

## Research Article

# Capital Preference of Rice Farmers on Income Improvement

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**Abstract.**

The availability of capital is pivotal in increasing the income of rice farmers, hence fostering economic growth and enhancing the overall well-being of these agricultural workers. Adequate cash enhances the potential for farmers to boost production, increase product quality, diversify their company operations, add value to their products, and explore new market opportunities. The objective of this study is to examine the capital preference of rice farmers and its influence on income improvement. The research was conducted in Bone Bolango Regency, targeting 333 rice farmers. The research approach used a Mix Method - Explanatory Sequential Design. The analysis employed Analytical Hierarchy Process (AHP) without hierarchy, also known as Simple Additive Weighting (SAW), and qualitative analysis by Miles and Huberman. The research findings revealed that the capital preference of rice farmers tends to support the use of self-capital as it positively impacts income improvement. In contrast, loan capital has various cost consequences that reduce income levels. Farmers' capital also needs to be supported by social capital by emphasizing local wisdom values in agricultural cooperation networks and intellectual capital support, especially the implementation of Good Agricultural Practices (GAP) and various pest and disease management. Additionally, 70% of rice farmers' capital sources are based on self-capital and loan capital (from grain millers). These results indicate that the capacity development of farmers should not only rely on financial capital assistance, but also strengthen the non-financial aspects of rice farmers' efforts to increase income and welfare and reduce extreme poverty, which has been dominant among agricultural communities.

**Keywords:** capital, preference, rice farmers, income

## 1. Introduction

Rice cultivation is a sector that plays a vital role in the Indonesian economy, including in Bone Bolango Regency. One of the important agricultural commodities in this region is wetland rice (*padi sawah*). However, wetland rice farmers in Bone Bolango Regency still need help increasing their income. Optimal income can be maximised by farmers through government intervention (1). Nevertheless, capitalisation can also

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optimise income, where higher capital leads to increased income and vice versa (2). Thus, adequate capitalisation enables farmers to enhance their agricultural processes, aiming for higher production and subsequently increased income.

The Bone Bolango Regency government consistently seeks to optimize wetland rice farming to boost the agricultural sector's Gross Regional Domestic Product (PDRB) and the welfare of farming communities. The government has undertaken Various initiatives to improve cultivation and marketing practices, even through collaborations with different parties to enhance rice farmers' capitalization, encompassing financial, social, and intellectual aspects (3,4). Material capitalization can be acquired through personal funds or loans, financing the production factors in the cultivation process. This, in turn, affects the effectiveness and efficiency of wetland rice farming, particularly in stimulating farmers' income.

Capital is a crucial resource in agricultural development, encompassing needs such as seeds, fertilizers, farming tools, and other operational costs. In capitalization, wetland rice farmers prefer using their capital rather than taking out loans (5). This preference arises from the positive impact of personal capital on income enhancement, while loans come with potential costs that could reduce farmers' income levels. By increasing the income of wetland rice farmers, it is anticipated that there will be improvements in farmers' welfare, a reduction in poverty rates, and a greater contribution from the agricultural sector to the economy (6).

Capitalization can also be examined from the perspective of non-financial capital, including social and intellectual capital. Social capital can have a positive influence on farmers' income. Farmer groups with high social capital can access necessary resources more easily, elevating farmers' income levels (7). Intellectual capital encompasses intellectual materials, including knowledge, information, intellectual property rights, and experiences that can be used to create wealth (8,9). The presence of intellectual capital enhances farmers' knowledge, enabling them to optimize agricultural outcomes through improved cultivation processes, management, and better marketing strategies.

The combination of financial and non-financial capitalisation provides a more comprehensive approach to stimulating income for wetland rice farmers. In this context, all parties provide appropriate financial support, enhance farmers' access to information and knowledge, establish strong networking relationships, and develop training and mentoring programs to enhance farmers' capacity to manage their farming activities effectively. Capitalisation remains one of farmers' most significant challenges in their

agricultural endeavours. Farmers' capital literacy and preferences for choosing capital sources are intriguing aspects highlighted in the findings of this research. Strengthening capitalisation can improve wetland rice farmers' well-being, ultimately contributing to the progressive and competitive economic growth of Kabupaten Bone Bolango. Based on the abovementioned discussions, this research aims to analyse and elucidate farmers' capitalisation preferences and the capital sources they utilise in their farming activities.

