



**Actor Relationship Model in Empowering Local Farmers Community Base  
Sustainable Development to Increase Productivity  
(Study of Social Interaction Between Field Extension Officers and Farmers in Rubaru District,  
Sumenep Regency)**

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**ABSTRACT**

*This study aims to explore, analyze and describe the social interactions of empowering farmers, as well as models of actor relations in social interactions between field extension officers and farming communities in Rubaru District, Sumenep Regency in increasing their productivity. In general, the communication of empowering farmers with field extension workers has layers of problems both socially and culturally. The research provides recommendations for increasing the effectiveness of social interaction and empowering local farmers to achieve better community-based sustainable development in the Rubaru District. Furthermore, focusing on research questions a) How is the social interaction of empowering farmers in Rubaru District, Sumenep Regency in encouraging farmer productivity?; b) What is the model of actor relations in social interaction between field extension workers and farming communities in Rubaru District, Sumenep Regency in increasing their productivity? In more detail, it can be reduced to the focus of research by emphasizing a) social interactions empowering local farmers in community-based sustainable development in Rubaru District, Sumenep Regency; b) map of Community Base Sustainable Development relations; c) model of actor relations in social interaction in increasing the productivity of local farmers. This study uses the main theory of community empowerment, and supporting theories including social interaction theory, knowledge construction theory, and community awareness theory. Meanwhile, the relevant social theory in this study is the theory of social behaviors, social exchange, and social communication. The research method used is qualitative. The research location is in Rubaru District, Sumenep Madura Regency. The research informants involved were 13 people for in-depth interviews, FGDs, and observations, consisting of shallot farmers, rice farmers, farmer groups, field extension officers, agencies, and community leaders. The process of power collection and analysis includes a) data condensation, b) data presentation, c) conclusions, and d) triangulation. This research resulted in several conceptual findings, including a) Social interaction empowering local farmers in sustainable development emphasizing the concept of transfer of knowledge that is appropriate to the values of local wisdom, and self-sufficiency in farmer groups. This creates an effective multi-directed development of social communication which has an impact on increasing crop productivity. b) The model of actor relations in sustainable development underlines the empowerment of farmers through social communication based on local wisdom and Kyai patrons, facilitating the exchange of information and experiences, opening farmers' access to information, and harvest productivity development networks. The construction of knowledge and behavior in farmers creates opportunities and encourages community-based change, with supporting and inhibiting factors depending on the quality of communication between the Poktan community, PPL, and Kyai. Theoretical implications include contextual knowledge transfer of local wisdom, promotion of social communication and policies referring to patrons, integration of experience and empowerment of farmers, and information on community networks. While the practical implications are strengthening local knowledge, participatory approaches, cooperation networks, effective social communication, and increased productivity.*

**Keywords:** Actor Relations Model, Community Base Sustainable Development, Field Extension Officers, Local Farmer Empowerment, Patron Kyai.

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## **1. INTRODUCTION**

In Indonesia, the change in paradigm and format of development policies in the era of regional autonomy means that regional governments must be able to improve themselves and make themselves the center of control or activities in the development process. Regional governments must be able to reposition themselves as servants and empowerers of the community and must spread their activities to various centers (plus-centric) at the local level. This is because the reality of political life today is a shift in power from the center (centralistic) to regional loci (decentralized) and based on the power of the community itself (civil society).

Community empowerment is essentially an effort to increase people's abilities and independence, so that gradually people are able to develop themselves and their environment independently. These efforts can be taken through creating an atmosphere or climate that allows the development of the potential or power of the community (enabling), strengthening the potential or power of the community (empowering), as well as providing protection to the community through taking sides with the weak. The description of empowerment is as the ability to make choices, which involves the ability to shape what choices are offered (Oxaal & Baden, 1997) which was then broadly defined by the World Bank as the expansion of freedom of choice and action (Narayan, 2002). Meanwhile, another definition of empowerment is as expanding a person's ability to make more strategic life choices (Kabeer, 2001) which is then explained in detail that empowerment is a process that involves transformation, with three elements, namely: means, process, and goals (Bartlett, 2008). As a transformation process, Bartlett (2008) argues that understanding the nature of empowerment lies in distinguishing between these three elements. Empowerment means include various supporting factors (rights, resources, abilities and opportunities); The empowerment process is often seen in terms of making choices, involving a number of steps (analysis, decision making and action).

Sumenep Regency, since 2010 until now, has continued to strive to mobilize the agricultural sector to become a supporting commodity in increasing regional income. BPS data shows that the agricultural sector in Sumenep Regency has increased significantly (BPS, 2021). Currently, agricultural commodities are the largest contributor to regional income after the mining sector.

The agricultural sector has become a leading commodity for the Sumenep Regency Government since 2015. The potential for agriculture is to support regional income. Therefore, the policy direction developed in the context of development in the era of decentralization in Sumenep Regency is towards increasing agricultural productivity which utilizes all the social and economic potential that exists in society.

This empowerment effort carried out by the Sumenep Regency Government is an interaction that is stimulated by groups or individuals to change the attitude of one group so that the transformation becomes better. However, in the context of this research, the characteristics of the Madurese community, especially in Sumenep Regency, have their own peculiarities in their social interactions. In his research, he stated that the characteristic of "Madurese" communication is the spirit of tribal communalism (Rochana, 2012). On the other hand, when Madurese farm, they tend to be salt farmers and tobacco farmers (Nashar, 2014).

The presence of field extension officers based on government regulations is implemented through Law Number 16 of 2006 concerning Agricultural, Fisheries and Forestry Extension Systems. This regulation regulates the agricultural, fisheries and forestry extension systems in a holistic and comprehensive manner in an integrated, harmonious arrangement between the extension provided by government extension institutions, private extension institutions and self-help extension institutions to the main actors and business actors. Therefore, implementation in Sumenep Regency certainly has unique dynamics in interaction, if it is related to the characteristics of the local community.

Nevertheless, the efforts of field extension officers have made a major contribution to changes in the behavior and attitudes of farmers in Sumenep Regency, especially in Rubaru District, thereby being able to contribute to food security in the region. This is a particular area of interest for research, so that a unique model of empowering farmers who are faced with local community culture can become a scientific innovation.

Agricultural extension workers are an integrated part of agricultural development policies which were actually implemented before Indonesian independence. Historically, the implementation of agricultural extension in the Dutch East Indies era used a top down approach (Gitosaputro & Listiana, 2018). Experience in Indonesia shows that agricultural extension has made a very significant contribution to the achievements and various agricultural development programs (Gitosaputro & Listiana, 2018; Romadi & Warnaen, 2021). For example, through mass guidance (bimas) in the era of the New Order government, agricultural extension succeeded in making Indonesia a country with rice self-sufficiency in 1984. (Gitosaputro & Listiana, 2018; Sutrisno, 2016)Of course, this success was implemented with tight coordination across agencies using a top down model.

The success of agricultural extension in the New Order era gave rise to the opinion that the agricultural extension that had been implemented seemed "forced, forced and habitual." (Gitosaputro & Listiana, 2018). This means that farmers are forced to accept certain technology, against traditional habits so that over a certain time farmers get used to implementing it until finally farmers are able to master the technology with their abilities so that they can increase productivity.

In the current era, amidst the rapid pace of globalization, the agricultural sector is faced with various problems such as limited land, water quality, availability of seeds and fertilizer, farmers' human resources, and so on, so that the national agricultural sector has not been able to achieve rice self-sufficiency as has been achieved in the past. Therefore, the existence of agricultural extension workers is a central issue that deserves attention.

Empowering farmers by providing agricultural extension can be done communally, meaning it can be done in groups. This was done taking into account the limited resources of extension workers, plus the vastness of the area so that it was not possible to provide individual understanding. Therefore, the drive to build farmer institutions is the first step in implementing agricultural extension.

Agricultural extension activities are planned, structured and sustainable activities. So its implementation requires good organization. The organization of agricultural extension workers is carried out with the aim of efficiently carrying out duties, authority, and management and resource management functions so that the actors involved in it, such as the government, farmers and the private sector, can be well integrated.

In the context of this research proposal, it is emphasized that in previous studies, the majority of researchers reviewed the role of field instructors as facilitators. (Isyaturriyadhah & Anismar, 2020)which is capable of stimulating agricultural production results with an empowerment approach to farmer groups, but still experiences a scientific vacuum which is discussed in terms of interaction patterns of facilitators with community groups (farmers) in increasing the productivity of agricultural products in a sustainable manner, social institutions (social institutions) which play a role in forming a way of thinking of the community, as well as a causal relationship between empowerment activities and the production of agricultural products which can provide an overview of actor relations in social interactions between officers (facilitators) and community groups (farmers). It is from this void that this research was conducted to fill this void as a scientific update in forming a new model framework.

