from the successful communication between field officers and farmers. This research focuses on the forms of symbolic interaction facilitated by field officers and

farmer groups, measuring indicators of empowerment communication and the effectiveness of increasing crop yields from rice, shallot, and corn farmers.

2. Methods

The study employs a carefully crafted descriptive qualitative research design, emphasizing the symbolic interaction between farmers and field officers in Rubaru District, Sumenep. The research progresses through distinct stages, including planning, data collection, analysis, and reporting. A detailed flow chart outlining these stages is provided for clarity. Four key informants participate in the study, selected through purposive sampling techniques. Criteria for inclusion encompass village heads, field officers, farmer group representatives, and religious leaders. Qualitative methods are employed, involving in-depth interviews, participant observation, and content analysis of pertinent documents or reports. These methods facilitate an in-depth understanding of social interactions, power dynamics, and factors influencing farmer productivity. Qualitative data analysis is conducted in alignment with Miles and Huberman's method. This encompasses thematic analysis of interviews and content analysis of documents. The process involves identifying emerging patterns, relationships between themes, and extracting key findings. The research outcomes offer valuable insights to enhance social interaction and empower farmers in Rubaru District, Sumenep. Recommendations derived from the findings serve as actionable strategies for improvement.

3. Discussion

3.1. Farmers' understanding and experience in receiving material by field extension officers

Community-Based Sustainable Development (CBSD) is an approach that actively engages the community in planning, implementing, and evaluating sustainable development programs. The pivotal role of Field Guidance Extension (PPL) is essential for facilitating and supporting CBSD. The effectiveness of CBSD hinges on PPL's ability to seamlessly integrate economic, social, and environmental aspects into development programs. PPL must comprehend the social and cultural context, acknowledging challenges and opportunities within the community. Furthermore, a profound understanding of sustainable development principles enables PPL to propose solutions harmonizing

economic interests, environmental protection, and social welfare. This integration ensures a balanced and sustainable approach to community development under CBSD.

The successful implementation of CBSD relies heavily on Field Supervisors (PPL) fostering partnerships and collaboration with diverse stakeholders, including local governments, NGOs, and the private sector. This collaboration broadens resources, knowledge, and market access for the community. PPL plays a crucial role in facilitating dialogue, negotiation, and coordination between communities and stakeholders, working collectively towards sustainable development goals. To ensure CBSD's effectiveness, PPL must conduct regular monitoring and evaluation of implemented programs, using a monitoring system to measure progress, target achievement, and program impact. Through evaluations, PPL can identify successes, challenges, and areas for improvement, enhancing CBSD's overall effectiveness.

Impact of Social Interaction and Farmer Empowerment on Productivity: Previous studies confirm that positive social interaction and farmer empowerment enhance agricultural productivity, primarily by increasing access to knowledge and resources. Understanding the concepts of social interaction and farmer empowerment, and assessing the role of farmer organizations, aids in devising strategies to boost farmer productivity in Rubaru District, Sumenep.

Empowering social interaction involves active engagement among individuals or groups in a social context, aiming to enhance capacity, skills, knowledge, and influence. This interaction empowers individuals or groups to actively participate in decision-making and address challenges, promoting greater control over their lives and reducing inequality.

Evaluation of the methods used by field extension officers in conveying material and values to farmers is crucial. Field extension officers provide material on integrated crop management (PTT) for rice cultivation, utilizing various methods such as direct interaction, lectures at farmer group meetings, and field demonstrations. However, adapting information to farmers' varying levels of understanding is essential, considering the diversity of farmers' conditions.

Peer education emerges as a potent method applicable to corn, onion, and rice farming communities. Experienced farmers with specialized knowledge become peer educators, sharing expertise with fellow farmers. In the corn farming community, peer education focuses on diverse aspects, including seed selection, pest control, soil fertility,

and efficient irrigation techniques, promoting knowledge sharing, sustainable practices, and community empowerment.

The understanding and experience of farmers in receiving materials from PPL are crucial for practical application. Farmers' participation allows them to apply acquired concepts and skills, deepening their understanding. This practical experience enables farmers to develop critical competencies, build professional networks, and enhance employability after graduation.

Adaptation in Integrated Crop Management: Varying levels of understanding among farmers necessitate adaptation in presenting integrated crop management (PTT) concepts. This involves using simple language, peer education methods, and fostering openness between PPL and farmers to increase awareness, involvement, and understanding. Farmers' acceptance of PPL's material depends on the region's characteristics and the local community, with the ultimate goal being independence for the farmers themselves.

