

Dispelling the Ambivalence of Salt Farmer Welfare Policy: Study of Grassroots Ethnography in Local Wisdom Innovation in Mangunlegi Village

Hana Aulia^(1*), Muhammad Affan Asyraf⁽²⁾, Untari Febriani⁽²⁾,
Rona Iffah⁽²⁾, Seren Kastiureni⁽²⁾

ARTICLE INFO

*Correspondence Author

⁽¹⁾Departement of Social Welfare
and Development, Faculty of Social
Science and Political Science,
Universitas Gajah Mada, Indonesia.
Email: hana.aulia@mail.ugm.ac.id

⁽²⁾ Universitas Gajah Mada, Indonesia

How to cite:

Aulia, H. Asyraf, M. A., Febriani, U., Iffah, R., & Kastiureni, S. (2022). Dispelling the Ambivalence of Salt Farmer Welfare Policy: Study of Grassroots Ethnography in Local Wisdom Innovation in Mangunlegi Village. *Jurnal Pemberdayaan Masyarakat: Media Pemikiran dan Dakwah Pembangunan*, 6(1), 1-20.

ARTICLE HISTORY

Received 17 October 2021

Accepted 22 June 2022

KEYWORDS

Salt Farmers, Government
Policy, Local Wisdom,
Grassroots Innovations,
Welfare.

ABSTRACT

Economic problems and the complexity of salt production have riddled government policies to alleviate salt farmers' poverty. This raises the question of how to optimise policies that can impact the welfare of salt farmers. Based on this problematization, this paper attempts to explore the ambivalence of government intervention in the PUGAR (People's Salt Business Empowerment) policy to alleviate poverty for salt farmers in Mangunlegi Village, Batangan District, Pati. Using an ethnographic approach, the search for policy studies that link the community and the government has illustrated the complexity of the economic growth of salt farmers in Mangunlegi. This complexity is shown by the declining income growth of salt farmers amid the presence of a survival strategy in articulating the meaning of local wisdom and the social environment when people adapt to government policies. The results of this study rest on the possibility of achieving the welfare of Mangunlegi salt farmers through their adaptability to government policies, which lead to grassroots social innovation. For this reason, this study pays attention to the implications of the research results, which reveal that the welfare of salt farmers can be realised if the policies issued by the government do not cause ambivalence. However, if salt farmers are given the freedom to formulate grassroots-based policies, social innovation can be realised. This is one of the solutions to poverty alleviation for salt farmers in Mangunlegi.

Introduction

Up until now, the poverty of salt farmers in Indonesia is still an unresolved problem. The National Team for the Acceleration of Poverty Reduction (*Tim Nasional Percepatan Penanggulangan Kemiskinan – TNP2K*) (2011) noted that 2.2 million coastal residents were in the extremely poor category in 2008, including salt farmers. This fact contradicts the Ministry of Maritime Affairs and Fisheries (KKP) Statistics report, which recorded the production of the pond and non-pond salt in Indonesia in 2018. The data shows an increase with a total production of 2,349,629.81 tons, compared to 2017, which only produced 1,020,925.27 tons (KKP, 2018). As the main actors in salt production, salt farmers are required to improve the quality and quantity of salt. It can be seen from the need for salt in Indonesia, which is increasing by 5–7% every year, especially the demand for industrial salt (Al Amien & Adrienne, 2020). This makes salt a strategic commodity for national economic growth. Therefore, the welfare of salt farmers cannot be ruled out and needs to be improved.

Poverty felt by salt farmers in Indonesia is related to structural problems due to the impact of government policies. The import policy in 2004 resulted in local salt being neglected. This is because the quality of local salt is considered lower than that of imported salt, so it has not been able to meet the quality standards of salt needed for industrial purposes. In addition, the high supply of imported salt has implications for the fall in local salt prices. In response to this, in 2011, the central government issued a People's Salt Business Empowerment (PUGAR) policy. However, this policy did not run optimally. In its implementation, the PUGAR policy experienced inconsistencies and misappropriation of funds. This makes the policy not run as it should (Baihaki, 2013).

Responding to the welfare problems experienced by salt farmers, several studies and policies have stuck to the discourse of technological limitations (Ihsanuddin et al., 2018; Izzaty & Permana, 2011; Konelya, 2021; Yektiningsih et al., 2020). Instead of paying attention to how salt farmers respond to problems, one of them is organising local wisdom. Such circumstances tend to consider local wisdom an obstacle for salt farmers in maintaining their welfare and productivity. A study by Rochwulaningsih (2007) states that salt farmers on the coast of the island of Bali used their local wisdom to increase productivity and the welfare of salt farmers. Seeing the vital role of local wisdom and the social aspects of salt farmers in accommodating them to maintain productivity is amid the bondage of capitalism and salt commercialization since the colonial era.

Responding to the welfare problems experienced by salt farmers, various studies have responded to this problem. In this case, the authors mapped the trend of the research topic into three categories. The first topic, researchers tend to be trapped in the discourse of technological limitations experienced by farmers. This makes farmers unable to produce salt of good quality or according to industry standards (Ihsanuddin et al., 2018; Izzaty & Permana, 2011; Konelya, 2021; Yektiningsih et al., 2020). The second topic is the limited knowledge of salt farmers on salt processing. This limitation relates to the lack of knowledge of salt farmers on salt processing which so far depends on the weather. In addition, the limited knowledge of farmers is also on the ability to sell salt products, financial management of the salt business, and organisation among salt farmers in the salt of sale is less than optimal (Sudaryana & Pramesti, 2018; Nuswardani, 2019; Rahayu, Fatoni & Syafa'at, 2021). The third topic, researchers tend only to see that the PUGAR policy has successfully empowered salt farmers. Such tendency of success can be seen in how the PUGAR program improves the economy of salt farming communities by strengthening capacity and providing equipment assistance to increase salt production in quantity and quality (Utami, 2016; Wulandari, 2021; Pranowo & Muhadjir, 2015; Amanda & Buchori, 2015; Sari et al., 2015; Wardono & Istiana, 2014). Such a framework of thinking tends to raise the idea that PUGAR is the only solution to the salt farmer's welfare problems.