## 2. LITERATURE REVIEW

### 2.1. Community Empowerment Theory

Empowerment, in its most general sense, refers to the ability of people to gain understanding and control over personal, social, economic and political forces in order to take action to improve their life situations. (Israel et al., 1994). It is a process by which individuals and communities are enabled to take power and act effectively in gaining greater control, success, and social justice in changing their lives and their environment. (Israel et al., 1994). At the heart of the empowerment process are actions that build individual and collective assets, and increase the efficiency and fairness of the organizational and institutional contexts that govern the use of these assets.

According to Rappaport, empowerment is a construct that links individual strengths and competencies, natural assistance systems, and proactive behavior to social policy and social change. (Rappaport, 1981; Rappaport, 1984). He has noted that it is easy to define empowerment by its absence but difficult to define it in action because it takes different forms in different people and contexts.

There are three components to the definition of empowerment that are the basis for any understanding of the concept: empowerment is multidimensional, social, and process (Czuba, 1999). It is multi-dimensional because it occurs in sociological, psychological, economic and other dimensions. Empowerment also occurs at various levels, such as individuals, groups and communities. Empowerment is a social process, because it occurs in relationships with others, and is a process along a continuum. Other aspects of empowerment may vary according to the specific context and people involved, but these three remain constant.

### 2.2. Community Base Development

Community-based development (CBD) is an approach used to improve the quality of life of the community through empowerment and active community participation. This theory emphasizes that local communities have the power and resources to manage and improve their own social, economic and environmental conditions. CBD is considered a more effective alternative to the top-down approach often used by governments and non-governmental organizations.

Basically, sustainable community development requires the reconciliation of three components contained in one area, namely ecology, economy and social (Dale, 2001). However, despite the importance of these efforts towards reconciliation, the ecological component tends to be less well known, while the social component is the most important component in achieving change (Dale, 2001; Lister, 2012). To move forward with sustainable community development, planners and leaders need to foster communities that respect the limits of the natural resources they depend on by recognizing the importance of planning and providing for the needs of future generations in addition to the needs of the current generation. (Dale, 2018).

CBD is focused on empowering local communities through increasing participation and active involvement of communities in the planning, implementation and evaluation process of development projects. This is done by identifying and developing potential in the community, increasing community capacity and increasing community involvement in the decision-making process. Some basic principles of CBD include: 1). Focus on local communities and their needs; 2). Active community participation in the planning, implementation and evaluation process; 3). Increasing community capacity; 4). Community empowerment through a holistic and sustainable approach; and 5). Understanding of the social, economic and environmental context of society.

### 2.3. Social Behavior Theory

Behavior has a definition of behavior that is specifically directed towards other people. According to Max Weber, "Sociology...is a science concerning itself with the interpretive understanding of social action and thereby with a causal explanation of its course and consequences" (Weber, 1978) meaning that behavior is an action that influences action social in public and has implications for social problems. The problem in Max Weber's thinking is in the realm of interpretation. This will be the case with the level that a behavior is rational (logic or science), which can be understood directly from human behavior.

Humans behave based on experience from human interaction with their environment, a person's limitations are limited by an understanding of social construction which empirically focuses on interactions between individuals, groups, society and economic systems and includes multidisciplinary knowledge of biology, sociology, culture, psychology and spirituality. development across the life span; the various social systems in which people live

(individuals, families, groups, organizations, and communities); and the way social systems promote or discourage people from maintaining or achieving personal interests.

#### **2.4. Social Exchange Theory**

Simon stated that "if an individual's expectations of the behavior of his colleagues are accurate they will usually differ somewhat from the way he expects his colleagues to behave" George Simmel, a German sociologist stated that gratitude in building bonds of interaction, reciprocity of services performed unforcedly.

Homans conceptualized social behavior as an exchange process. He views social association as an exchange activity that is tangible or intangible, beneficial or not, and more or less carried out by two people. On the other hand, Blau developed social exchange theory by defining social exchange as an individual voluntary action motivated by hope. There are three important components of this definition, namely: The first component is that the action is voluntary. The second component of this definition is that actions are motivated by the hope that in the future there will be returns, both specific and non-specific. The third component of Blau's definition suggests that some experiences are determined by decision makers who believe that there will be returns received when social exchange occurs.

#### **2.5. Social Communication Theory**

Social communication is a term that refers to social activities which are a form of social interaction (Bel et al., 2007). Social communication is a way of conveying information, knowledge, questions, instructions, orders, as well as rumors, gossip, misinformation, deception, whispers, and so on. As a basic model of social communication, it is based on the general communication model in the field of information and communication technology (Bel et al., 2007).

The basic model of communication is basically to provide an understanding of communication so that it is called a linear activity as shown in the picture above. The sender encodes the idea, then the idea takes the form of a message (oral, written, non-verbal, graphic, etc.), then the recipient decodes the message and understands it, then the recipient provides feedback to the sender, whether he understands or misunderstands the message, and Lastly, as terminalization, there are several problems referred to as interference between the sender, message (transmission) and recipient so that it can obscure the message (Bel et al., 2007).

#### **2.6. Social Interaction Theory**

Social interaction is a process of reciprocal relationships carried out by individuals and individuals, between individuals and groups, between groups and individuals, between groups and groups in social life. According to Robert T, social interaction has rules, and these rules can be seen through the dimensions of space and time. Hall divides the space for social interaction into 4 distance boundaries, namely intimate distance, personal distance, social distance and public distance. Apart from the rules regarding space, the Hall also explains the rules regarding time. In this time dimension, it can be seen that there are time tolerance limits that can influence the form of interaction. Interaction is something that acts on each other, relates or influences each other. Interaction is a reciprocal (social) relationship in the form of mutually influencing actions between individuals and individuals, between individuals and groups and between groups and groups. (Setiadi, Elly M & Usman, 2011).

### **3. RESEARCH METHODS**

#### **3.1. Research Approach**

The research method used is a qualitative approach. According to Bogdan and Taylor (1975) in relation to models approach This qualitative method, as quoted by Lexy J. Meleong, explains qualitative methods as research procedures that produce descriptive data in the form of written or spoken words from people and observed behavior. According to them, this approach is directed at the individual's background holistically (whole). So, in this case it is not permissible to isolate individuals or organizations into variables or hypotheses, but it is necessary to view them as part of a whole. In this regard, there are 2 (two) important aspects in this research approach, namely field studies and documents. Through this method, objective and credible research results can be found by searching the data directly from the research location and dealing with resource persons who are competent in the field or focus of this research.



### 3.2. Research focus

In this research it can be determined as the focus of the research.

- 1) Social interaction empowering local farmers in community-based sustainable development in Rubaru District, Sumenep Regency in encouraging productivity:
  - a. Understanding and experience in receiving material by PPL;
  - b. The attitude of PPL and farmers in providing understanding and strengthening to farmers;
  - c. Farmers' attitude in accepting knowledge transfer from PPL;
  - d. Utilization of concept farmer experience in CBSD.
- 2) Map of actor relations in CBSD
  - a. Social communication in empowering farmers encourages farmer productivity based on community patronage.
  - b. Knowledge construction and behavior change based on community patronage in empowerment
- 3) Model of actor relations in social interaction in increasing the productivity of local farmers:
  - a. Inhibiting and supporting factors for CBSD
  - b. Actor relationship model based on CBSD

### 3.3. Data Analysis Techniques

The data was analyzed using several steps according to the theory of Miles, Huberman and Saldana (2014), namely: analyzing the data using 3 (three) steps including, data condensation, presenting the data (data display) and drawing conclusions or verification (conclusion drawing). Data condensation refers to the process of selecting, focusing, simplifying, abstracting and transforming data in more detail, the steps are in accordance with the theory of Miles, Huberman and Saldana (2014).

## 4. DISCUSSION

### 4.1. Social Interaction Empowering Local Farmers in Community-Based Sustainable Development in Rubaru District, Sumenep Regency to Encourage Productivity

#### 1) Farmers' Understanding and Experience in Receiving Material by Field Extension Officers

Farmers' understanding and experience in receiving material from field instructors in Poktan, Rubaru District, Sumenep Regency, plays an important role in improving agricultural practices and encouraging rural development. Poktan, short for Farmers' Group, is a community-based organization consisting of local farmers who work together to improve agricultural techniques and their livelihoods.

