

# Resort Wear Design with Coral Bleaching as Inspiration and its Business Opportunities in Indonesia

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**Abstract** Indonesia is an archipelago state that has a diverse natural wealth, one of which is coral reef. Indonesia is included in The Coral Triangle; the center of the world's coral reef biodiversity, together with Malaysia, Philippines, Papua New Guinea, Timor Leste and Solomon Island. However, 35.15% of coral reefs in Indonesia are in poor condition due to natural phenomena, as well as human activities. One of the main causes of damage to coral reefs is coral bleaching. The purpose of this research is to raise awareness of the damage to coral reefs that occur, especially coral bleaching, through fashion products. The visualization of coral bleaching can be achieved by ruffles, pleats, and tie dye techniques. The research method used is a qualitative form of observations on brand competitor, literature studies by reviewing various sources of information regarding coral bleaching, resort wear, and business opportunities in the Indonesian fashion industry, conducting survey to target market, then continued with direct experiments techniques used to achieve the texture, shape and character of the coral reefs affected by coral bleaching. The exploration results are implemented into resort wear fashion products with reference to the lifestyle of the target market of the product in order to have potential as one of the new business opportunities in the Indonesia's creative industry.

**Keywords** Coral bleaching, tie dye, ruffles, pleats, resort-wear

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## 1. Introduction

There has been no research focusing on application of coral bleaching as inspiration for fashion product especially resort wear. According to the Hobby (2019), resort wear is clothing worn while traveling or on vacation, especially in warm climates like beaches. The need for this lifestyle is supported by the diversity of clothing offered by clothing manufacturers in the fashion industry.

At the Jakarta Fashion Week 2019, designer Rya Baraba created ready-to-wear collection that inspired from the wealth of the Indonesian sea called "Shade of Teal". The collection represented light reflections from calm seawater in a turquoise color and shadows of light. This shows natural wealth has the potential to be applied to ready-to-wear clothing and can also be used as a platform in an effort to introduce natural phenomena that occur in Indonesia.

According to the Indonesian Institute of Sciences or LIPI (2018), 36.18% of coral reefs in Indonesia are in poor condition and one of the causes is coral bleaching. The cause of coral bleaching is changes in conditions such as temperature, light, or nutrients that pressured the corals, they expel the symbiotic algae living in the tissues, causing them to turn completely white. (NOAA, 2018).

The purpose of this study is to create resort wear design with the characteristics of the coral bleaching that have business opportunities in Indonesia. The visual, texture and

color of the coral can be applied with tie dye, ruffles, and pleats techniques. We focus on the final products that can raise awareness of the coral bleaching to the target market.

## 2. Methodology

Our methodology can be summarized as follows:

1. Conducting literature studies and observations regarding resort wear, coral bleaching and business opportunities
2. Designing resort wear clothing inspired by coral bleaching to raise awareness of the coral bleaching phenomenon that occurs through resort wear clothing as a form of visual communication that has business opportunities in Indonesia
3. Create imageboard, color palettes, target market and clothing sketches.
4. Exploring the techniques of pleats, ruffles and tie dyes on materials
5. Production of clothing from selected designs
6. Business planning by creating a business model canvas (BMC), conducting photoshoot and making merchandise.

### 2.1. Design Analysis

#### 1. Literature Data

- Resort wear is clothing worn when traveling and on vacation, especially in warm climates. Sometimes referred to as "cruise wear"

- The location of Indonesia in the triangle area of the world's coral reefs, with extensive coral reefs in Indonesia based on analysis of satellite imagery is around 2.5 million hectares. But as many as 35.15% of Indonesia's coral reefs are in poor condition. one of the main causes is coral bleaching or coral bleaching (Status Terumbu Karang Indonesia, 2018).
- Coral bleaching (fading or snow white) occurs due to a variety of stresses, both naturally and because humans cause degradation or loss of coloring zooxanthellae from coral tissue (NOAA, 2018).
- The GDP of the Fashion Industry in 2017 reached USD13.29 billion, growing by 8.7 percent in 2017 showing that the opportunities for new businesses are getting higher (Kementerian Perindustrian Republik Indonesia, 2018)..