In contrast to the three topics, research from Rochwulaningsih (2007) states that salt farmers on the coast of the island of Bali also experience limited access to this welfare. However, they use local wisdom to accommodate them in maintaining productivity amid the bondage of capitalism and salt commercialization since the colonial era. Therefore, this study seeks to complement the shortcomings of previous studies by finding out more about how salt farmers in Mangunlegi Village create adaptation patterns, which are manifested in their local wisdom. Mangunlegi Village was chosen to be the object of this research because Mangunlegi Village is one of the largest salt-producing areas in Pati Regency, Central Java. In addition, this village is also dubbed Kampung Garam, which is actively producing salt with pond ownership of 143,146 ha, which is carried out by 262 salt farmers (Adelia, 2015). However, the Ministry of Social data (2020) states that Mangunlegi Village is the second priority in poverty reduction in 2020.

Seeing the phenomenon of poverty that shackles the salt farmers of Mangunlegi Village, it is also necessary to know how the salt farming community in Mangunlegi Village applies and utilises their local wisdom and social aspects. These two things become an ideal scheme for salt farmers to survive and even improve their welfare.

It is understood that it is still rare to find studies that specifically discuss the role of local wisdom and social aspects of salt farmers on their welfare. So there is a need for a study that systematically discusses the characteristics of local wisdom innovation and the social aspects of salt farmers in Mangunlegi Village. In line with this, this paper will discuss the dynamics of salt production, the role of government intervention through import and PUGAR policies, the pattern of local wisdom, and the social aspects carried out by salt farmers to survive. In the discussion section, this paper discusses the comparison of the implementation of government intervention and local wisdom as well as the social aspects carried out by salt farmers. Meanwhile, the grassroots innovation scheme is proposed to be the basis for grassroots policymaking.

This paper will be based on several assumptions. First, local wisdom can become an innovative force that can become a new policy scheme oriented to the welfare of salt farmers. Second, the involvement of farmer groups in the running of salt production creates strong social capital and helps facilitate financing arrangements. Third, not always the simplicity of the technology used in salt production is an obstacle to salt production, local knowledge applied in salt farming communities has the potential to be a reference in policy formation. Based on these assumptions, this paper has an orientation to generate a bottom-up policy discourse toward salt farmers who have not received serious attention so far. Such exploration is expected to realise a conducive transition and synergy between empowerment tools and policies and empowered subjects. In addition, it is also expected to present an ideal scheme related to a strategic context where the implementation of technology will provide sustainable welfare for the salt farming community in Mangunlegi Village.

Understanding Local Wisdom as the Basis for Grassroots Innovation through a Bottom-Up Policy Approach

Agricultural community groups build productivity networks from the existence of social closeness manifested by interactions, decreasing knowledge, a sense of equality, and repeated collaboration between communities (Syarifudin & Ishak, 2020). The existence of this life scheme opens space for the presence of specific values and procedures for living life by utilising natural resources. With this in mind, it is crucial to consider the role of local wisdom as a form of social capital and social capital itself, which gives rise to local wisdom. By understanding that farming communities in rural areas have characteristics embedded in the community's life, policymakers need to identify while discussing the importance of social capital that forms the existence of local community wisdom as policy formulation (Syarifudin & Ishak, 2020).

The concept of local wisdom indirectly answers the sustainability of the economic life of the farmers. However, there is a shift in people's views regarding economic life, which only focuses on material wealth, indirectly excluding the community's local wisdom. In this case, the economic activity of the farmers is a negotiation process with nature to survive according to the social demands of world civilization. The advantage of agricultural products is a manifestation of local wisdom built from human interaction with nature (Pandopotan, 2019). This process then gives rise to values that become the basis or reference for social and economic behaviour. In his study, Pandopotan (2019) explained that the agricultural process in Deli Serdang District had indeed used modern technology. However, the traditional aspect is not ruled out because the method has been passed down from generation to generation. In addition, local wisdom can be used as a trigger for public services because it contains local values that have developed in the community for a long time (Sumada, 2017). Departing from this understanding, local wisdom formed from social capital is one of the crucial aspects of policy formulation, especially policies conducive to grassroots communities.

So far, public policy is defined as a series of actions that are tangible in a series of decisions that have goals and ways of achieving them to deal with certain situations (Hill & Varone, 2021). Often the decisions taken involve a group that has a specific orientation. However, the perspective of public policy has always revolved around the actions taken by the government, parties, rulers, statesmen, and other elites. The state is considered a set of institutions with great power over a particular area. The possession of this power gives the state the power to regulate through policies such as laws.

Public policy must have three aspects that are closely related to public policy formulation (Sabatier & Mazmanian, 1980). First, is the decision network. Problems to be resolved through public policy often experience considerable complexity. A decision network is needed to capture related actors to make the right decisions. Second, policies are not stated in a single decision. The policy requires the approval of the actors who will feel the impact of the policy to be implemented. Third, policies are dynamic. Dynamic problems make policies will often change following the existing issues. In this case, the public policy seeks to create a series of decisions that align with the problems. Therefore, it is crucial to balance the perspective of decision-making so that the decisions taken can solve the problems that occur. Balancing these perspectives involves community participation in decision-making or using a bottom-up approach. However, Indonesia is one of the countries considered not to be serious

in implementing a bottom-up approach in implementing government programs, so it is often not under the expected results (Sumada, 2017). Therefore, as a form of accommodation of local wisdom in government policies, it is necessary to implement policies that involve lower-level actors (grassroots) in the decision-making process before policies are implemented so that policies are able to solve grassroots problems.

