

The Effectiveness of Salt Business Empowering Program (*Pugar*) on Salt Farmers' Income Improvement in Kedungmutih Village of Demak Regency and Kedungmalang Village Of Jepara Regency

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Abstract

Indonesian national low productivity of salt which is unequal between the need level and salt consumption eventually results in salt import made mainly to meet the industrial needs. The government through the Ministry of Marine Affairs and Fisheries has released a Public Salt Business Empowering Program (known as *PUGAR/Pemberdayaan Usaha Garam Rakyat*). *PUGAR* is an empowering program focusing on the improvement of job opportunities and welfare for salt farmers/managers to achieve the self-sufficiency of salt for consumptions and industries. This research aims at examining the influence of salt business empowering program on the salt farmers' income improvement in Kedungmalang village of Jepara Regency; the implementation level of salt business empowering program in Kedungmutih Village of Demak Regency when compared to that in Kedungmalang Village of Jepara Regency; and the influence of salt business empowering program on the salt farmers' income improvement in Kedungmutih village of Demak regency. The research was conducted using a descriptive method with a case study approach. The program implementation was quantitatively analyzed. Furthermore, the effectiveness of *PUGAR* on income was analyzed using T-test. The test result showed that there were income differences in Kedungmutih and Kedungmalang Village before and after the implementation of *PUGAR*. This finding showed that *PUGAR* was proven as an effective program to improve the salt farmers' welfare through income improvement.

Keywords: Salt Farmer, *PUGAR*, Income

Introduction

Salt is a food material which is not only required in the daily household, but also as food industry's raw material. The huge need on salt may not be fulfilled by the salt national production. People's total need on salt is even bigger than the production capacity. By looking at the salt condition in Indonesia, it can be said that the national salt production, especially public salt only meet the national production on salt for consumption while that for industry still depends on import (Suhendra, 2016; Sudaryana & Pramesti, 2018). To face those problems, the government should have made a breakthrough for national production to produce high salt quality to attract the national salt producers to use it, especially the need on salt for industry which has bigger contribution when compared to the need on salt for consumption.

Empowerment is absolutely necessary as an effort to optimize salt processing is absolutely necessary, given the ironic condition that Indonesia has a vast ocean but imports salt from other countries. The salting system of the people to date has used total crystallization so that productivity and quality are still lacking (Assadad & Utomo, 2011; Setyaningrum et al., 2015).

Based on the Indonesian Ministry of Marine Affairs and Fisheries Regulation No. PER.41/MEN/2011, the government has made some efforts to encourage the national salt production for the production of salt for consumption with Public Salt Business Empowerment (known as *PUGAR/Pemberdayaan Usaha Garam Rakyat*) by intensifying the existing potential of salt areas. *PUGAR* is a part of the National Marine Affairs and Fisheries Independent Community Empowerment Program (known as *PNPM Mandiri-KP/Program Nasional Pemberdayaan Masyarakat Mandiri Kelautan dan Perikanan*). *PUGAR*'s target is to achieve the national salt self-sufficiency by improving the production quality and quantity of public salt to nationally meet the need of salt which is up to new still supplied with the salt imported from the other countries.

One location targeted by the *PUGAR* program in Indonesia is Central Java which has the second biggest potential salt area after East Java by 2,168 ha of the total salt area in Java Island which is approximately 10,231 ha. There 5 regencies in Central Java potentially result in public salt including Pati, Rembang, Demak, Jepara dan Brebes Regency. In 2011 (*Dinas Kelautan dan Perikanan Provinsi Jawa Tengah* [Marine Affairs and Fisheries Office in Central Java Province], 2017), the *PUGAR* program in Central Java was implemented by involving 364 *KUGAR* and 3,517 salt farmers consisting of 199 *KUGAR* and 1.934 salt farmers from Pati Regency, 100 *KUGAR* and 996 salt farmers from Rembang Regency, 20 *KUGAR* and 195 salt farmers from Demak, 27 *KUGAR* and 212 salt farmers from Jepara, as well as 18 *KUGAR* and 180 salt farmers from Brebes.

