Impact of Rural Fisheries Businesses Program to The Fishermen Welfare in Mangunharjo Sub District Tugu Semarang Indonesia

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Abstract. The Ministry of Marine Affairs and Fisheries (MMAF) Indonesia has been implementing Program of Rural Fisheries Businesses to develop fisheries business and aimed to overcome the problem of poverty of fishermen in Indonesia since 2011. There are limited studies on the impact to the program recipients. Therefore, it is important to study the impact of the program to the fishermen welfare. This study aims to identify the characteristics of fishermen Mangunharjo, analyze the welfare of fishermen who receive business capital program and non- beneficiaries of Mangunharjo fishermen. The method used was descriptive study case method. The number of respondent were 21 beneficiaries and 53 non beneficiaries. Data collection techniques by interview and direct observation in the field. Data analysis techniques used Welfare indicators (issued by Central Bureau Statistics), City Minimum Wage and the concept of Fisherman Terms of Trade. The results showed that based on standard of Semarang minimum wages a whole 98.64% of fisherman's income have fulfilled standard. Based on Central Bureau Statistics welfare indicators, 96% medium-term welfare families, 1.3% high welfare families and 2.7% low-income fisherfolk families. Based on Fisherman Terms of Trade that is 60 high welfare fishermen, 12 medium prosperity fishermen and 2 families of low welfare fishermen. Groups of fishermen who receive business capital PUMP Program have better welfare than those who do not receive.

1. Introduction
The strategic location of Semarang City is located at the main point of the main route of North Coast of Java Island with the long coastline of Semarang City reaches 36.63 km[1]. This city is developed as a potential area for industrial activities, trade and services. Potential fisheries and strategic location of Semarang City is an opportunity in creating a more advanced fishing business and developing to improve the living standards of fishermen communities around. Capture fishery business will be able to improve the welfare of fishermen if they get a decent profit and managed properly and correctly.

Welfare is the ultimate goal in life. Welfare issues are often debated poverty for how to find solutions to poverty alleviation. Some of the factors that cause fishermen poverty still occur, among others due to limited capital to develop business, low education level, no livelihood alternatives, regional planning that is not supportive, and low empowerment so that production technology is limited, undeveloped business and low income. The role of government is very important in encouraging the welfare of the fishermen community.
Various aspects that can be prioritized in the empowerment of poor fishermen communities include: capital access development, technology development and scale of fishery business, development of marketing access, fishermen institutional strengthening and coastal communities, community based fishery resource management, fishery facilities development and supporting facilities. The development of fishermen business with ease in access to business capital will help improve the welfare of fishermen[2]. One of the government programs that is a solution to improve the welfare of fishermen is the Program of Rural Fisheries Businesses (we called PUMP in Indonesia) of Capture Fisheries. The program has been socialized in Mangunharjo Village, Tugu Sub-district since 2011 with a grant of IDR 100 million distributed through a group of fishermen. The funds are used for various fishing needs such as the purchase of fishing gear, boat engine, boat and repair / workshop.

Data from Management Information System of Poor Families from Development Planning Agency at Sub-National Level Semarang city shows that poverty rate in Mangunharjo Village, Tugu sub-district in 2011 is 512 almost poor families and 417 poor families. In 2013 there was a decline of 686 almost poor families and 102 poor families, until 2015 there was a decline to 563 families are classified as near poor and 104 families are classified as Poor. The decline in poverty level makes the researcher's reason to know whether there is influence of government aid program to increase fisherman's prosperity. In accordance with the main objectives of the government in the PUMP program is to improve the welfare of coastal communities through economic development, improving the quality of human resources, and strengthening socio-economic institutions by utilizing fisheries and marine resources in an optimal and sustainable. This needs to be taken very seriously considering that welfare is the right of everyone.

The purpose of this research is to know the impact of rural fisheries businesses program to the fishermen welfare byanalyzed the fisherman's welfare level which become member of beneficiaries and non-beneficiaries of PUMP program based on Fisherman Terms of Trade (namely NTN), CBS(Central Bureau of Statistics) and City Minimum Wages in 2017.

2. ResearchMethods
The research method used is descriptive method is case study. Descriptive is done to analyze the level of prosperity of Mangunharjo Village fishermen based on CBS welfare indicator, determination of City Minimum Wages and Fisherman Terms of Trade. The study is case study because this research is specific to study fishermen who receive business capital PUMP Program and fishermen who do not receive in Mangunharjo Village, Tugu Sub-district, Semarang.

