

## ANALYSIS OF SEAWEED FARMER PARTICIPATION IN THE ACTIVITIES OF EXTENSION IN BONTANG

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### Abstract

The participation seaweed cultivators that is high in counseling can improve the relevance of the implementation of the extension to the needs of seaweed farmers. There are many factors that influence participation in counseling seaweed farmers. The purpose of this study was to examine the relationship and influence the characteristics, perceptions and motivations of the extension of the seaweed farmers' participation level in counseling. The method used survey non-experimental design. Purposive sampling used to take the respondents. The respondents were 78 people. The independent variables consist of seaweed farmers' characteristics, perceptions and motivations seaweed farmers against the extension, while the dependent variable is the seaweed farmers' participation in counseling.

Seaweed cultivators Bontang has the characteristics of an average age of 35 years, graduated from primary school with an income of Rp. 2,461,500.00, and have experience of 7 years. Seaweed farmers perceived level against the relatively strong education (79%), the level of motivation of seaweed farmers to extension as very strong (82%) and achievement levels of participation in extension activities is quite strong (60%). Results of correlation analysis Spearman show 1) there is a positive relationship between characteristics of the farmers seaweed with perception with  $r = 0.329$ , 2) there is a positive relationship between characteristics of the farmers seaweed with motivation with  $r = 0.118$ , 3) there is a positive relationship between perception and motivation to extension with  $r = 0.521$ . While the regression test results showed 1) the characteristics of the seaweed farmers significantly affect participation in counseling with a contribution of 19.2%, 2) perceptions toward counseling seaweed cultivators significantly affect participation in counseling with a contribution of 8.8%, 3) motivation seaweed farmers to extension no real effect on participation in counseling with a contribution of 2.9% and 4) jointly characteristics seaweed cultivators, perception and motivation towards counseling significantly affect participation in counseling with a contribution of 23.5%.

**Keywords :** seaweed cultivators, characteristics, perception, motivation, participation, education

### Introduction

Bontang has development potential of seaweed that is quite large. The conditions stipulated in the Regulation of the Minister of Industry and Trade of the Republic of Indonesia Number 163 / M-IND / PER / 12/2012 which stipulates that the seaweed as product development core competencies Industrial Bontang. Effective area for fishing activities at sea is 9384 ha or

approximately 26.83% of the total area of the territorial sea is 24.977 ha Bontang (Bappeda Bontang, 2011).

One of the strategies implemented by the Government of Bontang in developing the potential of seaweed is the upgrading of the adoption of technology and skills seaweed farmers / cultivators human resource development (Ministry of Industry,

2012). Adoption of seaweed cultivation technology is needed in increasing production and welfare seaweed cultivators. To increase adoption of the technology, one of which is through increased participation in education seaweed farmers. Participation seaweed farmers in counseling can improve the relevance of the implementation of the extension to the needs of farmers seaweed (Baba et al, 2011).

According Skilbek (2006), adults will participate in educational activities due to psychological factors (eg motivation to learn) is also educational factors (example: the relevance of the material, the level of difficulty in learning tasks, and the quality of the learning environment). Factors assessed affect participation is characteristic factors cultivator seaweed and educational factors, which include the perception of farmers seaweed on the materials, methods, means, functional abilities extension and the time and location of counseling and psychological factors such as motivation (Baba et al.2011).Different characteristics cause different levels of participation. Likewise, motivation can influence the active participation of farmers in extension (Nataliningsih, 2013).

The purpose of this study was to determine and analyze (1) The characteristics of the farmers seaweed, perception and motivation of the extension activities and participation in extension activities in Bontang, (2) Relationship characteristics of the farmers seaweed, perception and motivation towards education in Bontang and (3) The influence of the characteristics, perceptions and motivations seaweed farmers against

participation in extension activities in Bontang

## **Research Method**

This study was conducted in Bontang as potential areas for seaweed cultivation. Research Area consists of the District of South and North Bontang, Bontang as centers of cultivation of seaweed in January-April 2015. The population in this study is the Domestic Fisheries conducting seaweed farming in Bontang. Based on data from the Department of Fisheries, Marine and Agriculture Bontang number 311 seaweed farmers Domestic Fisheries (RTP). Calculation of the respondents (sample) by using the formula Slovin (with an error rate of 10%. Based on the calculation, the samples of this study were 78 respondents.