## 2. Research Methodology

This research was conducted in Kabupaten Bone Bolango for two months, specifically in August and September, targeting 333 wetland rice farmers. The research employed a Mix Method - Explanatory Sequential Design approach. Data collection methods included the use of questionnaires, interviews, and documentation. The data analysis for this study consisted of the following approaches:

### 2.1. Quantitative Analysis

The analytical Hierarchy Process (AHP) is a method used for decision-making by considering various relevant criteria and sub-criteria. Generally, AHP involves the creation of a hierarchy of criteria and alternatives to be evaluated, followed by the relative assessment of each element in that hierarchy. However, if you want to use AHP without employing a hierarchy, you can consider an approach known as the Simple Additive Weighting (SAW) method. This method assumes that each criterion has the same level of importance and that there is no hierarchical relationship between criteria and sub-criteria. According to (10) the AHP method with the Simple Additive Weighting (SAW) approach is a method that can determine the weight of each attribute and then determine rankings to select the best alternative from several options.

### 2.2. Qualitative Analysis

Data analysis in this study is conducted using the approach proposed by Miles and Huberman. According to Miles and Huberman, as cited in Sugiyono (11), the activities involved in data analysis include data reduction, data display, and conclusion drawing/verification. Additionally, the validity of qualitative data is tested to confirm whether

the research is truly scientific and to assess the obtained data. The validation of qualitative data in this study encompasses tests of credibility, transferability, dependability, and confirmability.

3. Research Result and Discussion

3.1. Finance Preferences

The term “preference” originates from the English word “preference”, which refers to giving a priority advantage to something, indicating a greater liking for something perceived to provide better benefits. In the context of this research, “preference” refers to the desires and inclinations of farmers in choosing funding sources for their agricultural activities. Funding sources in this context are categorized into self-funding sources derived from savings or previous agricultural proceeds and loan-based funding sources from formal credit, informal credit, and partnerships. Using a simplified Analytical Hierarchy Process (AHP), the degree of farmers’ preference for funding sources can be elucidated, as demonstrated in the following Figure 1:

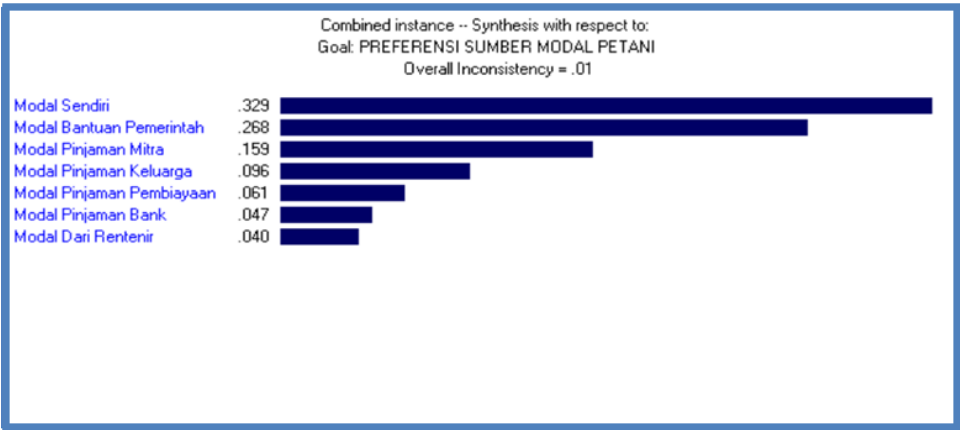


Figure 1: AHP Analysis Result of Funding Source Preferences among Wetland Rice Farmers in Bone Bolango District.

The results of the AHP analysis on the funding source preferences among wetland rice farmers in Bone Bolango District, using Expert Choice, indicate an Inconsistency Ratio (IR) value of  $0.01 \leq 0.1$ , which indicates that the farmers’ preferences in determining the funding source to be used are consistent. Based on Figure 1 above, it can be explained that the farmers’ preference for using their capital in their farming activities received a score of 0.329 or 32.90% of the total preferences. The next preference is obtaining funding from government assistance, with a percentage of 26.80%. The third

preference that farmers have for obtaining funding for their activities is through partnership loans, specifically from rice mills that have entered into cooperative agreements and work contracts with the farmers, at 15.90%. Family loans as a funding source obtained the fourth preference, amounting to 9.60%. Meanwhile, financing loans obtained a percentage of 6.10%, ranking fifth in preference. Lastly, bank loans as a funding source received an AHP score of 4.70% of the overall preferences.

The highest preference among farmers is to use their capital obtained from savings or profits from previous farming periods. This is the primary preference because using their capital allows farmers to avoid borrowing from others and incurring additional costs such as interest expenses. Farmers who can use their capital when starting their farming activities cultivate and own land with an area of more than 1 hectare. It can also include tenant farmers who have successfully obtained abundant harvests in the previous period. However, only a small portion of farmers can afford to do so. Many farmers often need more capital and may need capital to start their farming activities. The production results from the previous harvest; not all can be marketed and turned into a net profit for the farmers. As explained in (12), the amount of harvest that farmers sell and market is influenced by factors such as the size of the land owned by the farmers, the production yield, income from sources other than farming, the amount of consumption by the farmers, the number of dependents in the farmer's family, and loans taken by the farmers in the previous harvest. These factors collectively explain that when farmers obtain rice production results, a portion of it needs to be allocated for household consumption and to meet daily living expenses, which is heavily influenced by the number of dependents in the farmer's family. Additionally, another portion is used to repay loans taken by the farmers. Therefore, only farmers with large land holdings, income from sources other than farming, and those who can obtain abundant harvests will have a significant opportunity to use their capital in the subsequent planting periods.