Grassroots policies are accommodated by a concept called grassroots innovation. Grassroots innovation is defined as a sustainable development effort involving a network of grassroots activities and organisations in response to local situations and interests (Sefyang & Smith, 2007). The grassroots innovation scheme emphasises the involvement of social, cultural, and local norms that are different from innovation in general (Monaghan, 2009). This scheme is also present to bridge local interests in the form of potential and grassroots needs with the existing development agenda. It also does not deny that ideas outside local wisdom and local knowledge can intervene in grassroots innovation schemes. Of course, they must be accompanied by the cooperative principle of these two things. Grassroot innovation captures local culture that is open to new things, accepts diversity, is based on practical experiments, is willing to learn according to social experience, and is able to negotiate (Leach et al., 2012). The formulation of this grassroots innovation scheme is based on: (1) social needs; (2) local cultural ideology is not just an ideology based on material needs; (3) created from existing cultural values or local wisdom; (4) local knowledge or local wisdom is still carried out by the community; (5) based on voluntary work, the principle of *Gotong Royong*. The orientation of the grassroots innovation scheme is here to influence local knowledge and experience so that it can be used as an appropriate and sustainable innovation (Sefyang & Longhurst, 2016).

Of course, the concept of grassroots innovation focuses on improving the quality of life of grassroots communities. This concept will change the policy paradigm that is centralised to decentralised and give rise to a 'new localism' by widening the participation of stakeholders, especially residents and local communities. Grassroots innovation is based on a bottom-up approach initiated by the local community and is a non-profit organisation, so it differs from the top-down approach. The top-down approach is considered to override the role of lower-level implementers in the policy implementation process. In fact, in policy implementation, lower-level actors play a significant role in determining the success of a designed policy. Therefore, through a bottom-up approach, there will be considerations of what and how the aspirations, goals, needs, and even obstacles arise from lower-level actors.

The bottom-up approach is taken to respond to local situations and become local community concerns themselves (Hossain, 2016). The bottom-up is also believed

to be more sustainable because it answers local problems that come from the advocacy of the local community itself. In this case, the participation framework is fundamental to realising this grassroots innovation. Participation represents the involvement of local communities in making decisions on development policies and agendas within them.

The grassroots innovation scheme can be implemented if the following things support it. First, networking is a network in the context of place, spatial scale, communication between individuals in the community, and social change. This must support the passage of local wisdom, which is appointed as an innovation. Networking can be obtained by strengthening the role of local communities for involvement in the formulation of innovations and by involving more institutionalised structures such as government policies (Geels, 2011). If networking can be used properly, it will create convenience in the lobbying process to find out the best scheme and suit the community. Second, the role of intermediary institutions. Intermediary institutions are formal institutions that can help local communities and their local wisdom collaborate to create innovations as a way out of the problems they feel. The innovations created will later be able to become a new scheme for stimulus in policy formulation, can be institutionalised, develop standards, and become information for local communities.

Methods

This study uses a qualitative method with an ethnographic policy approach. Dubois (2009) explains that policy ethnography is an approach that collects qualitative and quantitative facts with an orientation to provide a critical view of policy implications for grassroots communities. The qualitative points in this study were obtained from the collection of narrative data sourced from primary data, namely by conducting in-depth interviews with informants. The research was conducted directly (fieldwork) for approximately one month. During the research, researchers experienced obstacles due to the pandemic, such as not being able to live in and participate in all analysis unit activities. To get around these limitations, the researcher took several steps to keep getting data following the conditions in the field, namely by conducting interviews through online media such as telephone, WhatsApp, or Zoom. This is intended to build closeness with the unit of analysis through in-depth interviews and focus group discussions with various interested actors such as coordinators, landowners, and salt farmers. In addition, researchers also made observations on salt production activities carried out by salt farmers in salt ponds and salt storage cottages by following the health protocols implemented by the local village government and carried out briefly.

Meanwhile, quantitative data was collected from quantitative data sourced from secondary data in the form of reading-related literature.

The unit of analysis in this study is the salt farmer group in Mangunlegi Village, Batangan District, Pati Regency. The location was chosen because Mangunlegi Village is one of the villages with the largest salt pond ownership, around 143,146 ha, which is cultivated by around 262 salt farmers, which makes Mangunlegi Village nicknamed the Salt Village (Adelia, 2015). This study's data collection techniques were carried out using primary and secondary data sources. Primary data is data obtained through interviews and observations. While secondary data was obtained through reading literature in the form of scientific articles, policies, and government reports relevant to the topic of salt farmers' welfare.

The data analysis technique used is based on four stages of analysis, namely data transformation, typology formation, data consolidation, and drawing conclusions (Caracelli & Greene, 1993). Data transformation is a process in which the collected narrative and statistical data are converted so that they can be analysed simultaneously and have a relationship. Typology formation is a process in which data are classified or grouped to build a research framework. In data consolidation, a review of the data variables that have been collected is carried out to strengthen the incorporation of data that is manifested in the narrative. Drawing conclusions is an explanation and verification process carried out from the data collection stage, describing relevant matters and explaining cause and effect on the dynamics of local wisdom of salt farmers in Mangunlegi Village.

Results

Dynamics of Salt Production in Mangunlegi Village

There are three actors in the salt production process in Mangunlegi Village, namely salt farmers, landowners, and collectors. The salt production process has an income-generating scheme that is fixed by using the *separonan* concept. As an integral concept, *separonan* is the concept of profit-sharing between the owners of capital and labour in the production chain of salt. Derived from the word *maro/paro*, which means half, *separonan* refers to the distribution of income from the profits of salt production as much as 50:50 for cultivators and landowners.

