

**STUDY OF INSTITUTIONAL ECONOMIC ARRANGEMENT OF  
HOUSEHOLD SCALE HATCHERY BUSINESS IN THE REGENCY OF  
SITUBONDO, INDONESIA**

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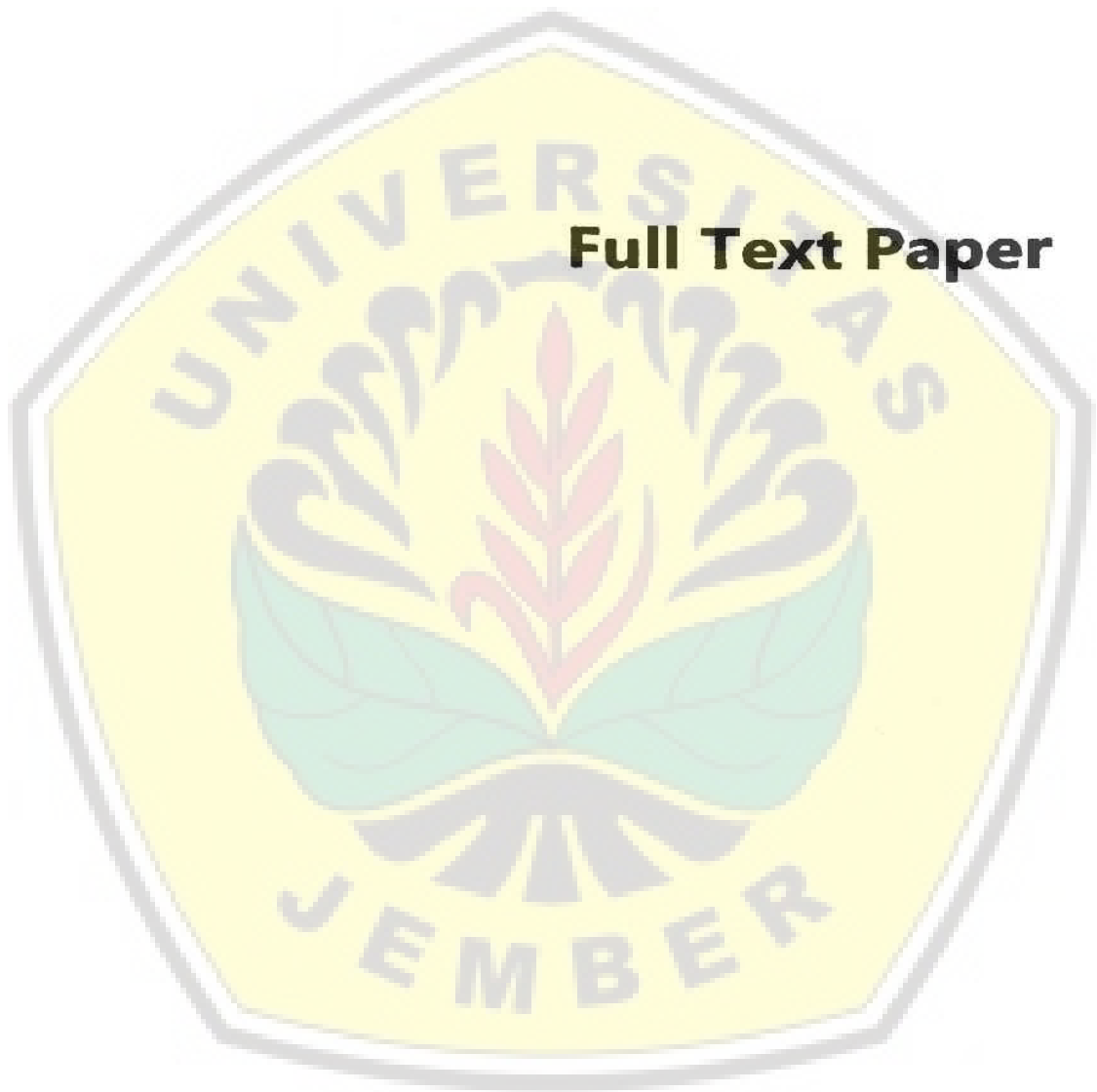
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**ABSTRACT**

The imbalances in the mastery of technology, land ownership and access to capital led to the emergence of a relationship between technology owners, landowners and owners of capital in an interdependent economic relationship. The formation of economic relations between the owners of technology, land owners and owners of capital is one of the strategies in order to maintain business continuity of household scale hatchery business (HSHB). The existing economic relationship among HSHB caused the institutional changes, such as rules of the game, norm, and sanction. The changes of economic institutional was become new orientation to maintain continuity business of HSHB. The purpose of this study to analyze institutional arrangement with respect to economic variable, such as the dynamics of income, employment, and access to credit at HSHB.

