

The Process Of Increasing Institutional Capacity In The Resilience Of Local Farmers' Institutions Makarti Jaya Morowali

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Abstract

The current changes in the economic, social and environmental landscape in Morowali have required active, adaptive and transformative movements for local farmer groups to increase institutional capacity. This demand comes as an effort to maintain institutional resilience and balance in the structure of life amidst uncertainty. This research uses descriptive qualitative methods to see how human resource development, organizational strengthening, and institutional reform are intervention instruments to increase institutional capacity. The results show that Hengjaya Mineralindo has been intervening since 2023 with local farmer groups in Makarti Jaya with both knowledge capacity and practical skills in formulating environmentally friendly agricultural cultivation strategies as a step to adapt to changes in the living landscape. Apart from that, the company has also encouraged local farmers to understand the context of change more deeply, both in social, economic and environmental aspects. In this way, they are expected to not only be able to adapt to change, but also be able to create new, sustainable opportunities for their group in the future.

Keywords: Institutional Resilience, Farmers, Agriculture, Change, Institutional Capacity

INTRODUCTION

In an era marked by rapid change and uncertainty, the resilience of local farmer institutions has emerged as a crucial factor for the survival and prosperity of farmers in the future. Faced with an increasingly unstable and unpredictable economic, social and environmental landscape, the institutional capacity and ability of local farmer institutions to overcome challenges and skills in adapting to these very rapid changes are very much needed by farmers so that they can determine success and failure in the future (Azazz & Elshaer, 2022; Scoones, 1998).

Local farmer groups in Makarti Jaya Village, Morowali, Central Sulawesi are actors and institutions that are currently the subject of changes in national development due to downstream policies or increasing the added value of natural resources through nickel refining or smelting processes (Limanseto, 2023) and the increasing climate crisis 0.8°C over the last few centuries (Legionosuko et al., 2019). This change is a factor in shifting social structures (Alfian, 1996) in society and the environment (Akabzaa & Darimani, 2001). This phenomenon is crucial to understand as an opportunity and challenge in transforming society so that they are able to survive and adapt amidst the current uncertainty. Moreover, the position of local farmers is an inseparable part of a larger system, such as a holistic economic, industrial and societal system. The vulnerability of local farmers implies that external disturbance factors such as natural disasters, the economy, government regulations, social culture, political instability are determining factors influencing the existence of the institution itself in the future (Accra Jaja & Amah, 2014). Therefore, local farmer institutions must be in a homeostatic balance or steady

state in controlling change through adaptation amidst negative entropy which can disrupt the continued existence of the agricultural sector.

Local farmers in Makarti Jaya Village are currently faced with various opportunities and challenges of change. Even though according to the latest data, Morowali has experienced good economic growth due to the downstream nickel policy (Aulia, 2024), on the other hand, the changes that have occurred have also forced farmers to choose to stay or change professions considering that the agricultural sector has experienced a decline in percentage from 13.54 % in 2015 to 8.83% in 2019. If farmers survive, then they must adapt well and quickly to change.

For example, with the limited area available due to changes in land use and the demand for agricultural production which is quite high due to increasing population growth, local farmers are 'forced' to be more optimal in providing harvest results quickly which often in practice forgets the sense of justice in land use between generations, resulting in nutrient mining and liberal use of pesticides. This condition will also indirectly reduce environmental productivity due to the cumulative effect of degradation and damage to agricultural land in the future (Brown & Kane, 2023). If farmers cannot handle this phenomenon, then they will choose the second option, namely changing professions. If the second option is deemed to be the 'right' choice in the midst of uncertainty, then the landscape of people's lives will experience quite serious inequality, especially in economic and social status.

The dilemma of local farmer groups in the midst of an ever-changing environment can increase vulnerability and risk in achieving their goals (Aryadi, 2024; Scoones, 1998). Therefore, increasing institutional capacity is important and is considered both as a defensive response to resistance and/or recovery and as an offensive or adaptive response (Duchek, 2020). Thus, this capability can be seen as an active effort to increase institutional resilience in the future. PT Hengjaya Mineralindo, a nickel company in Morowali, has actively intervened in increasing the institutional capacity of local farmer institutions through an intensive mentoring program in increasing sustainable horticultural agricultural productivity and institutional resilience. This dedication is proof of the alignment of regional development that is pro-human and environmental sustainability (Muhammad, 2020) and as a prerequisite for obtaining *Social License to Operate* (SLO) (Vanclay & Hanna, 2019).

