COMMUNITY MODEL IN COASTAL AREAS TO ERADICATE POVERTY IN SOUTH BOLAANG MONGONDOW AND EAST BOLAANG MONGONDOW, NORTH SULAWESI

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ABSTRACT

Poverty is a social reality characterized by underdevelopment of many things associated by social, economic, cultural, political, educational and natural factors that directly influence the inability of society, thus becoming poor. Poverty reduction efforts carried out by the community empowerment approach through areas system agrotechno based without the waste products of fish, beef, biogas, crops, fish feed, organic fertilizer and marine protected areas (MPAs) in the coastal areas of the District Boltim and Bosel, North Sulawesi . The data used are primary data obtained from field survey with the help of a list of questions. The samples were 30 respondents. The analytical method used is quantitative descriptive method by using two-sample t test value pairs (paired sample t-test). The results showed that the empowerment of communities through the application area system agrotechno based without the waste products of fish, beef, biogas, crops, fish feed, organic fertilizer and marine protected areas (MPAs) in the coastal areas, there is a significant difference increase between family's income before and after implementation of the system agrotechno region.

Keywords: Agrotechno region, empowerment of communities, farmers, fishermen

INTRODUCTION

MEA is a form of economic integration of ASEAN in terms of a system of free trade among Asean countries. Indonesia and nine other ASEAN member countries have agreed agreement ASEAN Economic Community (AEC) or the ASEAN Economic Community (AEC).

Indonesia as one of the important members of ASEAN are very instrumental in the success of this program. However, if Indonesia has the readiness to implement this program and will not compete with other ASEAN community.

North Sulawesi has a considerable economic potential. Bodies of North Sulawesi and Islands region Sitaro, Tahuna, South Bolmong and Bitung has a lot of marine life that have high economic value. Fishermen can catch a variety of fish species in the region. Grouper, shrimp, crab, and pearls are some marine fisheries mainstay.

Community empowerment is an effort to improve the dignity of society which in the present conditions are not able to escape the trap of poverty and underdevelopment. In other words empowering people means giving ability and society's independence. Empowerment

process that emphasizes the process provide the ability for people to be empowered, encourage or motivate the individual to have the ability or the empowerment to make choices in life (Burhanuddin et al, 1993). In this case that empowerment must be aimed at groups or segments of society that are left behind. (Ismail *et al*., 1994).

Community empowerment is nothing but the efforts to reduce poverty and underdevelopment. In turn strengthen society's position in the economic structure and power. To strengthen the position of society has been carried out continuously by the central government and the local governments. Therefore, one method that can be applied to land use and in accordance with the principles of sustainable management of coastal areas is the implementation of the system agrosilvopastura. Agrosilvopastura system is combining agriculture and forestry components at the same farm on the same management unit (Liao, 1991). In a similar system, we will implement a system of regional agrotechno based without waste (Biocyclofarming) in the coastal areas of the District Boltim and District Bolsel adopted from the system Agrotechno Park (ATP), which is one of the flagship programs of the Ministry of Research and Technology in recent years before it became the Ministry of Research, Technology and Higher Education. Thus, a system based agrotechno region without waste in coastal areas would be one method of community economic empowerment (Mansour, 1986). Another aim of the application of this system agrotechno expected that the public obtain space to determine the most appropriate option for the advancement of their own. According to this approach, any development efforts need to be aimed at creating an environment that enables people to enjoy a better life while expanding choices can be made by any member of the public (Schmittou, 1991).

Community empowerment is necessary to integrate a variety of wisdom and programs spread across various sectors and regions to keep watching capital challenge potential that exists in every person and every region. Setiadharma and Prijono (1994), empowering the poor to overcome the policy is implemented through three policy directions. Wisdom is not directed to the creation of conditions that warrant any poverty reduction. The wisdom directly aimed at the low income community group. A special policy that is intended to prepare the poor and the officials directly responsible for the smooth running of the program and at the same time stimulate and expand efforts to reduce poverty (Subani, 1982).

