



Aquascape Techniques as an Alternative Livelihood During the COVID-19 Pandemic in Percut Sei Tuan Village

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Abstract. Percut Village is one of the villages located on the East Coast of North Sumatra which is directly opposite the waters of the Malacca Strait so that the main livelihood of the villagers is as fishermen. During pandemic, the government has implemented a Large Scale Social Restriction policy which has an impact on the social status of the community, such as limited fishing activities which have resulted in a decrease in the selling price of caught fish. In addition, the silting of sedimentation in 2020 resulted in the tides and coastline becoming unclear so that fishermen could not go to sea optimally. Based on these considerations, knowledge dissemination and training on techniques for creating aquascapes have been carried out for groups of young fishermen in July – September 2021 in Percut Village, Percut Sei Tuan District, Deli Serdang Regency, North Sumatra Province, North Sumatra Province. The results of this activity have a positive impact on the community to increase creativity and enrich soft skills by applying the knowledge gained to start becoming an entrepreneur as an alternative livelihood for fishermen youth groups so that they are able to compete in the midst of society and can create jobs.

Keyword: Aquascape, Ornamental Fish, Socialization, Aquatic Plants, Entrepreneurship

Abstrak. Desa Percut merupakan salah satu desa yang terletak di kawasan pesisir Pantai Timur Sumatera Utara yang berhadapan langsung dengan perairan Selat Malaka sehingga mata pencaharian utama penduduk desa tersebut adalah sebagai nelayan. Di masa pandemi seperti ini, pemerintah telah menerapkan kebijakan Pembatasan Sosial Berskala Besar yang berdampak pada status sosial masyarakat seperti terbatasnya aktivitas penangkapan ikan yang mengakibatkan turunnya harga jual ikan tangkapan. Selain itu, adanya pendangkalan sedimentasi pada tahun 2020 mengakibatkan pasang surut dan garis pantai menjadi tidak jelas sehingga nelayan tidak bisa melaut dengan optimal. Berdasarkan pertimbangan ini maka telah dilaksanakan sosialisasi pengetahuan dan pelatihan mengenai teknik pembuatan aquascape bagi kelompok pemuda nelayan pada bulan Juli – September 2021 di Desa Percut Kecamatan Percut Sei Tuan Kabupaten Deli Serdang Provinsi Sumatera Utara Provinsi Sumatera Utara. Hasil dari kegiatan ini memberikan dampak positif bagi masyarakat untuk meningkatkan kreatifitas dan memperkaya softskill dengan mengaplikasikan pengetahuan yang diperoleh untuk memulai menjadi wirausaha sebagai alternatif mata pencaharian bagi

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kelompok pemuda nelayan sehingga mampu bersaing ditengah-tengah masyarakat dan bisa menciptakan lapangan pekerjaan.

Kata Kunci: *Aquascape, Ikan Hias, Sosialisasi, Tanaman Air, Wirausaha*

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1. Pendahuluan

Percut Village is located on the East Coast of North Sumatra, which is directly opposite the Malacca Strait, making fishermen as the main livelihood of the villagers. During this pandemic, the government has implemented a large-scale social restriction policy that impacts the community. For the fisheries sector and fishers, this policy gives negative impacts such as affecting the activities' sustainability and the market of fishery products. A total of 26,675 Fishery Households (RTP) is affected by the COVID-19 pandemic because fish prices has fallen and tons of market for export has closed [1].

The policy of area restriction also affects the distribution of fishery production. Fishers in some areas have difficulty in selling fish and getting a fair price [2]. This does not only happen during the pandemic, but during the famine season, fish catches also tend to decline. In Percut Village, this condition is exacerbated by the silting of sedimentation in 2020, which resulted in the tides and coastline changing so that fishers could not go to sea optimally. Therefore, solutions regarding alternative livelihoods for fishers in Percut village are needed to increase their income. One of the alternative livelihoods for fishers is being entrepreneur through aquascape. Aquascape is a technique of decorating aquarium using accessories such as gravel, stones, sand, live/imitation plants that make it look like its natural habitat [3]. Making this natural garden in the water is not just a decoration, we also need to pay attention to the size of the aquarium and the media used during the making process [4]. In order to have a beautiful appearance, biotic and abiotic decorations are needed. Abiotic decoration includes inanimate objects such as pebbles, stones, waterwheels, and imitation plants [5]. The widespread of aquascapes in Indonesia, especially since the COVID-19 outbreak, has opened up more promising entrepreneurship opportunities. In an aquascape, what needs to be considered is the technical arrangement of the components in the aquarium and the technical maintenance of fish and other living components. The components are also not difficult to find and not always expensive; many components can be obtained from the coastal environment of Percut Village.

The purpose of this activity is not only to help fishermen's lives during the COVID-19 pandemic but also to help fishers during times of famine and to reduce the risk of being dependent on a single livelihood. This socialization and training are not only addressed to young fishers but also to fishermen's children who are currently still studying online in order to increase creativity and enrich their soft skills [6].

2. Metode Pelaksanaan

This activity was carried out from July to September 2021 in Percut Village, Percut Sei Tuan District, Deli Serdang Regency, North Sumatra Province by involving the Percut Sei Tuan village head and the Bina Keluarga Remaja (BKR) as partners in Community Service. The tools used in this activity are aquariums, rack set (60x35x35 cm), LED lights, aerators, aquascape toolsets, aquascape cleaners, silicon glue, buckets, dippers, and sockets. The materials used are poor fine sand, silica sand, aquascape planting media (aquascape starter bacteria, 1-litre solid gold, natural one/essential fertilizer, baseone/bacterial house), rasamala wood roots, lava rock, aquatic plants, ornamental fish, and micro pellet feed (Figure 1). There were two session in this community services activity, where the first session was socialization by presenting the technique of making aquascapes to the village head of Percut Sei Tuan, coaches members of the Bina Keluarga Remaja, and Percut village community. After presentation, there was discussion session between the presenters and the participants. The second session was aquascaping technique practices by the participants, who are guided by community service team (lecturers and students) using the tools and materials that have been provided.