Field instructors, who are part of the agricultural extension system, are responsible for delivering information, resources and training to farmers in the Rubaru District Poktan. These officers act as intermediaries between research institutions, government agencies, and farmers, bridging gaps and ensuring that relevant and up-to-date knowledge reaches farmers. Understanding the material provided by field extension workers is critical to the successful implementation and application of new agricultural practices. Farmers in Poktan, Rubaru District, rely on the expertise and guidance of extension workers to access the latest information on crop management, pest control, soil fertility and other aspects of agriculture. Through workshops, demonstrations, and one-on-one interactions, extension workers transfer their knowledge and expertise to farmers, empowering them to make decisions about their farming operations.

The experience of receiving material goes beyond the transfer of information. This involves building relationships of trust and collaboration between field extension workers and farmers. Extension workers in Poktan Rubaru District conduct regular dialogue with farmers to understand their specific needs, challenges and aspirations. By adapting materials and resources to the local context, extension workers ensure that the information provided is relevant, practical, and applicable to farmers' specific agricultural conditions.

In addition, the experience of receiving material by field instructors is not a one-time event but an ongoing process. Extension agents provide ongoing support and follow-up to assist farmers in implementing recommended practices. They monitor farmers' progress, offer guidance, and address any problems or concerns that may arise. This personal support helps farmers in Poktan Rubaru District to overcome obstacles and achieve better results in their agricultural businesses.

The understanding and experience of material recipients is further enhanced through active participation and involvement of farmers. Extension workers in Poktan Rubaru District encourage farmers to share experiences,

insights and challenges with each other. A peer-to-peer learning approach allows farmers to learn from each other, exchange best practices, and collectively find solutions to shared problems. This fosters a sense of togetherness and cooperation among farmers, strengthening understanding and application of the material provided by field extension workers.

Based on field findings and literature reviews, the effectiveness of CBSD depends on community participation, empowerment, integration of economic-social-environmental aspects, involvement of related parties, and good monitoring. With the right support, PPL can act as an effective agent of change in helping communities achieve sustainable development goals holistically.

## 2) Attitudes of Field Extension Officers and Farmers in Transferring Knowledge

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 Madurese people. 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.

There needs to be an exchange of knowledge in order to circulate new information or even replace old values with new ones. Building a platform for knowledge exchange where scientific information and traditional knowledge can be shared. Provide opportunities for community members to learn about modern agricultural practices, scientific advances, and evidence-based techniques. Simultaneously, create a space for community members to share traditional practices, wisdom and local innovations that are effective in their context.

On the other hand, demonstrations and practical training are held on pilot plots or training sessions where farmers can witness firsthand the benefits of implementing modern agricultural practices. Invite agricultural experts, extension workers, or researchers to showcase techniques such as improved seed varieties, organic fertilizers, pest management strategies, and efficient water use. Encourage farmers to actively participate and ask questions to improve their understanding.

Farmers are more likely to accept extension workers' recommendations if they can see real results and benefits from implementing new practices. Extension workers should focus on providing evidence of success stories, demonstrating the positive results achieved by farmers who have implemented recommended practices. This helps instill confidence in farmers and encourages them to accept change. Extension workers must have strong communication skills to effectively convey their expertise and knowledge to farmers. Clear and concise communication, using language farmers can understand, is essential. Extension workers must be able to explain complex concepts in simple terms, provide practical examples, and demonstrate the relevance of new practices to a farmer's specific context. Open, two-way communication channels should be established to address farmer concerns, questions and feedback.

Involving farmers in a participatory approach fosters a sense of ownership and empowerment. Extension agents should involve farmers in the decision-making process, seeking their input and incorporating their local knowledge and experience. By valuing farmers' perspectives, extension workers can build good relationships and increase farmers' openness to trying new practices. Collaborative efforts can lead to behavioral changes that align with farmers' needs and aspirations. Extension agents must understand the diversity among farmers, taking into account factors such as farm size, available resources, and socioeconomic conditions. Tailoring recommendations to each farmer's specific circumstances increases their relevance and increases the likelihood of adoption. Extension agents

must consider existing farmer practices, cultural norms, and individual goals when providing guidance, making recommendations more relevant and practical.

Behavior change takes time, and farmers may need ongoing support from extension workers. Regular follow-up visits, field demonstrations, and training sessions help reinforce new practices, overcome challenges, and provide further guidance. Extension workers should be available to farmers, offering guidance, problem solving, and encouragement throughout the adoption process. By building trust, demonstrating results, communicating effectively, using a participatory approach, adapting recommendations, and providing ongoing support, extension workers can increase farmers' openness to their expertise and credibility. This, in turn, increases the likelihood of behavioral change and successful adoption of new farming practices.

In conclusion, the level of trust and relationship building are important elements in the acceptance of knowledge transfer. By building credibility, maintaining effective communication, sharing experiences, showing empathy, ensuring consistency and reliability, practicing transparency and honesty, adopting a personalized approach, and cultivating long-term relationships, extension workers can build trust with farmers. When farmers trust extension workers and have a strong relationship with them, they are more open to receiving the transferred knowledge, leading to successful adoption and implementation of the knowledge.

Meanwhile, in the discussion in this sub-chapter, the minor propositions that can be drawn from the description of the discussion above are increasing yields and profitability, methods of problem solving and risk mitigation, context of local relevance and adaptation, as well as trust and strong community relationships between PPL and farmers become a method of knowledge transfer. It needs to be underlined that behavioral changes have a correlation with behavioral interventions provided by PPL either directly or indirectly during the empowerment process. Changes in knowledge lead to changes in behavior for farmers who overhaul their daily habits in farming.

### 3) Utilization of Farmers' Experiences in the Concept of Community-Based Sustainable Development

The relationship between experience and empowerment of independent shallot and rice farmers in Rubaru District, Sumenep Regency, Madura is a crucial aspect in agricultural development. Experience plays a critical role in understanding the unique challenges and opportunities faced by independent farmers in Madura and tailoring empowerment strategies to suit their specific needs. Exploring the relationship between experience and empowerment of independent farmers in this area involves understanding the local context. Experience allows empowerment actors, such as extension workers or agricultural organizations, to develop a deep understanding of the local context in Madura. They become familiar with the socio-cultural, economic, and environmental factors that influence agricultural practices in the region. This understanding enables them to design and implement targeted empowerment initiatives that align with farmers' realities and aspirations.

Experience working with independent farmers in Madura provides empowerment actors with valuable knowledge about effective agricultural techniques that are appropriate to local conditions. They gain insight into traditional farming practices, crop varieties, pest and disease management strategies, and sustainable farming methods that have been successful in the region. This knowledge can be shared with farmers to increase their productivity and improve the quality of their farming practices.

Experienced empowerment actors working with independent farmers in Madura develop strong problem-solving skills. They face various challenges faced by farmers, such as limited access to resources, market fluctuations, the impact of climate change, and socio-economic constraints. Through experience, they learn to identify and overcome these challenges effectively, finding practical solutions that empower farmers to overcome obstacles and achieve better results.

Experience fosters trust and relationships between empowerment actors and independent farmers in Madura. Over time, enablers build relationships with farmers, gaining their trust through consistent support, reliable information, and positive results. Trust and relationships built through experience create an environment conducive to effective knowledge transfer, skill development, and behavior change, leading to better agricultural practices and increased productivity.

Experienced empowerment actors working with independent farmers in Madura develop an adaptive approach to empowerment. They understand that each farmer has unique strengths, preferences and challenges. Through experience, they learn to adapt interventions, training programs, and support services to meet farmers' diverse



needs. These adaptations ensure that empowerment strategies are relevant, practical and sustainable, leading to meaningful impacts on farmers' livelihoods.

Experience allows empowerment actors to learn from successes and failures in empowering independent farmers in Madura. They can identify strategies, interventions, and practices that have produced positive outcomes and replicate them in similar contexts. Likewise, they can analyze the factors that contribute to less successful initiatives and refine their approach accordingly. This continuous learning and improvement process strengthens the effectiveness of empowerment efforts over time.

Experience plays an important role in empowering independent farmers in Madura. This enables empowerment actors to develop a deep understanding of the local context, share relevant knowledge and techniques, address challenges effectively, build trust and rapport, adopt adaptive approaches, and learn from successes and failures. Through their experience, empowerment actors can have a meaningful and sustainable impact on the lives of independent farmers, encourage agricultural development and improve livelihoods in Madura.