RESEARCH METHODS

Types of research

This study uses a quantitative approach techniques with comparative research, which will be compared between household income research object before and after application area system based agrotechno without waste.

Objects and Population and Sample

The object of this research is the family in the coastal areas with the majority of the profession as a fisherman. In general the fishermen in question here refers to the people who are actively engaged in fishing effort in the sea water or animals or in open waters, such as the diffuser and towing trawl, the boat driver screen and handler. In general terms fishery explain eggs and the kids fish, sea cucumbers, corals and shrimps. All economic activities related to the field of fishing, fish farming, and the efforts of people on the coast associated with the sea or the term of fishermen. Fishermen are people who do the fishing activities in the sea or freshwater. According Kusnadi, in his "Fisherman: Adaptation and Social Network and Muhammad Nur (2000) "Life Fishermen Sibolga In Historic Trails" describes the poverty of fishermen in the trajectory of a time gone by.

The population in this study is the total number of coastal communities and Boltim Bolsel and 30 families were taken as samples by using random sampling technique (Random Sampling Method).

Research design:

In this study, 30 families were taken as samples where revenues each family will be analyzed in the two months before and after the application area system based agrotechno without waste. Data analysis technique used in this research was comparison technique two paired samples (paired sample t-test), to compare whether there are differences in the income of each family before and after the application area system based agrotechno without waste.

Method of collecting data

Methods of data collection is done in the following way. Interviews were conducted to society (respondents) recipient of the assistance program. Questionnaire using tools in the form of questions addressed to the respondent. Documentation is done by taking the data that has been documented by the relevant agencies conducted by recording and copying. In accordance with

the formulation of the problem and research objectives, the analysis used in this research is qualitative descriptive analysis technique.

DATA ANALYSIS AND INTERPRETATION

General Description of Respondents

As noted in the previous section, the sample of respondents in this research were 30 respondents can be described in the table following the tabulation of respondents description (Table 01):

Table 01. Respondent Description

Respondent	Previous Income	Recent Income	Gender	Occupation	Age	Business Facility	Education
1	1	4	1	1	3	2	2
	2	5					
2	2	4	1	1	2	2	2
	1	4					
3	1	4	2	1	3	3	1
	1	4					
4	2	4	1	1	4	4	2
	2	4					
5	2	3	1	1	3	3	3
	1	4					
6	2	5	2	1	3	4	2
	1	4					
7	2	4	2	2	3	3	2
	2	4					
8	3	4	2	1	3	2	2
	5	4					
9	3	4	2	1	3	2	2
	2	4					
10	1	3	2	1	2	2	2
	2	4					
11	2	3	2	1	1	1	2
	2	4					
12	2	3	2	1	2	2	2
	2	4					
13	3	5	2	1	2	3	3
	2	4					

Respondent	Previous Income	Recent Income	Gender	Occupation	Age	Business Facility	Education
14	1	4	1	1	3	2	2
	1	4					
15	1	4	1	1	5	2	3
	2	4					
16	3	4	2	1	2	2	2
	4	4					
17	5	5	1	1	3	2	2
	5	4					
18	4	3	2	1	2	3	2
	3	3					
19	2	4	2	1	4	2	2
	3	3					
20	4	3	2	1	5	3	2
	3	3					
21	2	3	2	2	5	2	2
	2	3					
22	2	1	2	1	5	2	1
	2	1					
23	2	3	2	1	1	2	2
	2	2					
24	2	3	2	1	4	3	2
	1	4					
25	2	5	1	1	3	2	2
	1	4					
26	2	3	2	2	3	2	1
	1	4					
27	2	5	1	1	3	2	1
	3	4					
28	2	3	2	3	3	2	1
	3	4					
29	2	3	2	3	2	2	2
	2	4					
30	2	1	2	3	3	1	2
	1	5					

Source: Processed Data, 2016

The table above shows the description of the respondents based ordinal data are grouped as follows:

Revenue / Income (before/after):

