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Mangrove Nurseries as an Effort for Rehabilitation and Optimizing the Functions of Coastal Ecosystem Areas in Bandar Khalifah District, Serdang Bedagai Regency, North Sumatera Province

Vindy Rilani Manurung[1], Zulham Apandy Harahap[2], Ahmad Baiquni Rangkuti[3], Hasbi Husaini[4], Denny Pahwen Perangin Angin[5]

[1,2,4][Program Study Manajemen Sumberdaya Perairan, Fakultas Pertanian, Universitas Sumatera Utara, Medan, Indonesia]
[3][Fakultas Kehutanan, Universitas Sumatera Utara, Medan, Indonesia]
[5][Kementerian Kelautan dan Perikanan, Badan Riset dan Sumberdaya Manusia, Pusat Pelatihan dan Penyuluh KP BPPP Medan, Indonesia]

Abstract. The coastal area of Serdang Berdagai district, Bandar Khalifa sub-district, has a population of 25,857 people With 80% working as fishermen, which is still dominated by small-scale fishing, This coastal area has a high diversity of mangroves, However, based on a survey, the mangrove ecosystem in this location has begun to be damaged and competition with trawl fishing boats, damage and competition result in a decrease in the catch of small fishermen, so that the optimization of the ecological area needs to be done through the implementation of mangrove rehabilitation, nurseries and the application of fishing aids, with the aim of increasing the catch of fishermen, The approach method used demonstration and counseling methods, socialization of activities by delivering material to mitra in the form of sharing sessions, followed by field practice with mangrove nurseries carried out by the community service team, Ministry of Marine Affairs and Fisheries extension and fishing mitra POKMASWAS Elang Putih and fishermen group KUB Bina Usaha Mandiri.

Keyword: Mangrove Nursery, Serdang Berdagai

Abstrak. *Wilayah pesisir kabupaten serdang berdagai, kecamatan Bandar khalifah, memiliki jumlah penduduk 25.857 jiwa Dengan 80% berprofesi sebagai nelayan yang masih didominasi oleh penangkapan skala kecil, daerah pesisir ini memiliki keanekaragaman mangrove tinggi, Namun berdasarkan survey ekosistem mangrove dilokasi ini sudah mulai rusak dan persaingan dengan kapal tangkap pukat trawl, kerusakan dan persaingan berakibat terhadap penurunan hasil tangkapan nelayan kecil, sehingga optimalisasi kawasan ekologi perlu dilakukan melalui penerapan rehabilitasi mangrove, pembibitan dan penerapan alat bantu penangkapan, dengan tujuan meningkatkan hasil tangkapan nelayan, Adapun metode pendekatan yang dilakukan untuk melalui metode demonstrasi dan penyuluhan, sosialisasi kegiatan dengan penyampaian materi kepada mitra dalam bentuk sharing session, dilanjutkan praktik lapangan dengan pembibitan mangrove yang dilakukan*

*Corresponding author at: Program Study Manajemen Sumberdaya Perairan, Fakultas Pertanian, Universitas Sumatera Utara, Medan, Indonesia

E-mail address: vindyrilani.m@usu.ac.id

Journal Homepage: https://abdimas.usu.ac.id or https://talenta.usu.ac.id/abdimas

tim pengabdian masyarakat, penyuluh Kementrian Kelautan dan Perikanan dan mitra nelayan POKMASWAS Elang Putih dan kelompok nelayan KUB Bina Usaha Mandiri

Kata Kunci: *Pembibitan Mangrove, Serdang Berdagai*

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1. Introduction

The coastal area of Serdang Berdagai district, Bandar Khalifa sub-district, has a population of 25,857 people [1].With 80% working as fishermen, which is still dominated by small-scale fishing using purse seine, gillnet, trammel net and fishing rods and the motor boat fleet is still dominated by motor boats measuring 3-5 GT. [2]. In this area there are five types of mangroves, that is: *Avicennia marina*, *Bruguiera senxangula*, *Rhizophora apiculata*, *Rhizophora stylosa*, *Rhizophora mucronata* categorized as areas that have high mangrove diversity and have an important ecological role [3]. The results of the survey of the condition of the mangrove ecosystem in this location have begun to be damaged, this damage is caused by coastal abrasion, sedimentation, lack of understanding and participation of the community around the area., The area of mangrove damage was reported by a number of Community Monitoring Groups (POKMASWAS) Elang Putih and fishermen group KUB Bina Usaha Mandiri, which is located at Pekan Bandar Khalifah Village, Bandar Khalifah District. POKMASWAS Elang Putih was fostered by the Marine Fisheries Service of Serdang Bedagai Regency, damage to the mangrove ecosystem followed by competition with trawl resulted in a decrease in fish catches by traditional fishermen.

Based on these problems, it is necessary to optimize the ecological area through the implementation of mangrove rehabilitation, mangrove nursery and application of fishing aids, the aim is that POKMASWAS Elang Putih and traditional fishing groups KUB Bina Usaha Mandiri can collaborate with each other to support mangrove rehabilitation as an effort to restore coastal ecosystems and increase fisherman catches. Mangrove rehabilitation is carried out by planting and mangrove nursery in damaged mangrove areas.

2. Methods

The approach method used to overcome the second problem is by making alternative solutions to problems, that is education POKMASWAS Elang Putih and the KUB Bina Usaha Mandiri fisherman group about mangrove ecosystem science through demonstration and counseling methods, teaching mangrove nursery and planting techniques. Applicative activities in the field that will be carried out by mitra, communities, students and service teams who have competence in their respective fields.