Obtaining capital from government assistance is the second preference for farmers as a source of funding for their farming activities. Most of the assistance provided by the government comes in the form of agricultural inputs or training for farmers. It is quite rare for the government to provide cash assistance directly to rice farmers in the Bone Bolango Regency. Despite this, they believe such assistance is considered capital support from the government. The farmers' hope for this preference is that the government could offer loan capital or establish an institution that helps farmers access cash capital with affordable interest rates, administration fees, and a simple administrative process.

The third preference for a funding source is obtaining loans from Partners. Most rice farmers in the Bone Bolango Regency mentioned that their partners in farming activities are rice milling businesses. Farmers find it easy to obtain loans from the owners/managers of rice mills without complex administrative requirements. There is an unwritten agreement between farmers and rice mills that if a farmer receives a loan for farming, they will use the services of the rice mill to process their harvested rice. In acquiring funding for their farming activities, farmers can partner with more than one rice mill based on the size of their land and rice production. When farmers and rice mills have a well-established cooperative system, it becomes much easier for farmers to secure loans for their farming activities. This is why obtaining loans from partners (rice mills) receives a relatively high preference in farmers' decision-making process for obtaining funding. Additionally, obtaining loans from immediate family members is also a preference for some farmers.

However, only a small portion of farmers engage in this practice, as farmers want to avoid burdening their families, who also have responsibilities to fulfil their living needs.

Another preference held by farmers is obtaining loans from financial institutions such as cooperatives, banks, and moneylenders. However, this preference is not highly favoured by farmers due to the relatively high-interest rates, challenging loan repayment terms, and demanding administrative requirements that are difficult for farmers to meet. Farmers who apply for loans from banks use the loans not only for funding rice farming activities but also for other side businesses. Farmers who seek loans from banks usually have supplementary income sources that support their eligibility for bank credit. The loan obtained from the bank is then divided to serve various purposes: part for rice farming capital, part for other business capital, and another portion for their daily living expenses. Nonetheless, even though obtaining loans from financial institutions and banks has a higher preference than borrowing from moneylenders, borrowing from moneylenders remains the last resort for farmers. Farmers resort to borrowing from moneylenders only when they have exhausted all other alternatives, making it the last preference in their borrowing decisions.

Using one's capital provides significant potential for increasing income in rice farming activities in Kabupaten Bone Bolango. This is because utilizing self-capital can optimize costs and maximize profits in rice farming in the region. However, the novelty found about loan capital does not significantly reduce income, indicating that farmers can already manage the loans received for various productive activities. Nonetheless, there is room for improvement through government efforts to strengthen and develop financial

management capabilities in farming, enabling farmers to achieve higher incomes. The importance of using self-capital and reducing debt (loans) in business activities aligns with the perspective of (13), who suggest that using self-capital can lead to increased income, while loan capital requires good management skills to avoid negative impacts on business activities.

The preference for funding among rice farmers tends to support using their capital, as it positively impacts income enhancement. When farmers utilize their capital, they have full control over resources and business management decisions. This enables them to optimize capital usage and enhance production efficiency. Furthermore, using self-capital allows farmers to control harvest yields and retain the freedom to set selling prices. On the other hand, loan capital has various cost implications that must be considered. Interest costs and loan repayments can diminish the income obtained by farmers. Moreover, there are risks associated with farmers' ability to repay loans, especially in unpredictable weather conditions and price fluctuations. Therefore, farmers tend to avoid dependency on loan capital to sustain their income stability.

In addition to financial capital, social capital should also support farmers' funding. Social capital involves strong agricultural cooperation networks that reinforce local wisdom values. Within this network, farmers can provide mutual support and share knowledge and resources, such as agricultural tools and experiences, in facing challenges within the agricultural sector. A robust social capital can enhance farmers' access to information, markets, and beneficial cooperation opportunities (14)(15) argue that financial literacy plays a more significant role in increasing farmers' income, particularly among those with higher income levels compared to lower income levels. (16) defines financial literacy as knowledge and understanding of financial matters. It refers to skills and knowledge that enable an individual to be informed and make effective decisions regarding all agricultural financial resources.

