# Relationship between Family Income of Pottery Craftsmen and Pottery Production Power in Maregam Village, Tidore Islands City

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Abstract:     This study aims to determine the production factors that support earthenware crafts and their influence or contribution to the family income of pottery craftsmen. The method used in this study is a type of survey method to describe the condition of pottery craftsmen according to the facts found in the field. The study population was people who lived in Maregam Village, totaling 477 people (Kota Tidore Kepulauan in Numbers, 2016). The research used probability sampling technique. Data collection research was conducted by means of interviews, questionnaires and documentation. Respondents of this research data were people living in Maregam Village and doing pottery craft activities. The results obtained illustrate that the production factor of pottery production tends to be influenced by capital, transportation and raw material factors, such as the linear regression equation model: $Y = 17,387$ Capital $-4,639$ Transportation $- 9,616$ Raw Material $- 8,975$ with $R^2 = 0,279$. The relationship between the production of pottery craft and the contribution of craftsmen's income to their family income is used Product Moment correlation analysis, with the value of $r = 0.71$, which is interpreted as pottery production has a strong influence on the contribution of the family of pottery craftsmen.

## 1 INTRODUCTION

To improve the rural economy, as an effective solution to reduce the desire of people in the village to work outside their home areas, it requires support from the government to always seek village-based economic programs. Maregam Village is one of the administrative areas of South Tidore Subdistrict, Tidore Islands City which has the potential of natural resources in the form of clay wealth to be used as raw material for making pottery.

The people of Maregam Village generally have the skills to make pottery which is passed down from generation to generation from their parents. Almost all women in Maregam Village have skills in making pottery crafts since they were teenagers. One of the unique processes of earthenware crafts is that it does not use modern tools or technology, but the size produced is uniform. The unique feature of pottery collection in Maregam Village is that pottery craftsmen are only done by women because there is their belief that they will experience a bad event if a man is involved in making pottery.

Pottery production from Maregam Village is marketed in the North Maluku region even outside North Maluku Province. The farther the reach of the marketing area, the higher the price of pottery. Some of the pottery produced by the people of Maregam Village is ngura-ngura (cover container), incense and pottery with various sizes and shapes. The pottery business in this village has developed into a tradition that has been passed down from one generation to the next. In addition, making pottery is one of the focuses of the basic livelihoods of the people in this village.

As factors supporting the production of pottery in the Maregam Village, among others are capital factors, transportation media as a liaison between the surrounding islands, and the availability of raw materials to support production in pottery craft in the village of Maregam. This research was conducted to obtain an overview of the contribution of pottery production power to the income of the earthenware craftsmen family in Maregam Village. Some of the problems formulated in this study include: 1). What characteristics support the family income of pottery craftsmen in Maregam Village and, 2). How big is

the influence of pottery production on the income characteristics of the earthenware craftsmen family in Maregam Village

# 2 MATERIAL AND METHODS

## 2.1 Conceptual Basis

Handoko (2000) defines productivity as a measure of the relationship between input and output in the production system. A form of business has high productivity if there is an increase in the value of production to the amount of capacity of its input elements. Productivity can be interpreted as relative size, the size value displayed by the power of production. According to Mandel (1983), productivity is the ratio of production output to be used by parties outside the organization that cover all types of products. Productivity is determined by the resources used to achieve production goals.

According to Riyanto (1998) capital is the production used to produce further. Capital consists of all capital both working capital (raw material purchases, labor wages) and fixed capital (equipment purchases and depreciation) that are used to support the productivity of earthenware crafts. The source of capital used by craftsmen is personal capital and loans from outside parties. Transportation costs are one of the production costs and influential factors in earthenware crafts in Maregam Village. For the continuity of the production process, it is also determined by the availability of raw materials. The more difficult it is to get raw materials, the more inhibits the production process or can increase production costs.

## 2.2 Datasets Used

Primary data was obtained from direct interviews with respondents with a list of questions prepared in advance. Data collected includes:
a) Data on socio-economic characteristics of pottery craftsmen include: age, education, number of family members, work of husband, wife"s job, side job, length of work.
b) Data about raw materials for making pottery.
c) Data on the amount of business capital used for making pottery.
d) Media transportation to market pottery products.
e) Income includes: income from craft pottery and non-pottery products.

