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# DOYO WEAVING PRODUCTION PROCESS AS A CULTURAL HERITAGE IN EAST KALIMANTAN, INDONESIA

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**ABSTRACT**
One of the natural materials used as fashion products is woven fabric, one of which is woven fabric from the Dayak tribe in the province of East Kalimantan, Indonesia, namely doyo weaving (ulap doyo). The increasing number of enthusiasts makes Doyo weaving craftsmen experience problems in meeting market needs. This is because the process of making doyo weaving is done manually which takes a long time in the process of softening and spinning doyo leaf fibers into woven yarn with a yarn width of less than 2 mm. The purpose of this study is to describe and discuss the process of making doyo weaving in general so that opportunities can be found to increase the efficiency and effectiveness of the doyo weaving production process to be more optimal than before. By using a quantitative descriptive method, it was found that suggestions that can be developed for further research are the manufacture of a special softener and spinning machine for doyo leaf fiber so that the efficiency and effectiveness of the doyo weaving process will be more optimal if it is mass produced.

**Keywords:**
Doyo weaving, heritage, handicraft

## INTRODUCTION

Fashion products are everything that is used by the human body to protect the body and to display the beauty of the body's appearance. The development of fashion products will continue to grow following the current developments. One of the developments of fashion products is the use of natural materials and without damaging the environment. One of the natural materials used as fashion products is woven fabric [1]. The handicraft of this woven fabric has long developed since ancient times in various parts of the world, including in Indonesia. Woven fabrics in Indonesia have various uses, from natural materials, motifs and craftsmanship skills are spread in various areas that are adapted to the customs where the weaving craftsmen are located. One of these woven fabrics is the doyo woven fabric (Ulap Doyo) from the Dayak tribe in the province of East Kalimantan, Indonesia.

These handicrafts have penetrated into the national and international markets. Doyo weaving is a woven fabric made from the doyo plant which is a type of pandanus with strong fibers and grows wild in the of Kalimantan island. Doyo weaving has been known before the 17th century which is commonly used as a fashion product and handicrafts of the Dayak tribe in the province of East Kalimantan. Based on the data obtained in this study, the number of doyo weaving craftsmen from the province of East Kalimantan in 2019 there were more than 50 doyo weaving craftsmen who continued to produce this weave.

Doyo weaving is one of the Dayak handicrafts derived from the leaf fiber of the doyo plant in the province of East Kalimantan, Indonesia [2,3]. This weaving usually uses three main colors obtained from natural materials, namely red, black, and light brown [4,5]. The doyo plant (Curliglia Latifolia) is a type of pandanus with strong fibers and grows wild in the interior of Kalimantan as the main material for doyo weaving. In 2013, doyo weaving was designated as a National Intangible Cultural Heritage by the Ministry of Education and Culture [6]. The doyo plant itself is a type of wild plant that grows in forests or fields owned by residents in Kalimantan [7].

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Doyo weaving applications in the past were used for traditional ceremonial activities commonly used by Dayak women.
Along with current fashion developments, doyo weaving is widely applied in various fashion products and other handicrafts. The forms of application of this weaving are clothing products, table cloths, wall decorations and even bags. Products made from the basic ingredients of doyo weaving have developed and can be used by women and men of all ages. Figure 1 is an example of a product made from doyo woven material that is displayed on the official website of the East Kalimantan e-catalog sales [8].

***Fig 1. Doyo weaving for fashion and handicraft products [8]***

The number of orders for doyo weaving continues to increase in the international market [9]. The increasing number of these enthusiasts makes doyo weaving craftsmen experience problems in meeting market needs. This is because the process of making doyo weaving is done manually which takes a long time in the process of softening and spinning doyo leaf fiber into woven yarn with a yarn width of less than 2 mm..

## OBJECTIVES

The problem in this study is how the process of making doyo weaving from beginning to end becomes a woven fabric so that it takes a long time to produce it. The objective of this study is to describe and discuss the process of making doyo weaving in general so that opportunities can be identified to improve the efficiency and effectiveness of the doyo weaving production process to be more optimal than before.

## METHODOLOGY

In this study, to answer the problems and achieve the research objectives, an appropriate method is needed for this activity. This study uses a quantitative descriptive method, which is a method of data analysis by describing or describing the data that has been obtained [10]. The purpose of this quantitative approach is to explain the situation to be studied through some support from literature studies so that it further strengthens the research analysis in making conclusions. For this study, data were obtained through literature studies, interviews and direct observations of craftsmen producing doyo ulap woven fabrics in the province of East Kalimantan, Indonesia.

## RESULTS AND DISCUSSION

From the results of the analysis and discussion obtained in this study, several things can be found regarding the description of the process of making doyo woven fabrics. The process of making doyo weaving starts from taking fresh doyo leaves, then washing and taking the fiber by rinsing while combing in river water and then drying it to dry. This process is carried out by being shaved in running water using a bamboo stick until only the fibers remain.
This process takes a long time depending on the weather during the drying process. Furthermore, after drying, the peeling/softening process is carried out as well as spinning into yarn. This fiber softening process takes a long time. This softening and spinning process takes the longest of all processes, to become one skein of yarn it takes 2 days.

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After becoming a thread, dye is given which can be obtained from natural dyes in order to produce patterned woven fabrics through the weaving process into fabrics using tools that are still manual using human power to produce woven fabrics. In the process of dyeing the yarn, the red color comes from the seeds of the glinggam (Annatto bixa orellana) fruit which are a bit old. The green color is obtained from the leaves of the shy princess (Aminosa pudica), while the yellow color is taken from the turmeric tuber (Curcuma longa). For other colors, other materials that are often used are tree bark, and the sap of certain roots that are easily found in the East Kalimantan Province.

Doyo weaving generally uses a variety of motifs typical of the Dayak Benuaq tribe in Kalimantan island. This motif is taken from the forms that exist in nature around craftsmen such as flora, fauna and mythology. From the literature search, it was found that several motifs on the weaving such as the tiger motif symbolize the strength of a man, the boat motif symbolizes cooperation, and the dragon motif for the beauty of a woman. To produce one woven cloth measuring 60 cm x 200 cm, a minimum of three balls of woven yarn are required. The sequence of these processes can be seen in Figure 2.

***Fig 2. Sequence of the Doyo Woven Fabric Manufacturing Process***

The results of the analysis of the description of the process of making doyo woven fabrics can be concluded that the longest process in making this doyo woven fabric is the softening and spinning process which takes the longest of all processes, to become one ball of yarn. This is because in the process of spinning the fiber into yarn which will be rolled into a ball of yarn, it is done manually in order to achieve a strong bond between the fibers and the quality of the fiber into a finer yarn. The process of making doyo woven fabrics from this research is the result of a general description after the stages of literature study, interviews and observations in several places for doyo weaving craftsmen. From the results of this study, suggestions can be developed for further research, namely the manufacture of a special softener and spinner for doyo leaf fiber. This machine is proposed to minimize the softening process time of the doyo leaf fiber so that it is more flexible when the yarn manufacturing process is carried out, while the spinning machine is proposed to facilitate the process of spinning the fiber into woven yarn. So that the efficiency and effectiveness of the process of making doyo weaving will be more optimal if it is mass produced.

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## CONCLUSION

The process of making doyo weaving starts from taking doyo leaves which is then followed by a washing process which aims to take the leaf fibers through rinsing water while combing it with bamboo in the river, and then drying it to dry. After drying, the process of peeling / softening as well as spinning into yarn is carried out. This softening and spinning process takes the longest of all processes. After becoming a thread, the thread is then dyed which can be obtained from natural dyes in order to produce patterned woven fabrics.

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