Previous research conducted by Mudatsir & Syarif (2023) revealed that the parties that play a role in the development of food security systems include farmers who are members of farmer groups, agricultural extension workers, and traders. To strengthen farmers' institutions, strategies that need to be implemented include improving administration in farmer groups, increasing farmers' participation to be more independent, government support in the formation of farmers' economic institutions, establishing independent agricultural extension workers, and increasing the role of farmer groups in utilizing modern technology to add value to products. In addition, other efforts are needed to strengthen farmers' bargaining position in the agricultural product trade chain.

This research presents novelty in examining the efforts of a nickel company to enhance the institutional capacity of local farmers in Makarti Jaya Village, Morowali, since 2022. The focus of this study is on how institutional capacity development can help local farmers adapt to change and maintain the performance of farmer groups amidst ongoing disruptions. The study aims to analyze the process of strengthening institutional capacity, which promotes more effective agricultural strategies and sustainable farming practices, thereby contributing to sustainable resource governance and institutional resilience among farmers. This research will outline the efforts made by the nickel company since 2022 to develop institutional capacity in Makarti Jaya Village, Morowali. The author understands that through institutional capacity development, local farmers can drive change and sustain the performance of farmer groups amidst ongoing disruptions. Consequently, this practice can encourage the advancement of more

effective agricultural strategies and cultivation methods within the framework of sustainable resource governance.

RESEARCH METHODS

This research is intended to look at the process of developing the institutional capacity of local farmer institutions carried out by Hengjaya Mineralindo in Makarti Jaya Village, Bahodopi Morowali. Thus, the method used in the research is descriptive qualitative. Descriptive qualitative research methods are intended to describe and analyze various phenomena, events or behavior that occur in society, both individually and in groups (Moleong, 2012). Data collection was carried out using primary data, namely direct interviews with informants, field observations and documentation as well as secondary data obtained from the study of reliable documents or literature that is related to the needs of this research. Research informants were selected through techniques *purposive sampling* with a total of 15 people and members of the local farmer group assisted by Hengjaya Mineralindo located in Makarti Jaya Village. The determination of informants is based on the quality of information and the capacity of farmers to provide answers to the processes obtained in institutional development. The research was conducted in the local farmer empowerment area, Makarti Jaya Village, with a data collection period during July – September 2024.

In order to obtain comprehensive data, the research dimension used by researchers is the concept of institutional capacity development expressed by (Grindle, 1997) with reference to human resource development, organizational strengthening, and institutional reform. These three dimensions become *tools* researchers use to analyze the extent of the company's intervention or efforts in carrying out a comprehensive mentoring process. After these results are obtained, the researcher will analyze their suitability with the general institutional resilience perspective.

RESULT AND DISCUSSION

In this section, the researcher briefly describes Hengjaya Mineralindo's local farmer group development program in general, the company's intervention process in institutional development and analysis of institutional resilience.

Program Description

Earth Methane or known as Planting Without Destroying the Earth is a flagship community empowerment program launched in 2023. This program is a social and environmental initiative designed to encourage the transformation of traditional agricultural systems into new agricultural systems that are more inclusive and environmentally friendly. Based on three main issues—environmental, social and economic—this program aims to create sustainable change for local communities, especially farmers, in the company's operational areas. Based on the results of the company's social mapping, several main challenges were found. First, from an environmental perspective, local agricultural practices still rely heavily on the use of chemicals, which has a negative impact on soil quality, increases the risk of environmental degradation, and accelerates the rate of climate change. Second, from a social perspective, local farmers do not yet have a strong institutional structure amidst the rapid development of nickel industrialization. This causes them to be limited in adapting to change and results in the weakening of the social capital they have. Third, from an economic perspective, local farmers' income is still below the average Morowali Regency Minimum Wage (UMK). This problem is

exacerbated by unstable market access and the low quality of agricultural products, which makes it difficult for their products to compete.

