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THE IMPACT OF CREDIT ACCESS TO FISHERS WELFARE IN EAST JAVA

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ABSTRACT
In coastal areas in East Java that have high capture fisheries production, it should be able to improve the welfare of the fishers. However, fishers still have a relatively high poverty rate. One factor that is considered to be the cause of fishermen's poverty is limited access to credit. The purpose of this study is to determine what factors influence fishermen's credit access in East Java and the impact of credit access on the welfare of fishers in East Java. This study uses logistic regression analysis that links one or several independent variables (independent variables) with the dependent variables in the form of categories 0 and 1. The results of the analysis that fisherman education provides a significant influence in terms of mastery of fishing technology and the trust of formal and informal financial institutions in lending. In addition to education, ship ownership has a significant influence as an asset or collateral for obtaining credit from formal or informal financial institutions.

KEY WORDS
Credit access, fishers' welfare, East Java.

East Java is a province that has a sea area almost four times the land area with a coastline of approximately 2,916 km. Abundant fish resources from the sea as well as fish cultivation on land should be adequate to support community food security. The fisheries and marine sector in East Java Province should also be able to become a high-contributing economic source, so proper management is needed in order to become a sustainable source of community life.

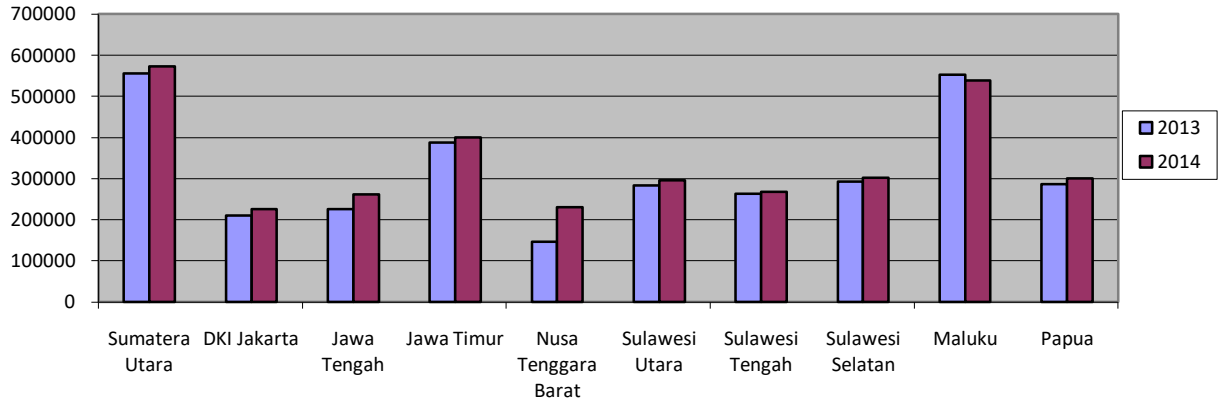

Figure 1 – Capture Fisheries Production by Province (ton) in 2013-2014
Source: Directorate General of Capture Fisheries, 2015

Based on data of capture fisheries production specifications by province from the Directorate General of Capture Fisheries, it was found that East Java ranks third after North Sumatra and Maluku, amounting to 386,895 tons in 2013 and 2014 it increased by 399,371

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tons. North Sumatra ranks first, amounting to 555,311 tons in 2013 and amounting to 572,149 tons in 2014. While Maluku ranked second at 551,845 tons in 2013 and amounting to 538,148 tons in 2014 (Directorate General of Capture Fisheries, 2015).

Fisheries development is an activity to increase the income and welfare of fishers through the management of natural resources with production factors in the form of human labour, technology and capital. Therefore, the development of fisheries is directed to obtain optimal use and effectiveness that means it contains technological, economic, ecological and socio-cultural content. The technological aspect supports the existence of efficiency and productivity. The economic aspect requires the existence of added value which is always increasing. Meanwhile, ecological aspects require development while maintaining the preservation of environmental functions. While the socio-cultural aspects support equity which emphasizes the development of human resources (HR) and institutions that fully accommodate the needs and involvement of fishing communities in fisheries resource management (Sahri, 2013).