Furthermore, intellectual capital is also crucial in the funding of rice farmers. Intellectual capital encompasses the knowledge and skills of farmers in managing agriculture in the best and most ideal ways (17,18). If farmers possess good knowledge and skills in planting techniques, pest and disease management, efficient irrigation, and other modern agricultural practices, they can enhance their productivity and crop yields. Higher crop yields are likely to increase farmers' income (19). Moreover, intellectual capital is related to effective farming practices. Implementing Good Agricultural Practices (GAP) and pest disease management are examples of necessary intellectual capital (20,21). GAP uses environmentally friendly and efficient farming methods to enhance crop yields

and product quality (22). Effective pest and disease management is also crucial in maintaining plant productivity and preventing losses caused by pest attacks (23,24). While farmers know pest and disease control in crops, there is still a need to enhance their knowledge in adopting more sustainable and effective pest and disease control methods.

Farmers can enhance their capacity to manage farming activities more effectively by having adequate social and intellectual capital. This support will assist rice farmers in facing challenges and risks associated with paddy production, create new opportunities to increase income and well-being and reduce extreme poverty, which remains a predominant issue in the agricultural sector.

### 3.2. Sources of Farmers' Capital

As described above, the sources of capital farmers prefer for financing their agricultural activities consist of self-financing and loan-based financing, with the clarification that the intended capital can take the form of cash, equipment, agricultural inputs, etc. In the following discussion, the capital sources referred to are cash that farmers obtain and use to finance their agricultural activities. Table 1 illustrates the sources of capital for rice farmers in Kabupaten Bone Bolango to finance their agricultural activities.

The table below shows that farmers can utilize more than one source of capital in financing agricultural activities. Therefore, farmers' capital sources consist of their capital, loan capital, and capital derived from personal and loan capital. Around 35% of farmers use their capital, sourced from savings and proceeds from previous periods' agricultural activities, with an average capital of Rp1,473,243 per farmer. Similarly, an equal percentage of 35% of farmers employ a combination of their capital and loans obtained from partners, such as rice mills, to finance their agricultural ventures. Farmers secure larger capital through this approach than using solely their own funds, with an average of Rp2,083,693 per farmer. Around 26% of farmers' capital is acquired through loans from partners or rice mills, with an average loan of Rp1,308,174.17 per farmer. On the other hand, capital sourced from family loans and bank loans only represents a 2% share. Additionally, only one farmer out of a total of 333 respondents obtained a loan from a cooperative.

Most rice field farmers in Kabupaten Bone Bolango can use their capital in the current planting season, as they have obtained abundant harvests in the previous period. As a result, some of them still have savings that can be used as capital for the upcoming



TABLE 1: Sources of Financing for Rice Farming Activities in Kabupaten Bone Bolango.

No	Source of Farmer's Capital	Frequency	(%)	Total Capital	Average per Farmer
1	Own	117	35%	Rp490.590.000,00	Rp1.473.243,24
2	Partners	85	26%	Rp435.622.000,00	Rp1.308.174,17
3	Family	5	2%	Rp12.800.000,00	Rp38.438,44
4	Bank	8	2%	Rp55.500.000,00	Rp166.666,67
5	Financing (Cooperative)	1	0%	Rp7.500.000,00	Rp22.522,52
6	Own and Capital Loan	117	35%	Rp693.870.000,00	Rp2.083.693,69
	Total	333	100%	Rp1.695.882.000,00	Rp5.092.738,74

Source: Primary Data (Processed 2022)

planting season. In addition, some farmers who use their capital are either farm owners or have other sources of income apart from rice farming. Among these, some are traders or civil servants.

Meanwhile, with the same percentage of 35%, another group of farmers utilize their capital while obtaining loans from rice milling partners as a funding source. These rice field farmers who engage in this practice are tenant farmers who cultivate lands exceeding 0.75 hectares, thus requiring a larger capital investment for their agricultural activities. They secure loans from partners, specifically rice milling facilities, to meet these capital needs. In this arrangement, rice milling establishments are partners for the loan arrangement. Conversely, 26% of farmers acquire their business capital solely through loans from rice milling facilities. These farmers, who solely rely on rice farming for their daily needs, are tenant farmers without any other sources of income. They prefer borrowing from rice mills due to the convenience and speed of the process without incurring loan interest. Farmers only need to avail of the services of the milling facility that offers loans, and they pay the milling facility a fee based on the agreement established between the farmer and the milling facility.

## 4. Conclusion

1. The funding preference of rice field farmers tends to support their capital, as it yields positive effects in increasing income. In contrast, loan capital entails various costs that can reduce income levels. Farmer capitalization should also be supported by social capital, emphasizing local wisdom values within farming collaboration networks, as

well as intellectual capital, especially the implementation of Good Agricultural Practices (GAP) and various pest and disease management strategies.

2. The sources of capital for rice field farmers in Kabupaten Bone Bolango are as follows: 35% from their capital, 35% from a combination of their capital and partners, 26% from partners, and 4% from other loan sources.

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