Some landowners work their land, pay farm labourers, or lease their land. For the salt land rental system, payments are made annually. The determination of the land rental price is considered based on the distance between the pond and the village and the texture of the soil. The land position closer to the village will be more expensive

due to considerations of transportation costs and how closer land to the village also affects the soil texture. The land tenant has the right to use the land for one year, which can be extended according to the agreement.

The quality of natural resources also influences the income attachment of salt farmers. Optimization of natural resources allows for income from processing salt. In addition, the condition and location of the processing ponds play a role in determining the quantity of salt production. Ponds located close to the sea can provide more quantity than those far from the sea. However, the costs involved for ponds near the sea are much higher. The influence of the income of landowners and cultivators is primarily determined by the dynamics that occur when the harvest reaches the collectors. In the context of Mangunlegi Village, collectors have a significant influence over the government in determining the price of salt. Salt farmers in this position do not have the strong political power to negotiate the price of the salt itself. The absence of clear standards from the government makes the collectors have complete control to determine the price. Quality standard construction is one of the main weapons for collectors to control prices. Salt quality standards are the main factor in determining the price. This is based on the matter of the form of salt, where the salt that looks white and clean will automatically be judged to have good quality standards, thus making the value of buying salt from farmers by collectors to be high.

Dependence on collectors is not a matter of inter-class politics. However, the weakness of salt farmers to get a high selling price of salt is caused by the limitations of the quality of salt production itself. Something quite unfortunate is related to the potential to achieve quality which is not realised due to limited capital. The inability of salt produced by farmers to penetrate the industrial market is the leading cause of various weaknesses in the economic and political aspects of salt farmers in Mangunlegi. The abundant harvest of salt that cannot be sold to the industry makes the supply of salt in the 'household' market booming and the price drops drastically because the supply is higher than the demand. This matter is miserable because of the potential present in Mangunlegi Village itself. The standard content of NaCl, as much as 96% in the salt needed as raw material for production, which can then be sold to the industrial market, is possible to produce in Mangunlegi. Salt farmers in Mangunlegi have several times tested NaCl quality standards in the laboratory with researchers from Diponegoro University, who found that the level of salt production in Mangunlegi can be categorised as industrial salt. However, to achieve these conditions, the processing takes more time. It takes a minimum of 10 days in the drying process to produce salt with the appropriate quality NaCl. However, herein lies the constraint of the Salt

Farmers in Mangunlegi. Their economic condition, which demands a quick income for their daily needs, prevents them from carrying out an appropriate industrial salt production process. This limited economic capital is the primary rationalisation for farmers to cut the drying process to only six days or even three days.

The problematic situation due to capital constraints also has implications for the rationalisation of salt farmers in Mangunlegi towards modern salt processing techniques. The absence of significant differences between modern technology and traditional technology is the main basis for salt farmers in Mangunlegi to adhere to the salt processing process using traditional techniques and tools. Here the problem lies in people's perception of modern technology, which seems irrelevant in helping their lives. Specifically, the existence of modern technology has been considered only to help the production of salt in terms of quantity, even though what is needed by the community is to support quality so that salt production can be sold to the industrial market.

The weakness of the salt producers in Mangunlegi cannot be underestimated. In the sense, it is not entirely an obstacle or weakness. Certain situations make salt farmers in Mangunlegi possible to have ample income. Salt from harvests that could be not sold or are priced too low will be hoarded by farmers in Mangunlegi in their respective warehouses. Then when the price is high, salt producers will automatically sell the salt that has been accumulated earlier. The strategy detailed by the farmers is quite beneficial for them and, on certain occasions, makes them proud.

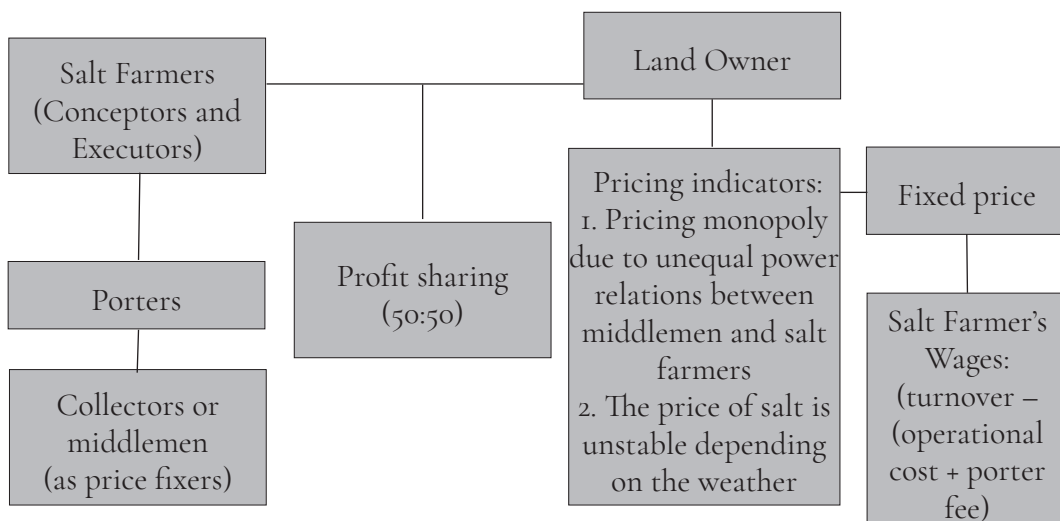
Government Intervention for the Welfare of Salt Farmers

In an effort to improve the welfare of salt farmers (See Flow Chart 1), the government is present in providing welfare through public policies. The public policies aimed at are salt import policies and PUGAR policies. However, the current policies were considered not to have sided with increasing the welfare of salt farmers. The government promoted the salt import policy because the local salt supply could not reach the set standard, namely salt, which has a NaCl content of 96% (Ministry of Industry, 2020). In this case, to achieve industrial salt standards, salt must go through production for a longer time. The inability of salt farmers in Mangunlegi Village to produce salt according to industrial standards clashes with economic needs that depend on daily income from salt production. The salt farmers of Mangunlegi Village harvest salt in a short time so that it can be sold faster to meet the needs for everyday expenses. However, this can reduce the quality of salt.