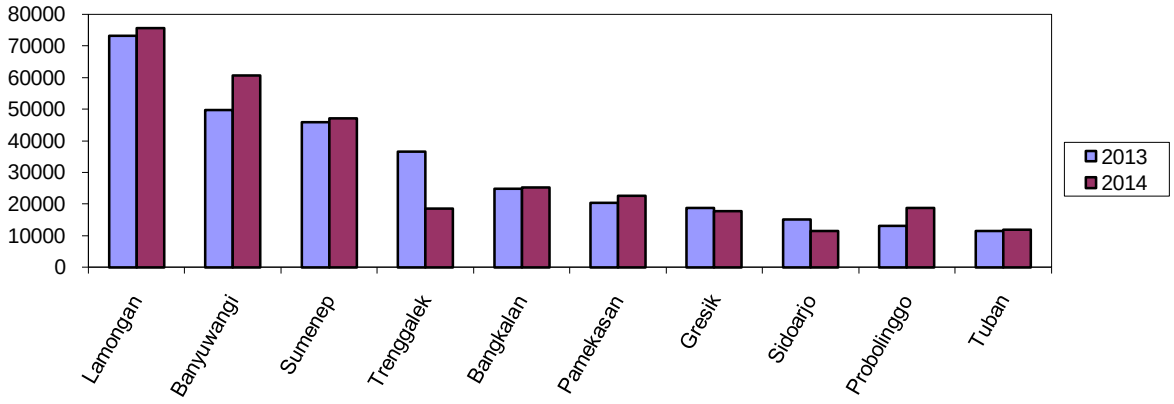

Figure 2 – Production by Regency / City Fisheries Sub Sector in East Java (in tons) 2013-2014
Source: East Java Maritime & Fisheries Service, 2016

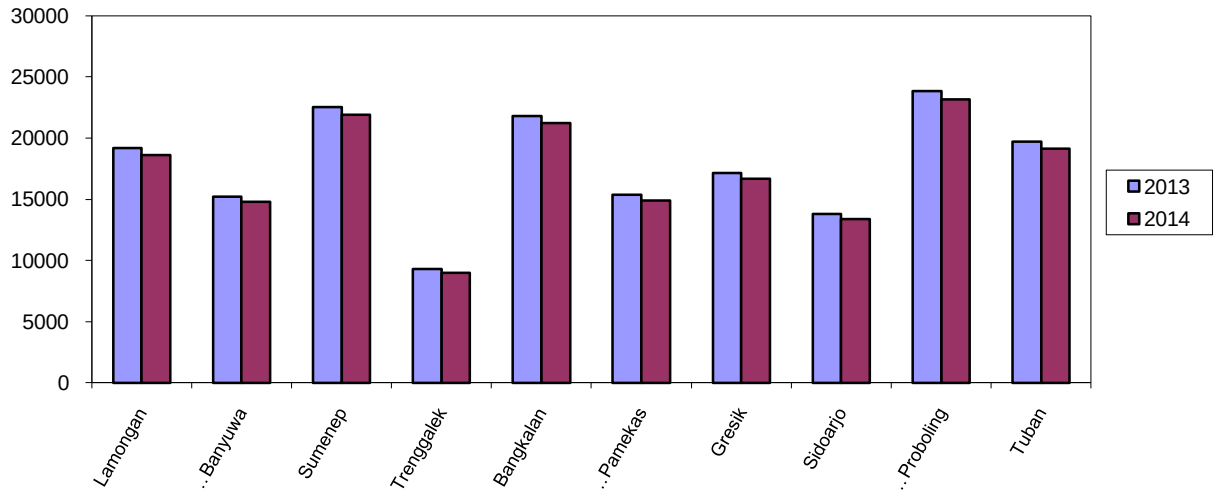

Figure 3 – Number of poor people by district/city in East Java (000)
Source: BPS, 2015

Based on production data by Regency / City Fisheries Sub Sector in East Java, Lamongan regency ranked first with 73,183.0 tons in 2013 and an increase to 75,568.9 tons in

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2014. then the second place was Banyuwangi district with 49,663.1 tons in 2013, and an increase of 60,602.5 tons in 2014, third was Sumenep district at 45,798.7 tons in 2013 and an increase of 47,156.9 tons in 2014 (East Java Maritime & Fisheries Service, 2016).

Hence, most fishers have not yet significantly benefited from development in their area. Therefore, development in the coastal areas of East Java needs to pay more attention to local social, economic, cultural and environmental conditions. In the coastal areas in East Java, fisheries production has quite high, which should be able to improve the welfare of fishers. In contrast, fishers still have a relatively high poverty rate (Sahri, 2013).