1. <Rp 1,000,000

2. Rp 1,000,000 - Rp 1,999,999

3. Rp 2,000,000 - Rp 2,999,999

4. Rp 3,000,000 - Rp 4,999,999

5.> Rp 5,000,000

Sex / Gender:

1. Male - Male

2. Women

Occupation:

1. Fishermen

2. Farmers

3. Other (Gatherer fishery products, shop, etc.)

Age:

1. 15-25 years

2. 26-35 years

3. 36-45 years

4. 46-55 years

5.> 55 years

Business Facilities:

1. Carriage

2. Newsstand

3. None

Education:

1. SD / equivalent

2. SMP / equivalent

3. High School / equivalent

4.> S1

Frequency table above can be explained in several pie charts:

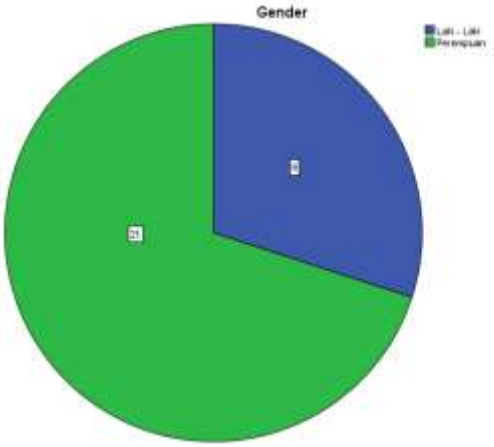

Figure 01. Respondents Characteristic Based on Gender

Pie chart above is the division of data on the characteristics of respondents by gender. It can be seen that the majority of respondents in this study were women with the number 21, while men only 9 people. The data can also be interpreted that the role of the increase in the economic life of coastal communities not dominated by men but women also participated in increasing household income as additional income which will ultimately improve the welfare and standard of living.

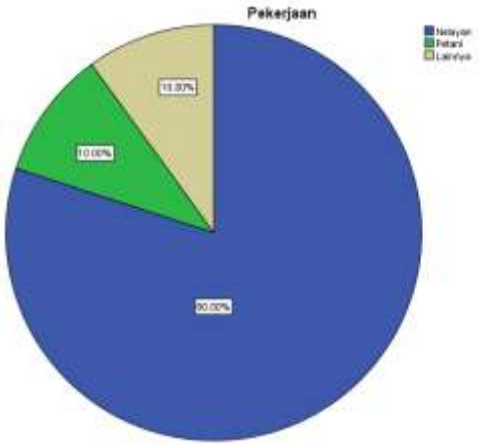

Figure 02. Respondents Characteristic Based on Ocupation

From the picture above we can see the division in characteristics of respondents by type of work. The majority of respondents are fishermen with 80% of the total number of respondents or the equivalent of 24 people. With the majority of respondents are women, it can be seen that

the fishing profession is not only occupied by men alone but work to catch fish is also occupied by women.

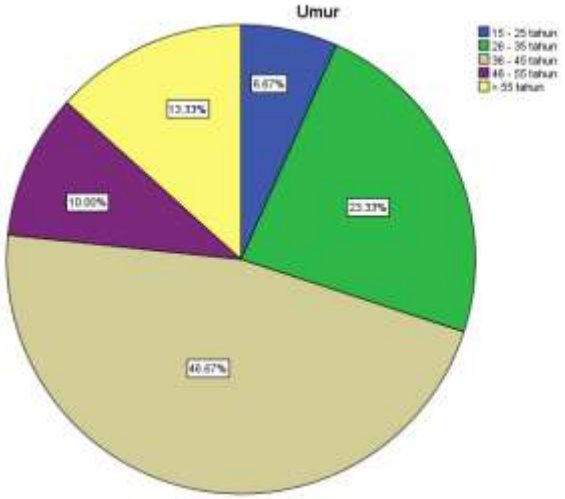

Figure 03. Respondents Characteristic Based on Age

The pie chart image above is a division of the characteristics of respondents by age. We can see that the range of minimum age is 15 Years until more than 55 Years. The majority of respondents in this research is fisherman with range age starts from 36 years old to 45 years old is an ideal age to be fishermen. Fishermen at the young age requires experience in catching fish, analyzing the condition, patience and many other factors that must be studied in catching fish. Instead, elderly fishermen is no longer effective in this work (Alim, 2007).

