The Economics Empowerment Model and Income Levels of North Konawe Fishermen

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INTRODUCTION

One of national development policy in period of 2005-2010 as contained in medium-term development plan (RPJM) is the improvement of people's welfare. One target is to decrease poverty from 16.7 percent in 2004 to become 8.2 percent in 2010. These targets will success if the public or the population income is increased in sustainable basis.

Technologies used by coastal fishermen largely are still traditional. It makes low productivity and low income. Efforts to increase revenue are technology improvement, ranging from production to post-production technology and marketing. With regard to technology used, fishermen also determine the technology usage. Therefore, community’s empowerment through technology improvement should also consider the nature and characteristics of community. Efforts to increase public access toward technologies advances are yet widely done. This is due to the difficulty to identify type of technology for community. Community itself often uses desired technology. Government sometimes is left behind. In other words, community technology is more advanced than the Government.

Other difficulties to access technology are lack of officers to serve as facilitator and catalyst. In beginning there were fisheries officers to do this task. But new institution as a DKP needs consolidation to enable fisheries officers to provide technology access for communities rightly. In an effort to overcome a lack of energy, fisheries officers through project PEMP 2001 has held training for about 500 villager to help to build the community in coastal areas. Village's power comes from local NGOs, and certified by minimum D3, have experience in community development, and are willing to stay in village for the project.

The market is an interest factor. It could become major obstacles when market is not developed rightly. Therefore, open market access is way to develop the business because when there is no market then the effort will be disturbed. To develop a market for coastal community’s products, the efforts made are to approach communities and large companies as fisheries commodity exporters. Therefore, product sales contract between fishermen communities with this company was carried out. This good relationship makes community gets a guarantee of market and price, construction on community especially in terms of goods quality, as well as capital aid for business development.

Although such a relationship already exists, it should be said that generally the community still face the imperfect market structure. Society meet monopoly when purchasing production factors as well as monophsony when people sell his product. This research was planned to take place during 2 (two) years. In first year (2014) will be focused on Empowerment model of public participation to support fishermen communities production, and presence of government support to improve product quality and product marketing. The second year (2015) will be focused on establishment of a Micro
Finance Institution and training about technology
Applied on fishermen.

1. Theoretical Review:
Nawawi and Hadari (1990) stated that internal productivity is product achievement level that should be generated as output planned for a certain period. This is supported by Kusriyanto (1991) that a particular target can be achieved if all the effort in form of productive activities can be assessed. Productive behavior is a form of business, motivation or encouragement for subsistence, opportunities in communities to create various seafood flour food and decision-making in adopting new ideas and large scale development. Islam M (2012). According Kusnadi (2006), guarantee of daily food needs a huge role to maintain their viability and identify as main causes of fishermen poverty:

Soewandy Herman (1978) states that poverty of coastal communities, especially fishermen, more due to socio-economic factors related to the resources characteristics and technology used. These factors make fishermen remain in poverty. Knight (2001) conducted a research of fisheries development and arrived at conclusion that fixity and rigidity of fishing assets is the main factors to make fishermen cannot overcome the poverty. Rigidity of these assets is due to nature of fisheries assets that difficult to be liquidated or modified and switched to other purposes.

Panayotou (1982) states that fishermen still live in poverty because they enjoy it (preference for a particular way of life). Opinions of Panayotou (1982) is supported by Subade and Abdullah (1993) to emphasize that fishermen prefer to get life satisfaction from fishing and fishermen orientation not only to increase revenue

According Kartasasmita, G. (1996) that concept of community development emphasis on empowerment of targeted coastal communities, especially fishermen who live in coastal areas at small and large islands. The empowerment are follows: 1) availability and fulfillment of basic human needs which consisted of clothing, food, shelter, health, and education, 2) availability of infrastructure and production facilities locally that allows people to get it at a low price and good quality.

