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## UTILIZATION OF WATER HYACINTH AS AN ENVIRONMENTALLY FRIENDLY CREATIVE ECONOMIC INDUSTRY

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Rusmaniah\*, Deasy Arisanty, Parida Angriani

Email: [rusmaniah@ulm.ac.id](mailto:rusmaniah@ulm.ac.id)  
Universitas Lambung Mangkurat

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### ABSTRACT

Water hyacinth is often considered a harmful aquatic weed, yet it holds significant potential as a raw material for the creative industry. One such initiative has been undertaken by the community of Banyu Hirang village, where Eceng Gondok is transformed into woven products. This article aims to investigate how the utilization of Water Hyacinth contributes to an environmentally friendly creative economy in Banyu Hirang village. The research employs a qualitative approach, gathering data through in-depth interviews, observations, and documentation. Data analysis involves reduction, presentation, concluding, and final verification stages. The research findings elucidate that harnessing Water Hyacinth as a weaving material provides economic benefits for local artisans and has a positive environmental impact by reducing water weed populations and employing more eco-friendly raw materials.

**Keywords:** Water Hyacinth; Weaving Craft; Creative Economic Industry.

### PRELIMINARY

Lebak swamp land is inland swamp land with relatively concave topography, and water cannot flow out. This land experiences inundation yearly for at least three months with a minimum inundation height of 50 cm. This land is flooded in the rainy season, and it recedes in the dry season. Therefore, the Lebak swamp is a depression area. The primary water source comes from rainfall, and the receding water relies on percolation and evaporation in the dry season (Alwi, 2017). According to PP Rawa No. 73 of 2013 article 5, paragraph 2, a lowland swamp is a swamp that is located far from the coast and is flooded due to overflowing river water or rainwater that pools periodically or continuously. Swamp land is divided into three zones, namely (1) coastal swamp, (2) tidal swamp, and (3) lowland swamp or inland swamp (Mulyani & Sarwani, 2013).

Water stagnating in swamp land creates an ecosystem typical of swamp land environments, namely the growth and development of swamp land flora and fauna. One of the plants that grows is water hyacinth. Water hyacinth (*Eichhornia crassipes*) is a water weed plant. This plant reproduces very quickly. Water hyacinth grows in rivers and swamps (Meilani & Rahmadanik, 2022)

Water hyacinth, often considered a harmful water weed, has excellent potential as a raw material for creative industries. With proper handling, water hyacinths can be turned into high-quality woven material. One of the prospective efforts to overcome water hyacinth weeds on the environment is carried out in Banyu Hirang village, Hulu Sungai Selatan district, namely that the community uses water hyacinth as a woven craft. Besides providing

added economic value, water hyacinth processing can also help control the water hyacinth population in aquatic ecosystems.

Wicker crafts are a creative industry that can support national economic growth. Creative industry refers to the economic sector related to the production, distribution and utilization of creativity, innovation and human expertise to produce goods and services with added value and the potential to meet market needs and tastes. In the context of environmental impacts, using water hyacinth as a raw material for weaving crafts is in line with ecological theory which emphasizes the importance of managing aquatic plants to balance aquatic ecosystems (Odum, 1957). <sup>1</sup> Based on this background description, this article aims to discover the use of water hyacinth as an environmentally friendly creative economic industry.

#### <sup>1</sup> **METHOD**

<sup>1</sup> This study uses a qualitative method. Qualitative research was chosen to understand the use of water hyacinth as an environmentally friendly creative economic industry by describing the conditions in the field in detail and in-depth. The data source comes from informants using water hyacinth as an environmentally friendly creative economic industry. Primary data was obtained through in-depth interviews, which were recorded and then recorded. Other primary sources are observation and documentation.

<sup>1</sup> The data analysis used in this research is an interactive model, Miles and Huberman, consisting of 3 analysis steps, including data reduction, data presentation, and verification (Rangkuti, 2014). <sup>1</sup> Testing the validity of the data was carried out by triangulating the sources by asking the same question to several different informants, and triangulating the method was carried out using interview techniques, observation and documentation regarding the use of water hyacinth as an environmentally friendly creative economic industry.

#### **RESULTS AND DISCUSSION**

Indonesia has a vast swamp area of around 13.28 million hectares, spread across Sumatra, around 2.79 million hectares, Kalimantan 3.58 million hectares, Papua 6.31 million hectares, and Sulawesi 0.61 million hectares. Around 578,934 ha (4.4%) of Lebak swamp land has been cleared by the government, and around 346,901 ha (2.6%) of Lebak swamp land has the potential for agriculture and has not yet been cleared. 317 ha (10.6%) (Nursyamsi et al., 2014).

In the swampy land in Banyu Hirang village, various wild plants grow, one of which is water hyacinth. Hyacinth (*Eichhornia crassipes*) is a water weed. This plant reproduces very quickly. Water hyacinth grows in rivers and swamps. Water hyacinth leaf stalks are soft.

Plant height is not more than 50 cm. Water hyacinths can live in the lowlands and highlands; the leaves are green and look only half-blooming. This plant has several leaves, and the flowers are beautiful purple. The roots of water hyacinths are in the form of fibres that will catch the soil in the water (Meilani & Rahmadanik, 2022).

Water hyacinth in the swamp is considered a weed because it can disturb and hinder the passage of boats and fill the swamp water. The people of Banyu Hiranng use water hyacinth plants as woven crafts. The water hyacinth used for crafts is the dried part of the stem. In Bayu Hiranng village, it is straightforward to find water hyacinth, but to collect it, people have to use boats because the water is intense and can be categorized as lowland swamp land. Deep Lebak swamp land has a water level of 50-100 cm, but the inundation must be more than six consecutive months a year (Alwi, 2017).