2.1 Sampling method
Sampling was done by Purposive Sampling method. Total population is 110 people. The sample used as respondent was 21 fishermen which is the total number of beneficiaries of the program as well as active members of the fishermen group. Respondent non-beneficiaries was 47 people. The addition of 6 people in anticipation of a failed sample, so the total sample is 74 respondents. Determination of the number of samples was randomly done using Slovin formula with error rate of 0.1[3,4]. The primary data collection used was observation and interview. Secondary data collection is obtained from supporting information related to research through the institutions namely DKP (Marine and Fishery Services) Semarang City, CBS Semarang City, and Village Mangunharjo.

2.2 Data analysis
Quantitative data on fishermen's welfare level were analyzed by scoring the combined fishermen welfare indicators comprising modified welfare indicators according to Central Bureau of Statistics [5,6], Semarang City and Fisherman Terms of Trade. Based on the Decision of Central Java Governor Number 560/50 Year 2016 on Minimum Wage at 35 Regency / City in Central Java Province Year 2017 of IDR 2,125,000 / month.

The People's Welfare Indicator is a summary of a series of welfare statistics derived and conceived to describe a state or tendency of the welfare state that becomes or will be a matter of concern or a community development effort [7,8]. The level of household welfare according to CBS Indicators with modifications can be measured based on Table 1.
Table 1. Welfare Indicator from Central Bureau of Statistics (CBS) with modifications

| No | Indicator                                 | Information               | Score |
|----|------------------------------------------|---------------------------|-------|
| 1  | Status of residential buildings occupied | 1. Owner                  | 3     |
|    |                                          | 2. Contract/Rent          | 2     |
|    |                                          | 3. Parents-owned          | 1     |
| 2  | Floor area                               | 1. >100 m²                | 3     |
|    |                                          | 2. 50-100 m²              | 2     |
|    |                                          | 3. <50 m²                 | 1     |
| 3  | Type of floor widest                     | 1. Ceramics               | 3     |
|    |                                          | 2. Cement                 | 2     |
|    |                                          | 3. Soil                   | 1     |
| 4  | Type of wall house                       | 1. Wall                   | 3     |
|    |                                          | 2. Wood                   | 2     |
|    |                                          | 3. Bamboo                 | 1     |
| 5  | Type of roof                             | 1. Concrete               | 3     |
|    |                                          | 2. Tile                   | 2     |
|    |                                          | 3. Zinc/asbestos          | 1     |
| 6  | Source of drinking water                 | 1. PDAM                   | 3     |
|    |                                          | 2. Well                   | 2     |
|    |                                          | 3. Rainwater              | 1     |
|    | If code 1 PDAM, then need for water in a month | 1. 21-40 m³               | 3     |
|    |                                          | 2. 11-20 m³               | 2     |
|    |                                          | 3. 0-10 m³                | 1     |
| 7  | a. Primary source of lighting            | 1. Electricity PLN        | 3     |
|    |                                          | 2. Electricity Non PLN    | 2     |
|    |                                          | 3. Petromak               | 1     |
|    | b. If electricity PLN, built-in power    | 1. 1300 watt              | 3     |
|    |                                          | 2. 900 watt               | 2     |
|    |                                          | 3. 450 watt               | 1     |
| 8  | Fuel for cooking                         | 1. LPG                    | 3     |
|    |                                          | 2. Kerosene               | 2     |
|    |                                          | 3. Charcoal/firewood      | 1     |
|    | If using gas, then need in a month       | 1. >4 tube                | 3     |
|    |                                          | 2. 2-3 tube               | 2     |
|    |                                          | 3. 1 tube                 | 1     |
| 9  | Use of final disposal facility           | 1. Own                    | 3     |
|    |                                          | 2. Together               | 2     |
|    |                                          | 3. General                | 1     |
| 10 | Final stool disposal site                | 1. Tank/SPAL              | 3     |
|    |                                          | 2. River/sea              | 2     |
|    |                                          | 3. Holes                  | 1     |
| 11 | *) Do households have personal assets as follows: | a. Car/Ship (15,000,000 IDR) |     |
|    |                                          | b. Motorboats (5,000,000 IDR) |    |
|    |                                          | c. Motorcycle (10,000,000 IDR) |  |
|    |                                          | d. Bike (1,500,000 IDR)   |    |
|    |                                          | e. Boat (2,000,000 IDR)   |    |
|    |                                          | f. Refrigerator (1,500,000 IDR) |  |
|    |                                          | g. Television (1,000,000 IDR) |  |
|    |                                          | h. DVD (300,000 IDR)      |    |
|    |                                          | i. Handphone (500,000 IDR) |    |
| 12 | The last education of the head of family | 1. High school/ College   | 3     |
|    |                                          | 2. Junior high school     | 2     |
|    |                                          | 3. Primary school         | 1     |
| 13 | Number of family                         | 1. >3 (husband, wife, children) | 3   |
members who work | 2. 2 (husband and wife) | 2  
| 3. 1 (husband) | 1  