To determine the factors that influence the level of participation of farmers' seaweed in counseling the research approach used is survey and research design using non-experimental design. the source of data is the primary data is obtained directly from respondents through questionnaires and secondary data is data that has been processed by other parties outside the study. the independent variables consist of the characteristics of the farmers seaweed, perception and motivation seaweed farmers against the extension, while the dependent variable is the seaweed farmers participation in counseling. the research instrument in the form of questions from indicators variables are measured using a Likert scale from 1 (strongly disagree) to 5 (strongly agree) (Maimun, et al, 2013). Data were collected using a questionnaire that the instrument is based on indicators of each variable.

**Table 1.** Description of the study variables

Variable	Dimension / Indicator
<b>Characteristics cultivators (X1)</b>	- Age, Education, Land Cultivation, Revenue / Socio-Economic Conditions Respondents, Experience, Transparency, Access to Information
<b>Perception (X2)</b>	- Perception of extension materials, extension methods, means counseling. extension of functional expertise, time and location extension
<b>Motivation (X3)</b>	- The need for achievement, need for well-being, the need to collaborate /

	socialize
<b>Participation (Y)</b>	- Participation in education planning activities, implementation of education, utilization of extension

The data were analyzed by descriptive and inferential. Descriptive analysis aims to describe what is found in the results of research and provide information in accordance with the data obtained in the field with presents in tabular form the distribution of the distribution data. The data collected in this study a number of data, percentages, and average of the data characteristics, perception, motivation and participation of respondents respectively univariate analysis. For inferential analysis used Spearman's correlation analysis and regression.

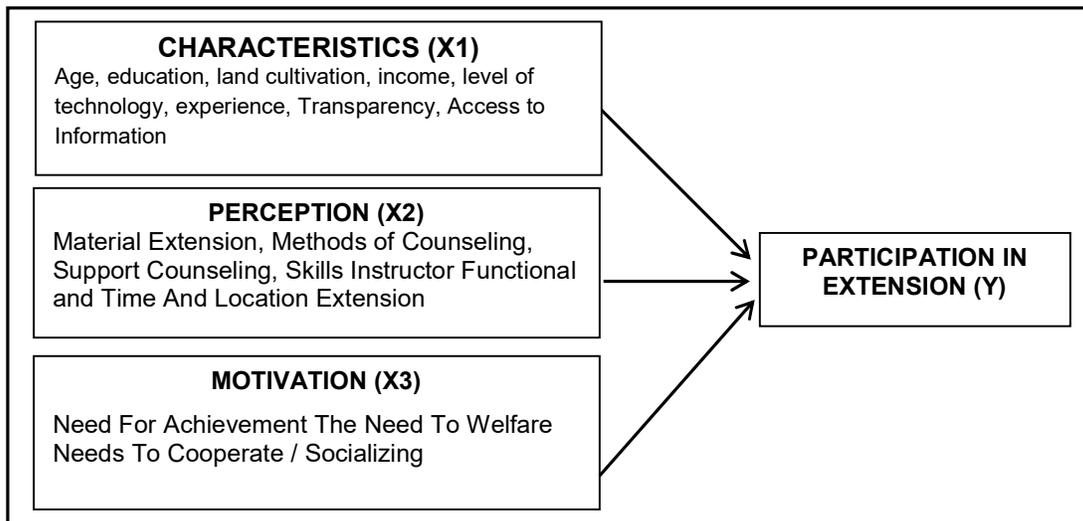


Figure1. Model linkage between variables

Based on the linkagemodel variables, the hypothesis of this study are:

1. Characteristics of seaweed cultivators (X1) significantly affect participation in extension activities (Y).
2. Perception seaweed farmers to extension (X2) significantly affect participation in extension activities (Y)
3. Motivation seaweed farmers to extension (X3) significantly affect participation in extension activities (Y).
4. Characteristics seaweed cultivators (X1), perception (X2) and the motivation of the extension (X3) jointly significant effect on participation in extension activities (Y).

## RESULTS AND DISCUSSION

Sea area Bontang is a potential area for seaweed cultivation considering its coastal area consists of reef flats, rock, and hard objects. Cultivated seaweed species are *Eucheumaspp.* Local name jelly. Seaweed farmers in Bontang mostly live in settlements over the sea. Work dominant population seaweed farming and fishing. In Table 2 are shown the number and value of seaweed production increased very real in 2014 this is due to the issuance of Ministry of Industry of the Republic of Indonesia Number 163 / M-IND / PER / 12/2012 which stipulates that the seaweed into the product development of core competencies Industrial City Bontang. Starting in 2013 the Government of Bontang facilitates the addition of a support infrastructure to farmers seaweed farming seaweed.