Farmer-led training and workshops is an empowering approach that allows farmers to play an active role in leading training sessions and workshops for their peers. Rather than relying solely on outside experts, this approach recognizes farmers' existing expertise and knowledge and encourages peer-to-peer learning and knowledge exchange. Farmer-led training involves experienced and knowledgeable farmers as trainers or facilitators to deliver training sessions to fellow farmers. These training sessions can cover a variety of topics, including crop cultivation techniques, livestock management, pest control, soil fertility management, post-harvest practices, and marketing strategies.

In terms of understanding and experience in receiving material by PPL, findings include: the diversity of farmers' levels of understanding which is balanced with the selection of material on the concept of integrated crop management (PTT), the use of language that is easy to understand to form farmer awareness and movement, the use of peer education methods for involvement farmers, and there is openness between PPL and farmers in sharing knowledge and information.

Meanwhile, in the discussion in this sub-chapter, the minor proposition that can be drawn from the description of the discussion above is that the CBSD concept includes the creation of farmer-to-farmer mentoring experiences, independent involvement of farmers in participatory observation and field trials, agricultural demonstrations, farmer empowerment in training, and inclusion of farmer feedback in program evaluation, enriching experience and facilitating effective knowledge transfer. The major premise is social interaction, empowering local farmers in sustainable development, emphasizing the concept of appropriate knowledge transfer in accordance with the values of local wisdom and independence among farmer groups. Utilizing farmers' experience into local values that create effective multi-directorate development social communication which has an impact on increasing crop productivity.

In general, the inclusion movement in the attitude of social interaction between farmers as an empowered group with PPL as an empowering actor is the main impetus. Through this inclusion, encouragement for progress and behavioral changes in increasing planting and harvest productivity can be carried out on a massive scale. The form of inclusiveness itself is independent participation and being able to make decisions without depending on any group.

## **4.2. Map of Actor Relations in Community Based Sustainability Development**

### **1) Social Communication in Farmer Empowerment Encourages Farmer Productivity Based on Community Patrons**

The Actor Relationships in Community-Based Sustainable Development (CBSD) map provides a visual representation of various actors and their relationships in the context of sustainable development initiatives. This map helps in understanding the complex network of individuals, organizations, and institutions involved in CBSD and how they interact with each other to achieve sustainable development goals. The map includes various actors such as community members, local government agencies, non-governmental organizations (NGOs), researchers, extension workers, and other stakeholders relevant to a particular CBSD project. Each actor is represented by a node or symbol on the map.

By analyzing maps, stakeholders can gain insight into the dynamics of relationships between actors, identify opportunities for collaboration or partnerships, and determine strategies for effective engagement and coordination

among various actors. Maps serve as a valuable tool for visualizing and understanding the social networks and power dynamics that shape CBSD project implementation. It is important to note that Actor relationship maps are not static representations, as actor relationships and dynamics can evolve over time. Regular updating and revision of maps can capture changes in actor roles, the emergence of new stakeholders, or shifts in power dynamics, providing a comprehensive understanding of the evolving CBSD landscape. Overall, the maps in the CBSD improve transparency, communication and shared decision-making processes, encourage effective collaboration and empower communities to achieve sustainable development outcomes.

Community-based sustainable development involves a dynamic process, where effective interactions between actors are key to achieving positive and sustainable results. In Rubaru District, Sumenep Regency, collaboration between local farmers, field officers and community leaders plays an important role in driving sustainable development initiatives. One of the community figures who is highly respected and appreciated in this community is a kyai who has great influence and contributes important values to the daily lives of the local community. Decisions taken in the context of sustainable development often involve the participation of kyai figures as patrons. This research aims to explore the importance of interactions between actors in a community-based sustainable development framework, with a focus on the roles, contributions and challenges faced by each actor group in driving positive change.

The field extension officers involved, both from the government and non-government organizations (NGOs), made a significant contribution to empowering local farmers. They mentor and provide technical assistance to farmers in adopting sustainable agricultural practices, increasing crop yields, and managing climate-related risks. In addition, they also organize training programs, workshops and demonstrations to improve farmers' knowledge and skills. Their role also involves facilitating farmers' access to government programs, financial resources, and market opportunities to increase farmer productivity and income.

Apart from field officers, community leaders in Rubaru District, including local government officials and religious figures such as Kyai, also have an important role in empowering farmers. They can mobilize resources, encourage policy change, and encourage community participation in sustainable agricultural development. Apart from Kyai, several other community figures also contributed in the form of advocacy, representation and collaboration with relevant stakeholders to overcome challenges and influence policies that support sustainable agriculture.

In an effort to build social capital, both community leaders and Kyai carry out collaborative activities, build trust and increase social cohesion in the community. They facilitate collective decision making and implementation of community-based initiatives. In addition, they also act as facilitators and liaisons between farmers, field officers and external organizations, ensuring effective communication, coordination and partnerships in sustainable development efforts.

Although this actor interaction is very important, there are still some challenges that may arise in the process. These challenges include limited resources, conflicts of interest, communication gaps, and lack of capacity. To overcome this challenge, mitigation strategies can be implemented by strengthening institutional support, providing adequate resources, developing a supportive policy framework, and organizing relevant training programs for farmers, field officers and community leaders. With the cooperation and involvement of these actors, it is hoped that an increase in crop yields, productivity and welfare of local farmers can be achieved in the context of community-based sustainable development.

In Rubaru District, Sumenep Regency, interactions between local farmers, field workers and community leaders play a crucial role in driving community-based sustainable development initiatives. By leveraging shared knowledge, resources, and expertise, these stakeholders can develop sustainable agricultural practices, increase productivity, and improve the overall well-being of society. Effective collaboration, good communication and capacity building are important keys in realizing a shared vision of a prosperous and sustainable future for Rubaru District.

Social communication plays an important role in empowering farmers and encouraging their productivity based on community patronage. Community patrons, such as kyai or other influential figures, function as catalysts for social communication by bridging gaps between farmers and relevant stakeholders, facilitating knowledge sharing, and encouraging collaboration within the community. The picture of social communication empowering farmers and encouraging productivity starts from the information dissemination cycle, community protectors act as

effective communicators, disseminating valuable information and knowledge related to agriculture, agricultural techniques, market trends, and government policies. They use a variety of communication channels, such as community meetings, public meetings, or local media, to ensure that farmers have access to the latest information and updates that can increase their productivity.

## **2) Knowledge Construction and Behavior Change Based on Community Patrons in Empowering Local Farmers**

Knowledge construction and behavior change are integral aspects of community patron-based empowerment. Community patrons, such as influential figures such as clerics, play an important role in facilitating knowledge construction and encouraging behavioral change within their communities. The processes of knowledge construction and behavior change contribute to ideal empowerment. In the first process, knowledge construction, community patrons act as knowledge facilitators, actively involved in building and disseminating knowledge among community members. They have a deep understanding of local ecosystems, agricultural practices and sustainable development approaches, which they share with the community. By organizing workshops, training programs, or educational initiatives, patrons empower individuals to acquire new knowledge and skills relevant to agriculture, environmental conservation, and community-based sustainability.

Behavior change is facilitated through a variety of means, including awareness campaigns, demonstration plots, and peer-to-peer learning. Community patrons organize initiatives where community members can observe and learn from successful examples in their own context. These initiatives instill confidence, build trust, and create a supportive environment for individuals to experiment with new practices and adapt them to their specific circumstances.

Knowledge construction and behavior change are interrelated processes that empower individuals and communities. Through knowledge construction, community protectors equip individuals with the knowledge and skills necessary to make decisions and take action. Behavioral change complements this process by turning knowledge into action, creating sustainable and positive changes in individual attitudes and behavior. By actively engaging with community members, community patrons foster a culture of continuous learning, adaptation, and innovation. They provide ongoing support, monitor progress, and celebrate achievements, reinforcing the importance of sustainable practices and encouraging further empowerment.

Knowledge construction and behavior change, driven by community patrons, are key elements of empowerment. Through knowledge sharing and a participatory approach, patrons empower community members to build knowledge, integrate traditional wisdom with scientific knowledge, and adopt sustainable practices. Behavioral change, facilitated by guidance and customer support, enables individuals to turn knowledge into action, leading to positive and lasting change that contributes to empowering communities and pursuing sustainable development goals.

The relationship between knowledge construction and behavior change is a continuous and cyclical process. As farmers observe positive results from their behavioral changes, they gain the confidence and motivation to explore further and adopt additional sustainable practices. This iterative process of knowledge construction and behavior change fosters a culture of continuous learning and improvement among local farmers, leading to long-term empowerment and sustainable development in Rubaru District.