## 2. Field Data

- Knowing the spread of coral reefs in Indonesia
- Knowing the type of coral affected by coral bleaching in Indonesia
- There are designers who have made marine wealth an inspiration for their work but not many have raised coral bleaching.
- Business opportunities in the Indonesian Fashion Industry for new businesses are relatively large based on national ministries and Gross Domestic Product (GDP).

## 3. Initial Exploration

Exploration that has been carried out using a surface textile technique to achieve the character of coral bleaching including; tie dyeing, pleats, ruffles and embroidery.

After the initial exploration process has been carried out, the embroidery technique is considered less suitable to be applied because the fabric is pulled around the pattern making it does not show the 'loose and flowy' characters of resort wear.

## 3. Concept

Raising the potential of the coral bleaching phenomenon that occurs in Indonesian coral reefs into the form of resort wear clothing that has new business opportunities in the Indonesian Fashion Industry. The application of pleats and ruffles techniques to show the visuals and characteristics of coral reefs such as their shape and texture, while tie dyeing techniques to show color changes in coral reefs that occur due to coral bleaching. We apply these techniques to resort wear clothing, with the hope that resort wear clothing worn for holidays or vacation, especially in the coastal areas, can make people aware of the natural coral bleaching phenomenon that is happening around them. The theme is titled "UNBEITE", which stands for unbeautiful white. This sentence means that the white color of coral reefs is not a good

thing because white coral reefs are in poor condition by coral bleaching.

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### 3.1. Image board

Pictures taken from the natural phenomenon of coral bleaching that occurs by focusing on the characteristics of color, shape, and texture of coral reefs affected by the damage. The resort wear's clothing colors are inspired by coral reefs that have been exposed to coral reefs so they are brownish to white due to the loss of algae. The shape and texture of coral reefs are indicated by the technique of tie dyeing, ruffles and pleats also shown on imageboard.



**Figure 1.** Image Board of Unbeite  
Source: Personal Documentation, 2019

### 3.2. Target Market

The concept of lifestyle board is young adult to adult who has a busy daily life in a big city, but likes to socialize at the café in their spare time. Places visited have an interior with natural accents with prices of food and beverages range from medium and above. Independent women who are active, also prefer activities outside than inside a room but still pay attention to the fashion style.









**Figure 2.** Lifestyle Board of Unbeite  
Source: Personal Documentation, 2019

### 3.3. Techniques Exploration





The phenomenon of coral bleaching has a variety of characteristics, starting from the texture and shape of the affected coral reefs to white color gradations. Following are some of the initial explorations that have been carried out

**Table 1.** Pleats Technique Exploration

No	Eksplorasi	Description
1		Pleats on cotton fabric by using marbles
2		Pleats on polyester fabric with a fabric folding technique
3		Pleats on rayon fabric with a fabric folding technique
4		Pleats on rayon cloth by scrunching the cloth then tied it
5		Pleats of 1.5 cm folding on crepe using a machine
6		Pleats of 1 cm folding on crepe using a machine

Conclusion: Machine pleats can show the texture and shape characteristics of coral polyps.






**Table 2.** Ruffles Technique Exploration

No	Eksplorasi	Description
1		Layered ruffles technique by stacking three organza fabrics
2		Shaped fabric ruffles technique pulled in the middle on cotton fabric
3		Centre tuck gather ruffles technique on cotton fabric
4		Layered ruffles technique by stacking three single organza fabric on cotton fabric

5		Ruffles on scuba fabric designed for the edges of clothing
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Conclusion: The ruffles technique can show the character shape of coral reefs, especially the Montipora species. In addition, the ruffles technique also has the character of 'flowy' resort wear. the selected ruffles technique are number 2 and number 5.

