



ASSESSING THE EFFECTIVENESS OF THE FISH APARTMENT PROGRAM IN EAST LUWU

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Abstract

The fish apartments are structures placed on a substratum to mimic some characteristics of a natural reef. In east luwu, the fish appartement program cooperated with stakeholders, namely the East Luwu regional government, PT. Vale Indonesia, and Inter-Village Cooperation Agency (BKAD). This research aims to find out the effectiveness of the fish apartment program in east luwu. The research used a qualitative research method with a descriptive type. The data was collected through in-depth interviews, observation, and documentation. Data were analyzed using an interaction analysis model (Miles & Huberman, 1994) with data collection, data condensation, data display, and conclusion drawing/verifying. The results of the study assessing the effectiveness of the fish apartment program in east luwu, show that in goal achievement, there is an increase of fish caught in east luwu after the fish apartment installation. While the integration of the programs has clearly defined roles for each actor that collaborate, however, the company involves is not responsible for their job and makes the fish apartment abandoned for months. Based on that, the adaptation to solving the problem was running well by involving the Indonesian Navy and groups of swimmers in the process of sinking the fish apartments that abandon.

Keywords: Artificial Reefs, Effectiveness, Fish Apartment

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INTRODUCTION

Public administrators have tried to develop more holistic approaches that would address public problems in their complexity and in a systemic manner since the late 1960s and early 1970s. The idea of Program Effectiveness was built not only on the productivity movement but also on other integrative approaches. In general, effectiveness the extent to which stated objectives have been met the policy achieves what it intended to achieve. Indicators of the effectiveness of programs generally focus on measuring the changes in outcomes that reflect the objectives of the program.

East Luwu Regency has a long coastline of 117.4 km² and an autonomous water area of 48,050 km². This great potential certainly needs to be supported by adequate facilities and infrastructure as well as the spatial planning of the area around the coastal area and the planning of coastal spatial utilization patterns. This aims to maximize the production and development of fishery products. East Luwu Regency has great potential. However, Overfishing and fishing methods that are not environmentally friendly cause damage to the shelter and breeding grounds for fish and other

biota and result in the instability of marine resources. Therefore, the fish apartment program is implemented in the form of preserving the sea and increasing the number of fish caught in boosting the surrounding community's economy.

During the 1950s artificial reefs surged in popularity, as fishermen deployed disposable objects, such as tires and concrete, to enhance their fishing opportunities, eventually leading to commonplace government-led artificial reef programs (McGurrin et al., 1989). In the modern era since the environmental movement in the 1960s and 1970s, artificial reefs have garnered increasing attention as a tool for habitat restoration and enhancement of fisheries resources.

The fish apartment program is a program that is expected to help restore damaged aquatic resources, especially to restore fish habitat. The return of fish habitat is expected to be able to restore the dwindling aquatic biota and increase the catch of fishermen. This fish apartment is in the form of an artificial reef. Artificial reefs are broadly defined as any submerged structures placed on a substratum to mimic some

characteristics of a natural reef, altering physical, biological, and/or socioeconomic variables related to marine resources (Seaman, 2000). The word artificial reef has been widely used in the field of fisheries engineering, without a clear definition, but the international terminology now refers to fish-attracting devices (FAD). Based on the evident analogy with natural reefs, artificial reefs (AR) will be defined as artificially built structures installed in a sea area, intended for fisheries productivity enhancement (Thierry, 1988).

However, the implementation of the fish apartment program in East Luwu experienced various obstacles such as the artificial reefs which were sunk late and neglected for several months. Therefore, the installation of artificial reefs is forced to be carried out with makeshift equipment and not arranged neatly on the seabed. And also due to the lack of regular checks and detailed and specific research on the benefits of Fish Apartments, it is difficult to assess the effectiveness of this fish apartment program.

LITERATUR REVIEW

Effectiveness

Effectiveness refers to the principle that an alternative should promote the achievement of a valued outcome of an action. Effectiveness, which is synonymous with technical rationality, is often measured in terms of units of products or services or their monetary value (Dunn, 2017). Then Robbins (2013) defines effectiveness in her book organization behavior as “the degree to which an organization meets the needs of its clientele or customers”. A common definition of efficiency is embedded in more technical terms whereby it is a measure of the ratio of output to input. This is also known as technical efficiency (Rutgers & van der Meer, 2010).

Weick (1977) suggests that criteria should relate to the organization as a unit (they see effectiveness related to the goals, processes, or characteristics of the organization itself). The effectiveness can be seen in three categories. First, the extent to which the system is attaining its formally defined goals and objectives; second, how completely members are being integrated into the system through clearly defined roles; third, the extent to which the system is adapting structurally to its environment so that role occupants can adapt to new demands, resulting from a changing environment, on their job. (Duncan, 1973).

RESEARCH METHOD

This research method uses qualitative research with descriptive type. Case study research is research conducted through an in-depth exploration of programs, events, processes, and activities, against one or more people (Sugiyono, 2016). Data was collected through in-depth interviews, observation, and documentation studies. Data processing and analysis techniques included data reduction, data display, and conclusion drawing or verification use (Miles & Huberman, 1994) The research was carried out at east luwu regency on the fish apartment program.