In short, community patrons play an important role in bridging the gap between knowledge construction and behavior change in empowering local farmers. By sharing knowledge, facilitating discussions, and supporting farmers in implementing sustainable practices, community patrons enable farmers to build new knowledge and embrace behavioral change. This interrelated relationship leads to increased agricultural productivity, environmental sustainability, and overall empowerment of local farmers in Rubaru District.

Field instructors play an important role in creating opportunities and encouraging community-based change in the Padi Poktan and Shallot Poktan in Rubaru District. These dedicated individuals work closely with farmers to provide them with the support and resources necessary to improve their farming practices and bring positive change in society. Field extension workers strive to create opportunities for Rice Farmers and Shallot Farmer Groups by facilitating access to various resources and services. These include:

It also provides technical guidance and expertise to farmers, offering advice on best farming practices, irrigation techniques, pest and disease control, and improving soil fertility. They conduct field visits, workshops and training sessions to disseminate the latest knowledge and skills, enabling farmers to optimize their crop production.

Extension agents assist farmers in accessing quality seeds, fertilizers, pesticides, and other necessary inputs. They help establish relationships with reliable suppliers and promote the adoption of improved crop varieties that are more resilient and provide better yields. By ensuring access to quality inputs, extension workers contribute to increased productivity and improved crop quality.

Through the active construction of farmer knowledge and behavior, the collaborative efforts of protective kyai, field extension workers, and farming communities create opportunities for community-based growth and change. The integration of modern techniques and traditional wisdom ensures a balanced approach to sustainable development. This comprehensive effort leads to increasing agricultural productivity, increasing community resilience, and preserving cultural heritage in Rubaru District. Productivity is used as a reference for making construction based on local values held by the shallot and rice Poktan community.

#### **4.3. Actor Relations Model in Social Interaction in Increasing the Productivity of Local Farmers**

##### **1) Inhibiting and Supporting Factors for Community Based Sustainability Development**

The Actor Relationship Model in Social Interaction plays an important role in increasing the productivity of local farmers by encouraging collaboration and effective communication among various actors involved in agricultural practices. This model includes dynamic interactions between farmers, extension workers, local authorities and community leaders.

Collaboration and knowledge sharing, the actor relations model emphasizes the importance of collaboration and knowledge sharing between local farmers and other actors. Farmers exchange experiences, techniques and best practices through social interactions, farmer groups and community meetings. This collaborative approach enables the transfer of valuable knowledge and expertise, leading to the adoption of innovative and sustainable farming methods. The exchange of ideas and experiences helps farmers overcome challenges and increase their productivity.

Support and guidance from extension workers plays an important role in the actor relations model by providing support and guidance to local farmers. These professionals have expertise in agricultural practices and are equipped with the latest research and information. They engage with farmers through field visits, training programs and workshops, addressing their specific needs and challenges. By cultivating close working relationships with farmers, extension workers facilitate the adoption of new technologies, efficient farming techniques, and better resource management, ultimately increasing productivity.

The influential role of local authorities, local authorities play an important role in the actor relations model by providing the necessary resources, infrastructure and policy support to local farmers. They collaborate with farmers to develop and implement agricultural policies and programs that address local needs. By establishing favorable conditions for agricultural activities, such as access to credit facilities, market linkages, and supporting infrastructure, local authorities empower farmers and create an environment conducive to increased productivity. Their involvement ensures that farmers have the necessary support to thrive in their agricultural activities.

Leadership and involvement of communities, community leaders and influential figures, such as village heads or respected people, play an important role in the actor relations model. They act as intermediaries between farmers, extension workers, and local authorities, ensuring effective communication and coordination. These leaders mobilize community participation, organize meetings, and advocate for the needs and interests of local farmers. Their leadership helps in resolving conflicts, managing resources, and promoting a sense of shared responsibility. By fostering strong community involvement, the actor relations model strengthens social cohesion and empowers local farmers to achieve higher productivity.

The actor relations model in social interaction highlights the importance of collaboration, knowledge sharing, support from extension workers, involvement of local authorities, and community leadership in increasing the productivity of local farmers. This model recognizes the interconnectedness of various actors and their role in promoting sustainable agricultural practices. By working together and leveraging their respective expertise, these actors contribute to the growth and development of the agricultural sector, ultimately improving the livelihoods of local farmers.

In Rubaru Madura District, social interactions between farming communities, religious leaders, and accompanying field workers play an important role in agricultural practices and community development. These



three groups collaborate and interact closely, each contributing their expertise and support to improve farmer livelihoods and promote sustainable farming practices.

The farming community is the backbone of agricultural activities in Madura. They have valuable knowledge and experience in traditional farming methods adapted to the local environment. Through social interactions, farmers share experiences, challenges and innovations with each other, promoting a culture of learning and knowledge exchange. They also engage in collective activities such as seed exchange, division of labor, and community work, fostering a sense of unity and cooperation.

Religious figures, known as kyai, have significant influence and respect in Madura. They provide spiritual guidance, moral support, and religious teachings to farming communities. Kyai often emphasize ethical values, such as honesty, justice, and compassion, that shape farmers' behavior and decision-making processes. They also play a role in resolving conflicts, promoting community cohesion, and preserving local cultural traditions related to agriculture.

Field extension workers, also known as extension workers or agricultural technicians, are professionals who work directly with farmers to provide technical support, training, and guidance. They have expertise in modern farming practices, crop management, pest control, and resource management. Through regular visits to farming communities, field worker assistants engage in social interactions with farmers, meeting their specific needs, disseminating knowledge, and facilitating the application of better agricultural techniques and technologies.

Social interactions among these three groups create a dynamic exchange of knowledge, skills and resources that contributes to the development of sustainable agricultural practices in Madura. Farmers benefit from the technical expertise and guidance provided by accompanying field workers, which helps them increase productivity, optimize resource utilization, and adapt to changing environmental conditions. At the same time, religious figures play an important role in preserving cultural traditions, providing spiritual support, and promoting ethical values that guide farmers' behavior and decision-making.

Collaboration between farming communities, religious leaders and accompanying field workers also extends to community development initiatives. Together, they identify and address community needs, such as access to market information, credit facilities, and infrastructure improvements. Through collective action and social interaction, they advocate for farmers' interests, raise awareness about their challenges, and work to improve their socio-economic conditions.

Overall, social interactions between farming communities, religious leaders, and accompanying field workers in Madura create a collaborative environment and support sustainable agriculture. It combines traditional wisdom, modern knowledge, and ethical values to empower farmers, increase their productivity, and improve community welfare. This interaction between different actors is very important for the holistic development of the agricultural sector in Rubaru District, Sumenep Regency, Madura.

## **2) Actor Relations Model Based on Community Based Sustainability Development**

In general, the actor relations model highlights the importance of building capacity and empowering local actors. In order to achieve sustainable development, this model pays attention to training, skills development and empowerment initiatives aimed at preparing local actors with the necessary knowledge, skills and confidence. This allows them to play an active role in decision-making, lead development initiatives, and contribute significantly to the sustainable development of their communities.

Overall, the actor relations model in sustainable and community-based development emphasizes the importance of linkages and interdependence between the actors involved to achieve sustainable results. By building inclusive partnerships, promoting effective communication, and empowering local actors, this model creates a collaborative and participatory framework that supports sustainable, community-based development.

Furthermore, the actor relations model emphasizes the relationships and dependencies between different actors. In recognition of this, the model recognizes that sustainable development requires collaboration and cooperation between various stakeholders, including community members, local farmers, government agencies, NGOs, and field extension workers. By building relationships and partnerships among these actors, the model encourages the pooling of resources, expertise, and efforts to address complex development challenges. This model also highlights the importance of effective communication and knowledge sharing among actors.



This model recognizes that sharing information, experiences, and best practices is critical to generating innovative solutions and encouraging learning within communities. By facilitating social interaction and creating a platform for dialogue, the actor relations model allows actors to exchange ideas, build trust, and jointly identify strategies for sustainable development. Apart from that, this model also recognizes the value of local wisdom and traditional knowledge in encouraging sustainable development. Apart from that, another concept is that people have a deep understanding of their local ecosystem, cultural practices and historical context. By integrating local knowledge into the development process, this model ensures that interventions are contextually appropriate, environmentally sensitive and socially relevant.