3.2. Social interaction and attitudes of field extension officers and farmers in transferring knowledge

Madurese farmers in Indonesia engage in unique agricultural practices deeply rooted in their cultural heritage. Rice and corn, essential staples, hold particular significance. Rice, harvested from paddy fields, is never sold but kept as grain. The Naik Dango tradition emphasizes growing rice as a cultural practice, incorporating values and customs. Additionally, the Taneyan Lanjang shared home gardens showcase sustainable agriculture among Madurese, fostering a communal approach to farming. Religious and cultural traditions also play a role in Madurese agricultural life. The Nyadar tradition, an annual religious practice in Madurese salt farming communities, reflects their cultural resistance and spiritual connection to farming. Furthermore, Madurese cosmology influences social stratification and dietary practices. The island's low soil fertility is considered in their eating concept, linking cultural values to dietary habits. These cultural practices showcase a unique blend of tradition and agriculture, influencing everything from planting rituals to the communal approach to farming [9,10]. Understanding these practices is crucial for promoting sustainable agriculture and respecting the cultural identity of the Madurese people. Firstly, the myth of Dewi Sri the goddess of rice is common among Madurese people. According to this belief, Dewi Sri is the god who is responsible for the abundance and prosperity of rice plants. Farmers perform

rituals and ceremonies to honor and appease Dewi Sri, seeking her blessings for a successful harvest. It is believed that ignoring this ritual can result in poor harvests or other misfortunes. Second, the myth of spirit rice, Madurese people believe in the existence of spirits related to rice cultivation. These spirits, called “leteman” or “laksita”, are believed to reside in rice fields and have the power to influence plant growth and productivity. Farmers can offer prayers and sacrifices to appease these spirits, seeking their protection and guidance in maintaining healthy rice crops. Third, the myth of planting rituals, Madurese folklore includes myths that emphasize the importance of carrying out certain rituals during rice planting. It is believed that following these rituals, such as chanting traditional mantras, following certain planting techniques, or using certain objects during the process, can produce a bountiful harvest. Failure to comply with this ritual may be considered disrespectful to the spirits or deities associated with rice cultivation. Fourth, according to the Madurese myth, there is a specific date and time for the rice harvest. These dates are believed to be determined by supernatural forces and cosmic alignments. It is believed that harvesting rice during this designated period will produce better yields and protect against potential crop failure or negative consequences. These myths reflect deeply rooted cultural beliefs and practices among Madurese people related to rice cultivation. While they may have no scientific basis, these myths serve as a way to preserve traditions, foster a sense of community, and provide a spiritual connection to the agricultural process. They play an important role in shaping the Madurese people’s understanding and approach to planting and harvesting rice, instilling respect, and promoting cultural continuity.

Overcoming myths related to harvesting and planting rice and other crops, especially cashews, in the Madurese community requires a wise approach that respects their cultural beliefs while providing accurate information. Behavioral intervention from PPL determines the demise of myths or actually strengthens belief in myths. According to the PPT material, this myth is also an obstacle to increasing local farmers’ harvest productivity. There are several strategies from observational and field studies in this research. PPL’s cultural sensitivity capabilities approach topics with cultural sensitivity, recognizing and respecting the beliefs and traditions of the Madurese people. Understand that myths and cultural practices have significance in their identity and may be deeply ingrained [11,12]. Avoid ignoring or challenging their beliefs directly, but instead seek to provide additional information in a respectful manner.

Relevant topics raised as empowerment material for shallot and rice farmers in Rubaru District, Sumenep Regency include seed production, planting techniques, irrigation

management, weed control, and post-harvest handling. The initial knowledge possessed by local farmers is very conventional and has not been scientifically proven. Some things can be said to be myths, for example, when planting rice, starting from belief in the Goddess Sri to choosing a certain date or time which is of a belief nature and driven by religious figures as patrons.

Madurese people, an ethnic group that mostly lives on the island of Madura in Indonesia, most of whom still adhere to and have their own set of myths and beliefs surrounding the process of planting and harvesting rice. These myths reflect their cultural heritage, traditions, and agricultural practices. Although these myths may not be in line with scientific explanations, they have an important meaning in shaping the Madurese people's relationship with rice cultivation. The following are some common myths related to planting and harvesting rice among the Madurese people. Firstly, the myth of Dewi Sri the goddess of rice is common among the Madurese people. According to this belief, Dewi Sri is the god who is responsible for the abundance and prosperity of rice plants. Farmers perform rituals and ceremonies to honor and appease Dewi Sri, seeking her blessings for a successful harvest. It is believed that ignoring this ritual can result in poor harvests or other misfortunes. Second, the myth of spirit rice, Madurese people believe in the existence of spirits related to rice cultivation. These spirits, called "leteman" or "laksita", are believed to reside in rice fields and have the power to influence plant growth and productivity. Farmers can offer prayers and sacrifices to appease these spirits, seeking their protection and guidance in maintaining healthy rice crops. Third, the myth of planting rituals, Madurese folklore includes myths that emphasize the importance of carrying out certain rituals during rice planting. It is believed that following these rituals, such as chanting traditional mantras, following certain planting techniques, or using certain objects during the process, can produce a bountiful harvest. Failure to comply with this ritual may be considered disrespectful to the spirits or deities associated with rice cultivation. Fourth, according to the Madurese myth, there is a specific date and time for the rice harvest. These dates are believed to be determined by supernatural forces and cosmic alignments. It is believed that harvesting rice during this designated period will produce better yields and protect against potential crop failure or negative consequences. These myths reflect deeply rooted cultural beliefs and practices among Madurese people related to rice cultivation. While they may have no scientific basis, these myths serve to preserve traditions, foster a sense of community, and provide a spiritual connection to the agricultural process. They play an important role in shaping