*)Description 8 criteria of assets ownership with asset value based on own assumptions:
1 = ≤ 12,399,999
2 = 12,400,000 – 24,799,999
3 = ≥ 24,800,000
Based on 13 indicators so the highest score is 57 and the lowest score is 13, then the range is (39-13)/3= 9. If derived based on the classification level as follows:
  a. Welfare level is high, if it reaches the score = 31-39
  b. Welfare level is medium, if it reaches the score = 22-30
  c. Welfare level is low, if it reaches the score = 13-21

The Fisherman Terms of Trade (NTN) can be formulated as follows[9]:

\[ \text{NTN} = \frac{Y_t}{E_t} \]  
\[ Y_t = Y_{Ft} + Y_{NFt} \]  
\[ E_t = E_{Ft} + E_{Kt} \]

Where:
\( Y_{Ft} \) = Total yield from fishery business (IDR)
\( Y_{NFt} \) = Total yield from Non fishery business (IDR)
\( E_{Ft} \) = Total expenditure of fishery business (IDR)
\( E_{Kt} \) = Total expenditure of family consumption (IDR)
t = Periode (month/year etc)

3. Results

3.1 Characteristic of fisherman from Mangunharjo Village

Mangunharjo Village fishermen use two types of fishing gear which includes environmentally friendly fishing gear that is trammel net and trap net folding. Mangunharjo fishing activity activities conducted one day fishing starting at 03.00 am until 12.00 pm for trammel net fishermen while at 04.00 pm until 09.00 am for bubu fishermen (trap net). The number of trips in general is 25 trips in one month. Trammel net net catches for species of fish such as mullet (mugilidae), long jawed mackerel (Rastrelier kanagurta), Sword Fish (Trichiurus sp), snapper fish (Lutjanus sp), croaker fish (Pseudocienia amoyensis) and trash fish are used as baits of trap net while trap net for mud crabs (Scylla serata) and blue swimming crabs (Portunus pelagicus).

Characteristics of fisherman Mangunharjo based on the age of the head of the family, the number of dependents, working experience to be a fisherman. Mangunharjo fishermen by age there are 72 respondents aged 16-64 years ie productive age and 2 respondents aged over 65 years are not productive. The highest number of family dependents is 3-4 people as many as 47 families, <3 people as many as 12 families and > 4 people as many as 15 families. Mangunharjo fishing experience majority of 10 - 20 years as many as 47 people, less than 10 years of experience as many as 20 people and experience of more than 20 years as many as 7 people.

3.2 PUMP Program (Program of Rural Fisheries Business Development)
The Minister of Marine Affairs and Fisheries 2010 - 2014 "Welfare of Marine and Fisheries Community" where one of the plans in the achievement is with the Program of Rural Business Development (PUMP) of Capture fisheries [10, 11]. The program aims to alleviate poverty while improving the performance of members of the community who are members of fishermen groups and organized in the Joint Business Group in terms of administrative management and group financial administration, and implementation of various poverty reduction activities, especially the empowerment of small fishing businesses based on fishing villages. The Government of the Department of Marine Affairs and Fisheries has channeled PUMP program funds to 10 Fishers Joint Business Group in Semarang City. Each received funding of 100,000,000 IDR.
3.3 Fisherman Income from Fishery Business and Non Fishery Business per Month

Based on interviews 74 respondents, showed that fishermen's income fishing activities vary. Mangunharjo Village fishermen use two types of fishing gear that is trammel net and trap net. The average income of the fishery fishery of Mangunharjo can be seen in Table 2.