Secondary data can be obtained through the Village office, Subdistrict office, Central Bureau of Statistics office and other agencies related to this research.

The research location covers the Mare Island area, South Tidore Subdistrict, Tidore Islands City. Geographically the research area was limited by coordinates 127° 23′ BT - 127° 25′ BT and 0° 34′ LU - 0° 35′ LU. (Figure 1). The study population was 428 people living in Maregam village with an area of 650 Ha (Central Bureau of Statistics, Tidore Islands city, 2017).
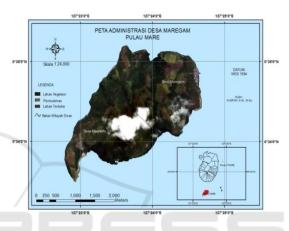


Figure 1. Research location in Maregam Village, Mare Island

## 2.3 Methods

The method of study conducted is a survey method to describe the characteristic conditions of the field facts and systematically record the object of the research. Data collection was also carried out based on information and explanations from respondents found in the field.

### 2.3.1 Data Collection Technique.

Field observations were carried out to obtain data on the intact condition of the objects to be examined using observation tools or checklists. Use of questionnaires in this study, which lists questions that refer to research indicators. The questionnaire entry will be given to the respondent, including information on the socio-economic characteristics of pottery craftsmen, raw material for earthenware crafts, capital, and family income of pottery craftsmen.

In this study also documentation of pictures of the physical condition of the village and the work environment of the pottery craft business in

Maregam Village, in addition to collecting secondary data such as the map of Maregam Village and monographic data and sub-district data in the study area.

## 2.3.2 Data Analysis Technique.

The application of multiple linear regression techniques is carried out to get a large value on the production factor which is a representation of the production of earthenware crafts in Maregam Village. The high and low number of pottery craft production is determined by the factors of capital, transportation, and raw materials, which in the mathematical function are stated as follows:

$$Y = f\{x_1, x_2, x_3,\} \tag{1}$$

where, Y = pottery craft output, $x_1$ = capital factor, $x_2$ = transportation factor, and $x_3$ = raw material factor.

The form of the linear regression equation is:

$$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + e \tag{2}$$

where, $b_0$ = constant, and $b_1$, $b_2$, $b_3$ = linear regression coefficient.

The indicator of the income of women pottery craftsmen is used to illustrate the contribution of the influence of the pottery craft production to the income of their families. The composition of family income is determined by three sources of income, namely; husband"s income, wife"s income and other sources of income (Mardiana, 2004).

The contribution of women pottery craftsmen"s income is calculated using the following equation:

$$Kp = \frac{L_f}{L_t} \tag{3}$$

where, Kp = contribution of pottery craftsmen to income his family (Rp.), Lt = family income (Rp), Lf = income of pottery craftsmen (Rp).

To determine the relationship between pottery craft production power and the contribution of craftsmen"s income in his family"s income, Product Moment correlation analysis (Karl Pearson) was used.

## 3 RESULTS AND DISCUSSION

The pottery craft in Desa Maregam is very dependent on the natural resources that are owned in the form of typical clay which is only found on Mare Island. Apart from geographical factors, this village also has links with natural resources found in Oba Subdistrict, Central Halmahera Regency. The natural resource is the abundance of black sand and red soil which is only available in the area.

One limiting factor for the development of the pottery craft business in Maregam Village is the procurement of supporting raw materials which are only outside Mare Island. This limitation is a geographical obstacle as an archipelago separated by sea waters.

The need to support raw materials to increase the production of pottery crafts in Maregam Village. Another obstacle is the presence of connecting transportation that has not reached many of the surrounding islands.

As the basic raw material for making pottery in Maregam village is clay, black sand and red soil. The results of the study with 40 samples illustrate raw material costs of around 45% or in the amount of nominal currency, which is between 1,200,000 - 1,500,000 producing pottery products with an average number of 268 in various types of pottery crafts. Table 1.