This study would analysis institutional changes with approach the dynamics of income, employment, and access to credit at HSHB in Bungatan and Kenditsubdistrict. In this study used primary data. The method of primary data collection was conducted by using three methods, namely the method of participant observation, interview methods, and Focus Group Discussion (FGD). The data have been analyzed using qualitative methods, such as the method of analysis of life history and the content analysis methods. The result of this study showed that institutional arrangement significantly occurred at HSHB which the income tend to increase dynamically. On the other hand the composition and the role of the game for employment aspect was huge better structured. The phenomenon of access to credit was increase.

**Keywords:** Institutional, dynamics of income, employment, access to credit



**Full Text Paper**

## INTRODUCTION

Based on geoPictureal condition, Situbondo Regency is situated in 150 km coastline which covers 13 sub-districts and 37 coastal villages (BPS, 2014). This condition portrays the geoPictureal potency in Situbondo Regency. According to Department of Fisheries and Marine (2014) the production of grouper seed for Household Scale Hatchery (HSHB) reach 12.211.500 in 2013. And it continues to increase, starting from 54 business unit in 2010 to 74 business unit in 2014 (DK,2014). The data indicates the importance of fisheries sub-sector as part of economic source and livelihood for coastal community. The centre of seed production for fish and shrimp in Situbondo Regency is located in sub-district Bungatan and Kendit.

HSHB is popular fisheries business for coastal community in Situbondo Regency. It started in 1980s and continues to grow until today. The first seed commodity is *windushrimp*. But dueto several nurturingproblem in fishpond industry, the demand change from *windu* seed to *vanamei* seed. Furthermore, the government also starts researching the new seed commodity. The new commodity induces the adoption of new technology for treatment. The purpose of this research is to 1) analyze institutional change in HSHB business regarding connection of income dynamic, work relation and credit access, 2) analyze the institutional effect towards the ability to accumulate capital, market access and technology adoption.

## LITERATUREREVIEW

Village life and its farmer are unique subject for research. Chayanov (1927) explain the farmer life and his family in Rusia which have subsistence characteristic, only fulfilling the need/prosperity of family member. At that moment, farming is still done independently without the help of outside worker, in other words farming is still not recognizing the definition of labor market. But due the increasing of land which continues to grow, farmers are no longer capable to maintain their land without help. At this point, there is transformation in work

relation where farmer family starts to hire people outside their families as worker (Harrison, 1975).

In another side, introduction of new commodity also cause transformation in the way farmer create coping strategy (Cramb et al, 2009). Coping strategy which created by Ellis (2000) is strategy focusing in continuous coping with the consideration of equal social need, economy and ecology. Still referring to livelihood strategy by Ellis (1998), this strategy was divided into two sectors, which are on farm and off farm. The research by Barret and Reardon (2000) explain the change of income which caused by diversification in farming business, thus side income from other sector such as land lease, workforce, or other business outside farming are possible. Social relation between society members become basic element in coping strategy for low income household. These relations are created since a long time ago in the form of labor exchange in production up to social relation (Harper & Gillevie, 1997). Institutional change will create beneficial relationship between farmer who gains interest from profit sharing system, task division, lease/contract, or wages.

Low income will create inability to gain capital. Green et al, (2006) explain that the main problem in developing small medium enterprise is the lacks access in formal financial institution, thus the ability to access physical capital such as modern technology are also limited. The transformation of credit institution affects the change in rule for credit application and economic transaction in village (Wardhono, 2012). At this point, the existence of both formal and informal credit institution becomes important to secure the availability of capital for HSHB business.

## METHODOLOGY

Research will be conducted in two sub-district which become the center of Household Scale Hatchery Business (HSHB) in Situbondo Regency, sub-district Bungatan and Sub-district Kendit. The location is selected based on the data from Department of Marine and Fisheries in Situbondo. It is known that those sub-districts are famous for grouper and *vanamei* shrimp. The research is conducted

in 2015. Primary data collections are obtained by three methods, which are participant observation, interview, and Focus Group Discussion (FGD).