Responding to salt farmers who cannot produce salt with industrial standards, the government is promoting the PUGAR program as a form of community empowerment

for processing salt with industrial quality. However, in its implementation, the PUGAR policy does not have sustainability, both from its inconsistent implementation and only targeting the provision of tools. PUGAR does not have a program design that is able to make the community independent and sustainable for its empowerment.

The community also assesses the PUGAR program as destroying the local wisdom that exists in the community in salt production. For example, the PUGAR program uses an irrigation system that is considered ineffective compared to the local wisdom that the Mangunlegi salt farming community has practised for generations. This section will be explained in detail in the discussion section. Several things in the PUGAR program have caused this program to be abandoned by the community and switch to maintaining community production procedures. PUGAR's orientation, which aims to increase the ability of salt farmers to produce industrial quality salt, is, in fact, not accompanied by an effort to transfer information regarding the determination of salt quality, production methods, and salt yield testing of salt farmers in Mangunlegi Village. The problem of weather instability and government policies, both from the import of salt and the PUGAR policy, are problems that continue to be felt by salt farmers. These things trap people in a condition of uncertainty and make people vulnerable to their efforts to reach prosperity through salt production. This uncertainty will certainly have implications for stagnation and a reduction in the welfare that salt farmers should have gotten.



Flow Chart 1. Salt Farmer Wage Determination Flow. *Source:* Processed by Authors

The Pattern of Local Wisdom and Social Aspects of Salt Farmers as a Strategy for Preserving Welfare

In carrying out various salt production activities, salt farmers in Mangunlegi Village have a particular style of local wisdom manifested in their local cultural phenomena, which comes from their reasoning on the relationship with the natural environment. Salt farmers in Mangunlegi have at least four styles of local wisdom, which are a strategy to achieve the necessities of life from the results of processing salt. First, there is knowledge in determining harvest time. Determining harvest time is a strategy for salt farmers which came about from the abundance of natural resources in the form of seawater due to erratic weather. This causes salt farmers to be able to project when they will harvest and start salt farming again. So, directly the results obtained are also projected to increase.

Second, is the method of intercropping, salt accumulation, and geomembrane plastic filling. In addition to the individual strategy of salt farmers, there is a collective strategy through thirty-eight salt farmer groups in Mangunlegi Village. Salt farmers do intercrop by cultivating fish that can be sold during the rainy season, such as milkfish and shrimp. Ponds are used as ponds or facilities for cultivation. During the rainy season, salt production activities automatically stop. The land used for salt ponds is converted into milkfish or shrimp ponds that can be sold and provide additional income for the salt farming community in Mangunlegi Village.

Third, is the accumulation of salt. This is done to ensure that salt farmers do not lose their income. This is one way for salt farmers to survive by keeping income from salt as a powerful commodity in Mangunlegi Village. The stockpiling of salt is carried out in salt warehouses owned by most local people, not only collectors or landowners. However, farmers also have a salt warehouse. Salt does not rot or expire, so it is safe to store and stockpile, because even if sold for years after harvesting, the quality may not change easily or become unusable. This is why stockpiling salt in warehouses can be a strategy for survival, as it brings income to salt farmers during the rainy season when salt cannot be produced.

Fourth, geomembrane plastic filling. This method is carried out to reduce spending in the implementation of salt production by salt farmers in Mangunlegi Village. The price of geomembrane plastic is quite expensive, around two million. Therefore it is better to patch than to buy new. On average, the geomembrane plastic used by Mangunlegi salt farmers is three to five years old, so many are damaged. They work around this by patching the torn part with double-sided tape. This becomes a strategy for salt farmers to survive in many shortcomings when producing salt.

Discussion

Comparison of the Implications of Government Policy Interventions and Local Wisdom of Salt Farmers

The problems depicted in the Mangunlegi salt farmers' social life tell of the existence of the people's relations with policies that lead to non-optimality and a tendency to exacerbate economic problems. The impact of the policy seems relevant to the concept of the local community. This study explains that the local farming community is a civilization that plays a vital role in managing natural resources in a conducive manner while still getting economic benefits. A logical thought causes this understanding that their dependence on nature for income forces them to continue to preserve nature so that it can always be utilised. If the natural environment is damaged, all communities will have an impact socially and economically. Therefore, the ability of local farming communities not only revolves around utilising but also maintaining, preserving, and even restoring damaged conditions (Chaipar et al., 2013).

In the context of Mangunlegi Village, the problem of salt processing is not something that needs to be prioritised to be addressed because, at first, it did not have issues such as required intervention solutions. As is told from the farmers' complaints in Mangunlegi, the PUGAR program, which includes the assistance of modern tools, only increases the quantity of production. This further worsens the welfare scheme of the salt farmers in Mangunlegi by creating conditions of over productivity. With the condition of the salt market that the quantity of demand does not develop, it creates a complication of problems that occur to the object of empowerment, namely the salt farmers themselves. When there is an intervention to something that is already conducive, it will disrupt sustainability and cause other aspects of the life of the local farming community, as well as society, to be distorted.