Alternative livelihood development is not only in fisheries field, such as processing or marketing, but it should be directed to non-fishing activities. Smith (1983) states that if the open access conditions still occur then any effort to improve the well-being is undertaken, both in fishing and related activities such as the processing and marketing to increase welfare. So the main problem is the arrangement of fisheries resources to realize open access.

Sipahelut Michel et al. (2012) explains that strategic priority improvement in coastal community empowerment program Halmareha districts consist of following six priority: 1) development of marketing 2), development access technology and fisheries, 3) development of capital access, 4) development of supporting infrastructure of fisheries and coastal communities, 5) institutional mastery, and 6) management of fisheries resources. Factors affecting the changes in pattern of social and productive behavior of Bolongdowo fishing community in Sidoarjo district are due to modernization of fishing gear. The change from traditional boat to boat motors can increase their income. Along with the changes and inclusion of industrialization in village, it will affect on social welfare in village. (Islam M, 2012).

According Sukirno (2006), income is the amount of income received by a resident on his performance during a certain period, daily, weekly, monthly or yearly. Some classifications of income include: 1) Personal income, namely all kinds income obtained without giving any activity that is acceptable to the population of a country. 2) Disposable income, namely personal income after reduction for tax payment, 3) National income, namely; value of all final goods and services produced by a country in a year.

Based on explanation above, economic empowerment model for income levels of North Konawe fishermen is shown in Figure 1 below.

![Economic empowerment model](image_url)

**Fig. 1:** Economic empowerment model.
2. Research Methods:
3.1 Research Location and Time:
This research is carried out in North Konawe. The samples are fishermen, fish farmers, traders, fish processor, and entrepreneurs in fisheries service at Subdistrict of Motui, Sawa, Lembo, Lasolo and Molawe. Research time estimation to complete this research is 2014 for phase I and 2015 for phase II. Data collection, reporting, seminar results and finalization report is estimated 6 (six) months.

3.2. Analysis method:
This research uses path analysis. Path analysis is advancement of multiple linear regressions. This technique is used to test the contribution indicated by coefficient path in causal relationships between variables X1, X2, Z and Y. “Path analysis is a technique to analyze the causal relationship on multiple regression if the variable affects are directly and indirectly”, (Robert D. Retherford 1993). Paul Webley (1997) also explains "path analysis is a direct form of multiple regression development with aim to provide estimation of magnitude and significance the relationship in a set of variables."

3. Research Results:
4.1. Factors Analysis:
Factor analysis is a technique to measure and assess the weight of each indicator as a measure of each variable. Large factor loading demonstrate that indicator is the strongest variables measurement (dominant). Generally, factors analysis is used to discard or to include number factors from variables. Factor analysis test results of Kaiser-Meyer-Olkin and Measure of Sampling Adequacy (KMO MSA) of empowerment model variables (Appendix 4) is shown in following table:

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Loading</th>
<th>KMO MSA</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Participation (X11)</td>
<td>0.852</td>
<td>0.819</td>
<td>0.000</td>
</tr>
<tr>
<td>2</td>
<td>Coaching (X12)</td>
<td>0.841</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Technology (X13)</td>
<td>0.865</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Establishment of microfinance Institutions (X14)</td>
<td>0.855</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: primary data processing, 2014

Factor analysis results revealed that all indicators are significant to shape empowerment model variables. Overall significance level of 0.000 means that indicators of empowerment model, if seen from the Kaiser-Meyer test-Olkin Measure of Sampling Adequacy (KMO MSA), have values 0,819 > 0.50. It means the analysis process can continue. The dominant factor is Analysis technology (X 1.3) at 0,865 for empowerment model. It is followed by other indicators sequentially, i.e. the establishment of an MFI (X 1.4) with a value of 0,855, participation (X 1.1) with a value of 0,852, and coaching (X 1.3) with a value of 0.841. Highest technology is indicators for fishermen, fishermen should have and put myself as the ability, able to adjust itself according to the changes, capable of pushing towards the improvement of income, be sensitive to the success.