Qualitative research is process to discover data and have holistic character, including words from real situation on the fields. The method being used in this research is Qualitative Analysis Method. The analysis method which suitable for this research is life history analysis and content analysis. The technique which uses to check the validity data of the research is triangulation with source and theory.

## DISCUSSION

### **Institution related to Income Dynamic in the Past and Present**

*Windu* shrimp is the first commodity which grown in HSHB Situbondo. At that moment, *windu* seed was the only commodity that able to be produced by HSHB member. Thus, the incomes of SHS member were solely based from *windu* seed. Each seed are priced between Rp.10 to Rp.12 with relatively small production cost. The high of SR in *windu* shrimp hatchery provide high production value. The high production value will affect income of HSHB member and period of nurturing. The lesser period of nurturing will minimize the risk in nurturing and fasten the capital cycle of business.

The rise of problems in nurturing *windu* shrimp in fishpond make hatchery of *windu* shrimp continue to decrease. The existence of new commodity also provide option for HSHB member in realize their hatchery business. With diversification of commodity, HSHB has more option in business. Thus, in some period of time when the demand for certain commodity is low, HSHB could switch into another commodity with high demand. At this point, HSHB didn't have strong bargaining position to determine price of seed and only follow the market price. The price of seed is fluctuating depend on demand from fishpond. When the demand of seed is low, HSHB switch the production into grouper seed which has stable price. The period of nurturing grouper seed is between 60 to 75 days. The long period of nurturing grouper seed make the cycle of business capital

longer. With the existence of commodity diversification, the income will be dynamic depend on the commodity.

## **Institution Related to Work Relation in the Past and Present**

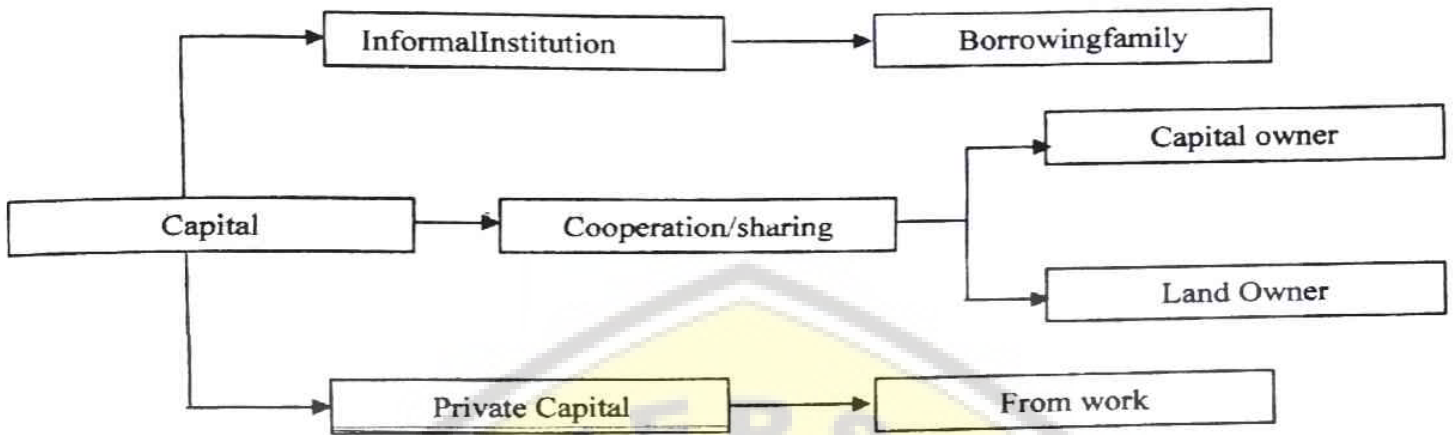
Work relation in the past had neighborhood and kinship character with no real consideration about education in recruiting the worker. The wage system is based on monthly table money and about 20% incentive from net profit. The form of cooperation in the past can be divided into two types, which is rent/contract system for facilities and infrastructure in production and cooperation with sharing profit between investor and owner of technology. The work relation, recruitment of worker, and wage system still exist until today.