These phenomena encourage the researchers to deeply study the effectiveness of *PUGAR* on the salt farmers' income improvement in Kedungmutih and Kedungmalang Village.

Methods

The research was conducted using a descriptive method with a case study approach. The research was conducted in Kedungmutih village of Demak Regency and Kedungmalang Village of Jepara Regency. The research locations were purposively selected based on some considerations: (1) Demak and Jepara Regency are one of salt centers in Central Java, (2) the research locations were coastal areas with salt ponds, (3) *PUGAR* program receivers, and (4) the research locations had the biggest salt productivity when compared to the others as *PUGAR* receivers. Interview is a technique with a dialog made by interviewer to interviewee to gain information. Interview is used by the researchers to evaluate the conditions of fishermen communities. Questionnaire is a data collection technique conducted by giving some written questions and statements to each respondent to gain information from respondents based on the required research data.

In this research, those classified into population are all salt farmers in Kedungmutih Village of Demak Regency and Kedungmalang Village of Jepara Regency. Samples are a part of population which characteristics are about to be examined (Arikunto, 2014). Samples were collected considering the number of population which might be reached by the researchers. The number of samples in this research was determined based on Slovin's formula that 77 respondents were collected from Kedungmalang Village and 71 respondents from Kedungmutih Village.

A comparative Analysis was conducted using the comparative test of Paired t Test with the test criteria: (1) If the significance value is < 0.05 , it means that there is salt farmers' income difference before and after the implementation of *PUGAR*. (2) If the significance value is > 0.05 , it means that there is no salt farmers' income difference before and after the implementation of *PUGAR*.

Test of homogeneity variance was conducted using *Levene's test* with the following criteria: (1) If the significant value of *Levene's test* is > 0.05 , it means that the variance between categories is homogenous that test of variance is conducted using the output from the *equal variance assumed*. (2) If the significance value of *Levene's test* is 0.05 , it means that the variance between categories is not homogenous that the test of variance is conducted using the output from *equal variance not assumed*.

After the analysis of variance difference was employed, the difference test was then conducted using the independent test of Sample t test with the following criteria: (1) If the significance value of t test is ≥ 0.05 , it means the respondents' answers during the research period are not different with those outside the research period. (2) If the significance value of t test is < 0.05 it means the respondents' answers during the research period are different with those outside the research period.

Results and Discussion

Normality Test

The normality assumption test was conducted using Kolmogorov Smirnov test approach using the test criteria as follows: (1) If the significance is < 0.05 , it means that the research data is normally distributed; (2) If the significance is > 0.05 , it means that the research data is not normally distributed. The results of Kolmogorov Smirnov test conducted in this study were as follows.

Table 1. Normality Test Result

Variable	Statistics	Significance
Income-Kedungmutih		
Before PUGAR	0.294	0.000
After PUGAR	0.274	0.000
Income-Kedungmalang		
Before PUGAR	0.243	0.000
After PUGAR	0.268	0.000

Source: Primary Processed Data, 2020

The Kolmogorov Smirnov Output presented in the table above related to the significance value in each research data showed the significance level of < 0.05 . This result proved that based on the distribution statistics, the data has met the requirement (normally distributed).

Comparative Test Before – After PUGAR

The comparative test was conducted to figure out the effectiveness of PUGAR program on salt farmers' income improvement. The analysis on effectiveness was necessary to be conducted to decide the PUGAR implementation or continuity in the future and become the evaluation materials on the implementation of PUGAR program. The effectiveness test was conducted by comparing the farmers' income before and after obtaining guidance and assistance from the PUGAR program.