**Table 2.** Number of cultivators, Yield and Production Value Seaweed Bontang

Year	Farmers Amount (person)	Production (tonnes)	Production Value (USD)
2010	172	2.945,9	2.812.490,0
2011	258	5.495,5	4.780.760,0
2012	258	7.860,8	5.299.325,0
2013	258	8.465,0	6.625.515,0
2014	311	14.616,8	186.714.480,0

Judging from seaweed cultivator's characteristic variable Bontang majority of respondents in the category of productive age where average age 35 years seaweed farmers. Judging from the study shows that the 71% is still low educated (graduate) and 39% had never received training in the

cultivation of seaweed with an average of only once training. Seaweed farming land area owned by the seaweed farmers in Bontang including broad category with an average of 7,361 m<sup>2</sup>, but the average net income every time harvests are still very small, Rp. 2,461,500.00 while the average dependents 4 people /

more. The average experience in the cultivation of seaweed is 7 years old.

From The survey results revealed 31 respondents have a very good perception (strongly agree) to the extension activities in Bontang. A very good perception of the outreach activities of the material indicated 34 respondents, 29 respondents to the method, 28 respondents to the facilities, 33 respondents to the extension of functional expertise and 34 respondents to the time and location of the extension. In general, the perception of seaweed farmers Bontang against includes good counseling (79%).

There are 41 respondents have very good motivation (strongly agree) to the extension activities in Bontang. Motivation is very good against 42

respondents indicated extension activities have achievement motivation, 39 respondents motivated prosperity and welfare of 41 respondents are motivated. In general, the level of motivation Bontang seaweed farmers to extension includes a very good (82%).

On the participation of unknown variables 17 respondents always participate in extension activities in Bontang. Only 13 respondents who always participate in the planning of extension, 20 respondents always participate in the implementation of extension and 18 respondents always participate in the utilization of counseling. In general, the participation rate Bontang seaweed farmers to extension includes quite good (60%).