On the other hand, the actor relations model emphasizes the importance of building capacity and empowering actors. This model recognizes that actors need to be equipped with the skills, knowledge and resources necessary to be actively involved in decision making and have a role in the development process. By empowering local actors, such as farmers and community leaders, this model creates a sense of ownership, responsibility and long-term commitment to sustainable development goals. Although social interaction plays an important role in increasing the productivity of local farmers in implementing sustainable development and community-based empowerment, there are several inhibiting factors that can reduce its effectiveness. These factors include a lack of awareness and education. Limited awareness and education regarding the benefits of social interaction and sustainable agricultural practices may hinder their adoption among local farmers. Farmers may not realize the potential benefits of sharing knowledge, collaborating and supporting community-based empowerment.

Ultimately, the actor relations model encourages a comprehensive and participatory approach to sustainable development. This model recognizes that sustainable outcomes cannot be achieved through a hierarchical approach, but through inclusive partnerships, community participation and collective action. By adhering to the principles of sustainability, community participation, collaboration and empowerment, the actor relationship model provides a framework for achieving sustainable and community-based development that reflects local context, values and aspirations. By addressing these inhibiting factors and implementing strategies to reduce their impact, local farmers can harness the benefits of social interaction, which in turn increases productivity, sustainable development and community-based empowerment.

**4.4. Existing Models**

**Table 1. Existing Model**

No	Formulation of the problem	Research focus	Findings	Minor Proposition	Major Proposition
1.	How does social interaction empower farmers in Rubaru District, Sumenep Regency, encourage farmer productivity ?	Social interaction empowering local farmers in community-based sustainable development in Rubaru District, Sumenep Regency in encouraging productivity: a. Understanding and experience in receiving	a. Understanding and experience in receiving material by PPL: 1. The diversity of farmers' levels of understanding is balanced with the selection of integrated crop management (PTT) concept material 2. Farmer awareness and movement are formed using easy language. 3. Peer education method for farmer involvement. 4. PPL and farmers are open to each other for knowledge and information. b. Attitude of PPL and farmers in knowledge transfer: 1. Emphasizes increasing results	a. The varying levels of understanding among farmers require adaptation in selecting integrated crop management (PTT) concept material by using easy language, peer education methods, and openness between PPL and farmers to increase farmer awareness, involvement, and understanding. b. Increased yield and	Social interaction empowering local farmers in sustainable development, the emphasis is on the concept of appropriate knowledge transfer in accordance with the values of local wisdom and independence among farmer

No	Formulation of the problem	Research focus	Findings	Minor Proposition	Major Proposition
		material by PPL; b. PPL and farmer attitudes in knowledge transfer; c. Utilization of farmer experience in the CBSD Concept.	and profitability. 2. Instill problem solving and risk mitigation methods. 3. Prioritize context of local relevance and adaptation. 4. Acceptance of trust-based knowledge transfer and building community relationships. c. Utilization of farmer experience in the CBSD Concept 1. Create a farmer-to-farmer mentoring experience. 2. Independent and direct involvement of farmers in participatory observation and field trials. 3. Organize agricultural demonstrations and field trips to improve agricultural practices. 4. Empowering farmers to lead training sessions and workshops encourages peer-to-peer learning and knowledge exchange. 5. Incorporate farmer feedback and perspectives in evaluating and improving farming development programs.	profitability, problem solving and risk mitigation methods, context of local relevance and adaptation, as well as trust and strong community relationships between PPL and farmers are methods of knowledge transfer. c. The CBSD concept includes the creation of farmer-to-farmer mentoring experiences, the independent involvement of farmers in participatory observations and field trials, agricultural demonstrations, farmer empowerment in training, as well as the inclusion of farmer feedback in program evaluations, enriching experience and facilitating effective knowledge transfer.	groups. Utilizing farmers' experience into local values that create effective multi-directorate development social communication which has an impact on increasing crop productivity.
2.	How does the actor relations model in social	1. Map of actor relations in CBSD: a. Social communication	a. Social communication in empowering farmers encourages farmer productivity based on community patronage 1. The basis of social	a. Empowering farmers through social communication based on local	The actor relations model in CBSD emphasizes the

No	Formulation of the problem	Research focus	Findings	Minor Proposition	Major Proposition
	<p>interaction between field extension officers and farming communities in Rubaru District, Sumenep Regency increase their productivity ?</p>	<p>on in empowering farmers encourages farmer productivity based on community patronage.</p> <p>b. Knowledge construction and behavior change based on community patronage in empowerment</p> <p>2. Model of actor relations in social interaction in increasing the productivity of local farmers:</p> <p>a. Inhibiting and supporting factors for CBSD</p> <p>b. Relactor model based on CBSD</p>	<p>communication in empowering farmers is local wisdom and the patronage of clerics in the farming community.</p> <p>2. Social communication drives productivity through community platforms and social communication channels.</p> <p>3. A form of social communication is building networks and community relationships to collaborate with outside parties.</p> <p>4. Open access to information and networks for developing crop productivity.</p> <p>b. Knowledge construction and behavior change based on community patronage in empowerment</p> <p>1. PPL creates opportunities and drives change based on the Poktan community.</p> <p>2. The patronage of community figures lies with the kyai who influence decision making.</p> <p>3. Construction and adaptation of new knowledge emphasizes the strengths of Poktan.</p> <p>c. Inhibiting and supporting factors for CBSD</p> <p>1. Inhibiting factors: limited communication channels, cultural and language barriers, excessive trust in patrons, primordial conditions.</p> <p>2. Supporting factors: knowledge sharing, collaboration and collective action, peer learning and support, Poktan networks and connections.</p> <p>d. Actor relationship model based on CBSD:</p> <p>1. Sourced from two actor</p>	<p>wisdom and kyai patronage, facilitating the exchange of information and experience between farmers, building collaboration networks with external parties, and opening farmers' access to information and networks for developing harvest productivity to increase yields and productivity.</p> <p>b. The construction of knowledge and behavior among farmers creates opportunities and encourages community-based change for Poktan and balances the role of kyai patrons.</p> <p>c. Supporting and inhibiting factors depend on the quality of communication between the Poktan, PPL and Kyai communities.</p> <p>d. A model that emphasizes the relationship between internal and external actors through inclusive involvement to build capacity and empower local</p>	<p>empowerment of farmers through social communication based on local wisdom and kyai patronage, facilitating the exchange of information and experience between farmers, and opening farmers' access to information and networks for crop productivity development. The construction of knowledge and behavior among farmers creates opportunities and encourages community-based change, with supporting and inhibiting factors depending on the quality of communication between the Poktan, PPL and Kyai communities.</p>

No	Formulation of the problem	Research focus	Findings	Minor Proposition	Major Proposition
			relationships, namely internal and external. 2. The social communication process with inclusive partnerships is fair and tough 3. The ultimate goal is to build capacity and empower local actors.	actors independently.	

**5. CONCLUSIONS AND RECOMMENDATIONS**

**5.1. Conclusion**

Some conclusions that can be drawn are as follows:

- 1) Social Interaction Empowering Local Farmers in Community-Based Sustainable Development in Rubaru District, Sumenep Regency to Encourage Productivity

The discussion regarding social interactions empowering local farmers in community-based sustainable development in Rubaru District, Sumenep Regency can be seen from the perspective of the importance of understanding and experience in receiving material by PPL in the context of farmer education and involvement. This research can be concluded that first, there are several indicators in looking at the effectiveness of implementing community based sustainability development (CBSD) in empowering shallot and rice farmers, namely community participation, the empowerment process, integration of economic-social-environmental aspects, group involvement, as well as monitoring and independent evaluation of farmer groups. These indicators are applied using the peer education method in farmer groups (Poktan).

Second, the stage of the process of understanding and experiencing farmers in receiving material from PPL begins with the stage of accepting the diversity of levels of understanding of farmers, using language in order to form awareness and movement of farmers, applying peer education methods, and having openness and trust in information, knowledge and credibility. to PPL by farmers.

Third, the success of delivering material by PPK to farmers is determined by the selection and use of appropriate communication media channels. Not only that, the local language aspect also plays a role, so PPL must master Madurese so that communication can run smoothly. Media channels can be expanded by using visual aids and multimedia to stimulate creativity and openness of information. And the last one is cultural sensitivity by PPL regarding local culture in the farmer groups they accompany.

Fourth, distributing messages in the form of material to farmers requires a strategy to reduce myths in social interactions. A strategy that can be implemented without causing conflict from various parties is to utilize local wisdom values. Where the strategy starts from an attitude of spreading, supporting and monitoring without any frontal resistance to mythical values. Then use patrons as indirect communicators to distribute material. To make it easier to accept, it is necessary to carry out training and practice so that independent collaboration occurs. The most important thing is that the PPL should have sensitivity to cultural values so that there is no feeling of superiority or inferiority in mentoring.