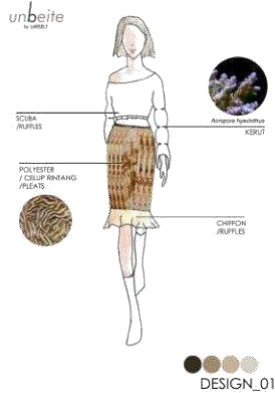
**Table 3.** Tie Dye Technique Exploration

No	Eksplorasi	Description
1		The results of the dyeing technique on cotton fabric
2		The results of the dyeing technique on chiffon fabric
3		The results of the dyeing technique on chiffon fabric
4		The results of the dyeing technique on crepe fabric
5		The results of the dyeing technique on scuba fabric

Conclusion: The color and pattern of the most optimal dyeing technique are on crepe, chiffon and scuba. However, scuba cloth will not be applied to the product because the material is not suitable to be used as a skirt or sleeve and will uncomfortable if worn in hot climates.

### 3.4. Sketches

Sketches are chosen based on the composition and the most representative techniques of shape, texture, and color of coral bleaching. Selected sketches have been shared through a survey to the target market for production.



**Figure 3.** Design 01

Source: Personal Documentation, 2019

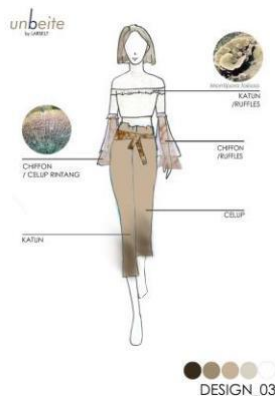
An outfit consisting of an off-shoulder crop top and a flounce skirt to the knee. The top section displays bubble sleeve and ruffles at the bottom. The skirt section applies tie dye technique which is then applied pleats technique with half-circle pattern on bottom. The material used are scuba fabric for tops and crepe for skirts.



**Figure 4.** Design 02

Source: Personal Documentation, 2019

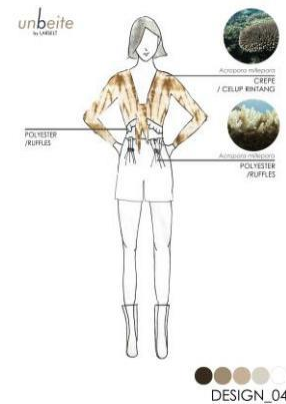
A jumpsuit with pleats, the sleeves apply tie dyeing techniques and the back side with ruffles technique. Cullote pants above the knee to produce the „flowy“ character from the resort wear clothing. The color used are brown to white, taken from the final color of coral bleaching.



**Figure 5.** Design 03

Source: Personal Documentation, 2019

An outfit consisting of off-shoulder crop top with ruffles on the top techniques and layering technique on the arm. Calf-length pants with the ruffles technique at the top and dyeing technique to show the gradation of coral bleaching. The top part uses cotton and chiffon fabric while the pants use cotton fabric.



**Figure 6.** Design 04

Source: Personal Documentation, 2019

A clothing consisting of crop top with tie dye technique and short with ruffles at the waist. The color applied adjusts to the color of coral bleaching.

### 3.5. Production Process

The first stage of the production process carried out is exploration by making initial sketches then follow-up to selected exploration. Furthermore, material selection is in accordance with the character of the resort wear and in accordance with the selected sketch. Then proceed with the production process such as making worksheets, technical drawing, patterns and then the sewing process. After the sewing and finishing process is completed, followed by merchandising concept design and business planning in accordance with the chosen theme.

### 3.6. Final Product

#### 3.6.1. Product Photos



**Figure 7.** Design 01 Photo

Source: Personal Documentation, 2019

Cost of goods sold of the Design 01 is Rp165.000 for the top and Rp245.500 for the skirt. The selling price with 100% profit margin for the top is Rp330.000 and Rp491.000 for the skirt.



**Figure 8.** Design 02 Photo  
Source: Personal Documentation, 2019

Cost of goods sold of the Design 02 is Rp320.000. Meanwhile the selling price with 100% profit margin is Rp640.000.



**Figure 9.** Design 03 Photo  
Source: Personal Documentation, 2019

Cost of goods sold of the Design 03 is Rp280.500 for the top and Rp248.000 for the trousers. The selling price with 100% profit margin for the top is Rp561.000 and Rp496.000 for the trousers.