Table 2. Average Revenue of Fisherman Fishery of Mangunharjo

| No. | Gear     | Help of PUMP | Average income/month/season (IDR) | Average income (IDR) |
|-----|----------|--------------|-----------------------------------|----------------------|
|     |          |              | Peak Season | Regular | Famine | Peak Season | Regular | Famine | Peak Season | Regular | Famine |
| 1.  | Trammel  | Beneficiaries| 6,626,667   | 2,331,000 | 1,160,133 | 3,081,672 |
|     |          | Non         | 6,535,455   | 2,728,727 | 1,402,864 | 3,211,383 |
| 2.  | Trap net | Beneficiaries| 9,373,333   | 4,686,667 | 2,257,833 | 4,267,611 |
|     |          | Non         | 8,188,303   | 3,789,030 | 1,756,955 | 3,648,183 |

IDR = Indonesian Rupiah (1 USD = 14,411 IDR) (site from http://www.bi.go.id accessed March 8, 2018)

Table 2 shows the highest average income is fishing gear beneficiaries of PUMP beneficiaries program with nominal 4,267,611 IDR. Revenue is gross income that has not reduced fishery costs. Non-fishery income is income derived from non-fishing activities. Non fishery income of Mangunharjo fishermen family can be obtained from side job of fisherman if not go to sea and income of family member who has a side job or business that is 18 people. The profession of fishermen's wife consists of smoked fish traders, food traders, pre-kindergarten teachers, traders of crackers and factory workers. The highest wife income is 2,400,000 IDR and the lowest 300,000 IDR. A total of 6 families of trammel net fishermen and 2 families of fishermen are receiving beneficiaries while non-beneficiaries of the PUMP program are 3 families of trammel net fishermen and 5 families of fishermen. Income is an important indicator of adaptive capacity [12,13,14]. Reduced revenues will increase the vulnerability of life by reducing both food and non-food consumption.

3.4 Expenditures in Fisheries and Non Fisheries Business

Fishermen's expenditures for fishing businesses consist of fixed costs and variable costs [15,16]. Fixed costs include depreciation and investment maintenance costs, as well as permits to go fishing. Variable costs include fuel, ice, bait and food supplies. The total expenditure of households of Mangunharjo fishermen can be seen in Table 3.

Table 3. Average Total Expenditure of Mangunharjo Fishermen per Month

| No. | Fishing Gear | Fixed cost | Variable cost | Family consumption expenditure (IDR)/month | Total (IDR) |
|-----|--------------|------------|---------------|-------------------------------------------|-------------|
| 1.  | Trammel net  | 384,299    | 48,189        | 1,504,703                                 | 1,927,191   |
| 2.  | Trap net     | 361,052    | 67,676        | 1,455,595                                 | 1,884,323   |

Household expenditure consists of consumption and non-consumption expenditure. Consumption expenditure is the cost incurred for daily meals. Basic needs of consumption such as rice, eggs, cooking oil, cooking spices, vegetables, sugar, coffee / tea and others as needed. One indicator of family welfare is to measure the amount of expenditure [17,18,19,20,21]. Families with better welfare, have a smaller percentage of food expenditure than families with lower welfare. If associated with the theory of need, then food is the most important needs. The standard of living of individual respondents is revealed mainly by the pattern of expenditure of the respondents. Engel has stated in his famous law of family expenditure that the family which spends the major portion of its income on food and other necessities of life and less on luxuries and comports, leading to a poor life[22,23].

3.5 Analysis of Welfare Level

3.5.1 Minimum Wage City in Semarang City
Based on the decision of the Governor of Central Java Number 560/50 of 2016 on Minimum Wage at 35 (thirty five) Regency / City in Central Java Province in 2017 that Minimum Wage in Semarang City amounted to 2,125,000 IDR. Mangunharjo fishermen income based on Minimum Wages criteria can be seen in Table 4.

### Table 4. Mangunharjo Fishermen Income Based on City Minimum Wage 2017

| No. | Criteria for earnings eligibility | Respondents | Total (%) |
|-----|---------------------------------|-------------|----------|
|     |                                 | Beneficiaries (people) | Frequency (%) | Non-beneficiaries (people) | Frequency (%) | Total (people) | % |
| 1.  | > 2,125,000                     | 21           | 100      | 52         | 98.11        | 73           | 98.64 |
| 2.  | < 2,125,000                     | 0            | 0        | 1          | 1.9          | 1            | 1.36  |
|     | Amount                          | 21           | 100      | 53         | 100          | 74           | 100   |

It is assumed that income that has met the minimum wage limit of the city can be said to be more prosperous than income less than the city minimum wage. Fisherman's income data in Mangunharjo shows that overall 98.64% of income obtained by fishermen has met the standard while 1.36% less meet Minimum Wages standards in Semarang City.

### 3.5.2 Welfare Indicators from the combined CBS for 2011 and 2015 with Modifications

Based on 13 indicators according to CBS, the welfare of fishermen households in Mangunharjo Village can be seen in Table 5.

