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THE PATTERNS OF COMMUNICATION NETWORK POST-RELOCATION SETTLEMENT FOR BAJO FISHERMEN IN SOROPIA DISTRICT, KONAWE REGENCY SOUTHEAST SULAWESI PROVINCE OF INDONESIA

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ABSTRACT

This study aims to determine the pattern of communication networks, the specific role of Bajo fishermen and the average degree of individual connectedness in the communication network formed after settlement relocation. Twenty respondents who were members of the Mekar Fishermen Group which were determined census resulted in the primary data of the study. Data to assess the pattern of communication networks that reformed and the specific roles of individuals are analyzed using sociometric techniques arranged in a matrix, then from the matrix sociograms will be developed. The average degree of individual connectedness is analyzed by ASC (Average System Connectedness). The results showed that the communication network patterns formed in groups of fishermen are star patterns or all channels. The specific roles of individuals in these communication networks are Liaison, Bridge, and Star. None of the individuals was classified as isolated communication. The ASC was high, it is recommended that Bajo fishers who only choose partners to communicate but are not chosen as partners to communicate in a more open communication network in receiving and seeking information related to settlement relocation.

Keywords: *Bajo fishers, Communication Network Patterns, Indonesia, relocation of settlements.*

I. INTRODUCTION

Bajo is tribes that live on boats and move according to how potential they can catch the fish. The community mentions the Bajo tribe as "sea nomads." The Bajo people interpret the sea as a space to search for livelihoods and living quarters and the living of their ancestors' spirits (Peribadi, 2000). Currently, there are 90.000 Bajo tribes in Indonesia, and 40.000 of them live and settle on the coast of Southeast Sulawesi (Mead and Lee, 2010). Various studies on their origin suggest that the Bajo were from the descendants of Johor seafarers, from Moro pirate slaves and the Sulu archipelago of the Southern Philippines (Soesangobeng *cit.* Hamid, 2010).

The Bajo has long been known as sea wanderers because their lives moved from one place to another, using boats and at the same time, the boats also become their house (Hamid, 2010). Mattulada (1977) in Hamid (2010) stated that Bajo tribes in South Sulawesi, living in coastal areas by developing the ability to get food in the water. In their point of view, the sea is everything (Hamid, 2010). In their point of view, the sea is the only source of livelihood. Since hundreds of years ago, Bajo people saw the sea as land for livelihood, shelter, and give birth. Bajo people according to Hamid (2010) in various activities avoid all things that deviate from the meaning and values that harm daily life.

The uniqueness of the Bajo tribe is to make boats or canoes as a place to make a living by selling various marine catches as their main livelihood. Meanwhile, their wives play a role in managing the family economy. The wives usually determine the price of fish caught by their husband. In terms of fishing, the Bajo people are very adaptive to the environment, such as protecting coral reefs as a place to live fish, lay eggs and eat fish. Bajo people also have quite good conservation awareness, as seen from the prohibition or taboo.

The characteristics of the life of the Bajo community (Hamid, 2010), namely (1) Occupying an archipelago surrounded by sea, (2) fishing is a livelihood that is carried out for generations, and (3) has the same language

dialect. So far, the stereotypes aimed at the Bajo were their attitude is static, they only like to live in the sea, they do not like to innovate, closed and unable to physically adapt geographically, socially and culturally with people living on land. As a result, the Bajo are less involved in the development process and enjoy the results of the development (Hamid, 2010). This reality requires the ability of the Bajo people to be able to make adjustments to the conditions of new settlements.

The main obstacle that then arises from the relocation process of Bajo tribe fishermen settlements is how Bajo fishers can adapt economically and socially. Regarding the integration of new settlement locations, the communication process can be a mediator between Bajo fishers and residents, so that people need information and build communication networks.

One form of communication network patterns are all channels which entire channel is open. Everyone communicates with everyone else. These all channels network provide an example of a decentralized communication structure (Devito, 2010).

Some things that can be done in the analysis of communication networks according to (Rogers and Shomaker, 1983 *cit.* Scott *et al.,* 2008) are: 1) identifying in a system, 2) identifying someone's unique role in the network such as Liaison, bridges, star and isolates, 3) measuring various indicators (index) of communication structure, such as click connectivity, click openness and so on. Furthermore, Liaison is an individual that connects two or more clicks in a system, but he does not become any member; instead, the bridge connects two clicks, and he belongs to the click member (Rogers and Kincaid, 1981 *cit.* Boorgat and Dejody (2013)). Isolate is an individual who is not a member of a system or individual that is not involved in communication networks. According to Moreno, as quoted by Scoot *et al*. (2008), stars are the most chosen or contacted group members and get the position of most enormous popularity.
Soropia Subdistrict is one of the relocation areas of Bajo fishing settlements, to adjust to the conditions of the new settlement relocation, Bajo fishers need interaction within and outside their communities intending to obtain information and build communication networks. The problem is that there are no empirical data regarding the pattern of Bajo fishermen communication networks and the specific roles of individuals formed after the relocation of settlements. Therefore, this study examines the pattern of communication networks and the specific role of individuals in the communication network formed after the relocation of settlements in Soropia District, Konawe Regency of Southeast Sulawesi.