Through this program, the company seeks to answer these challenges by providing training-based solutions, environmentally friendly agricultural technology and institutional support. The aim is to increase the productivity and income of local farmers while preserving the environment, thereby creating a balance between economic growth, social sustainability and environmental protection.

Institutional Capacity Development Process

Developing the institutional capacity of local farmers is able to provide change and maintain the performance of local farmer groups amidst the disruption of change that is occurring, so that it can encourage the progress of more effective agricultural strategies and practices in the realm of sustainable resource governance. Currently, the company always tries to develop and promote resilient behavior among local farmers in building their ability to adapt and innovate. Resilient local farmers will be able to produce new ideas and innovate in finding efficient alternative solutions to overcome environmental and market disruption, so that this ability is expected to improve their creative performance (Saad & Elshaer, 2020). In the institutional development process, the company encourages farmers' resilience, prevents them from only focusing on short-term activities, and forces them to adhere to creativity, high performance and sustainability of farming businesses that are socially and environmentally friendly. These goals can be achieved by implementing human resource development, organizational strengthening, and institutional reform.

Human resource development is an effort to improve the abilities and skills of individuals and groups to access material and non-material needs so that shared goals can be achieved. In the human resource development process, the company has increased the knowledge of local farmers through training, one of which is environmentally friendly agricultural cultivation training as an implementation of Law No. 22 of 2019 regarding Sustainable Agricultural Cultivation Systems which directs farmers to be able to implement an integrated pest management system. (HPT) as well as handling the impacts of climate change properly using organic methods. These trainings are very diverse, starting from making vegetable pesticides, making organic fertilizer from animal waste, using appropriate technology for agriculture, developing agribusiness businesses, and so on.

The role of the government in human resource development, especially in the agricultural sector, is crucial in ensuring that farmers have the necessary skills and knowledge to face modern agricultural challenges. One form of government support is through regulations that promote sustainable agricultural practices, as outlined in Law No. 22 of 2019 on the Sustainable Agricultural Cultivation System. This regulation aims to enable farmers to implement integrated pest management (IPM) and address the impacts of climate change through organic approaches. The implementation of this policy is not only limited to written regulations but is also realized through various training and extension programs for farmers.

In the process of human resource development, companies also contribute by enhancing farmers' knowledge through various training programs, one of which is environmentally friendly agricultural cultivation training. This program educates farmers on how to apply sustainable farming methods, such as making botanical pesticides, organic fertilizers from animal manure, and utilizing appropriate agricultural technology. This effort aligns with the government's initiative to reduce dependence on synthetic chemicals that could harm the environment and human health.

Furthermore, the government also plays a role in providing support in the form of technical assistance, agricultural extension services, and subsidies for tools and agricultural inputs. Extension services conducted by agricultural experts help farmers understand more

efficient and sustainable agribusiness practices. The provision of subsidies and agricultural equipment assistance enables farmers to access modern technology at a more affordable cost, thereby improving their productivity and efficiency.

With the synergy between the government and the private sector in human resource development, farmers are expected to become more independent and competitive. Government- and company-supported training programs allow farmers to implement more adaptive and environmentally friendly agricultural strategies. Ultimately, this not only contributes to national food security but also ensures the sustainability of the agricultural sector amidst climate change and global economic dynamics. *"My farmer friends and I are always given knowledge about how to make organic fertilizers and pesticides so that plants continue to grow well but also don't disturb the environment. Because we didn't know about that before," (Wanto, 2024)*

The intervention carried out by the company towards local farmers in this training was based on an understanding of the limited knowledge possessed by farmers regarding the challenges arising from increasingly real climate change. In the agricultural context in Makarti Jaya, many local farmers still depend on conventional agricultural practices, such as the use of chemical fertilizers and the application of cultivation methods that are not environmentally friendly. These practices not only negatively impact soil and water quality on their farms, but also have the potential to reduce overall ecological productivity. In the long term, the cumulative impact of agricultural land degradation and damage can threaten food security and ecosystem sustainability, as the quality of land that can be used for farming continues to decline (Brown & Kane, 2023).