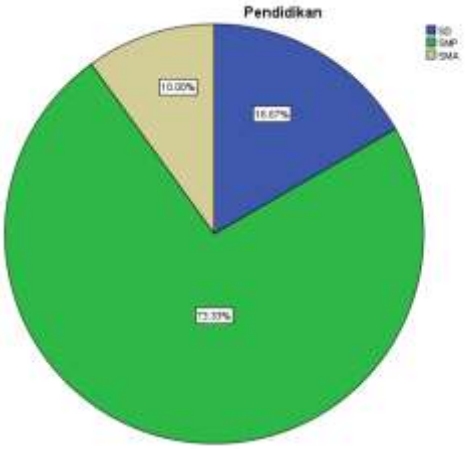

Figure 04. Respondents Characteristic Based on Education

Data division in characteristics of respondents above is the division of respondents by level of education. It can be seen above that the level of respondents' education is high school level as the highest although there is a choice of higher education from high school in the questionnaire. Respondents who have a high school education level is a minority respondent groups with the number of only 3 people. While the majority of respondents have primary education level equivalent to SD with the number of percentage of 73.33%. So it can be one of the obstacles underdevelopment of human resources quality in coastal areas is the lack of an educated workforce formally.

Normality Test

Table 02. One-Sample Kolmogorov-Smirnov Test

		VAR00002	VAR00003
N		60	60
Normal Parameters[a,b]	Mean	2.3333	4.5000
	Std. Deviation	1.05230	.96551
Most Extreme Differences	Absolute	.274	.231
	Positive	.274	.231
	Negative	-.192	-.202
Kolmogorov-Smirnov Z		1.125	1.590
Asymp. Sig. (2-tailed)		.400	.330

Source: Processed Data SPSS 19, 2016

Table above is a table of test for normality using the Kolmogorov-Smirnov test with the following assumptions:

H0: normally distributed data

Ha: the data were not normally distributed

Based on the above table it can be seen that the Sig. (2-tailed) above 0.05 which indicates that H0 is accepted and Ha is rejected. This means that the data are normally distributed.

Comparative analysis of average

Table 03. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAR00002	2.3333	60	1.05230	.13585
	VAR00003	4.5000	60	.96551	.12465

Source: Processed Data SPSS 19, 2016

Based on the table above can be seen that the average family income before (Var00002) is 2.3333, which means that the average family income prior to the implementation of program-

based agrotechno area system without waste is 2.34 million rupiah. While the average family income after (Var00003) is 4.5000, which means that the average family income after the implementation of program-based agrotechno area system without waste increased to 4.5 million. Clearly visible difference in income differences are large enough that + 2.2 million. To test whether differences in income before and after implementation of program-based agrotechno area system without significant waste or not, it will be done t test average of two paired samples or paired sample t-test.

Paired Sample t-test

Table 04. Paired Sample t-test

Paired Differences			t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error Mean			
-2.16667	1.27780	.16496	-13.134	59	.000

Source: Processed Data SPSS 19, 2016

Table above is a sample table test two pairs (paired sample t-test) with the following assumptions:

H0: there is no significant difference between before and after.

Ha: there is a significant difference between before and after.

From the table above it can be seen that the difference ratio of the average income of families before and after the application program area system agrotechno based without waste is 2.16667 where the value of this comparison is negative, which means that the average family income after bigger 2.16667 compared to the average family income before the application program based agrotechno area system without waste. While tcount greater than ttable with sig. (2-tailed), which means that Ha is accepted, where there is a significant difference between family income prior to the implementation of program-based agrotechno area system without waste to the family income after the implementation of the program.