### Table 5. Fisherman's Household Welfare Level Based on CBS Indicators

| Value | Welfare criteria | Respondents | Total (people) |
|-------|------------------|-------------|----------------|
|       |                  | Beneficiaries (people) | Frequency (%) | Non Beneficiaries (people) | Frequency (%) | Total (people) |
| 39 – 32 | High          | 1           | 4.8        | 0          | 0                   | 1           |
| 31 – 23 | Medium       | 20          | 95.2       | 51         | 96.2                | 71          |
| 22 – 13 | Low           | 0           | 0          | 2          | 3.8                 | 2           |
|       | Amount        | 21          | 100        | 53         | 100                 | 74          |

The data shows that overall in 74 respondents were 71 families with medium welfare criteria, 1 family with high welfare criteria and 2 families with low welfare criteria. If the comparison between the beneficiaries respondent and the non-PUMP respondents can be found the beneficiaries of PUMP assistance is 20 families (95.2%) with medium criterion and 1 family (4.8%) with high criteria and no family with low criterion, while non beneficiaries were 51 families (96.2%) with low criteria, and 2 (3.8%) families with low criteria.

### 3.5.3 Fisherman Terms of Trade (NTN) of Fishermen in Mangunharjo village

Fisherman Terms of Trade is an indicator to measure the relative welfare level of fishing communities. Therefore, the indicator is also a measure of the ability of fisher families to meet their subsistence needs. Based on the calculation and welfare criteria using analysis of Fisherman Terms of Trade(NTN), it was found that Fisherman Terms of Trade of PUMP beneficiaries with *trammel net* was 1.30 (NTN>1) and non-beneficiaries PUMP fisherman was 1.22 (Fisherman Terms of Trade>1). Fisherman Fisherman Terms of Tradewho receive PUMP assistance with trap net tool was 1.35 and non-beneficiaries fisherman PUMP of trap net tool was 1.29. So, overall that fisherman Fisherman Terms of Tradebeneficiaries PUMP program is greater than fishermen who do not receive of PUMP program.

### 4. Discussion

In detail the level of welfare according to the criteria of Fisherman Terms of Trade in Mangunharjo Village can be seen in Table 6.
Table 6. Welfare Criteria with Fisherman Terms of Trade

| NTNV value | Welfare criteria                        | Respondents |                       |                       | Total  |
|------------|----------------------------------------|-------------|-----------------------|-----------------------|--------|
|            |                                        | Beneficiaries | Non Beneficiaries |                       | (people) |
|            |                                        | Frequency  | Percent     | Frequency  | Percent |         |
| ≥1,5       | Able to meet primary and secondary needs / High | 3          | 14,3        | 9          | 17,0    | 12      |
| 1≤1,49     | Only able to meet secondary needs / Medium | 18         | 85,7        | 42         | 79,3    | 60      |
| <1         | Not able to meet primary needs / Low    | 0           | 0           | 2          | 3,7     | 2       |
|            | Amount                                 | 21          | 100         | 53         | 100     | 74      |

Based on the results of Fisherman Terms of Trade processing, it can be seen that the whole 74 respondents showed 12 fishermen have Fisherman Terms of Trade value ≥1,5 which means high income (good welfare), 60 fishermen have medium welfare and 2 families fishermen of low welfare. Fishermen beneficiaries PUMP assistance no indication of fishermen families with low welfare criteria, thus indicating the fishermen are able to meet their primary needs. The high value of Fisherman Terms of Trade is influenced by the existence of family members who work and also side business that can support household income. In addition, good financial management of revenues and expenditures can also affect the high level of NTN.

Currently, fishermen cannot depend on the fishing activity alone[24,25]. They need additional income to fulfill the household needs. Uncertainty of income earned by the head of the family as a fisherman encourages other household members such as wife and children to work in order to meet the needs of household life. The role of women in fisheries is in a dynamic flux, having shifted from one of active involvement in fishing labour to industrial labour in fish factories, and finally to more ‘invisible’ labour at home, running the shore side of the business. More recently, there is a growing trend of women working outside the home as primary breadwinner [26,27,28,29,30].