The transformation of work relation occurs in institutional group based on Ministerial Decree KKP no.47 Th. 2012 as the new regulation for forming fisheries institution. There is sharing information between member of the group such as information regarding pest and disease prevention, borrowing food or plankton, customer information regarding credibility of payment, etc. For seed marketing, member of the group help each other in the form of promoting the product. In this case, the party who help in promoting product will act as broker. The payment method in the past is relatively simple with cash and carry method where buyer comes to check the quality of the product and then pay the cash. Nowadays, the payment methods are relatively different, customer can choose several options starting from 1) cash and carry, 2) down payment, 3) payment with deadline, 4) payment with bank transaction as soon as the product arrive, and 5) payment with *varnen* system or paying after harvest.

The work relations also occur between supplier and store of construction materials. The food supplier will give easy access in exchange for longer payment period about 3-4 month after HSHB receive the product. And, for the need of construction materials in the time of production, the store will offer longer payment period as long as they provide 25% advance money. But this relation only occurs on the present time and for big scale HSHB business.

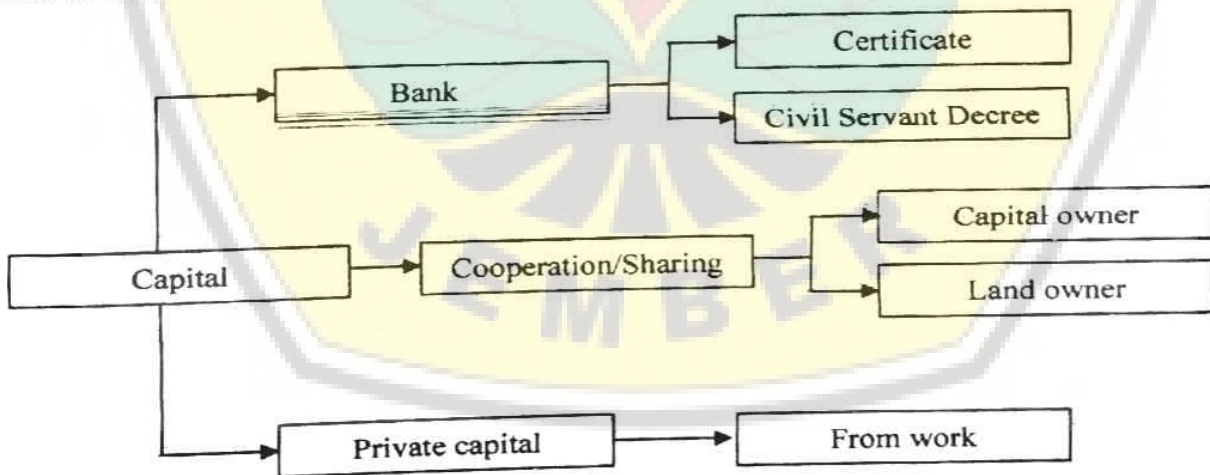
## **Credit Access and Institutional Transformation of HSHB in Past and Present**

Transformation regarding credit access can be seen from payment pattern which shown in Picture 1 and 2 below:



Picture 1. HSHB payment pattern in past

Picture 1 show that payment pattern for HSHB business in the past is divided into threemethods first is private capital which acquired from previous work before opening the business. Second, is informal institution which provides loan for opening HSHB business with interest. Third is cooperation with sharing profit system between capital owners or land owners. From those three methods, the two of it is based on familiarity factor such as payment with cooperation and informal institution.