Fifth, the strategy above can be implemented with the attitude of PPL and farmers in social interactions. The attitude that has been taken is in accordance with the concept of development social communication that creates social change, including: openness and credibility; increased yield and profitability; problem solving and risk mitigation; local relevance and adaptation; as well as trust and building social communication relationships.

Sixth, the success of two-way interaction can be seen from the use of farmers' experience in CBSD which prioritizes independence. The management process and use of peer education methods emphasizes the active participation of Poktan in the area. The cycle that can be described from the delivery of knowledge and the CBSD approach involves an active participation approach, integration of needs, community innovation and monitoring

and evaluation. Meanwhile, in channeling knowledge to change behavior, the cycle created is positive relationships and acceptance, adoption of inclusive values, and direct implementation in Poktan.

This emphasizes the importance of adapting educational approaches to meet varying levels of understanding among farmers. To increase farmer awareness, involvement and understanding, the use of easy language, peer education methods and open communication channels between PPL and farmers is recommended. By implementing these strategies, it is possible to promote effective knowledge transfer, empower farmers in their decision-making processes, and ultimately contribute to the overall improvement of agricultural practices and outcomes.

## 2) Map of Actor Relations in Community Based Sustainability Development

The success of community-based and constructive empowerment activities in a sustainable manner is determined by the flow of the actor relationship map in social interaction towards social communication. Social interaction is a lower level so it is important for both empowerment actors to increase the level of social communication towards sustainable development.

The actor realization map in community based sustainability development (CBSD) can be concluded firstly, there is a correlation between local wisdom and social interaction in looking at the actor relationship map. The correlation description includes Poktan traditional knowledge, stewardship of local resources, as well as the exchange of social and cultural values. Second, social communication plays an important role in empowering farmers and encouraging their productivity based on community patronage. Community patrons, such as kyai or other influential figures, function as catalysts for social communication by bridging the gap between farmers and related stakeholders. So the social communication cycle in empowerment that must be considered is the aspect of information dissemination, peer knowledge, partnership networks, motivation and encouragement, as well as conflict resolution and consensus building. Third, methods of knowledge construction and behavior change can also be based on community patronage in empowering local farmers. This method begins with a patron approach, awareness campaigns, adaptive and participatory learning, and community independence.

In short, farmer empowerment through social communication, local wisdom, and the support of patron kyai play an important role in encouraging knowledge exchange, collaboration, and access to information. This approach improves farmer knowledge and behavior, creating opportunities for community-based change, especially in the Poktan community. With balancing the role of protective clerics and encouraging collaborative networks, farmers are able to increase crop yields, productivity, and overall agricultural development.

## 3) Actor Relations Model in Social Interaction in Increasing the Productivity of Local Farmers

Social interaction in between these three groups creates a dynamic exchange of knowledge, skills and resources that contributes to the development of sustainable agricultural practices in Madura. Farmers benefit from the technical expertise and guidance provided by accompanying field workers, which helps them increase productivity, optimize resource utilization, and adapt to changing environmental conditions. At the same time, religious figures play an important role in preserving cultural traditions, providing spiritual support, and promoting ethical values that guide farmers' behavior and decision-making.

In its implementation, there are supporting and inhibiting factors when social interaction is carried out in order to increase farmer productivity. Supporting factors include: the ability to share knowledge, collaboration and collective action, peer learning and support, open access to resources and opportunities, and group social cohesion. Meanwhile, inhibiting factors include: limited communication channels, language and cultural barriers, lack of trust and cooperation, limited access to resources, external policies.

Meanwhile, seeing the actor relationship model can be seen through sharing information, experiences and best practices is very important to produce innovative solutions and encourage learning in the community. The actor relations model in CBSD emphasizes the empowerment of farmers through social communication based on local wisdom and kyai patronage, facilitating the exchange of information and experience between farmers, and opening farmers' access to information and networks for crop productivity development. The construction of knowledge and behavior among farmers creates opportunities and drives community-based change, with supporting and inhibiting factors depending on quality. A model that emphasizes the relationship between internal and external actors through inclusive involvement in order to build capacity and empowerment of local actors independently.



## 5.2. Research Implications

### 1) Theoretical Implications

Theoretically, this research is classified as an empowerment study which emphasizes social communication, development and the strength of farmer groups. The core study is based on the main theory of community empowerment. Theoretically, understanding and experience in receiving and conveying messages has a correlation with various sustainability concepts. The findings suggest that PPLs must adapt their knowledge transfer methods accordingly and choose material that suits the farmer's level of understanding. This implies the importance of effective communication and tailoring information to meet farmers' specific needs and capacities. By ensuring that the material is accessible and understandable, PPL can increase farmers' understanding and engagement in sustainable agricultural practices.

Theoretical research implications of the social interaction of empowering local farmers in sustainable development, emphasizing the concept of appropriate knowledge transfer in accordance with the values of local wisdom and independence in farmer groups, and the utilization of farmers' experiences into local values, can be considered in these areas. And it can also be integrated with actor relations models and maps to thoroughly review theoretical implications.

First, contextualizing knowledge transfer: findings show that knowledge transfer must be contextualized and aligned with the values of local wisdom and self-sufficiency. Researchers must explore and understand the cultural and social context of farming communities to develop appropriate knowledge transfer strategies. By integrating local values and wisdom into the transfer process, researchers can ensure that the knowledge is relevant, meaningful, and applicable to farmers' specific needs and aspirations. This refers to knowledge construction theory and community awareness theory.

Second, promote social communication: effective social communication plays an important role in empowering local farmers and promoting sustainable development. Researchers focus on developing and implementing communication strategies that encourage multidirectional interactions between farmers, local communities and related stakeholders. By creating platforms for dialogue, information sharing, and collaborative decision-making, researchers can facilitate the exchange of experience, expertise, and innovative practices. This social communication approach can increase farmers' capacity to overcome challenges, adapt to changing conditions, and increase crop productivity. Refers to the theory of social communication and social interaction.

Third, integrating farmer experience and farmer empowerment: utilizing farmer experience and knowledge within the framework of local values is very important for sustainable development. Researchers should look for ways to incorporate farmers' practical knowledge, skills and traditional practices into sustainable agriculture concepts and strategies. By recognizing and valuing farmers' experiences, researchers can promote self-sufficiency, enhance local identity, and foster a sense of ownership and empowerment among farmers. This integration of farmers' experiences into local values can create a more holistic and sustainable approach to crop production and increased productivity. The actor relations model recognizes that farmers have local wisdom and knowledge, and by giving them opportunities to share and learn from each other, their capacity will increase. This is in line with the theory of social change and social exchange.

Fourth, access to information and networks and the construction of knowledge and behavior: the actor relationship model emphasizes the importance of providing farmers with access to information and networks for the development of crop productivity. This includes ensuring that farmers have access to the latest and relevant agricultural information, market trends and technological advances. Additionally, by building and strengthening networks, farmers can connect with experts, researchers, and policymakers, enabling them to stay abreast of best practices, innovations, and market opportunities. The actor relationship model recognizes that the construction of knowledge and behavior among farmers is a dynamic process. Through communication and social interaction, farmers continually learn, adapt and improve their practices. This model emphasizes the importance of driving community-based change, where farmers are collectively involved in decision-making, problem-solving, and implementing sustainable practices. This process not only increases their productivity but also contributes to the development and resilience of society as a whole.

Overall, the theoretical research implications highlight the importance of context-specific knowledge transfer, effective social communication, and integration of farmers' experiences into local values. By adopting this approach, researchers can contribute to empowering local farmers, promoting sustainable development, and

increasing crop productivity. Additionally, this research can provide insight into the broader field of sustainable agriculture and serve as a basis for developing innovative and culturally sensitive strategies to address the challenges of food security, environmental sustainability, and rural development. The actor relationship model in CBSD, focuses on empowering farmers through social communication based on local wisdom and kyai patrons, offering theoretical implications for promoting sustainable agricultural practices and community development. By recognizing the importance of knowledge exchange, access to information, and collaborative networks, this model increases farmer capacity, drives community-based change, and addresses challenges through effective communication and coordination among the various actors involved in CBSD.

## 2) Practical Implications

In this research, the practical implications of this research can be used as practical input for groups of shallot and rice farmers and groups of Field Extension Officers (PPL), as well as for Kyai as patrons and several stakeholders in the environment. The practical implications of social interactions empowering local farmers in sustainable development, emphasize the concept of knowledge transfer that is aligned with local wisdom and independence, as well as the actor relationship model in Community-Based Sustainable Development (CBSD).