**Figure 10.** Design 04 Photo  
Source: Personal Documentation, 2019

Cost of goods sold of the Design 04 is Rp175.500 for the top and Rp156.500 for the short. The selling price with 100% profit margin for the top is Rp351.000 and Rp313.000 for the bottom.

### 3.6.2. Merchandise

The design of merchandise will use the LARSELT brand name from the author's nickname, while the collection name will use the name of the theme, UNBEITE. These names will be used in packaging in the form of tote bags, boxes, hang tags, labels, and trivia cards. The selected color is light brown with several other color accents found on imageboard. Tote bags are chosen so that after becoming a packaging it can still be useful. The tote bag is made of white calico fabric measuring 28 x 15 cm which is dyed in brown coloring to produce gradations according to the concept of the product. Then for a brown square packaging box measuring 30 x 30 x 8 cm with the top there is the name of a collection and illustration of a coral reef. Whereas the label is made with dam-ask woven material in brown color. The trivia card contains information about coral bleaching as an effort to increase public awareness of the phenomenon.



**Figure 11.** Tote bag (top left), packaging box (top right), and label (bottom)

Source: Personal Documentation, 2019



**Figure 11.** Hang Tag and Trivia Card  
Source: Personal Documentation, 2019

## 4. Business Opportunities

### 4.1. Business Model Canvas

The business model canvas from the collection "UNBEITE" is as follow:

#### 1. Customer Segment

For the customer segments can be seen on the target market section (3.2).



## 2. Value Propositions

Unbeite offers resort wear clothing for women with inspiration from the coral bleaching phenomenon by applying dye techniques, pleats, and ruffles to show the character of coral bleaching.

## 3. Channels

### a. Marketing

- Online: Instagram, Facebook, Happy Go Lucky (HGL), Love and Flair, and Zalora
- Offline: Local bazaar event such as Trade-mark and LOOKFest! Bandung

### b. Distribution

- Local courier service: JNE, and J&T Express
- One Day Delivery: GO-Send and Grab Express

## 4. Customer Relationship

Establishing direct communication with customer and interacting on social media by utilizing the features provided by the platform.

## 5. Revenue Streams

Sales of resort wear clothing products with a price range of Rp313,000 to Rp.640,000. Product selling prices have a profit margin of 100%.

## 6. Key Resources

Key resources needed at the company include:

- a. Funding Resources from Investors
- b. Human Resources; Marketing, Production, Financial & Operations
- c. Company Assets; IT (computers, printers, etc.) & Internet Networks

## 7. Key Activities

Key activities carried out are job descriptions of key resources of the company: human resources.

## 8. Key Partners

- Working closely with communities that focus on caring for coral reefs, one of them is TERANGI.
- Vendors: fabric suppliers, sewing convection, material suppliers

## 9. Cost structure

Cost structure consists of investment from the founder, variable costs (the cost of production such as fabrics, materials and packaging) and fixed costs incurred by the company consisting of photoshoot, marketing needs, and operational costs.

## 5. Conclusion

The design of resort wear clothing that applies tie dyeing techniques, pleats and ruffles can show the characteristics of coral bleaching. The use of cotton, chiffon, scuba, and polyester materials with non-rigid and lightweight fabrics is chosen because it matches the characteristics of resort wear clothing and shows the color and the tie dye pattern with most optimal coral bleaching characteristics that applied to the product. The ruffles technique is able to show the shape of *Montipora danae* coral and pleats technique is capable of showing the characteristics of the polyps of the coral reef of the genus *Acropora*.

Futhermore, natural wealth has the potential to be an inspiration for fashion products, one of which is resort wear clothing, because when the fashion products is worn when on vacation, especially in coastal areas that will help increase public awareness of the condition of the Indonesian sea. In addition to products, designing merchandise in the form of tote bags, boxes, hang tags, labels, and trivia cards that fit the concept strengthens the intended awareness by providing information about coral bleaching as an effort to increase public awareness of the phenomenon.

The resort wear business planning inspired by coral bleaching is done by referring to the business model canvas so that it can reach the target market and have business opportunities in the Indonesian fashion industry.

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