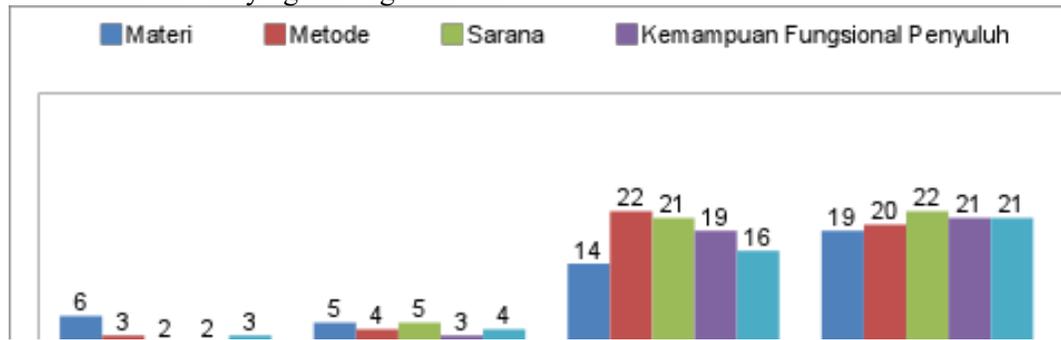


Figure 1. Frequency Distribution of Respondents Perception

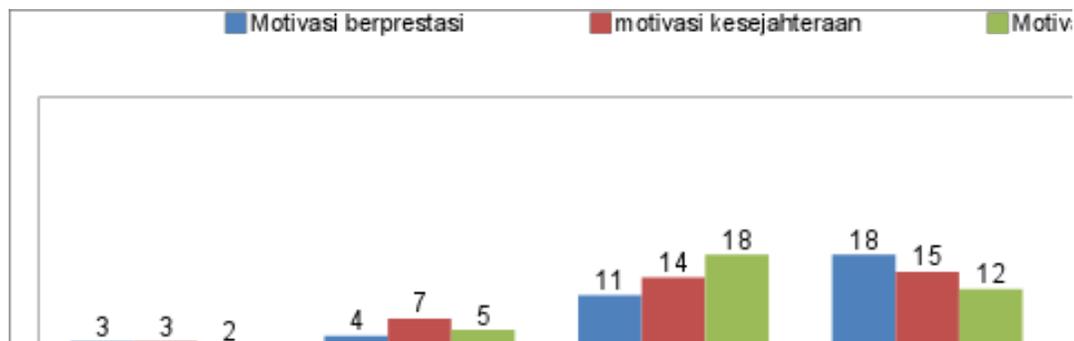


Figure 2. Frequency Distribution of Respondents Motivation

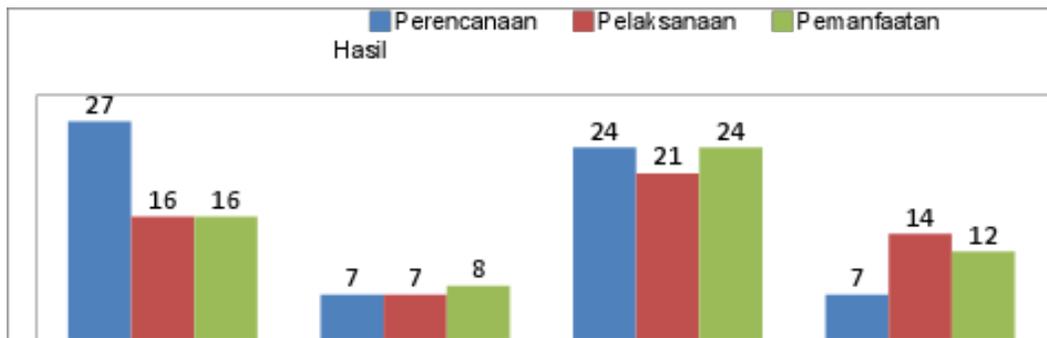


Figure 3. Participation Frequency Distribution of Respondents

Table 3. Level of Achievement Perception, Motivation and Participation Farmers Seaweed against Extension

Variable	Total Problem	Score	Score Maximum	Percentage	Level of Achievement
Perceptions	39	11.948	15.210	79%	Good
Motivation	39	2.877	3.510	82%	Very good
participation	39	2.353	3.900	60%	Pretty good

Analysis correlation test Spearman the results obtained (Table 4):

1. There is a positive relationship between the real and the characteristics of seaweed farmers with perceptions about the extension. The relationship looks weak, with correlation coefficient 0.329.
2. There is however no real positive relationship between characteristics

of seaweed farmers with the motivation of the extension. Relationships are very weak with a correlation coefficient of 0.118.

3. There is a positive relationship between perception and real motivation seaweed farmers to extension. Relationships looks quite strong with a correlation coefficient of 0.521.

Table 4. Results of Spearman's Correlation between Characteristics, Perceptions and motivations

**Correlations**

		Characteristics	Perceptions	motivations	
Spearman's rho	characteristic_	Correlation Coefficient	1.000	0.329**	0.118
		Sig. (2-tailed)	.	0.003	0.304
		N	78	78	78
	perception_	Correlation Coefficient	0.329**	1.000	0.521**
		Sig. (2-tailed)	0.003	.	0.000
		N	78	78	78
	motivation_	Correlation Coefficient	0.118	0.521**	1.000
		Sig. (2-tailed)	0.304	0.000	.
		N	78	78	78

\*\* . Correlation is significant at the 0:01 level (2-tailed).

Regression test results in table 5. there is real influence between the characteristics of seaweed farmers against participation in extension activities. Judging from the indicators of age, education, cosmopolitan and access to significant information, while the

cultivated lands, socio-economic conditions, experience and level of technology were not real effect on participations in extension activities. Contribution characteristics seaweed farmers to participation in education by 19.2%

**Table 5.** Regression Test Results Seaweed Farmers characteristics of the Participation in Education

Indicators	R	R square	t	t <sub>table</sub>	sig	Results
Age	0,270	0.073	2.449	1,665	0,017	Related positive, weak and real effect
Education	0.325	0.106	2.996	1,665	0,004	Related positive, weak and significantly
Land Cultivation	0.202	0.041	1.798	1,665	0,076	Associated positive, weak and influential not evident
Socio-Economic Conditions	0.038	0,001	0.336	1,665	0,738	Associated positive, very weak and influential not evident
experience	0.184	0.034	1.631	1,665	0,107	Associated positive, very weak and no real effect
Level Technology	0.163	0.027	1.440	1,665	0.154	Associated positive, very weak and no real effect
Kosmopolitan	0.355	0.126	3.316	1,665	0,001	Related positive, weak and significant influence
on access to Information	0.418	0.174	4.006	1,665	0,000	interconnect an positive, strong and significant enough
Variable Characteristics	0.438	0.192	4.246	1,665	0.000	Having positive, pretty strong and significant effect

On the analysis result regression in Table 6. The results obtained are the real effect between the perception of seaweed farmers against participation in extension activities. Judging from the indicators is only the perception of the time and location extension influential

not evident, other indicators of perception of the materials, methods, means, and functional abilities extension significantly affect participation in extension activities. Contributions perception seaweed farmers to participation in education by 8.8%.