RESULTS AND DISCUSSION

Coastal areas produce a lot of oil. In the hilly and mountainous regions are rubber, clove and pepper. A mountainous region in the forest cover also produce wood. Rough terrain because

of the many steep slopes or steep mountains is the main challenge the development of agriculture and plantation sectors in North Sulawesi province, especially in the South Bolaangmongondow.

Then, if the positive impact of the Asean Economic Community

1. Production activities especially in the District of North Sulawesi South Bolaangmongondow be increased in quantity and quality.
2. Encouraging economic growth, equitable distribution of public revenue and economic stability in North Sulawesi in particular South Bolaangmongondow district.
3. Expanding the jobs and opportunities for working people.
4. The creation of a wider international market, the marketing of goods and services from North Sulawesi in particular South Bolaangmongondow District can expand into other ASEAN countries, ASEAN market share of some 625 million people could be targeted by employers especially in the District of North Sulawesi South Bolaangmongondow.
5. Encouraging the growth of SMEs in North Sulawesi in particular South Bolaangmongondow District, due to the cost of exports and imports cheaper.
6. Improved product quality, and creativity of entrepreneurs due to the tight competition and in order to compete with products from other countries.

Meanwhile, the negative impact of the Asean Economic Community for North Sulawesi in particular South Bolaangmongondow District are:

1. Product lokat become less attractive

Easily products from abroad to enter the North Sulawesi in particular South Bolaangmongondow District can lead local products in North Sulawesi regency especially South Bolaangmongondow less demand by the public if those products are not better quality than foreign products.

2. Local labor threatened to lose competitiveness

Easily overseas labor for entry into the country resulting in strong competition for finding a job, resulting in labor-power local unskilled become less competitive.

Viewed from the side of MSMEs (micro, small, and medium) as a business group that has the most number of large and dominant in the economy, the achievement of success MEA 2015 will also be influenced by the readiness of SMEs.

Based on the results of data analysis, it can be seen that there is a difference between household incomes prior to the implementation of the program implementation based agrotechno

area system without waste to the family income after the implementation of the program. It can be seen that household income level increases caused by the creation of the undertaking arising from the implementation of program-based agrotechno area system without waste. This happens due to the creation of business diversification in the application of this system (Ahmad *et al*., 1991 and 1997).

Prior to the implementation of program-based agrotechno area system without waste, respondents in this case are the coastal areas of the local population, has only a basic income that is less than 2 million per month. However, since the implementation of program-based agrotechno area system without waste, then with the amount of diversification created by the adoption of the program, making the local community get extra or additional income from sideline resulting from the application programs based agrotechno area system without waste.

The results support the research conducted by Rahin *et al*., (2004). In their research that takes the object once the sample population in Buton, Southeast Sulawesi, found that there is still a lack of knowledge and utilization of natural resources of coastal areas resulting public revenue relative small. In his research also found that the traditional farmer empowerment productive effort of 46 respondents, ie 36 respondents or 78.26% increased incomes for farm households and 21.74% have not been able to increase the income of farm households. Meanwhile, venture capital empowerment of fishermen have increased fishing activity and manage marine products with a success rate of 55% and 45% unsuccessful.

In this study, one of the program areas systems based agrotechno without waste is Karamba Marine Aquaculture cage (grouper & beronang). Mariculture cages has become a major tool for the local fishermen so that now they can increase revenue. The results are consistent with research conducted by Mansyur and Tonnek, 2003 on prospects for cultivation in floating net sea and river estuaries. In the study they found that the cultivation of milkfish in the sea and river estuaries KJA prospectively developed by considering aspects bio-techno, socioeconomic, cultural and legality, as well as the preservation of resources and the environment. The business development in an integrated and oriented agribusiness is one alternative resource management and utilization of coastal and marine areas in an effort to support the increase in the export of fisheries as well actualize the archipelago insight.

CONCLUSION

Based on the results and discussion there can be a great influence between the application programs based agrotechno area system without waste to the increase in household income in which these programs can increase family income so evident in the results of the statistics that there are significant differences between before and after the implementation of the program.

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