4.2. Fishermen Income:
Factor analysis with Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO MSA) is done to indicators of fishermen income variable. Analysis results is shown in table below:

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Value</th>
<th>KMO MSA</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Capital (Y2.1)</td>
<td>0.842</td>
<td>0.821</td>
<td>0.000</td>
</tr>
<tr>
<td>2</td>
<td>Facilities and infrastructure(Y2.2)</td>
<td>0.795</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>The experience of sailing (Y2.3)</td>
<td>0.890</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Mileage (Y2.4)</td>
<td>0.899</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: primary data processing, 2013

Test results revealed that all four of these indicators are significant for income fishermen variable with a value of 0.000. It means all variables are significant indicator for. Kaiser-Meyer-Olkin for Measure of Sampling Adequacy (KMO MSA) is 0.821 > 0.50. It means the analysis process can proceed with four indicator of fisherman income variable. Dominant indicator of fisherman income variable is mileage (Y 2.4) with a loading factor of 0.899. This reflects that mileage calculation to sail should consistent with seafood catch.

4.2.1. Profile Variable based on Loading Factor and Mean:
Following sections describe the comparison between the average loading factors and mean using SPSS software. It is intended to describe each indicator with significant contribution. Average value reflects fishermen perceptions toward indicators, whereas loading factor describes the contribution to shape indicator. Respondents perception to research variables can be seen in following table:
Table 3: Respondents perception to research variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Indicators</th>
<th>Loading factor</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowerment Model</td>
<td>Participations (X11)</td>
<td>0.852</td>
<td>76.50</td>
</tr>
<tr>
<td></td>
<td>Coaching (X12)</td>
<td>0.841</td>
<td>77.17</td>
</tr>
<tr>
<td></td>
<td>Technology (X13)</td>
<td>0.865</td>
<td>77.88</td>
</tr>
<tr>
<td></td>
<td>Establishment of microfinance institutions (X14)</td>
<td>0.855</td>
<td>74.73</td>
</tr>
<tr>
<td>Fishermen Productivity</td>
<td>Education (Y1.1)</td>
<td>0.873</td>
<td>71.11</td>
</tr>
<tr>
<td></td>
<td>Training (Y1.2)</td>
<td>0.872</td>
<td>76.33</td>
</tr>
<tr>
<td></td>
<td>Work etnich (Y1.3)</td>
<td>0.815</td>
<td>76.19</td>
</tr>
<tr>
<td></td>
<td>Mental attitude (Y1.4)</td>
<td>0.795</td>
<td>78.81</td>
</tr>
<tr>
<td>Fishermen Income</td>
<td>Capital (Y2.1)</td>
<td>0.842</td>
<td>76.03</td>
</tr>
<tr>
<td></td>
<td>Facilities and infrastructure (Y2.2)</td>
<td>0.795</td>
<td>74.54</td>
</tr>
<tr>
<td></td>
<td>Sailing experience (Y2.3)</td>
<td>0.89</td>
<td>76.15</td>
</tr>
<tr>
<td></td>
<td>Mileage (Y2.4)</td>
<td>0.899</td>
<td>76.55</td>
</tr>
</tbody>
</table>

Source: Primary data processed, 2014

Table 4: Hypothesis Testing Results.

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Dependent variables</th>
<th>Path Coefficient</th>
<th>p-value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowerment model (X1)</td>
<td>productivity (Y1)</td>
<td>0.81</td>
<td>0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>Empowerment model (X1)</td>
<td>Fishermen income (Y2.1)</td>
<td>0.53</td>
<td>0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>Fishermen productivity (Y1)</td>
<td>Fishermen income (Y2.2)</td>
<td>0.40</td>
<td>0.000</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Source: primary data processed, 2014

Based on table 4 above, hypothesis test result can be explained below.