**Table 6.** Regression Test Results Seaweed Farmers Perceptions towards Counseling Against Participation in Education

Indicators	R	R square	t	t <sub>table</sub>	sig	Results
Materials	0,367	0,134	3.434	1,665	0.001	Associated positive, weak and significantly
Method	0.289	0.084	2.634	1,665	0.010	Associated positive, weak and real effect
Means	0.230	0.053	2.061	1,665	0.043	Associated positive, weak and significant
ability of Functional Extension	0.243	0.059	2.179	1,665	0.032	Associated positive, weak and significant
time and location	0.023	0.001	0.204	1,665	0.839	Associated positive, very weak and influential not evident
variable Perception of	0.297	0.088	2.714	1,665	0.008	Associated positive, weak and significant effect

On the analysis result regression in table 7 the results obtained are no real influence among seaweed cultivators motivation towards participation in extension activities. Judging from the indicators only motivation for the

welfare of the significant, while the motivation for achievement and motivation to cooperate influential not evident. Contributions motivation seaweed farmers to participation in education by 8.8%.

**Table 7.** Results of Regression Testing Seaweed Farmers motivation against Counseling Against Participation in Education

Indicators	R	R square	t	t <sub>table</sub>	sig	Results
Achievement Motivation	0.044	0.002	0.388	1,665	0.699	Associated positive, very weak and no real effect on
motivation Welfare	0.226	0.051	2.027	1,665	0.046	Related positive, and significantly weak
Working Motivation	0.198	0.039	1.760	1,665	0.082	Associated positive, very weak and do not affect real
variables Motivation	0.170	0.029	1.500	1,665	0.138	Associated positive, very weak and no real effect

**Table 8.** Regression Test Results Characteristics, Perceptions and Motivation Against against Participation In Education

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.485 <sup>a</sup>	0.235	0.204	8.830

a. Predictors: (Constant), motivation, characteristics, perceptions

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F <sub>arithmetic</sub>	F	Sigtable
1	Regression	1773.404	3	591.135	7.582	2.722	0.000 <sup>a</sup>
	Residual	5769.430	74	77.965			
	Total	7542.833	77				

a. Predictors: (Constant), motivation, characteristics, perception

b. Dependent Variable: the participation of

**Coefficients<sup>a</sup>**

Model		unstandardizedCoefficients		Coefficients Standardized	t	t	Sigtable
		B	Std. Error	Beta			
1	(constant)	-7.763	8.526		-0.911		0.365
	characteristic	0.557	0.151	0.388	3.694	1,666	0.000
	perceptions	0.130	0.071	0.283	1.841	1,666	0.070
	motivation	-0.140	0.192	-0.111	-0.731	1,666	0.467

a. Dependent Variable: participation

From Table 8 can be concluded that the characteristics of seaweed farmers, perception and motivas to counseling together significantly affect participation in extension activities, while contributing to the participation of 23.5%.

**Hypothesis 1. Characteristics of Seaweed Farmers (X<sub>1</sub>)Real Impact Of Participation In Education Activity (Y)**

Characteristics seaweed cultivators significantly affect participation in extension activities. The indication can be seen from the results of tests in which the  $(4.146) > t_{table} (1.665)$  and a significant value  $(0.000) < 0.050$ . Contributions generated by 19.2%. Thus ha acceptable, ie "Characteristics seaweed cultivators (X<sub>1</sub>) significantly affect participation in extension activities (Y)" and h<sub>0</sub> is rejected. The relationship of positive and quite strong with a correlation coefficient of 0.438.

With a positive correlation means higher characteristic seaweed farmers, the higher their participation in extension activities.

Indicators seaweed cultivators characteristics that significantly include education age, the level of transparency (cosmopolitan) and access to information, while the cultivated lands, socio-economic conditions, experience and level of technology is not real effect on participation in extension activities. This positive relationship seen in the overall indicator seaweed cultivators characteristics with participation in extension activities. This is in accordance with Herath and Pulungan (2006) in a study stating that the internal factors that have a relationship significantly with the participation kontaktani is education, experience as kontaktani, and employment, while external factors related significantly is the intensity of illumination, cosmopolitan, frequency of communication and join the organization.

Most farmers seaweed in Bontang in productive age with an average age of 25-44 years of age but less educated graduating from elementary school and has never participated in training related to the cultivation of seaweed, indicating that the extension is one of the important access in capacity-building knowledge to business development. With the low level of formal education, seaweed farmers have not been able to access new sources of knowledge and technology more widely. They are not accustomed to using several types of media as a source of technology such as newspapers, books and the internet. Thus, their knowledge of technology to

manage its business are also low. This led to participation in extension activities one of the most important sources of knowledge seaweed farmers. The development of the knowledge they are more dependent on the extension.