For this reason, the company seeks to provide a more comprehensive solution by not only providing theoretical training, but also integrating direct practical aspects aimed at facilitating farmers' understanding of the material presented. Through this approach, the company hopes to ensure that farmers not only obtain information, but are also able to apply this knowledge effectively in their daily agricultural activities. This training involves providing tools and materials that can be accessed from natural resources around them, which are more environmentally friendly. For example, farmers are taught to make vegetable pesticides made from extracts of papaya leaves, soursop leaves, betel leaves and other natural ingredients, which are proven to be safer for the environment and do not reduce soil and water quality like chemical fertilizers. Apart from that, farmers are also guided in implementing water use efficiency techniques through system development *hidro-catch* underground. This system is designed to capture and store rainwater optimally, so that it can be used in the dry season and reduce dependence on increasingly limited water resources. Thus, the training carried out aims to create more sustainable agriculture and increase farmers' capacity to manage natural resources more wisely and effectively. *"Yes, bro, we were taught well not just one day, but every day. As if we were guided and ensured that we had implemented the knowledge and practices on the group's land and each individual's land. So yes, so we don't get confused," (Aris, 2024)*

With training and direct practice carried out by local farmers, it is hoped that it will be able to strengthen organizational capacity and create a solid foundation for the organization's long-term success. This program not only facilitates the development and management of local farmers but also contributes to achieving organizational goals and overall resilience. In fact, it is an important element in strengthening the capacity of farmer groups in facing internal and external challenges because they have problem-solving skills, creative thinking and comprehensive abilities to adapt to an increasingly unstable environment.

Apart from focusing on developing local farmer resources, the company also carries out empowerment in terms of strengthening farmer groups institutionally. This context is important because it is related to the organizational management system within the institution so that tasks, functions and goals can run effectively and are able to increase institutional resilience (Kusworo,

2014). In practice, the company has provided assistance regarding group leadership, collective time management, and organizational culture management which supports institutional resilience. For example, group leaders are always guided by the company to be involved in joint decision making in deliberations and preparation of collective work schedules on the group's land and individual farmers' land. This effort is to strengthen the farmers' own social capital, so that when difficulties occur, the farmers are able to work together and work together to solve the challenges they face. This context illustrates that the group leader's management and communication abilities are important characteristics in resilience that need to be guaranteed by all group members.

Strengthening local farmer groups is further strengthened by assistance from companies that focus on structural institutional reform in farmer institutions. The company provides guidance to farmer groups in preparing detailed work plans, establishing clear work systems, and designing task divisions that suit the capacities of each member. Apart from that, the company also helps formulate efficient and profitable marketing channels for agricultural products.

Currently, local farmer groups have a clear organizational structure and have received approval from the Head of Makarti Jaya Village. In this structure, there is a new work system that involves Village-Owned Enterprises (Bumdes) as an important element in the process of distributing agricultural products at more competitive prices. Previously, Bumdes had not operated effectively and tended to work partially. However, through collaboration with nickel companies in Morowali, Bumdes now has access to a wider market network, strengthening the bargaining position of local farmers in the market.

This collaboration opens up new opportunities for local farmers to enter a larger and more competitive market, along with a more efficient and organized distribution system. Therefore, the farmer group work system now not only meets internal needs, but is also able to adapt to social dynamics and the needs of the constantly developing external market. It is hoped that this change will have a sustainable positive impact on the welfare of local farmers and the progress of the village economy. *"I used to have difficulty selling vegetables. Confused about where to sell, especially since prices are always going up and down on the market. "But now there is cooperation with village-owned enterprises and companies, so there is at least a little guarantee that my vegetables will be sold using a clear system," (Usman, 2024).*

Development of Institutional Capacity in Supporting Institutional Resilience

Based on the researchers' findings, the company's efforts have been going quite well since 2023 in developing the institutional capacity of local farmers in Makarti Jaya Village. The company has supported increasing the group's capability to learn quickly and build strategic assets in the form of capabilities, technology and structural systems. The readiness of these assets in the company's Earth Methane program is a form of external agency intervention in responding to the challenges of the dynamics of change (Moleong, 2012) that are currently occurring in Morowali.