Based on these purposes, the comparative test was conducted using the Paired Sample t Test approach with the testing criteria as follows: (1) If the resulted significance value was < 0.05 , it means that the hypothesis was proven or there was a significance difference of salt farmers' income before and after the implementation of PUGAR and KUGAR. (2) If the resulted significance value was > 0.05 , it means that the hypothesis was not proven or there was no significance difference of salt farmers' income before and after the implementation of

PUGAR and *KUGAR*. The comparative testing results conducted in this study were presented in the following table.

Table 2. Result of Comparative Hypothesis Testing before – after *PUGAR*

Observed Object	t Statistics	Significance	Average Income	
			Before	After
Kedungmutih	12.213	0.000	1.554	2.191
Kedungmalang	6.578	0.000	1.852	2.204

Source: Processed Primary Data, 2020

The comparative testing on the salt farmers' income before and after *PUGAR* and *KUGAR* conducted in Kedungmutih and Kedungmalang village resulted in the significance value of 0.000. If the significance value resulted from the statistic test (0.000) compared with the alpha (α) was equal to 0.05, it can be said that the significance value was smaller than the value of alpha (α) and it means that the alternative hypothesis was accepted while the null hypothesis was rejected. This finding showed that there was salt farmers' income difference before and after *PUGAR* and *KUGAR*. To know the salt farmers' income difference, it is necessary to pay attention to the average income value. The salt farmers' average income value showed that there was an improvement. Thus, it can be said that *PUGAR* and *KUGAR* were effective to increase and improve the salt farmers' income in Kedungmutih and Kedungmalang Village.

Comparative Test on Pond Farmers' Income in Kedungmutih Village –Kedungmalang Village

This comparative test was conducted to compare the output obtained from the implementation of *PUGAR* related to the salt farmers' income in Kedungmutih and Kedungmalang Village. The comparative testing was conducted using the Independent test of Sample t Test.

Test of Homogeneity

Before conducting the Independent test of sample t Test, *test of homogeneity variance* was conducted to know that each group (category) variable had the same variance. *Test of homogeneity variance* was conducted by using the *Levene's test* with the following criteria: (1) If the significance value of *Levene's test* is > 0.05 , it means that the variance between categories is homogenous that the difference test is conducted by using the output obtained from the *equal variance assumed*. (2) If the significance value of *Levene's test* is 0.05 , it means that the variance between categories is not homogenous that the difference test is conducted by using the output obtained from the *equal variance not assumed*. The result of variance homogeneity test is as follows:

Table 3. Variance Homogeneity Test Result

Testing	F Count	Significance
Levene Test for Equality Variance	0.000	0.996

Source: Processed Primary Data, 2020

Variance homogeneity analysis conducted by evaluating the resulted F test significance value was $0.996 > 0.05$. Referring to that result, it can be concluded that the research data variance had made the homogeneity assumption that the comparative analysis was conducted by evaluating output to the assumed equal variance.

Comparative Test

After analyzing the variance difference, the difference test was further conducted by using the Independent test of Sample t test with the following criteria: (1) If the significance value of t test is ≥ 0.05 , it means that the respondents' answers during the research period are not different with those outside the research period. (2) If the significance value of t test is < 0.05 , it means that the respondents' answers during the research period are different with those outside the research period.

Table 4. Comparative Test on the Salt Farmers' Income in Kedungmutih Village–Kedungmalang Village

Testing	t Count	Significance
Salt Farmers' Income in Kedungmutih – Kedungmalang	-0.069	0.945

Source: Processed Primary Data, 2020

The significance value resulted from the Independent Test of Sample t Test was $0.945 > 0.05$. This finding showed that there was no salt farmers' income difference in Kedungmutih and Kedungmalang Village after the implementation of *PUGAR*.

The test result showed that there were income differences in Kedungmutih and Kedungmalang Village before and after the implementation of *PUGAR*. This finding showed that *PUGAR* was proven as an effective program to improve the salt farmers' welfare through income improvement.