II. MATERIALS AND METHODS

This research was conducted in Soropia subdistrict, Southeast Sulawesi, Indonesia. Soropia is located in the southern part of Konawe Regency and has an area of 261 Ha. Most of the population work as fishermen. Soropia District consists of 15 villages, and three of them are inhabited by Bajo people who experience relocation of settlements from Bokori Island. In carrying out daily activities, generally, people work as fishermen both as capture fishermen and aquaculture fishers.

Data and information in this study were collected using the interview method with the help of a questionnaire. Data collected through interviews include the involvement of individuals in communication networks and the specific role of individuals in communication networks consisting of Liaison, Bridge and Star.

The 20 Bajo fishermen became the respondents of the study, and it collected as primary data sources. Determination of respondents was carried out in a census of fishers belonging to the Mekar Fishermen Group. Moreover, the data is analyzed by communication network analysis, while the average degree of individual connectedness is analyzed by ASC (Average System Connectedness).

1. Analysis of communication networks using sociometric techniques arranged in a matrix, then it sociograms will be formed. Based on the matrix and sociogram data formed can be identified as the specific role of individuals in communication networks.
2. The average degree of individual connectedness is analyzed by ASC (Average System Connectedness), with the following formula:

$$ASC = \frac{N(N-1)}{2}$$

Description: ASC = Average System Connectedness
N = Number of system members
With the criteria: The closer to 1 the better the connectivity of individuals after settlement relocation.

III. RESULTS AND DISCUSSIONS

Role of Individuals in Communication Network In Mekar Fishermen Group Soropia District

All respondents who were members of the Mekar Fishermen Group exchanged information after settlement relocation. Based on Table 1 and the sociogram formed on the communication network of the Mekar Fishermen Group can be classified as several respondents who act as a liaison, bridge, and star described as follows:

a. Liaison

Liaison is an individual that connects two or more clicks in a system, but he does not become any member. Liaison on the Mekar Fishermen Group communication network is respondents 7, 11, and 13. Respondents 7 in the sociometric data chose respondents 6 and 9 as communicating partners and were chosen by respondents 10 as communicating partners. Respondents 11 chose respondents 2, 6 and 8 as communicating partners and were chosen by respondents 17, respondents 13 chose respondents 1, 3 and 12 as communicating partners and were chosen by respondents 12 as communicating partners. The selection of respondents 7, 11 and 13 as partners communicate by respondents 1, 2, 3, 6, 8, 9,10 and 12 and 17 because they have the highest experience as fishermen for 14 years (Appendix 2). Fishers who have long experience will have an impact on the breadth of knowledge and skills related to activities as fishermen in addressing adaptability and livelihood fulfillment strategies at residential locations. The above explanation shows that in communication networks, the liaison is only chosen by one respondent. The role of liaison in a group is to build and maintain contact both inside and outside the group to provide information relating to adaptability and livelihood fulfillment strategies after settlement relocation to group members so that the information obtained can be a reference material in carrying out their activities both as group members and as fishermen.

b. Bridge

Other communication structures that can be identified in the Mekar Fishermen Group network are individuals who act as bridges. A bridge is an individual that connects individuals in a group. There were four bridges in the Mekar Fishermen Group communication network, namely respondents 2, 15, 18 and 20. Respondents 15 and 18 connect clicks I and II, respondents 2 and 20 connect click III and IV. Respondent 2; if looked at based on his position in the group, he is a member, but in the organizational structure of the Mekar Village, he acts as the Village Secretary Each group member tends to seek and believe information that comes from group administrators and village officials; information that was conveyed about adaptability and livelihood fulfillment strategies after settlement relocation. All bridges, even though they are not classified as administrators in the Mekar Fishermen Group, they have a position in the village government either as the Head of the Youth Organization, the Chairperson of the RT or as the Chairperson of the RW. As fellow members they have status as village government officials, they often meet and interact to communicating problems that occur in groups and problems that occur in the village so that a sense of family is established and the responsibility to be able to help each group member solve the problem at hand. Rogers and Shoemaker (1971) stated that attempts to unite members of social systems that are very diverse require someone who can bridge differences in the social system. Bridge in the analysis of communication networks is a term for people who become connectors of clicks in groups. Bridges are people who have access and are often associated with different clicks.