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4. Conclusion

In conclusion, this study highlights the multifaceted role of social interaction within the context of implementing Community-Based Sustainable Development (CBSD) through peer education in farmer groups (Poktan). Firstly, assessing the effectiveness of CBSD involves considering various indicators. Secondly, the process of farmers receiving information from Field Guidance Extension Officers (PPL) begins with acknowledging diverse levels of understanding. It encompasses language utilization to raise awareness, employing peer education methods, and fostering openness and trust between farmers and PPL. Thirdly, the success of material delivery by PPK to farmers hinges on selecting appropriate communication channels, considering local language nuances, media preferences, and cultural sensitivities. Fourthly, addressing myths in social interactions becomes a crucial strategy when disseminating messages to farmers. Fifthly, aligning with the principles of development social communication, the adopted approach aims at fostering social change by prioritizing openness, credibility, increased yield and profitability, problem-solving, risk mitigation, local relevance, and adaptation. Lastly, the success of the two-way interaction is exemplified by leveraging farmers' experiences in CBSD, emphasizing independence as a core aspect.

References

[1] Chang L, Shi F, Taghizadeh-Hesary F, Saydaliev HB. Information and communication technologies development and the resource curse. Resour Policy. 2023;80:103123.

[2] Demuyakor J. Achieving active political pluralism and participation through development communication: the role of local and community radio media outlets in Northern Ghana. J Radio Audio Media. 2023;30(1):252–73.

[3] Reaser JK, Frey M, Meyers NM. Invasive species watch lists: guidance for development, communication, and application. Biol Invasions. 2020;22(1):47–51.

[4] Adams DC, Salois MJ. Local versus organic: A turn in consumer preferences and willingness-to-pay. Renew Agric Food Syst. 2010;25(4):331–41.

[5] Ren C, Liu S, Van Grinsven H, Reis S, Jin S, Liu H, et al. The impact of farm size on agricultural sustainability. J Clean Prod. 2019;220:357–67.

[6] Lalitha N, Viswanathan PK, Vinayan S. Institutional strengthening of farmer producer organizations and empowerment of small farmers in India: Evidence from a case study in Maharashtra. Millenn Asia; 2022. p. 09763996221098216.

[7] Jiao X, Zhang H, Ma W, Wang C, Li X, Zhang F. Jiao X qiang, Zhang H yan, Chong W, LI X lin, ZHANG F suo. Science and Technology Backyard: A novel approach to empower smallholder farmers for sustainable intensification of agriculture in China. J Integr Agric. 2019;18(8):1657–66.

[8] Shuai Y, Shuai C, Li W, Huang F. Shuai C min, Li W jing, Huang F bin. Role of women's empowerment in improving farmer's livelihood: empirical evidence from China. Qual Quant. 2019;53(2):621–39.

[9] Cerulo KA. Nonhumans in social interaction. Annu Rev Sociol. 2009;35(1):531–52.

[10] Yin X, Wang H, Xia Q, Gu Q. How social interaction affects purchase intention in social commerce: A cultural perspective. Sustainability (Basel). 2019;11(8):2423.

[11] Guo H, Marchand S. Social interactions and spillover effects in Chinese family farming. J Dev Stud. 2019;55(11):2306–28.

[12] Klerkx L, Jakku E, Labarthe P. A review of social science on digital agriculture, smart farming and agriculture 4.0: new contributions and a future research agenda. NJAS-Wageningen. NJAS Wagening J Life Sci. 2019;90(1):100315.

[13] Kaiser M, Barnhart S, Huber-Krum S. Measuring social cohesion and social capital within the context of community food security: a confirmatory factor analysis. J Hunger Environ Nutr. 2020;15(5):591–612.

[14] Ollendorf F, Sieber S, Löhr K. Societal dynamics of sustainability certification in Ghanaian cocoa producing communities: assessing social cohesion effects and their implications for collective action. Agroecol Sustain Food Syst. 2023;47(2):212–38.

[15] Zhong YP, Tang LR, Li Y. Role of digital empowerment in developing farmers' green production by agro-tourism integration in Xichong, Sichuan. Agriculture. 2022;12(11):1761.

[16] Ahsani RD, Wulandari C, Dinata C, Azmi NA, Fathani AT. The Challenges and Opportunities for Developing Community-Based Tourism in Indonesia. J Gov J Ilmu Pemerintah Univ Sultan Ageng Tirtayasa. 2022;7(4):864–76.

[17] Dinata C. Quadruple Helix Model in Building Communalism and Social Resilience in Handling Poverty in Rural Communities. J Transform Gov Soc Justice. 2023;1(1):11–22.

[18] Hannola L, Richter A, Richter S, Stocker A. Empowering production workers with digitally facilitated knowledge processes–a conceptual framework. Int J Prod Res. 2018;56(14):4729–43.

[19] Al-Dmour R, Yassine O, Masa'deh R. A review of literature on the associations among employee empowerment, work engagement and employee performance. Mod Appl Sci. 2018;12(11):313–29.