The conditions of change raised in this research are changes that occur as a result of the massive growth of nickel industrialization in Morowali, urbanization of the population, and the climate crisis. This situation has of course drastically changed the economic, social and environmental structures for society, including local farmers as individuals and institutions. This change needs to be actively and positively resisted as an opportunity to adapt and grow through innovative thoughts that can strengthen the resilience of the institution in the midst of an ever-changing system phenomenon (Accra Jaja & Amah, 2014). And if local farmers act passively, they will collapse and eliminate the social system in the midst of change and hinder social and economic development. Just as an institution that previously performed well in stable times will suddenly collapse and weaken if it is unable to rise when facing pressure and dynamics of change (Andersson & Gadolin, 2020; Barin Cruz et al., 2016).

The assistance provided by the company to local farmer groups is a concrete manifestation of awareness of the shift in values, systems and social dynamics that are occurring in society. This shift is not only seen as a challenge, but also as a strategic opportunity to empower local farmers from an institutional perspective. Therefore, companies have played an active role in developing farmers' capacity by integrating various types of traditional and modern knowledge, as well as relevant practical skills (Berkes et al., 2015; Pretty, 2003).

Through assistance provided by the company, local farmer groups are encouraged to understand the context of change more deeply, both in social, economic and environmental aspects. In this way, they are expected to not only be able to adapt to change, but also be able to create new, sustainable opportunities for their group in the future (Folke et al., 2002). This process has helped farmers to be more independent in organizing themselves and their groups, building solidarity, and strengthening institutions which are an important foundation for the group's sustainability in the future.

In addition, the ability to understand the changing context dynamically and adapt quickly is the key to success in developing farmer group institutions. As stated by (Folke et al., 2003), an approach oriented towards strengthening local capacity can be a solid foundation for creating innovation and sustainability of community governance. This shows that collaboration between companies and communities has great potential to provide a sustainable impact, both for individuals and groups.

If you look at the perspective of the concept *Resilience Inference Measurement* (RIM) (N. Lam et al., 2016), then researchers understand that *exposure* or the changes that have occurred as a result of the massive growth of nickel industrialization in Morowali and the climate crisis have brought disaster (*damage*) because it has drastically changed the economic, social and environmental structure of society, including local farmers as individuals and institutions, and increased the vulnerability of farmer groups due to the urbanization of the population which ultimately led to a shift from agricultural land to residential land. With this condition, the area of agricultural land is increasingly narrowing and reducing farmers' ability to meet their vegetable needs.

Hengjaya Mineralindo's efforts to develop the institutional capacity of local farmers are the application of the concept of resilience which is not centered on control in one party, but also provides opportunities for local farmers to determine, manage and evaluate uncertainties that can affect their survival. Surviving amidst significant changes in Morowali is not an easy thing for local farmers because it requires skill and innovation in agricultural practices by utilizing and maximizing available capital. That way they can bounce 'back' and be able to create an opportunity from the situation (Vanclay & Hanna, 2019).

CONCLUSION

Increasing institutional resilience amidst changes in the economic, social and environmental order is a challenge for society, especially local farmers, in balancing thinking and endurance for life. This challenge is the basis for the need for Hengjaya Mineralindo's intervention in strengthening institutions to increase resilience amidst changes in nickel industrialization and climate change. Nickel industrialization is often accompanied by social impacts, while climate change increasingly exacerbates society's vulnerability to natural disasters, reduces agricultural productivity, and disrupts the balance of ecosystems. In the midst of these two major dynamics, strong local farmer institutions are needed to ensure sustainable development and protect the rights of local communities. This research has provided an overview of how local farmer groups are encouraged to be able to face changes that occur adaptively and

proactively. Local farmer participation from planning to evaluation is the core of institutional strengthening efforts. The community is not only involved in decision making, but also in its overall implementation. By empowering local farmer groups through institutional improvements, they can understand the importance of surviving and creating new innovations in sustainable development efforts. Overall, strengthening institutions is the key to building institutional resilience amidst the pressures of nickel industrialization and climate change. By ensuring harmonious collaboration between various parties and placing local communities as the main actors in development, institutional resilience can be created in a more sustainable and inclusive direction.

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