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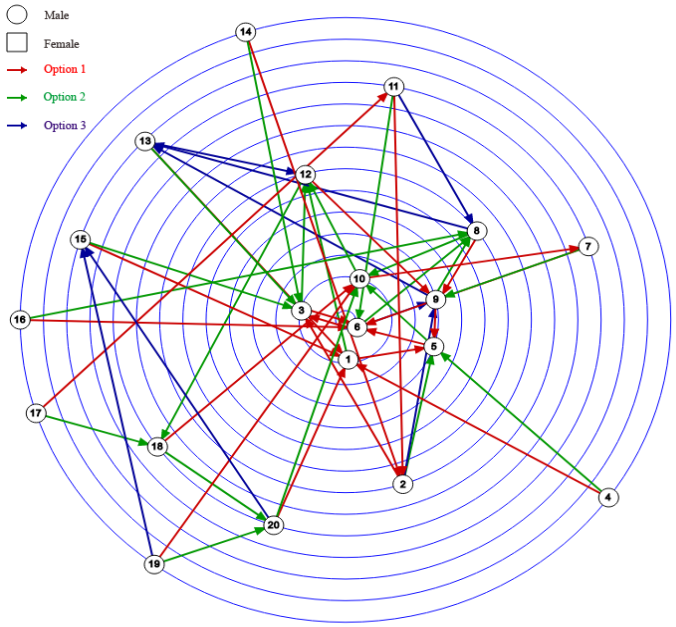

c. Star

Star is the most chosen or contacted group member and gets the position of the highest popularity. In the sociogram of the Mekar Fishermen group, respondents who acted as stars in the communication network were seen in respondents 1, 3, 5, 6, 8, 9, 10, 12. It related to the role of respondents in fishing groups which made the respondents occupy a central position in the Mekar Fishermen Group communication network.

Table 1. Data on Sociometry of Partners Communicating Respondents in Mekar Fishermen Group in Mekar Village, Soropia District, Kendari Regency, 2018.

Respondent	Choose	Chosen
1.	5,12	4,13,15,20
2.	3,5,9	11,14
3.	6,12	2,6,13,14,15
4.	1,5	0
5.	6,10	1,2,4,9
6.	3,8,9	3,5,7,11,16
7.	6,9	10
8.	9,10,13	6,9,11,16
9.	5,8,13	2,6,7,8,12
10.	7,12	5,8,18,19,20
11.	2,6,8	17
12.	9,18	1,3,9,10,13
13.	1,3,12	8
14.	2,3	0
15.	1,3	19,20
16.	6,8	0
17.	11,18	0
18.	10,20	12,17
19.	10,20,15	0
20.	1,10,15	18,19
Total	**48**	**48**

Source: Primary Data Processed, 2018

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The role of respondent 10 in the Mekar Fishermen Group communication network was as a member of the Mekar Fishermen Group, although only as a member in the group but respondent 10 was one of the officers of Desa Mekar namely the Head of Development Affairs while respondents are 1, 3, 5, 6, 8, 9 and 12 were group members who also play an active role in the group. Apart from being a star, respondent 10 also acting as a gatekeeper. As the first person to receive information at the same time to disseminate this information to members of both groups and outside groups, respondent 10 was community leaders and religious figures active in several organizations in Mekar Village District of Soropia. Respondent 10 is also a catch fisherman who owns a fishing vessel, and he is categorized as the main person in the pattern of membership relations in the fishing institutions found in the Bajo Community. In catching fish, the 10th respondent was assisted by eight fishermen who had positions as mustard which also managed the Karamba Jaring Tancap (KJT) they owned.

Degree of Average Individual Connectedness in the Mekar Fishermen Group Communication Network

The degree of individual connectedness in communication networks illustrates the extent of personal communication networks within the social system. This degree is measured from many or the number of communication relationships an individual has with other individuals in a system, compared to the number of possible communication relationships that can be carried out in a communication network system.

Based on Table 2, the number of real relationships that occur in the communication network of the Mekar Fishermen Group is 96, and the number of possible relationships is 190. Thus, the average level of system connectedness is 5.05, the higher the ASC value of a system, the theoretically shows the better the adaptation process that happened. The following are the results of calculating real relationships, the number of possible relationships, the degree of individual connectedness and the average system connectedness in the Mekar Fishermen Group communication network.