**Hypothesis 1**: Better empowerment model will increase fishermen productivity

Hypothesis testing with path analysis of empowerment model on fishermen productivity produces path coefficient of 0.81 and a p-value 0.000 < 0.05. Therefore, hypothesis 1 is accepted. Positive and significant coefficient show the relationship of empowerment model on fishermen productivity is unidirectional. It means that better empowerment model will improve fishermen productivity

**Hypothesis 2**: Higher fishermen productivity will increase fishermen income

Hypothesis testing with path analysis of for the direct effect of fishermen productivity on fishermen income produce path coefficient of 0.40 with p-value 0.005 < 0.05. Therefore, hypothesis 2 is accepted. Positive and significant coefficient show the relationship of fishermen productivity on fishermen income is unidirectional. It means that higher fishermen productivity will increase fishermen income

**Hypothesis 3**: Better empowerment model will increase fishermen income

Hypothesis testing with path analysis of for the direct effect of empowerment model on fishermen income produce path coefficient of 0.53 with p-value 0.000 < 0.05. Therefore, hypothesis 3 is accepted.
Positive and significant coefficient show the relationship of empowerment model on fishermen income is unidirectional. It means that better empowerment model will increase fishermen income.

4.4. Discussion:

Analysis result the effect of empowerment model on fishermen's productivity and fishermen income can be explained below.

4.4.1. Effect of empowerment model on fishermen productivity:

Path analysis result the direct effect of empowerment model on fishermen productivity shows significant and positive coefficient value. This shows that empowerment model affect on fishermen productivity. Positive path coefficient means direct relationship between Empowerment model and fishermen productivity. An Empowerment model with indicator of participation, coaching, technology and NGO establishment will improve fishermen productivity.

Based on descriptive analysis results, fishermen have good perception to empowerment model. The highest average score on sensitivity of helping others means that fisherman should know the condition of others. This would give a strong effect on fishermen productivity to pay attention to things that are realized with detailed attention to the fishermen work in detail.

Furthermore empowerment model is perceived well by fishermen. Highest percentage is technology aspect. It means fishermen should have advance technology to works. This indicates that technologist behavior, NGO establishment, participation and guidance in carrying out have been done rightly by fisherman.

This research findings shows that empowerment model is able to encourage fishermen to achieve the empowerment model. These findings support the research carried out by Organ (1998) that all dimensions of fishermen productivity as work, co-worker, supervision, targeted demographic promotions, pay and performance have positive correlation with OCB. Konovsky and Organ (1998) found that empowerment model affect on fishermen productivity.

4.4.2 Effect of fishermen productivity on fishermen income:

Analysis result shows that fishermen productivity has positive and significant effect on fishermen income. These results can prove the hypothesis 2 that higher fishermen productivity will increase the fishermen income. Gibson et al (1997) argues that high fishermen productivity will be able to create high income.

Descriptive analysis result show that fishermen productivity is perceived well by fishermen. Highest percentage on mental attitude indicator means that mental attitude expected by fishermen who worked on ocean is ability provide support in work and willing to resolve complaints from fishermen. Highest percentage is mileage indicator. It means that mileage traveled by fishermen in carrying out its work is consistent with target already set by fishermen.

This research confirmed that high fishermen productivity is able to increase income (Robbins, 2006). These findings support the research carried out by Morris and Moebuhr (1994) that strong relationships among variables and significant productivity oriented individual fishermen nonetheless income level and fishermen productivity between internal and external, relatively constant but the relationship between productivity and fishermen income is significantly different for individuals who have a larger internal orientation.

Likewise, Abraham Carmely and Anat Freund (2001) indicate that fishermen productivity have a role on work achievement. Soemendu Biswas and Arup Varma (2007) make a research at fishing sector microprocessor for 357 fabrication and services in India. This research results supports the hypothesis that fisherman productivity has a significant effect on individual income. This research also supports the research results of Yousep (2000), Gregory Murphy (2001).

4.4.3 Effect of empowerment model on fishermen income:

Analysis results show a positive and significant effect of empowerment model on fishermen income. It is supported hypothesis 3 that better empowerment model will increase fishermen income. It means that a good fisherman empowerment model will serve to increase the fishermen income, because fishermen voluntarily want to participate and support the functions of Organization and have used technology to help colleagues, because this behavior is behavior beyond its work with without expecting compensation or recognition.