Figure 1. Submission of Aquascape tools and materials

3. Hasil dan Pembahasan

The community service has been carried out in August 2021 together with partners and community groups in Percut Sei Tuan Village, Deli Serdang Regency, North Sumatra Province. The first visit by the community service team was carried out in July 2021, discussing plans for counseling activities and direct practice in the field. Then in August 2021, the community service was carried out by providing material about making aquascapes using live presentations and applying the knowledge obtained during the previous counseling by the direct practice of making aquascapes. In those activities, all participants and teams had implemented the health protocol to avoid the spread of the Covid-19 virus.

3.1 Aquascaping Technique Socialization

The socialization carried out by the Community Service team, and it was attended by the village head of Percut Sei Tuan, coaches, members of Bina Keluarga Remaja, and the community of dusun XI, Percut Village, Percut Sei Tuan Village, Deli Serdang Regency, North Sumatera.

Province. The head of Percut village and the Bina Keluarga Remaja coach opened the activity. After that, the community service team delivered their presentation. All of these activities was held in the office hall of Percut Sei Tuan village (Figure 2).



Figure 2. Socialization about aquascape tehcnique

Knowledge dissemination activities are aimed to educate young fishermen about the basics technique of making aquascapes and components. By knowing the simple techniques, they can use components from their surrounding and it can still produce an ornamental fish aquarium with high aesthetic value and selling prices. The use of components that come from the surrounding can also reduce the capital for making aquascapes so that they can get higher profits. In the socialization session, they were also taught how to promote/sell the aquascape through social media. Widjaja (2013) states that aquascape is the art of arranging aquatic plants that produce a natural garden in an aquarium that provides an overview of the meaning of life from a natural miniature that is full of synergy, such as plants that need food from plant media, fish emit CO₂ needed by plants, and vice versa. produce O₂ needed by fish, and all its components that need each other.

3.2 Aquascaping Technique Practice

After socialization, the next stage was the practice session. The participants was guided directly by the community service team to make an aquascape using the tools and materials provided by the community service team. After knowing the technique, hopefully this can be their first step in entrepreneurship and increase in income (Figure 3.3). Hariyatno (2013) states that what needs to be considered is not only the technical arrangement of the components in the aquarium but also the technical maintenance of fish and other living components such as coral or aquatic plants, the more unique and beautiful the aquascape is made with a relatively high artistic taste, the more expensive the price of an aquascape.



Figure 3. Aquascaping Technique

3.2 The output of Aquascaping

The outputs promised by the service team are articles, products, videos and mass media (News paper and online mass media). Articles will be submitted to the Abdimas Talenta journal. The resulting product is in the form of ornamental fish aquascape (Figure 3.4). The resulting video has been uploaded on YouTube with the link address <https://youtu.be/rXLxGFOI0oA> and usu tv with link address: https://www.instagram.com/tv/CT1wOzFpoma/?utm_medium=share_sheet. The mass media has been published online with the link <https://analisadaily.com/epaper/2021-09-06/files/mobile/index.html#5>





Figure 4. The ornamental fish aquascape

4. Kesimpulan

Based on the Community Service activities that have been carried out, it can be concluded that the community service method was socialization, discussion, and the aquascaping techniques practice with the tools and materials. Through this activity, hopefully the young fishers understand how to increase creativity by applying knowledge about aquascape so that they can compete in the midst of society and can create jobs.

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DAFTAR PUSTAKA

- [1] Winkle, A. B. Van. Separation Of Religion And State In Japan: A Pragmatic Interpretation of Articles 20 And 89 of The Japanese Constitution. *Pacific Rim Law & Policy Journal Association*, 21(2), 363–370. 2012
- [2] Akmal A. , Mauli., Karma, dan Ilyas. Pengembangan Produk Ikan Hias Melalui Pelatihan Pembuatan Akuarium. *Jurnal Balireso*. 5(2) : 86-91. 2020
- [3] Efrizal, R. Dampak COVID-19, Nelayan di Sumsel Jual Ikan dengan Harga Diakses dari <https://sumsel.idntimes.com/news/sumsel/muhammad-rangga-erfizal/dampak-covid-19-nelayan-di-sumsel-jual-ikan-dengan-harga-miring/4> (25 Maret 2021). 2020
- [4] Hariyatno, Isanawikrama, D. Wimpertiwi, Y.J. Kurniawan. Membaca Peluang Merakit “Uang” dari Hobi Aquascape. *Jurnal Pengabdian dan Kewirausahaan*. 2(2):117-125. 2018
- [5] Nixon dan Sitanggang, M. Guppy : Ikan Mungil Berekor Indah. Jakarta: Agromedia Pustaka Rastati, R. 2020. Pandemi COVID-19 dan Nelayan: Menyoal Dampak pada Keberlanjutan Penghidupan. *Masyarakat dan Budaya*. 11(15). 2002
- [6] Widjaja, T. Aquascape Pesona Taman Dalam Akuarium. Jakarta: Agromedia Pustaka. 2013