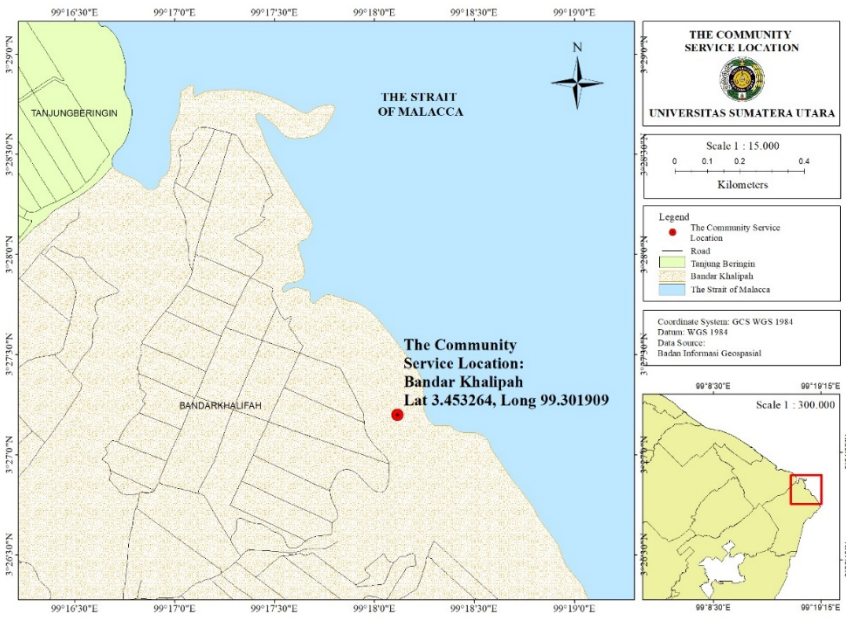

Figure 1. Location of Community Service

3. Result and Discussion

3.1 Activity Preparation

The community service team prepared activities with fishing mitra POKMASWAS Elang Putih and the KUB Bina Usaha Mandiri fishing group through group mitra interviews regarding the experience of using fishing aids before and visiting directly in determining the location of mangrove nurseries and planning the construction of bedeg by taking into account the environmental factors of the location so as to get results optimally, the preparation of activities is carried out after a site survey and literature study have been carried out, the results of the preparation of activities can be seen in table 1.

Table 1. Activity Preparation

No	Activities	Information
1	Preparation for Determining the Location of the Mangrove Nurseries	Community service team and mitra
2	Preparation Provision of tools and supporting materials for mangrove nurseries	Community service team and mitra
3	Submission of tools and supporting materials for the construction of mangrove nurseries	Community service team and mitra
4	The process of nurseries 2500 mangrove seedlings of the type Rhizopora mucronata	Community service team and mitra

5	Nursery observation for 3 months	Community service team and mitra

The community service team with mitra prepare activities by choosing nursery locations that are influenced by tides, providing bedeg with a size of 5x10 m with a height of 1.5 m. The bedeng are given light shade from paranet as the result of the construction of the bedeng, which can be seen in Figure 2.

Figure 2. Construction of Bedeng

The prepared polybags by community service team, then the seeds were planted using soil sediment at the nursery location according to the characteristics of the seeds and filled ¾ of polybags with a depth of 10cm then allowed to stand for 24 hours, then watering the mangrove seeds when the time receded, the media for the mangrove nursery can be seen on Figure 3.

Figure 3. Mangrove Seeds

3.2 Socialization Activities

The socialization of activities by delivering material to mitra in sharing sessions was carried out by the community service team with the material Socialization of mangrove ecosystem functions: coordination with mitra, namely POKMASWAS Elang Putih and the KUB Bina Usaha Mandiri

fishing group and related agencies who attended the socialization activities, namely the Village Head, Extension Officer of the Ministry of Marine Affairs and Fisheries and representatives of Bandar Khalifah Subdistrict, Serdang Bedagai Regency, conducted at the Office of the Village Head of Pekan Bandar Khalifah, Bandar Khalifah Subdistrict, Serdang Bedagai Regency, North Sumatra Province.

Figure 4. Socialization of activities to POKMASWAS Elang Putih mitra and the KUB Bina Usaha Mandiri fishing group

3.3 Field Practice

Field practice was carried out by the University of North Sumatra community service team, Ministry of Marine Affairs and Fisheries extension, and POKMASWAS Elang Putih mitra and the KUB Bina Usaha Mandiri fishing group consisting of five people from each mitra group, which is then divided into two mitra groups, each mitra group is accompanied by a community service team to facilitate mangrove nurseries, field practice is located at coordinates 3º28'22.782"LU and 99 º17'50.752"BT, the distance to the location point is about 1 hour away by fishing boat, then walk to the nursery for about 10 minutes. The purpose of this field practice is to provide education to mitra fishermen on how to breed with optimal survival rates.

Figure 5. Mangrove nursery practice

The implementation of mangrove nurseries is carried out in locations that have environmental factors that support the optimal survival rate of mangroves, with the techniques used in mangrove nurseries in this activity have a high potential for survival [4]. so that it can restore the ecological and socio-economic functions of the people of the Bandar Khalifa sub-district, especially the fishing mitra of POKMASWAS Elang Putih and the KUB Bina Usaha Mandiri fishing group.

Figure 6. Closing of the mangrove nursery practice

4. Conclusion

The University of North Sumatra community service team consisted of three lecturers, four Ministry of Maritime Affairs and Fisheries extension, seven students and attended by representatives of the Bandar Khalifah sub-district, village heads, POKMASWAS mitra and fishermen in Bandar Khalifah District, Serdang Bedagai Regency, North Sumatra Province. conducive environment and fishermen are very enthusiastic about this program as a forum to accommodate the aspirations of fishermen by conveying suggestions and hopes to the community service team so that they can return together to overcome problems in the village.

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