The Cosmopolita level indicator seaweed farmers related to transparency seaweed cultivators in contact with the outside world. In this study, cosmopolitan indicators related to the level of frequency out of the region. As to the age and education, the cosmopolitan also closely related to the disclosure of seaweed farmers in receiving an information that ultimately improve their knowledge. In Bontang those who always go outside the area even seen frequently participate in counseling, this is due to them have not been able to utilize the knowledge sources such as the media and electronic media as a result of poor education that assumes that the extension carried out is considered more to provide information for new business development. Thus, their participation in the implementation of the extension of their increased caused of the high expectations in acquiring new knowledge and made the extension as the only source of knowledge in managing the cultivation of seaweed.

Seaweed farmers who only received information from fellow farmers seaweed and rarely asked extension (possibly as a result do not know and do not know the extension), seen frequently participate in extension activities. This is due to the high curiosity towards new knowledge that only they could get from the counseling activities. Other case with seaweed farmers who have access to multiple information sources such as the media,

friends and electronic media carried considers that extension does not provide new information that their participation is low, they are able to utilize other sources of knowledge. What is presented in the fisheries extension outreach activities do not exceed the knowledge they have (Baba et al. 2011).

### **Hypothesis 2. Perception Seaweed Farmers Against Extension (X2) Real Impact Of Participation In Education Activity (Y)**

Perception seaweed farmers to extension significantly affect participation in extension activities. The indication can be seen from the results of tests in which  $t_{obs} (2.714) > t_{table} (1.665)$  and a significant value  $(0.008) < 0.050$ . The resulting contribution of 8.8%. Thus has accepted that "Perception seaweed farmers to extension (X2) significantly affect participation in extension activities (Y)" and  $H_0$  is rejected. The relationship of positive and weak correlation coefficient 0.297. Thus, if the perception towards education seaweed farmers increase their participation in the outreach activities will also increase. Vice versa, if the perception of seaweed farmers to extension was decreases, will lower the level of their participation in extension activities.

Indicators perception seaweed farmers against extension significant among others perceptions of materials, methods and means of counseling and perceptions of the functional capabilities extension, while perceptions of time and location extension no real effect on participation in extension activities. Positive relationships were seen in all indicators perception seaweed cultivators towards education with participation in extension activities.

Material influence on the level of participation is very real. It is guided by what is proposed by Herath and Pulungan (2006) that the seaweed farmers will participate in an activity if the material according to their needs. Similarly, Baba, et al (2011) suggested that the enthusiasm of seaweed farmers in extension activities visible if the material interesting extension or a new thing for them. The situation was found in Bontang, mostly seaweed farmers Bontang very good perception of the material presented in counseling. Seaweed farmers will follow the extension activities with enthusiasm if the material interesting extension or a new thing for them. This is evidenced if counseling is done by well together speakers from technical agencies, especially when presented new sources coming from outside Bontang, then enthusiastically seaweed farmers to participate in extension activities is very high. Many of the report why cannot include them all, due to the limited quota. Those that attend without an invitation. They hope that the new knowledge gained from such sources.

Extension methods with regard to the accuracy of the methods used in the implementation of the extension as an opportunity to discuss, ask questions, respond to the material as well as the extension of time corresponding to the time of seaweed farmers. The main extension method performed in Bontang the method of group counseling (initiation extension workers and initiation farmers seaweed) and individual counseling method. Implementation of group counseling that is initiated by extension less going well. On the extension of this method, the delivery of opinion openly and freely is always constrained by time and chance.

In addition, only certain seaweed cultivators who had the courage to express opinions especially those that are already accustomed to expressing their opinions. As for the seaweed farmers who are not familiar sometimes shy to express opinions.

Another case if the meeting was initiated by a group of seaweed farmers participation in expressing opinions, ask questions and discuss very openly. They also have ample opportunity to ask for extension workers to farmers or other sea grass without embarrassment. The same thing happened in individual counseling method, seaweed farmers have an opportunity that is wide enough to discuss with the instructor. Seaweed farmers to freely ask that extension can know the problems and needs of seaweed cultivators appropriately. The extension method commonly called participatory extension. Participatory agricultural extension methods is one of the extension methods that can be applied by farmers to actively engage in every activity counseling (Nataliningsih, 2013).