Table 1: Results of interpretation of raw materials from 40 samples of pottery craft makers.

| No. | Raw material (Rp) | Percentage (%) | Pottery Products average |
|---|---|---|---|
| 1 | 400,000 – 700,000 | 10.0 | 145 |
| 2 | 800,000 – 1,100,000 | 32.5 | 176 |
| 3 | 1,200,000 – 1,500,000 | 45 | 268 |
| 4 | 1,600,000 – 1,900,000 | 0 | 0 |
| 5 | 2,000,000 – 2,300,000 | 12.5 | 235 |
| 6 | >= 2,400,000 | 0 | 0 |

Transportation is an important factor in pottery craft activities in Maregam Village. Generally transportation costs are used to bring in complementary raw materials and sales transportation from pottery products. For product sales, they always form groups to work together starting from 2 or 5 pottery craftsmen to reduce the transportation costs.

Table 2: The results of the interpretation of transportation needs from 40 samples of pottery craft makers.

| No. | Transportation costs (Rp) | Percentage (%) | Pottery Products average |
|---|---|---|---|
| 1 | 1,000,000 – 1,500,000 | 35.0 | 174 |
| 2 | 1,600,000 – 2,100,000 | 15.0 | 218 |
| 3 | 2,200,000 – 2,700,000 | 37.5 | 263 |
| 4 | 2,800,000 – 3,300,000 | 2.5 | 80 |
| 5 | 3,400,000 – 3,900,000 | 7.5 | 282 |
| 6 | >= 4,000,000 | 2.5 | 250 |

Needs for transportation costs in pottery craft activities. Table 2. The amount of transportation costs around 37.5% with the results of an average pottery product of 263 pieces and transportation costs between 1,000,000-1,500,000 as much as 35% with an average yield of around 174 pieces of pottery products.

The capital used by pottery craftsmen in Maregam Village is fixed capital in the form of equipment and consumable capital to produce finished products. Capital requirements for pottery craft activities are around 37.5% or between 3,100,000 - 3,400,000 rupiahs with an average number of pottery products of 263 with various types. In addition, the second order of capital used also tends to be in the range of 1,900,000 - 2,200,000 rupiahs as much as 20% by producing an average number of 203 pieces of pottery products. As for around 7.5% for pottery craftsmen or from 2,300,000 - 3,000,000 rupiah can produce the number of pottery products 212-220 pieces. Table 3. The use of capital for pottery production needs is influenced by the amount of capital of more than three million rupiah and less than two million rupiah. This, illustrating the use of large capital for the pottery production process by pottery craftsmen does not depend only on capital factors.

Table 3: The results of the interpretation of the use of production capital in 40 samples of pottery craftsmen.

| No. | Production capital (Rp) | Percentage (%) | Pottery Products average |
|---|---|---|---|
| 1 | 1,500,000 – 1,800,000 | 17.5 | 131 |
| 2 | 1,900,000 – 2,200,000 | 20.0 | 203 |
| 3 | 2,300,000 – 2,600,000 | 7.5 | 212 |
| 4 | 2,700,000 – 3,000,000 | 7.5 | 220 |
| 5 | 3,100,000 – 3,400,000 | 37.5 | 263 |
| 6 | >= 3,500,000 | 10.0 | 274 |

The influence of production capital, marketing transportation and raw materials was obtained by around 28% of the number of pottery craft products in Maregam Village. The pottery productivity can be shown by the regression equation as follows:

$$Y = 17,387 X_1 - 4,639 X_2 - 9,616 X_3 - 8,975$$
with $R^2 = 0,279$

where, $X_1$ = Capital; $X_2$ = Transportation; $X_3$ = Raw material.

Simultaneously, the business capital needs of pottery, transportation and raw materials can affect the pottery production capacity of only about 28%. The contribution of these three production factors is low and there are still other supporting factors that can affect the productivity of pottery supply in the village of Maregam.