Value and description of loading factor, fishermen at food industry contended that empowerment model that fishermen's productivity level is accepted, and supported by a good working environment and a high level of commitment will be able to give effect to increase the fishermen income.

Based on descriptive analysis results, empowerment model are perceived good by fishermen. Highest percentage score on technology aspects means that fishermen perform the job with concern to technology to overcome the difficulty in completing his work, and always seeks each other colleagues serving with passion.

Farth. JL et al (2004) confirms that an individual wishes to contribute in organization is needed. According to the Organ (1988), OCB results also lies in a person's private business to help performance acceleration of other duties of fishermen,
communicating, bringing direct appreciation and participation in meetings directly supports a better strategy.

Current research suggests that fishermen involvement in doing OCB has positive relationship with outcome such as organizational revenue and unit sales revenue (Podsakoff and MacKenzie, 1994). Organ (2006) explains that OCB behavior can contribute to organizational success and competitive advantage for Organization in a way of (a) increase the productivity of co-workers and management productivity, (b) make use of declining resources available so there are more time (c) reduce the need to provide resources for care function, (d) smooth, (e) strengthen the organization's ability to attract and retain best fishermen, (f) increase the organization income, (g) perform more effectively to changes environment.

This research results also supports George et al (1992) to discover a close relationship between income groups with OCB. The existence of altruistic behavior allows a group to work in a compact and effective way to cover each other's weaknesses (Podsakoff, 1997). Douglas S. Balloon (1997) in his research explained that OCB and fisherman productivity has a significant effect on individual income. Soemendu Biswas and Arup Varma (2007) explained that OCB gives a significant effect on individual income.

Empowerment model in this research have a direct effect on fishermen income. These findings can be explained that higher OCB makes fishermen at Department of national education Kendari can increase the fishermen income. Fishermen with OCB behavior is an indication that he has any affective attachment to their workplace so that there is a strong desire for fishermen to become part of Organization's work with respect to their family because he was emotionally tied to his organization.

Research findings showed that member virtues indicator is very strong to reflect OCB. Time accuracy is strong to reflect fishermen income. Theoretical contribution of this research is the OCB become mediator variables able to see the effects immediately, so there are no additional effects to existing research variables. Theory of Organ (1988) explains that achievements -oriented community will show performance OCB as a contribution to the revenue.

5. Conclusions and Suggestions:
5.1 Conclusions:
Empowerment model can provides stimulus to increase fishermen productivity and income. Detail conclusions of this research are follows.
1. Empowerment model in this research were able to increase fishermen productivity. These findings can be explained that better empowerment model of fishermen can improve the effectiveness of work, so that an important role of empowerment model are indispensable to achieve increased income of fishermen. Therefore, fisherman can work effectively and efficiently in accordance with its purpose.
2. High fishermen productivity can increase the fishermen income. It means the fishermen able to give role in their work with support of education, training, work ethos, and mentality attitude that suitable with the work, effective, infrastructure, sailing experience and fishermen mileage to contribute better to their work.
3. Empowerment model can increase fishermen income. This finding can explain that higher empowerment model can create more effective work to increase fishermen income.

5.2 Suggestions:
Based on research results above, there are suggestions that need to be followed up, both for development of knowledge for researchers, especially in field of human resources management, as well as the interests of practitioners, especially at national education service at Kendari.
1. Researches on ecological model of fishermen are still relatively limited, whereas the effect on fishermen income is big enough. One of efforts to find solutions to the problems associated with increased fishermen income is need to do a similar research in a wider coverage, both within scope of same disciplines and interdisciplinary science by developing the theory of organizational behavior particularly empowerment model. The complexity factors affecting the fishermen income need to be observed continuously. Other factors outside the researched variables can give chance to be examined again.
2. Fishermen measurement still uses self-appraisal. Future research can use measurement from supervisor or manager to measure and identifying fishermen income trend. Fishery and Ocean Agency need to implement training program and development of work skill to makes fishermen have more skill.

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