According to the data, the number of poor people by regency/city in East Java, which mostly occupies coastal areas, some regions have quite high levels of population poverty. In the first place, Probolinggo regency was 238.70 thousand inhabitants in 2013 and 231.90 thousand inhabitants in 2014; the second was Sumenep regency with 235.50 thousand inhabitants in 2013 and 218.90 thousand inhabitants in 2014, then the third was Bangkalan 218.30 thousand regencies. Souls in 2013 and 212.20 thousand inhabitants in 2014. Furthermore, the fourth place was Tuban regency with 196.90 thousand inhabitants in 2013 and 191.10 thousand inhabitants in 2014; the fifth was Lamongan regency with 192.00 thousand inhabitants in 2013 and 186.10 thousand inhabitants in 2014 (BPS, 2015).

From the data above, it can be seen that coastal areas which have abundant fisheries production still have quite high poverty rates, especially in East Java. According to Anas (2011), that the poverty of fishers in East Java is caused by one of the dominant factors, namely the institutional factor which is detrimental to small fishers. In marketing their catch, the bargaining position of fishers is fragile. The majority of fishers have been bound to their creditors' intermediary traders (agents), and are forced to accept any price given. Even fishers who are not bound by debt are powerless in facing the dominance of the traders. Fishers do not know the price, and often when the fish are handed over in the morning, they are only given a small amount of money first, then in the evening all of them are paid. When the catch is large, the price is declining from morning to afternoon.

Several previous studies also support this. According to Wulansari (2010), there is a bond loan in work relations and profit-sharing between fishers and skipper workers in Kranji Village, Paciran, Lamongan. This client patron relationship tends to lead to the exploitation of fishing laborers. Nevertheless, they realize that the patron-client relationship in the established socio-economic institutions is reasonable. However, the portion they receive is relatively small when compared to capital owners and intermediary traders. Eko (2013), and Delmira (2014) also agree, that debt to loan sharks for fishers is one of the quick solutions to get access to capital. Loan sharks and fishers seem to have become an inseparable part. Whereas Ruddle (2011) explains that in Vietnam shows, the lack of guarantees that can be received by the formal sector and fisherman households depend on the informal financial system. Based on these conditions, then to help increase the economic development of fishers can be done through increasing access to fishermen's credit to formal financial institutions. According to Widodo (2011) and Jon Budi (2014), the importance of access to financial services informal financing institutions is expected to reduce poverty levels. Because by understanding, recognizing and utilizing financial services, fishers can learn about simple financial management methods so that they can help people manage risks to financial problems in the future.

Based on the background description above, the problem formulation of this research is:

1. What factors affect the accessibility of fishermen credit in East Java?
2. What is the impact of credit accessibility on increasing fishermen income in East Java?

LITERATURE REVIEW

Credit is the ability to carry out a purchase or make a loan with a promise that payment will be made at an agreed period. (Kohler in Nuswantara, 2012). Credit accessibility is the ability

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of individuals and groups to obtain capital facilities and financial services from banks / financial institutions. (Diagne and Zeller 2001) in Dahri (2015).

Microcredit is credit given to micro-business customers both directly and indirectly owned and operated by the poor with the criteria of the poor according to BPS, which is based on the concept of ability to meet basic needs, with a maximum credit ceiling of Rp. Fifty million (Wijono, 2005).

Microfinance Institutions (MFIs) when referring to Law No. 1 of 2013 concerning Microfinance Institutions are defined as financial institutions specifically established to provide business development services and community empowerment. Either through loans or financing in micro-scale businesses to members and the community, savings management, as well as providing business development consulting services that are not solely looking for Microfinance's benefits as a small-scale financial service especially credit and savings provided for those engaged in the agriculture, fisheries or animal husbandry sector; and to individuals or groups both in rural and urban areas in developing countries (Marguerite Robinson, 2002).

The Grameen Bank experience in Bangladesh since the early 70s became the basis for Muhammad Yunus to state that poverty is a denial of all human rights. That experience then led to the writing that is currently very well known in the world of microfinance, namely "access to financial institutions is a human right" (Yunus, 2007). Amartya Sen, in his work Poverty and Famines: An Essay on Entitlement and Deprivation (1981), said the cause of lasting poverty, helplessness, and underdevelopment was the issue of accessibility. This was following the condition of the poor fishing communities due to limited access to credit.

The definition of income risk (Income Risk) is income uncertainty. Predictably high-income streams that remain correctly predicted will not be defined as risk (Delmira, 2014) As fishermen's income is uncertain depending on the fish season only. That is supported by research by Jyotsna and Martin (1997), which explains about credit programs through formal institutions that can protect household consumption from income risk by taking a sample of farmer households in rural China.

METHODS OF RESEARCH

This research is a quantitative study which uses descriptive and econometric approach. To analyze the factors affecting the accessibility of fishermen credit, this study uses the econometric method to explain the factors that influence the accessibility of fishermen credit.