But the group extension activities on the initiation of seaweed farmers rarely do. They still think that extension activities are activities that are initiated by a fishing instructor or by the Department of Fisheries, Marine and Agriculture Bontang. Level initiatives seaweed farmers to carry out extension activities on the basis of personal or group's desire is still lacking. This Occurs as a result there are many farmers with little education seaweed that has not been Able to manage and coordinate each other to undertake extension activities. With the above conditions, demanding fishing instructor should be Able to Determine the

Appropriate extension method that can work as what to expect. This is supported by research and Matondang Yunus (2013), the which states that the right learning method can improve students' participation in an educational activity. If the method used to give ample opportunity for them to express themselves, then participation will increase. Similarly expressed by Darkasyi, et al (2014) that the appropriate method will improve communication skills so that motivation is formed which ultimately increases the seaweed farmers participation in counseling. However, if the methods do not suit their wishes and needs, then participation will decline.

Extension means associated with a participation rate of extension. Availability of supporting the activities of counseling helps seaweed farmers in interpreting what is proposed extension in extension activities. In Bontang, availability of leaflets and pamphlets in extension activities to help farmers seaweed to remember what has been delivered extension. Even with the availability of a sound system or projector, helping farmers seaweed clearly what the instructor. Counseling as a means of strengthening support community empowerment requires access to the means of extension activities, resulting in increased farmer participation in extension running (Marliati, et al., 2008).

Extension of functional ability factor significantly affected the level of participation in education seaweed farmers. One is the ability to communicate in a language that is easily understood by farmers seaweed and the ability to choose the technological innovations that are offered to farmers

seaweed. If the extension is able to communicate well using effective communication channels with seaweed cultivators, the level of participation in education seaweed farmers will increase (Wijianto, 2010). In Bontang, functional abilities extension provides a real impact on seaweed farmers participation in counseling. Communication goes well, but sometimes constrained by the ability of language understanding, due to the extension that there are all immigrants. Extension Agent wearing Indonesian as the language of instruction, but not all seaweed farmers understand the language, due to the low educational factors. In delivering any, extension agents sometimes have to go through seaweed farmers who already know the language in question to be submitted to other seaweed farmers. It is evident that most of the seaweed farmers rarely ever communicate with the instructor directly, as a result of these constraints, so it is still necessary to increase the communication skills of fisheries extension in order to adopt effective innovations that offer accepted by seaweed farmers.

Time and location extension no real effect on the participation of seaweed farmers in extension activities. This means that the extension can be done anytime and anywhere. In Bontang extension activities especially frequent group meetings conducted at the time did not indulge seaweed cultivators that on Friday morning with a location near the house of farmers both in the hall and the house of the head of the group. At the time the best time for them to attend counseling. Sometimes also held evening counseling tailored to the readiness of seaweed farmers. Extension Agent ready anytime when the seaweed farmers need technical assistance and face to face.

### **Hypothesis 3. Motivation seaweed farmers to extension (X3) significantly affect participation in extension activities (Y)**

Motivation seaweed farmers to extension no real effect on participation in extension activities. The indication can be seen from the results of tests in which  $t_{observed} (1.500) < t_{table} (1.665)$  and a significant value  $(0,138) > 0,050$ . The resulting contribution of 2.9%. Thus  $H_0$  accepted that "Motivation seaweed farmers to extension (X3) no real effect on participation in extension activities (Y)",  $H_a$  rejected. Relationships are very weak and positive correlation coefficient of 0.170.

Indicators motivation seaweed farmers against significant extension only motivation for their welfare, while the motivation to excel and work no real effect on participation in extension activities. Positive relationships were seen in all indicators seaweed cultivators motivation to counseling with participation in extension activities. Thus, the motivation high seaweed cultivators have not been able to increase their participation in extension activities.

Seaweed cultivators Bontang mostly stayed on the high seas. The biggest obstacle in conducting its extension is not a factor marine transportation by extension. Extension agent should have a great operational funds to organize counseling with individual approach, while if the outreach activities carried out on land mostly seaweed farmers could not afford the transport costs as a result of their low income. One strategy that is usually done by the extension agents to increase participation in education is an activity group meeting on land by providing incentives that come from local budgets,

but it is affected by the limited financial capacity of the local laneways extension activities. Similarly, the extension of workforce conditions are still very poor, have not been able to give a good expectation for the high motivation of seaweed farmers.

Based on research Sandyatma and Hariadi (2012), which revealed that the motivation to influence significantly the participation, need to do some repairs to the existing constraints that extension activities in Bontang run in accordance with the motivation of farmers seaweed high level of outreach activities such as the provision of marine transportation and its budgeting fuel and increase educator workforce.