Table 7. Comparison of Indicators City Minimum Wage, CBS dan NTN

| Indikator   | Welfare criteria | Respondents |                       |                       | Total  |
|-------------|------------------|-------------|-----------------------|-----------------------|--------|
|             |                  | Beneficiaries | Non Beneficiaries |                       | (people) |
|             |                  | Frequency  | Percent     | Frequency  | Percent |         |
| City Minimum Wage | ≥ 2,125,000     | 21          | 100         | 52         | 98,1    | 73      |
|              | ≤ 2,215,000      | 0           | 0           | 1          | 1,9     | 1       |
| CBS         | High             | 1           | 4,8         | 0          | 0       | 1       |
|            | Medium           | 20          | 95,2        | 51         | 96,2    | 71      |
|            | Low              | 0           | 0           | 2          | 3,8     | 2       |
| NTN         | High             | 3           | 14,3        | 9          | 17      | 3       |
|            | Medium           | 18          | 85,7        | 42         | 79,3    | 60      |
|            | Low              | 0           | 0           | 2          | 3,7     | 2       |

Based on the comparison of the three methods in Table 7, it can be seen that most of the fishermen in Mangunharjo village can meet the standards of City Minimum Wage was medium welfare. Differences from the results of these criteria because the indicators used in each method are different. If viewed by City Minimum Wage only one with less income than standard of City Minimum Wage but result of CBS welfare indicators and NTN shows two people with low welfare criteria. It is assumed that fishermen with a City Minimum Wage income meet the standard but not proportional to their primary needs expenditure or unable to manage their finances well are
wasteful. However, Mangunharjo fishermen have better welfare compared to Kendari fishermen where the average fisherman monthly income in coastal area of Kendari Bay is 1,378,470 IDR per month[31]. The fishermen welfare measurement in Kendari used the standard issued by World Bank and BPS. World Bank sets the revenue of USD 1/capita/day as the lowest absolute poverty line. Based on the World Bank and BPS measurement, the fishermen welfare in coastal area of Kendari Bay is still above the threshold of poverty.

Fisherman's welfare level Beneficiaries of PUMP program and non-beneficiaries fisherman of Mangunharjo Village, Tugu Sub-district, Semarang, based on City Minimum Wage Kota Semarang that Mangunharjo fisherman's income data is more that meet standard of City Minimum Wage that is 98.64%. Based on CBS shows that fishermen in Mangunharjo village with medium welfare is 96%. Based on the criteria of Fisherman Terms of Trade of fishermen in Mangunharjo village is 81.1% include medium welfare.

Weakness of welfare level is measured based on the provision of City Minimum Wage article 88 Law No. 13 of 2003 on employment is the enactment of the regulation applied to all entrepreneurs where there is no classification of small, medium and large entrepreneurs. Traditional fishermen are entrepreneurs as well as laborers / workers in capture fishery business so it needs a more detailed classification related to business scale developed. Weakness of CBS method is indicators that are not described in detail so that the need for re-evaluation such as indicator type of wall between the wall and wood less clear explanation such as the type of wood used because it affects the price of wood, the indicator of cooking fuel with oil criteria land is less suitable at this time because it is known kerosene is a rare item. Indicator amount of asset ownership to the provisions of less suitable assets, this is because seen from the sale value of each asset is different so that the need to evaluate the criteria of asset ownership and asset prices.

The disadvantage of using the NTN criteria is the lack of clear limits in determining the high level of wellness over one, the moderate being equal to the one and the lower welfare of less than one, thus confusing the classification. Because it is possible that high welfare is contributed by income outside the fishery sector, given the calculation of NTN total revenue is calculated from the fisheries sector and non-fisheries.

5. Conclusion
The Mangunharjo fishermen are included in the medium welfare category. Groups of fishermen who receive business capital PUMP Program have better welfare than those who do not receive. Characteristics of fisherman in Mangunharjo village, Sub-district Tugu, Semarang city based on the age of the head of the family most of the productive age. Based on amount dependent families of fishermen at most 3-4 people. Based on the experience of average fisherman Mangunharjo has 10-20 years experience.

6. Recommendation
Based on the conclusions that have been obtained, then there are some suggestions that can be submitted as follows:

1. Welfare indicator from Central Bureau of Statistics needs to be evaluated as the criteria for floor area need to be compared with amount member families of living and settle, more specific information on the type of wooden wall that allows better wood or wall, fuel oil that needs to be revisited with the situation already become scarce goods and ownership of assets that must be adjusted value of the selling price.

2. There needs to be an evaluation of the follow-up of government aid in time series so as to observe the extent of the impact of providing assistance to the level of welfare of fishermen in Semarang City;

3. Equity of government assistance needs to be improved to support the initial capital of fishermen investing but still under supervision and monitoring.

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