Aspects of welfare guarantees realised from social protection and conducive market conditions are an important foundation in efforts to develop social capital in the community, which functions to build local wisdom as a supporter of the welfare of the farming community. In a study conducted by Phillips (2016) in rural England, it was found an explanation that the conception of social capital is closely related to material and non-material assets owned by the community, where it accumulates from institutional and emotional inter-community relations. Optimised social capital creates new opportunities for farming communities. The existence of culture and tradition, which is a form of social capital, plays an important role in realising prosperity. Culture and traditions, which are shaped by social capital in society, function to support the economic productivity of the community while maintaining

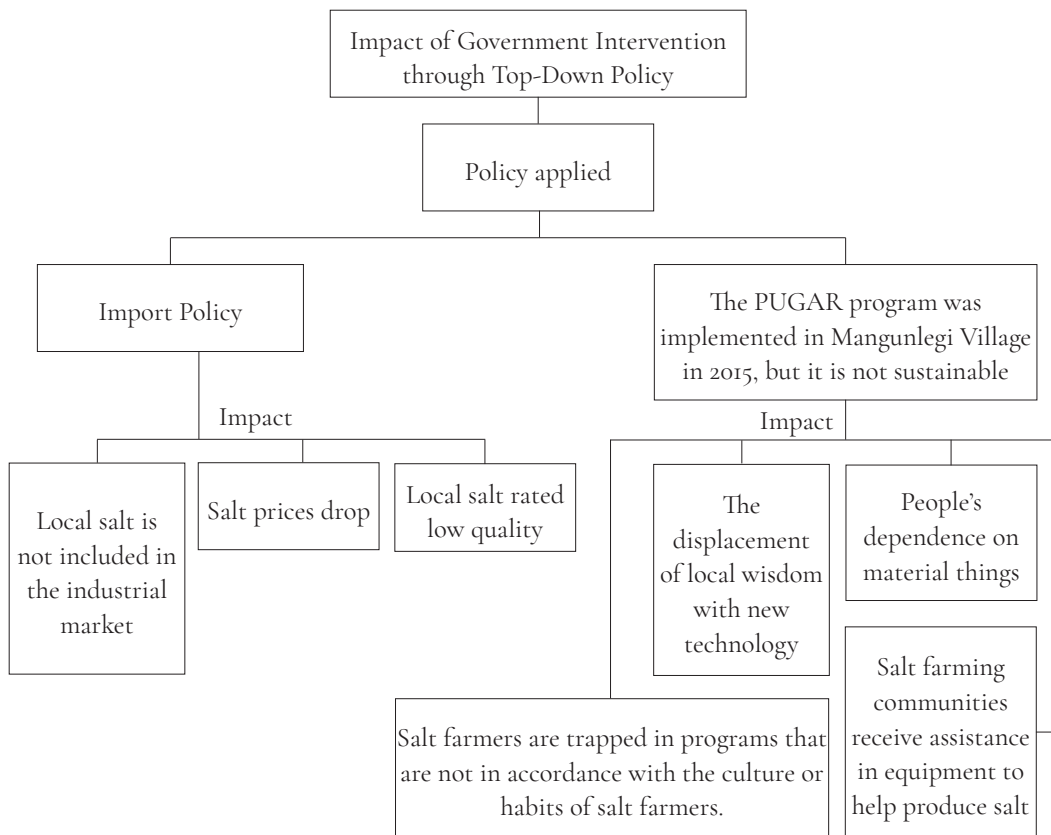
harmony. This is manifested in the dimensions of trust, cooperation, and a sense of community present in society (Rivera et al., 2019).

The dynamics of the welfare of salt farmers in Indonesia, especially Manganlegi, are strongly influenced by government policies. In the current context, the policy is entitled Empowerment of People's Salt Business or better known as PUGAR. The existence of PUGAR is promoted as one of the significant transformations in the welfare of Indonesian salt farmers who have been ignored by the state (Arwana et al., 2021). As a large project, PUGAR has a lot of responsibilities. This has an impact on the organisation of many and varied implementations. Departing from this matter, there are indications that the PUGAR policy itself is not optimal. As Baihaki (2013) explained, PUGAR, which is considered a welfare solution for salt farmers, its implementation is less than optimal. In its implementation, PUGAR experienced inconsistencies and misuse of funds. This problem manifests itself in a policy evaluation study conducted by (Arwana et al., 2021) on salt farmers in Buleleng. The results of this study found that the weakness of the people's salt institution in the market position created complex problems, which also weakened the organisation of the salt farmer groups launched by PUGAR (Arwana et al., 2021). Moreover, the absence of discourse to protect salt farmers by linking banking institutions to them has further eroded the complications of economic problems from the PUGAR policy.

Qualitative studies also confirm the problems experienced by the PUGAR policy. In the study, it was explained that although PUGAR could contribute to the increase in people's income, the results were not maximised due to the lack of women's participation and the lack of resources relevant to the state of the community's physical space (Amini, 2013). Specifically, the lack of adequate access made getting firewood to process salt very difficult, even for the participation of women fishers in West Lombok Regency, NTB (Amini, 2013). Based on a study (Prastio, 2019), the application of the discourse on tracing the assessment of salt farmers' needs refers to the creation of the People's Salt Business Group (KUGAR), which functions as a social network that strengthens salt farmers from the production to sales side. In its implementation, it is explained that the orientation of PUGAR is to increase the capacity of salt farmers in the production aspect by 10% from the previous year (Prastio, 2019). However, from here, the problem arises, as confirmed by field data from research that has been carried out. The increase in the capacity of salt farmers launched by PUGAR only impacts the production aspect. Still, their social capacity to sell salt or convince middlemen of a fair selling price is something that escapes. This suggests a policy evaluation that is centric on the policymakers themselves.

In helping to overcome the problems faced by the salt production process, the salt farmers of Mangunlegi Village carry out several strategies which are part of the local wisdom of salt farmers. This has implications for strengthening social capital and trust between individuals, which are then adhered to build social networks that facilitate the production process. There are three components, namely social networks, norms, and social trust, linked to social capital (Naafi'a, 2021). Social capital, which is part of local wisdom, will create local knowledge that can become a strategy and problem solver to deal with the crisis experienced. Tirsia (2012) mentions that local wisdom can be a potential and strength that can guide local groups to form an activity that can meet the needs of life and respond to the surrounding conditions experienced. In addition, it also directs local groups to distinguish between good and bad and helps facilitate their life activities (Pandopotan, 2019).