The data used in this study are secondary, which are the results of the 2014 Susenas survey sourced from the Central Statistics Agency (BPS) of East Java Province. The sample used in this study 819 districts/cities in coastal areas in East Java. For quantitative analysis using the Logit Regression model. Binary Logistic Regression is a data analysis method used to find the relationship between response variables (Y) which are binary or dichotomous with predictor variables (X) that are polytomous, (Hosmer and Lemeshow, 2000). This method is used to investigate factors relating to the probability of the fisher's household that has access to formal or informal credit. Descriptive and econometric analyzes were performed using the SPSS 13 software package.

The formulation of the logit regression model for this study is as follows:

$$\hat{Y}i = P(xi) = \frac{1}{1+ e^{-(\beta 0+\beta 1X1+\beta 2X2+\beta 3X3+\beta 4X4+\beta 5X5+\beta 6X6)}}$$

Where:

ρ: the probability of income;

receive income = 1 and not receive income = 0;

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β0: intercept;
βi ... βk: parameter coefficient;
ϵ: error term;
X1: Age;
X2: Education;
X3: Ship Ownership;
X4: Experience;
X5: receive a KUR loan, in the form of dummy;
1 = accept and 0 = not accept.

RESULTS AND DISCUSSION

As explained by Kasmir (2012), the factors that influence lending include trust, which is a creditor's belief that credit given will be re-received in a certain period in the future. Trust from the bank is what is difficult to obtain by fishers because fishers have uncertain income. Because it is difficult to get the trust of the bank, fishers prefer to borrow from the boss. Mutual trust is usually interwoven with the length of time the fishermen have worked for the skipper. Next is the agreement between the lender and the credit recipient as outlined in an agreement. In this agreement, fishers often cannot fulfil what has been agreed between the Bank and fishers, for example, the obligation to pay on time, according to the opinion of Delmira (2014), that debt to loan sharks for fishers is one of the quick solutions to get access to capital. Then that is the period of credit repayment that has been mutually agreed. After that, the risk, namely the existence of a grace period of return, will lead to the risk of uncollectible loans to fishers due to uncertain income. The last is service fee which is the advantage of giving credit, for example, interest. According to Susilo (2010) and Jajat Sudrajat (2013), the availability of a credit scheme that can be accessed by fishermen is a fundamental matter related to efforts to make changes to social structures that tend to lead to social polarization. The existence of financial institutions that can channel soft credit schemes can be an alternative in meeting the livelihoods and increasing the productivity of businesses undertaken by fishermen households.

With limited access to credit to formal financial institutions and unlimited access to credit to informal financial institutions, although it is detrimental to fishers, the impact of credit access on fishermen income will be analyzed here.

Table 1 – Logit regression analysis results

Independent Variable	Logit Regression Model Dependent Variable (Y) Fishers' income
	e^{β} z-Statistic
C	-0,055244 -0,033447
X1: Age	0,074325* 1,778553
X2: Education	-0,234663 -1,043276
X3: Ship Ownership	2,054687*** 2,256311
X4: Experience	-0,056431 -1,336912
X5: receive a KUR loan, in the form of dummy 1 = accept and 0 = not accept	-0,226574 -0,374367
X6: accept individual loans, in dummy form, 1 = receiving a loan, and 0 = not receiving	-0,532148 -0,732145
	McFadden R-squared 0,452678 S.E. of regression 0,468621 Sum squared reside 26,77543 Log likelihood -82,72907 Restr.log likelihood -120,1457 LR.Statistic 95,67322 Probability 3.33E-12

**** Significant level of 0.01; * 0.01 significant level.*
Source: Processed data.

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In the logit regression model above, there are no significant variables, namely, X4 (experience), X5 (KUR loan dummy) and X6 (personal loan dummy). Other significant variables are X2 (education) and X3 (ship ownership).

CONCLUSION

Education influences in terms of mastery of fishing technology and the trust of formal and informal financial institutions in granting credit.

The experience of going to the sea directly or indirectly influences fishing outcomes. The more experienced a fisher in fishing, the higher the results obtained and can increase income.

The use of appropriate technology during fishing can increase the catch of fishers and as a means of processing natural resources.

RECOMMENDATIONS

In increasing the income of fishers through access to credit, several alternatives can be carried out, namely:

Fishers can be more creative and innovative in managing fishery products so that during the lean season, they can still meet their needs without having to owe money to the skipper or moneylender.

Having additional income apart from fishing, so that it is easier to get credit from the bank.

The government provides more training and assistance to fishers to manage their catches.

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