First, related to the practice of strengthening local knowledge where the practical implications emphasize the importance of recognizing and respecting local wisdom and independence in farmer groups. This involves integrating local knowledge and practices into sustainable development initiatives, ensuring that they are aligned with the cultural and environmental context of the community. By empowering farmers to leverage their own experience and expertise, sustainable practices can be implemented effectively, leading to increased crop productivity.

Second, a participatory approach with practical implications suggests adopting a participatory approach in empowering local farmers. This involves involving farmers, extension workers, protective kyai, and other stakeholders in the decision-making process, enabling the exchange of information, experiences, and perspectives. By encouraging open and inclusive dialogue, community-based change can be encouraged, leading to the adoption of sustainable practices and increased crop productivity.

Third, cooperation networks: practical implications highlight the need to build cooperation networks between farmers, extension workers, kyai patrons, and other actors involved in sustainable development. These networks facilitate the exchange of knowledge, resources, and support, creating opportunities for learning and innovation. By promoting collaboration and cooperation, farmers can access valuable information and crop productivity development networks, leading to increased crop yields.

Fourth, effective social communication, underlining the importance of effective communication between Poktan (farmer groups), PPL (extension workers), and the Kyai community. Clear and consistent communication channels must be established to facilitate the transfer of knowledge, information and experience. This includes utilizing appropriate communication methods that are sensitive to the values of local wisdom and independence. Effective communication increases understanding, builds trust, and strengthens community relationships, enabling farmers to make informed decisions and implement sustainable practices effectively.

Fifth, capacity building with practical implications suggests investing in capacity building initiatives for farmers, extension workers, and kyai patrons. Training programs, workshops and educational opportunities should be provided to enhance their knowledge, skills and understanding of sustainable practices. It empowers individuals to take an active role in their own development, and enables them to make meaningful contributions to community-based change processes.

Sixth, addressing supporting and inhibiting factors, the practical implications of recognizing the existence of supporting and inhibiting factors that can influence community-based change. It is important to identify and address these factors, which may include limited resources, cultural barriers, and external policies. By fostering a supportive environment that addresses these challenges, farmers can be empowered to overcome obstacles and implement sustainable practices effectively, resulting in increased crop productivity.

In conclusion, the practical implications of social interaction in empowering local farmers in sustainable development, considering the transfer of knowledge in line with local wisdom and independence, as well as the actor relationship model in CBSD, emphasizes the importance of strengthening local knowledge, adopting a participatory approach, building collaborative networks, promoting effective communication, investing in capacity

building, and addressing enabling and inhibiting factors. By implementing these practical strategies, stakeholders can empower farmers, promote sustainable practices, and ultimately increasing crop productivity while encouraging community-based change.

### **5.3. Suggestion**

#### **1) To the Government and Field Extension Officers**

Suggestions to the government and agricultural extension workers regarding social interaction to empower local farmers in sustainable development, emphasizing the concept of appropriate transfer of knowledge in accordance with the values of local wisdom and independence in farmer groups, as well as utilizing farmers' experiences into local values for multi-purpose development. effective directions and increasing plant productivity, are as follows:

First, the Government must develop and implement policies that prioritize and support community-based sustainable development initiatives. These policies should emphasize the importance of incorporating local wisdom and self-sufficiency into agricultural practices, as well as promoting knowledge transfer in line with these values. This can be done through incentives, funding programs and regulatory frameworks that encourage sustainable practices and empower local farmers.

Second, agricultural extension workers play an important role in facilitating social interaction and knowledge transfer between farmers. It is important to provide adequate training and resources to extension workers, enabling them to communicate effectively with farmers and understand local values and practices. Extension services should be tailored to meet the specific needs of farmer groups, focusing on participatory approaches, collaborative networks, and leveraging farmer experience. This will increase the effectiveness of extension services in empowering local farmers and promoting sustainable development.

Third, government agencies and agricultural extension workers must collaborate with local community leaders, including kyai, to create an environment that supports social interaction and knowledge transfer. These partnerships can help bridge the gap between traditional wisdom and modern agricultural practices, ensuring that knowledge transfer is culturally appropriate and aligned with local values. Collaborative partnerships can also facilitate the exchange of information and experience between farmers, extension workers, and community leaders, leading to increased crop productivity and community-based change.

Fourth, to empower local farmers and increase their participation in sustainable development, governments and agricultural extension workers must invest in capacity building initiatives. Training programs should focus on sustainable agricultural practices, local wisdom and self-reliance, as well as effective communication and collaboration skills. By equipping farmers with the necessary knowledge and skills, they can actively contribute to the development and implementation of sustainable practices, leading to increased crop productivity and better livelihoods.

Fifth, the Government must ensure that farmers have access to relevant information, resources and networks that support their sustainable development efforts. This includes providing access to agricultural technology, market information, and financial resources. Additionally, governments can build platforms for knowledge exchange and collaboration, such as farmer networks and online communities, where farmers can share experiences and learn from each other.

In conclusion, to encourage social interaction and empower local farmers in sustainable development, it is important for the government and agricultural extension workers to prioritize the concept of knowledge transfer which is in line with local wisdom and independence. By strengthening policy support, improving extension services, fostering collaborative partnerships, investing in capacity building, and facilitating access to information and resources, stakeholders can effectively empower farmers, promote sustainable practices, and increase crop productivity. These suggestions will contribute to the overall goal of community-based change and sustainable development.

#### **2) To the Shallot and Rice Farmers Group**

Basically, this research has direct benefits for shallot and rice farming groups. First, building farmer networks and incorporating local wisdom to encourage the formation of farmer networks or groups that focus on onion and rice farming. As well as encouraging farmers to integrate local practices, cultural beliefs and sustainable farming techniques into their farming methods. This will help preserve local traditions, increase crop resilience, and promote sustainable development.

Second, collaborate with agricultural extension workers to provide special support and training to shallot and rice farmers. Extension agents can organize workshops, training sessions, and demonstrations on sustainable farming techniques, pest and disease control, and post-harvest practices. Ensure that extension services are accessible, relevant and tailored to farmers' specific needs.

Third, help farmers access markets for their shallot and rice products. Provides information on market trends, quality standards and market channels. Assist farmers in building market relationships, forming cooperatives, or accessing value-added opportunities. Strengthening market access will improve the economic viability of onion and rice farming and contribute to sustainable development.

Fourth, better recognize the role of kyai patrons and local leaders in facilitating social interaction and knowledge transfer. Collaborate with them to organize community events, discussions, and workshops that promote sustainable farming practices. Kyai patrons can act as influential figures who support and encourage the implementation of sustainable practices based on local wisdom.

Fifth, farmers have access to relevant information, resources and technology that supports their agricultural activities. Disseminate information about modern agricultural techniques, climate-smart practices, and innovations in onion and rice farming. Encourage the use of digital platforms, mobile applications and online resources for easy access to market information and updates. As well as establishing partnerships with relevant stakeholders, such as research institutions, NGOs and private sector organizations.

By implementing these suggestions, shallot and rice farming groups can increase social interaction, empower local farmers, and encourage sustainable development. Utilization of local values, transfer of farmer experience, and actor relationship models in CBSD will contribute to increasing crop productivity, increasingtan livelihoods, and a more resilient agricultural sector.

### 3) To Other Researchers

For other researchers who are interested in studying farmer empowerment within the framework of community-based social interaction and sustainable development, they can first develop and dig deeper into the dynamics of farmer groups in empowerment. Second, utilizing the actor relations model as a conceptual framework for analyzing the dynamics of social interaction and farmer empowerment in CBSD. Third, assess knowledge transfer strategies by evaluating the effectiveness of various knowledge transfer strategies used in the context of empowering local farmers. Assess the impact of peer-to-peer learning, farmer networks, agricultural extension services, and other communication channels on the dissemination of knowledge and adoption of sustainable practices. Identify best practices and areas for improvement to inform policy recommendations and interventions.

Fourth, gender dynamics in social interactions and knowledge transfer processes. Investigate the roles, responsibilities, and decision-making power of men and women in agricultural communities. Explore how nongender equality influences the empowerment of local farmers and develop strategies to promote gender equality and inclusion in sustainable development efforts. Fifth, collaborate with policy makers and agricultural extension workers to bridge the gap between research findings and practical applications. Disseminate research findings through workshops, seminars, and policy briefs to inform decision-making processes. Provide recommendations for policy reforms and capacity building initiatives that support social interaction and knowledge transfer in sustainable agricultural development.

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