In pottery craft, some forms of household appliances are always made by pottery craftsmen in Maregam Village. Gerabah has an important role in preserving the traditional Maluku symbols. Forno is a tool for making or baking sago. Forno is a symbol of the food security tradition in North Maluku. Bura-Bura is a tool for cooking culinary Maluku Utara such as *Apam* cake from Ternate, *Lapis* Tidore and Sanana. In addition, Hito and his colleagues became two tools used during the tahlilan process of praying for those who had died. Spoon pot is used to burn charcoal and Hito is used to place charcoal that has been burned with incense.

The development of pottery crafts in Maregam village is a legacy of local cultural wisdom, and in this study the preservation of the heritage of local wisdom is generally passed on to women or wives as craftsmen. The types of pottery craft products produced are also the main domestic goods for the North Maluku community and the manufacturing process is done manually and through certain rituals by the Maregam community. The existence of the role of women in income sustainability in the family is central and illustrates the income conditions of the families of the people in Maregam village.

The role of pottery craftsmen in Maregam Village is reflected in the income matrix of women or wife craftsmen, which is based on a sample of 40 craftsmen. Table 4.

The distribution of income from the type of work of the craftsmen is obtained by the amount of 42.5% having an average net income of 3,471,000 rupiahs and around 2.5% having income above 4,400,000 rupiah. This condition illustrates the socio-economic conditions in the village of Maregam that the contribution of a wife's income to family life is very significant compared to the income from a man's or her husband's work. Based on this, the pottery craft activities turned out to be the main type of activity in Maregam Village.

Table 4: The results of the interpretation of the income of pottery craftsmen in Maregam Village.

| No. | Income of Pottery Craftsmen (Rp) | Percentage (%) | Average income |
|---|---|---|---|
| 1 | 2,000,000 – 2,500,000 | 17.5 | 2,185,000 |
| 2 | 2,600,000 – 3,100,000 | 27.5 | 2,955,000 |
| 3 | 3,200,000 – 3,700,000 | 42.5 | 3,471,000 |
| 4 | 3,800,000 – 4,300,000 | 7.5 | 4,067,000 |
| 5 | 4,400,000 – 4,900,000 | 2.5 | 4,500,000 |
| 6 | >= 5,000,000 | 2.5 | 5,000,000 |

Most types of work for men in Maregam village are fishermen and farmers. This is reflected in the geographical conditions of Maregam village which is part of an archipelago with hilly morphology and surrounded by the sea. The land landscape occupied as a settlement location is only around a narrow coastline with flat relief. Not all coastlines in Maregam village can be used as settlement locations because of geographical barriers.

The type of work for men or husbands mostly works as fishermen. The sample taken as many as 40 household heads who owned a pottery handicraft business was 32.5% working as fishermen and 30% as farmers. Other types of work and tend to be done by male residents in Maregam Village are 5% of Civil Servants, 2% of Traders and 5% of Housing Builders.

The appearance of the landscape in Maregam village is a geographical condition that is not found in a wide seasonal agricultural area so that most of the land that consists only of plants from annual crops. This condition shows that farming work in the village only makes it a side job. Crops in the form of vegetables and annual crops such as nutmeg plants are only a small portion planted by farmers in Maregam village because the land area is relatively narrow and limited. Almost all hilly land is not managed as a farming location so that it is covered by shrubs or reeds. In addition, the condition of the land which tends to be steeply bereft will require the use of difficult agricultural activities so that the utilization of the land causes the management of agriculture to be not optimal. The head of the family who works as a farmer generally conducts side activities by helping his wife prepare materials or materials for pottery making.

Regarding the level of influence of pottery craftsmen"s income contribution to the pottery craft production power in Maregam Village there is a statistical relationship, with a correlation of 0.71 which means that the contribution of craftsmen"s income in the overall income of his family has a

significant influence. Increased pottery production results tend to have a real impact on the family welfare of pottery craftsmen.

# 4 CONCLUSIONS

The conclusion of this reearch are as follows. (1) Family income in Maregam Village is very dependent on the production of pottery; (2) Changes in the level of family welfare of earthenware craftsmen are directly proportional to the strength of their pottery craft production.

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