The water hyacinth is known as *Ilung* in the local language. Water hyacinth harvesting was carried out in the swamp land behind residents' houses, using a machete, a typical banjar cutter. The machete must be sharpened first to make it sharper and more straightforward to pick the water hyacinth. The water hyacinths taken are first selected when they are already enormous. Not only is the collection of water hyacinths carried out by artisans but also by sellers who specialize in selling water hyacinths that have been processed and ready to be woven, making it easier for artisans who lack raw materials to buy directly.

Processing water hyacinth goes through several stages, starting from separating the stems and leaves and then mushrooms for about one to two weeks. The drying process affects the quality of the dried water hyacinth. Good water hyacinth is dried on the roof of the house or ironwood made in the form of a footbridge or a small bridge in front of people's houses. Dried water hyacinth is usually woven immediately after being dried in the sun without any pounding or other things.

Before weaving crafts, the water hyacinths are first sorted based on size. If the water hyacinths are tiny, they can be woven to make bags, whereas if they are large, they can be woven into chairs, sandals, and mats, so there is a sorting process first. Once sorted, the water hyacinth is woven or plaited to form a product that meets market demand. There is no time limit for making woven purun, but the artisans usually produce one craft product in one week. Two motifs in the water hyacinth woven: the woven motif that uses water hyacinth fronds in rows and the number-departed motif. Some woven products are dyed to enhance their appearance and make them more attractive. The water hyacinth craft products produced include chairs, mats, tissue boxes, *kupiah*, wall decorations, etc.

This process aligns with the theory of processing natural raw materials into value-added products. According Smith, (2018), processing natural materials such as water hyacinth through fibre separation, drying, and weaving processes is critical in producing high-quality woven products.

The resulting woven craft products are then marketed either directly to consumers, through traders at the Amuntai craft market or to the Ilung Flower Gallery, which accepts community craft products and collects them in a gallery to make it easier for tourists to buy when visiting Banyu Hiranng or exported abroad, such as Netherlands, South Korea, Japan. Meanwhile, the sales price depends on the level of complexity and the amount of raw materials processed.

Parents and adults carry out the weaving tradition in Banyu Hiranng village; however, in this study, the researchers did not find any young children who were taught to weave or helped in the weaving process as a regeneration of the weaving tradition. Becoming a water hyacinth craftsman is the main livelihood for most people. Water hyacinth artisans are also purun craftsmen but have switched to water hyacinth because purun plants are now difficult to obtain. The government supports the creative water hyacinth industry by assisting with tools to help craft processes, such as sewing machines. Through this creative economy industry, it is hoped that it can support the national economy. Apart from that, local cultural creativity can also be expressed through products with economic value. The industry also promotes and maintains cultural heritage by utilizing local ingredients such as water hyacinth.

The economic contribution of using water hyacinth aligns with creative economy theory, which promotes the development of local creativity-based industries (Florida, 2002). The results of this study also support the findings of Gupta et al., (2019), which show the high interest of artisans in adopting processing techniques to produce woven products. Apart from that, the creative economy industry also forces its actors to be creative to produce products that can compete locally and internationally.

Through woven water hyacinths, the economy can develop, traditions can be maintained, and the swamp environment can be preserved. Water hyacinth, considered a weed or trash, can be transformed into a product of economic value in the hands of craftsmen. Utilizing water hyacinth as an environmentally friendly creative economy industry is an initiative that combines local wisdom with solutions to environmental problems. It is important to remember that initiatives like this are not just a production process but also require creativity in designing and developing woven products. Artisans in this industry must

be able to combine technical expertise with innovation in woven patterns and the use of colour, creating unique and attractive woven products.

In the context of environmental impacts, using water hyacinth as raw material is in line with ecological theory, which emphasizes the importance of managing aquatic plants to balance aquatic ecosystems (Latuconsina, 2019). This research also supports the findings of Johnson et al., (2019), which shows that using natural raw materials, such as water hyacinth, can reduce pressure on natural resources and the use of synthetic raw materials.

Water hyacinth often becomes a problem in waters because of its ability to reproduce quickly. Using it as a raw material for creative industries can help reduce the water hyacinth population in aquatic ecosystems. Using natural raw materials such as water hyacinth in woven production can reduce dependence on synthetic materials that require enormous natural resources (Abdillah, 2016).

With a focus on natural raw materials, the industry supports a sustainable approach to production. This aligns with modern society's need for environmentally friendly and sustainable products. Creative industries, including woven crafts, can help diversify the economy of a region or country. This reduces dependence on specific economic sectors and provides stability in the long term (Budiarto et al., 2018).

The use of water hyacinths in the creative economy industry is a clear example of how local resources can be utilized to create economically and environmentally beneficial solutions. By sustainably developing this potential, we can create an industry that contributes to national economic growth while maintaining environmental sustainability.

## **CONCLUSION**

Water hyacinth in the swamp is considered a weed because it can disturb and hinder the passage of boats and fill the swamp water. The people of Banyu Hiran use water hyacinth plants as woven crafts. Purun woven crafts are included in the creative economy industry. The handicraft products produced include carpets, kupiah, tissue holders, chairs, etc. The research results show that using water hyacinth as a raw material for woven crafts provides economic benefits for local artisans and has a positive impact on the environment by reducing the population of water weeds and using more environmentally friendly raw materials.

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