The *PUGAR* program is closely related to the government's maximum efforts and community participation in relation to community empowerment activities. Empowering the community aims to tackle poverty, inequality, and encourage people to play a more active role and be full of initiatives to maximize local potential (Ridwan, 2011; Ansari et al., 2012; Satterthwaite & Mitlin, 2013).

Community empowerment emphasizes efforts to make people independent through realizing their potential abilities. What can be maximized is the development of human potential through community-based educational activities that are emitted from tourism, agriculture and local culture, which is a potential that can be maximized as community income (Lawson, 2005; Cahyaningrum, 2017; Negara, 2020). This activity emphasizes the importance of understanding community needs and how to solve problems by the community by paying attention to the potential in their environment, including in the *PUGAR* program.

Conclusion

The research results showed that there was salt farmers' income difference in Kedungmutih Village before and after *PUGAR* program. The research result on the salt farmers' average income in Kedungmutih Village showed that the salt farmers' income in Kedungmutih Village improved after the implementation of *PUGAR* program. This finding showed that *PUGAR* was considered as an effective program to improve the salt farmers' income. Similar result was also shown by the respondents from Kedungmalang village. the research result showed that there was salt farmers' income difference in Kedungmalang Village before and after the implementation of *PUGAR* program. The research result on the salt farmers' average income in Kedungmalang village showed that the salt farmer's income in Kedungmalang Village Improved after the implementation of *PUGAR* program.

References

- Ansari, S., Munir, K., & Gregg, T. (2012). Impact at the 'bottom of the pyramid': The role of social capital in capability development and community empowerment. *Journal of Management Studies*, 49(4), 813-842.
- Arikunto, S. (2014). Metode penelitian kuantitatif, kualitatif, dan kombinasi (mixed methods). *Bandung: Alfabeta*.
- Assadad, L., & Utomo, B. S. B. (2011). Pemanfaatan garam dalam industri pengolahan produk perikanan. *Balai Besar Riset Pengolahan Produk dan Bioteknologi Kelautan dan Perikanan*, 6(2), 26-37.
- Cahyaningrum, D. (2017). Community empowerment based local wisdom in tourism of Bajo community, Wakatobi. *International Journal Of Scientific & Technology Research*, 6(11), 196-201.
- Lawson, H. A. (2005). Empowering people, facilitating community development, and contributing to sustainable development: The social work of sport, exercise, and physical education programs. *Sport, education and society*, 10(1), 135-160.
- Negara, I. S. (2020). Socio-Cultural Change of Society Against Health in the Village of Panciro, Gowa Regency. *Journal La Sociale*, 1(1), 19-24.
- Ridwan, N. N. H. (2011). The Importance of Empowering Local Community in Preserving Underwater Cultural Heritage in Indonesia: Case Study in Tulamben, Bali and in Taka Kappala, Selayar-South Sulawesi. In *Asia Pacific Regional Conference on Underwater Cultural Heritage*,. Manila, The Philippines.
- Satterthwaite, D., & Mitlin, D. (Eds.). (2013). *Empowering Squatter Citizen: "Local Government, Civil Society and Urban Poverty Reduction"*. Routledge.
- Setyaningrum, R., Anomsari, A., Hartini, E., & Suprijono, H. (2015). Tingkat Pemberdayaan Usaha Garam Rakyat (Pugar) Ditinjau dari Aspek Produksi, Distribusi, Permintaan Pasar dan Sosial Budaya. *J@ ti Undip: Jurnal Teknik Industri*, 10(1), 55-62.
- Sudaryana, B., & Pramesti, P. (2018). The strategy of welfare improvement for salt farmers in Indonesia. In *MATEC Web of Conferences* (Vol. 150, p. 05062). EDP Sciences.
- Suhendra, A. (2016). Increasing the Productivity of Salt Trough HDPE Geomembrane Indonesia Case History in Salt Evaporation Pond. *EJGE*, 11, 4272-4280.