RESULT AND DISCUSSION

The construction of fish apartments as artificial reefs which were carried out in Lampia Hamlet, Harapan Village, Malili District was built using precast concrete as the main material so that the apartments will stand firm, not shift, and not be swept away by the waves. As of this second quarter, concrete cubes printed have reached 223 units from the planned 289 units (77%). When it is 100% complete, the precast concrete will be transported using a barge and the laying process involves diving personnel who have special expertise. Precast concrete structures will be immersed in sandy or barren parts of the sea with a depth of 10-20 meters. In order to realize this program, PT. Vale cooperates with the local government and the people of East Luwu in the form of the PKPM program, namely fish apartments for a period of 5 years (2018-2023). As for looking at the effectiveness of the program, researchers use the Duncan (1973) approach.

1. Goal achievement

Outputs and goal accomplishment are probably the most widely used criteria of effectiveness (Georgopolous and Tannenbaum, 1957; Etzioni, 1964; Price, 1972; Hall, 1978). The important goals to consider are operative goals, because official goals (mission) tend to be abstract and difficult to measure (Daft, 2010).

The fish apartment is a long-term program because fish and other marine biota need time to adjust to artificial reefs, so the program's impact is less visible in a short period. However, based on research results, The fish apartment program has had a positive impact on the marine ecosystem, this can be seen from the large number of fish that gather around the fish apartments. The catchment area for fishermen is also getting bigger and closer. However, further research needs to be carried out by the government and PT. Vale, detailed data collection on the impact caused by

the presence of fish apartments and periodic maintenance and checking of fish apartment units needs to be done.

2. Integration

To be effective, the system must also integrate the individual into the social system, through clearly defined roles with clearly defined role expectations so that role conflict and role ambiguity will be low for the individual. Kahn et al. (1964) have found that high conflict or ambiguity create problems for both the individual and the organization

The implementation of the fish apartment program is carried out through Inter-Village Deliberations (MAD) in capturing aspirations, the

aspiration screening was carried out by Inter-Village Cooperation Agency (BKAD) until it proceeds through deliberations on the determination. Apart from taking place during deliberations, integration also takes place during coordination meetings both through internal coordination for each stakeholder, as well as coordination meetings that include all collaborating stakeholders i.e., the government in this case the regional government of East Luwu Regency, the private sector namely PT. Vale, and the community, namely the inter-village cooperation agency (BKAD). The role of each actor that participates in the fish apartment program can be seen in Table. 1

Table 1. Actor in Fish Apartment Program

No.	Actors	Role
1.	Government	1. Establish a Community Program Coordination Team at the District and District levels. 2. Establish and issue operational technical guidelines for the program 3. Facilitating the provision of information and funding
2.	PT. Vale Indonesia	1. Allocate budget for program implementation 2. Develop technical operational program instructions 3. Synchronizing the Program with the Government of East Luwu Regency regarding its implementation 4. Provide a report on the implementation of activities to the Government of East Luwu Regency every 6 (six) months.
3.	Inter-Village Cooperation Agency (BKAD)	1. Capture the aspirations of the people in every village 2. Formulate community aspirations into program proposals

Source: Memorandum of Understanding (MoU)

Based on research conducted by the author, the fish apartment program, from planning to implementation, has clearly defined roles as stated in a mutually agreed Memorandum of Understanding (MoU). Based on research, the integration between the participating actors in the fish apartment program is well integrated. However, the irresponsibility of the company in carrying out the process, makes this process very difficult and long, resulting in tens of fish apartment blocks being abandoned and not being taken down according to the predetermined timeframe.

3. Adaptation

In addition to goal achievement and integration, a third component of organizational effectiveness is adaptation. For a social system to continue to function, it must not only approach achieving its aims and objectives and incorporating people into the system, but also adapt to its surroundings. A social system can become more adaptable by designing its roles in a way that allows

individuals to respond to environmental changes as they happen.

The delay in the reduction of fish apartments is a problem that is often discussed, this occurs because the company from the community that won the tender is irresponsible. The problem was then followed up by the government and PT. Vale involved the Indonesian Navy and groups of swimmers in the process of sinking the fish apartments, however, the sinking process of the fish apartment block encountered various problems, this was because the fish apartment model was made concrete structure that was heavy and required heavy equipment in the laying process. Due to limited funds, the process of laying fish apartments was not laid out according to the previously planned model but only sunk to the seabed.

To deal with this problem, the next artificial reefs construction should use the fish apartment model and design to be more calculated starting from the

materials, weight, cost of materials, shipping process, and the benefits offered. De Silva (1989) shows that concrete structure has a long life and effect, however it also high cost of material and high shipping and handling. In addition, there are several models of artificial reefs that have more low-cost materials and have the same effect (e.g., old boats, old tires, building rubble).

CONCLUSION

Based on the description of the results of interviews and observations in this study, the fish apartment program can be categorist as an effective way to preserve the sea and increase the number of fish caught for boosting the economy of the surrounding community. However, to further enhance the benefits of the fish apartments program, the artificial reefs model and design should be more calculated starting from the materials, weight, cost of materials, shipping process, and the benefits offered.

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