This study found the existence of community social capital, which was built from the local wisdom style. Embodied in the phenomenon of local culture, local wisdom comes from the reasoning of the Mangunlegi salt farmers regarding their relationship with the natural environment. Local wisdom that becomes a strategy can be grouped into two, individually and collectively or in groups. Individually, salt farmers deal with several efforts, such as setting their own time for harvesting salt, implementing intercropping methods, stockpiling salt, and filling geomembrane plastic. Meanwhile, the salt farmers' efforts are carried out collectively by holding community self-help activities for normalising seawater flow, where there is trust between salt farmers in financing arrangements according to the area and location of each pond. Salt farming communities are also very understanding about the surrounding environment and how weather conditions significantly affect their production process so that land use is used and possible to remain productive when the weather is not conducive for salt production. To deal with the availability of salt when prices are rising, namely, during the rainy season, some farmers stockpile salt in their salt huts. This method of stockpiling salt is quite helpful in increasing the income of salt farmers when they are not in production. The following is a comparison of the implications of government intervention (see flow chat 2 and table 2) with the strategies carried out by the community.



Flow Chart 2. Comparison of the Implementation of Government Intervention through Policies with Local Wisdom of Salt Farmers. *Source:* Processed by Authors.

Based on the table 2 and the flow chart above, the impact of the strategy carried out by the community is more significant than the impact caused by government intervention. This is because the strategy adopted by salt farmers is sourced from their local wisdom so that they better understand the problems and circumstances they are experiencing. The success of local wisdom in guiding and regulating salt production in Mangunlegi Village has deeply internalised the existing local wisdom in salt farmers' lives. Indirectly, people live with local wisdom and desire to continue it and achieve common goals. This can be a social capital for salt farmers. Apart from creating a common ground, it also makes sense of belonging to one thing. Local wisdom owned by farmers begins creativity that slowly raises an attitude of caring for each other and is able to become social capital to minimise existing conflicts. Farmers collectively maintain harmony in the rice production process. This pattern is also seen in the salt farmers of Mangunlegi Village (Pandopotan, 2019).

Impact of the strategy which implemented community grassroots		
Policy applied	Strategy carried out	Impact
Import Policy	Application of intercropping system on salt land for bandeng fish cultivation	Salt farming communities still get a side income when they cannot produce salt in the rainy season
	Hoarding some of the harvests to be then sold when the price of salt is rising	Salt can be sold at a higher price
	Self-help in the process of normalising waterways	The distribution of financing is divided equally according to the area and water needs of each land owned
	Set shorter harvest times to catch up with the weather	More salt is produced, but not sufficient in quality
The PUGAR program was implemented in Mangunlegi Village in 2015, but it is not sustainable	Geomembrane plastic filling is conducted	Existing equipment can be used longer and reduce production costs
	The technique of flowing water in the direction of the wind also with the help of a windmill	The process of entering seawater into the channel to the salt pond is smoother
	Self-product equipment to help with salt production	Simplify the accuracy of application on land and help reduce production costs
	Discussions in farmer groups regarding problems faced in production, as well as comparative studies with other regions	Assist in filing costs and improve the development of appropriate methods for utilisation in salt production

Table 2. Comparison of the Implementation of Government Intervention through Policies with Local Wisdom of Salt Farmers. *Source:* Processed by Authors.

Grassroot Innovation as an Alternative for the Welfare of Salt Farmers

Based on the problems experienced by the salt farming community of Mangunlegi Village, the idea of grassroots innovation is present as an effort to provide benefits in the form of bottom-up steps that came about from local communities attributed with knowledge (local wisdom) to be contextualised into suitable solutions (Sefyang & Smith, 2007). This is because the Mangunlegi community as a grassroots has local wisdom that is realised as a means to solve problems, including salt processing carried out by farmers, both individually and collectively through farmer groups.

In line with the idea of grassroots innovation, the concept of empowerment for community welfare is considered more effective if there is the involvement of the surrounding community and creatively combines community-based research

and knowledge to diagnose and analyse problems appropriately for the community (Blackwell & Colmenar, 1999). However, the government has not fully implemented these efforts in dealing with welfare issues, especially for salt farmers. The Mangunlegi salt farming community already has social capital from the local wisdom they apply. This is an effort to provide the right solution by utilising bottom-up policy formulations. Therefore, there is a need for a community empowerment approach to policy making to produce better policies following the local wisdom created in processing Mangunlegi salt.

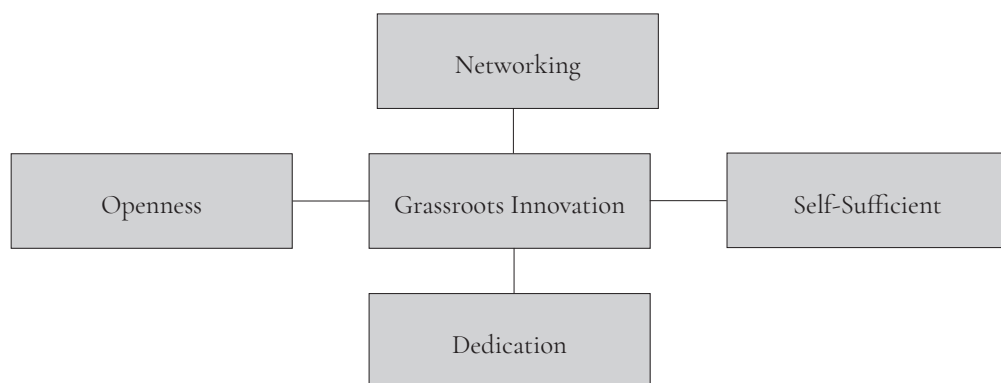
By adopting a grassroots innovation scheme, policies are shifted to pay more attention to lower-level actors (Lipsky, 2010). The involvement of lower-level or grassroots actors is used to better understand the policy process in accordance with the local wisdom of the grassroots community. Therefore, it is crucial to balance the perspective of top-down decision-making oriented towards action with what is happening in the grassroots community (bottom-up) so that the actions or decisions taken are the right policies and can solve grassroots problems.