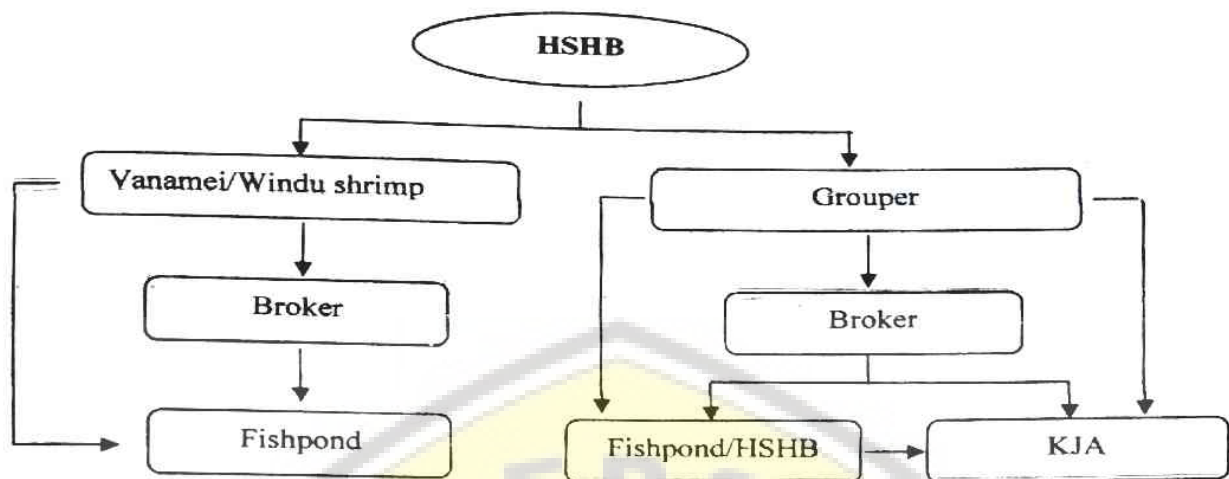
**Picture 2. HSHB Payment pattern in the present**

Different payment pattern is shown in Picture 2 regarding present payment method. The differences are shown in the existence of credit access for formal financial institution or banks. In the term of accessibility toward formal financial institution, HSHB member require two types of mortgages, which consist of land/house certificate and civil servant decree from HSHB business owner. And, for the other two methods of payment are still similar with the past

**The Effect of Institutional Transformation in HSHB towards Capital Accumulation, Market Object and Technology Adoption**

The existences of new commodity provide alternative option for HSHB member in developing their hatchery business. In certain season, when the demand for commodity is decreasing, HSHB member can switch into another seed commodity with higher demand. The diverse commodity options also affect the dynamic of income for HSHB member. This dynamic then also affect the ability of HSHB in accumulating capital. The higher income, the greater ability of HSHB member in accumulating capital. The preservation of capital could be in the form of land, infrastructure production, and financial capital for operational production.





Picture 3. Market flow for fish and shrimp in HSHB

Each commodity is holding their own market chain where the flow market for shrimp and fish are completely different. The introduction of new commodity creates a larger market access. The different purpose of shrimp and fish also create different rule and regulation. *Windu* shrimp are the main market of fishpond whether in intensive or extensive scale. With the rising problem of *windu* seed in fishpond, the market commodity change into new seed which more resistant to disease. The flow of market in fishpond industry continues to change with the introduction of *vanamei* shrimp. Below are Picture 3 which depict the flow of market for shrimp and fish.

It is undeniable that technology is the main factor in encouraging the production. Technology innovation has triggered the development of production in goods and service. This development is maintained by government through its research institution which creates the new grouper seed with genetic engineering. Using hybrid technique the good variety of grouper is created with better quality and also as part of diversification program. Commodity diversification also encourages the HSHB member to adopt new hatchery technology for each commodity.

### RECOMMENDATION

The pattern of institutional transformation in hatchery business for household scale is continuous to change. This transformation is natural without the need of enforcement from government policy. This transformation will keep occurring due the development of technology in larva or new commodity in market. The ability of HSHB in adopting technology and increasing investment as well as asset diversification are the main force of income dynamic. The institutional transformation is related to work relation which occurs in the past and after the introduction of new commodity. In order to achieve economic interest, each member of HSHB continues to communicate and cooperate.

The institutional transformation in hatchery business is related to credit access from formal financial institution, and it can be seen from the change of pattern in payment method from *windu* period and present time. The transformations before the introduction of new commodities are showing no access of formal financial institution and only rely from informal institution. Meanwhile, after the introduction of new commodity, the payment pattern is no longer relying solely from the informal institution but also from bank credit. It is due the limited access of information regarding bank in the past time, and now the condition is change with more access of information for HSHB member in order to apply credit.

Based on observation in the field regarding institutional pattern of HSHB member in sub-district Bungatan and Kendit, it is concluded that institutional pattern in HSHB business is also influenced by the government policy especially in the form of research development for nurturing technology and genetic engineering. There is also increasing communication and social capital between members HSHB especially from different scale of business. This research could be used as reference for researcher interested in similar research with different focus but also beneficial such as multiplier effect of HSHB existence in coastal region toward economic empowerment.

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