**Hypothesis 4. Effect Characteristics Seaweed Farmers (X1), Perception (X2) and Motivation Against Seaweed Farmers Extension (X3) Together against Participation In Education Activity (Y)**

Characteristics seaweed cultivators, perception and motivation of farmers seaweed to counseling together significantly affect participation in extension activities. The indication can be seen from the test results where  $F_{arithmetical} (7.582) > F_{table} (2.722)$  and a significant value  $(0.000) < 0.050$ . The resulting contribution of 23.5%. Thus welcome that is "characteristic of seaweed cultivators (X1), perception (X2) and the motivation of the extension (X3) jointly significant effect on participation in extension activities (Y)"  $H_0$  is rejected. The relationship is quite strong and positive correlation coefficient of 0.485. This means that with the increasing characteristics seaweed cultivators, perception and motivation seaweed farmers to counseling together will increase the

level of participation in extension activities.

Extension as one of the non-formal education to be one of the alternative community empowerment. The concept of community empowerment basically means putting people together with the strength of its institutions as the basis for the development of economic, political, social, and cultural. Reviving economic institutions of society to be collected and strengthened so that it can act as a locomotive for economic progress is a must to do. Economy people will wake up when the synergistic relationship of the various social and economic institutions that exist in developed societies toward the establishment of economic networks of the people. Community empowerment is none other than to provide motivation and encouragement to people to be able to explore the potential for themselves and the courage to act to improve the quality of life (Karsidi, 2001).

Extension is the knowledge of how human behavior patterns are formed, how human behavior can be changed or modified so willing to abandon old habits and replace them with new behaviors that result in a better quality of life (Muljono, 2007). Increased participation in education activities one to increase adoption of the technology. A participatory extension outreach activities to involve farmers at every stage extension activities, so that the outreach activities carried out in accordance with the needs of farmers (Nataliningsih, 2013). Through counseling also must strive for the creation of "dependency" to *penyuluhnya* society. Extension Agent merely as a facilitator and a dynamic to

facilitate the planned development process. In other words, through counseling, to achieve a society that has extensive knowledge of a variety of science and technology, has the attitude of a progressive to make changes and innovative to something (information) are new, as well as skilled and capable of self-sufficient to realize the wishes and expectations for the regeneration of the welfare of the family / community (Muljono, 2007).

## CONCLUSIONS

- 1 Bontang seaweed farmers belonging to the category of productive age (average age 35 years), the average education primary school and 62% had been trained, the average net income of Rp. 2,461,500.00 with an average production cost of Rp. 2,782,000.00, have dependents average 4 persons / more, most own their own land (97%) and has an average land area of 7,361 m<sup>2</sup> and has an average experience of 7 years, while the level of achievement of the perceptions of the counseling including strong (79%), the level of achievement motivation towards education included a very strong (82%) and achievement levels of participation in education activities, including quite strong (60%).
2. Correlational relationship between the characteristics of seaweed farmers, perception and motivation of the extension are:
  - a. There is a positive relationship between the real and the characteristics of seaweed farmers with perceptions about the extension. The relationship looks weak, with correlation coefficient 0.329. The negative correlation is shown indicators of age, education, experience and cosmopolitan, while a positive correlation was shown indicators of cultivated land, socio-economic conditions and the level of technology.
  - b. There is however no real positive relationship between characteristics of seaweed farmers with the motivation of the extension. Relationships are very weak with a correlation coefficient of 0.118. The negative correlation is shown indicators of age, and education, while a positive correlation was shown indicators of cultivated land, access to information, socio-economic conditions, experience, level of technology and the level of openness (cosmopolitan).
  - c. There is a positive relationship between perception and real motivation seaweed farmers to extension. Relationships looks quite strong with a correlation coefficient of 0.521. Overall a good indicator of the perception of the perception of the content, method, means, functional ability and time extension and location extension positively associated with the motivation of the extension.
3. Test Results Hypothesis:
  - a. Characteristics seaweed cultivators (X<sub>1</sub>) significantly affect participation in extension activities (Y). Contributions generated by 19.2%.
  - b. Perception seaweed farmers to extension (X<sub>2</sub>) significantly affect participation in extension activities (Y). The resulting contribution of 8.8% ..

- c. Motivation seaweed farmers to extension ( $X_3$ )no real effect on participation in extension activities (Y). The resulting contribution of 2.9%.
- d. Characteristics seaweed cultivators ( $X_1$ ),perception ( $X_2$ )and the motivation of the extension ( $X_3$ )jointly significant effect on participation in extension activities (Y). The resulting contribution of 23.5%.

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