In carrying out grassroots innovation practices, salt farmers empower all their potential. First, is the dedication of salt farmers and farmer groups to the sustainability of salt production. Both have a high level of initiative in seeking their welfare amid a crisis due to a fair policy through salt production. Departing from this, the idea of grassroots innovation began to be echoed. This produces a defence strategy carried out by the local community. Second, is the desire to be self-sufficient independently. Self-funding for the normalisation of sea waterways. This self-sufficiency arises due to the absence of funding that guarantees the sustainability of salt production. Research carried out by Baihaki (2013) regarding the implementation of the PUGAR policy is also considered PUGAR to experience inconsistencies and does not have a significant impact. According to the salt farmer of Mangunlegi Village, funding from PUGAR is not routinely disbursed. Third, is the attitude of openness. Local knowledge is still preserved amidst the intervention of external actors in salt production. The salt farmers of Mangunlegi Village believe that their local knowledge can provide salt production results that are comparable to salt production if using other technologies. However, the salt farmers of Mangunlegi Village do not cover up if there are new things that can be collaborated to create high quality and quantity production.

Based on the findings from previous studies regarding the success of implementing grassroots innovation, the capital owned by salt farmers in Mangunlegi Village is considered to meet the indicators of success that previous programs have met. However, several challenges need to be resolved if grassroots innovation is

implemented. Grassroots innovation schemes that rely heavily on the ability of human resources to manage and maintain local innovations are sometimes hampered by individuals who deviate and are not allied to carry out self-help communally. Another response from salt farmers to this is by providing social sanctions such as reprimands and satire. (Douglas & Aaron, 1983) also explained that conflict will continue to occur in individual relationships within a group. This revolves around responsibilities and communication between actors. Conflict resolution should also be based on discussion, mediation, and consensus. The method of salt farmers in Mangunlegi Village for conflict resolution with social sanctions is also a form of consensus between individuals in the group. This is quite effective in restoring cohesiveness between individuals in farmer groups.

Judging from the potential possessed by Mangunlegi Village and the successful application of grassroots innovation in various problems, it is clear that grassroots innovation also has the potential for success if applied in Mangunlegi Village. The grassroots innovation scheme is illustrated in the following flow chart 3 (Source: Processed by Authors).



The implementation of grassroots innovation can be successful if there are four aspects above in the life of salt farmers. However, the aspect of networking in its implementation is still constrained, especially vertical networking between salt farming communities and the government, both central and regional. This can be seen from the local wisdom and social aspects of the community that have not been able to be appropriately institutionalised, for example, in conveying aspirations when counselling has been carried out, but there has been no follow-up. In comparison, institutionalising local wisdom (networking) from the community to the government can be a form of bottom-up policy. However, the community must have the power to institutionalise this potential to gain legitimacy from the government as the basis for bottom-up policies.

Conclusion

The research found some understanding of the role and dynamics of local wisdom of salt farmers in Mangunlegi in facing the complexity of economic income caused by external parties' intervention, which is manifested in government policies. From the discussion that has been discussed, a common thread is found where the existence of farmer groups in salt production is one of the valuable social capital that can facilitate the dynamics of the community's economy. In addition, the simplicity of technology does not always result in obstacles. On the contrary, the case of salt farmers in Mangunlegi shows that traditional technology has proven to be more efficient and contextual than modern technology introduced by government policy. The salt farming community in Mangunlegi expresses local wisdom in the form of salt processing strategies from production to sales. The strategies found were the timing of harvest, intercropping system, the ideology of salt accumulation, and geomembrane plastic filling. The existence of this understanding then leads to how local wisdom or local wisdom of the community can become an innovation in the power of adaptation to face problems. In the process, it can become an ideal aspect to become the basis of a new policy scheme oriented towards the welfare of salt farmers.

Articulation of local wisdom, which occurs in the salt processing process in Mangunlegi, has been analysed in the framework of the concept of grassroots innovation. This seems to emphasise that the existence of innovation at the grassroots stage in the context of welfare requires policy designers not to stick to top-down policy formulation. As the concept of grassroots innovation itself is considered relevant because it maintains the interests and values of the community, rational government policies based on grassroots innovation can be a reference for policy formulation. The policies that have been implemented previously have not been able to solve the economic problems of grassroots communities.

Acknowledgement

We would like to thank the Directorate General of Higher Education of the Ministry of Education, Culture, Research and Technology as the Student Creativity Program (PKM) organiser for the funding that supported the implementation of this research. Thank you also to our supervisor, Zita Wahyu Larasati, S. Sos., M.A., who has always accompanied, provided input, and supported the course of this research. We also extend our gratitude to all informants willing to be interviewed to help the research be done.

Author's declaration

We are Hana Aulia (Author 1/A1), Muhammad Affan Asyraf (Author 2/A2), Untari Febriani (Author 3/A3), Rona Iffah (Author 4/A4), and Seren Kastiureni (Author 5/A5) hereby declare that manuscript has been prepared, written and approved to submit to this journal by us. In more detail, A1 & A2 made substantial contributions to the conception and design of the study, such as conceptual framework, method and outline of the analysis. A3 & A4 contributed to the draft manuscript preparation. A3 & A5 took responsibility for field research and conducted data collection. All authors wrote the manuscript and reviewed the final version of the manuscript.

Funding

This research received funding from the Directorate General of Higher Education of the Ministry of Education, Culture, Research and Technology.

Availability of data and materials

All data are available from the authors.

Competing interests

The authors declare no competing interest.

Additional information

No additional information from the authors.

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