Real Relationship= (Choose Chosen)

= 48 + 48

= 96

Possible Amount of Relationship= $\frac{N\ (N-1)}{2}$

$$= \frac{20\ (20-1)}{2} = 190$$

Degree of Individual Connections= $\frac{\text{Number of Real Relationships for Individuals}}{\text{Number of Members of the Communication Network System} -1}$

$$= \frac{96}{20-1} = \frac{96}{19}$$

= 5,053

Average System Connectedness $= \frac{\text{Real Relationship}}{\text{Possible amount of relationship}}$

The degree of individual connectedness in the communication network of the Mekar Fishermen Group is fully presented in Table 2.

Table 2. Degree of Individual Connections in the Communication Network of Mekar Fishermen Group in Mekar Village, Soropia District in 2018

Number	Number of Individual Direct Relationships (x)	Number of Possible Individual Direct Relationships (N-1)	Degree of connectedness	
			X (N-1)	x 100 (%)
1	2	19	0,105	11
2	3	19	0,158	16
3	2	19	0,105	11
4	2	19	0,105	11
5	2	19	0,105	11

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6	3	19	0,158	16
7	2	19	0,105	11
8	3	19	0,158	16
9	3	19	0,158	11
10	2	19	0,105	16
11	3	19	0,158	11
12	2	19	0,105	16
13	3	19	0,158	11
14	2	19	0,105	11
15	2	19	0,105	11
16	2	19	0,105	11
17	2	19	0,105	11
18	2	19	0,105	11
19	3	19	0,158	16
20	3	19	0,158	16

Source: Primary Data Processed, 2018

Regarding the number of system members in the Mekar fishermen group as many as 20 people, the ASC value is classified as high. It is because all members are connected to a communication network. Furthermore, based on the analysis it appears that all members are connected in communication networks and no group members are in the separate category. Identification showed that none of the respondents who have the highest connection is because all respondents evenly choose information sources of 1 to 5 people. In the communication context of small groups, such as in fishermen groups observed by communication networks, this can be a reference for members in improving the group atmosphere, so that groups become more interactive than before. Besides, the process of innovation diffusion and the process of adaptation and livelihood fulfillment strategies can take place well.

IV. CONCLUSIONS

As the results of the study, it can be concluded that the Communication Network Pattern formed in the Bajo community who are members of the Mekar Fishermen Group after the relocation of settlements in Southeast Sulawesi is a star pattern or all channel pattern. The specific roles of individuals in these communication networks are Liaison, Bridge, and Star. None of the individuals in the communication network are classified as Isolates. The degree of individual connectedness and the Average System Connectedness (ASC) were high. This showed that the better the connectedness of individuals in the community after settlement relocation. It is recommended that Bajo fishers who only choose to communicate partners but are not chosen as partners communicate in a more open communication network in receiving and seeking information related to settlement relocation. Future research focuses on the factors that influence Bajo fishers not to be chosen as communicating partners in a communication network.

REFERENCES

1. *Boorgatti, Stephen, P dan Dejody. R., 2013. Basic Concepts in Social Network Analysis. Makalah Workshop SNA. 5 Juni 2013. Diakses dari http://sites google.com/site/Uklinkeenter.*
2. *Devito, JA., 2010. Komunikasi Antar Manusia. Jakarta : Professional Books.*
3. *Hamid, F., 2010. Kemiskinan di Pedesaan: Masalah dan Alternatif Penanggu langannya. Pusat Penelitian Sosial Ekonomi Pertanian. Badan Penelitian dan Pengembangan Pertanian. Bogor: Institut Pertanian Bogor.*
4. *Hertanto, D, Sugiyanto dan Safitri, R., 2016. Analisis Struktur Jaringan Komunikasi dan Peran Aktor dalam Penerapan Teknologi Budidaya Kentang (Petani Kentang Desa Ngantru Kecamatan Ngantang Kabupaten Malang). Jurnal Habitat Vol.27. No.2 Hal:55-65.*
5. *Mead, D and Lee, MY., 2010. Mapping Indonesian Bajau Communities In Sulawesi. www.SIL. International.com (Diakses:12 April 2010).*

6. *Rogers, EM and Kincaid, DW., 1981. Communication Network: Toward a New Paradigm for Research New York: The Free Press A Division of Macmillan Publishing Co., Inc.*
7. *Rogers, EM and Shoemaker, FF., 1983. Diffusion of Innovation. New York: Free Press.*
8. *Scoot, Noel, Baggio, R and Cooper, C., 2008. Network Analysis: From Theory to Practice . Toronto: Channel View Publications.*