









# Multidiscipline Hybrid Approach in Art and Design Education to Support the Sustainability of Cimahi Batik

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**Abstract:** Cimahi Batik is a new type of Batik that was developed in mid-2008 and introduced to the public on the 8<sup>th</sup> anniversary of the City of Cimahi. It consists of 5 different visual motifs that represent the identity and the geographical indication of the city. The existence of Cimahi Batik encourages the Batik industry by absorbing many skilled laborers in Cimahi and improving the regional income. The Covid-19 pandemic struck the economy down towards recession. Cimahi Batik industry is experiencing the downturn due to the decreasing buying power of the society. In order to support the sustainability of Cimahi Batik, experiments and application series of art and design projects were done in studios and followed by comprehensive analysis using the ATUMICS method. Various design projects such as implementing the visual style of Cimahi Batik in font design, still life and animation composition and also as façade elements of architecture are discussed on this paper as result of creative ideas and process during design education in studios. This experimental project is conducted to introduce the young generations to the richness of the culture and support the sustainability of Cimahi Batik as a cultural artifact as well.


## 1 INTRODUCTION


Cimahi batik consists of 5 different visual motifs produced through a competition event that involves designers. The motifs are *Cirendeu (bamboo tree)*, *Ciawitali*, *Curug Cimahi*, *Pusdik*, and *Kujang* that represent the identity and the geographical indication of the city. It was first introduced to the public on June 21<sup>st</sup>, 2009 on the 8<sup>th</sup> anniversary of the City of Cimahi. The existence of Cimahi batik brings opportunity to the local batik home industry in


Cimahi to grow. Cimahi is a satellite city of Bandung, the capital of West Java Province. Cimahi is not a city with a long batik tradition such as Pekalongan, Yogyakarta or Surakarta. However, within the last 2 decades, the city government of Cimahi strongly promotes the existence of Cimahi batik as cultural artifacts in Cimahi. Cimahi batik developed more likely due to the passion of some people to the tradition of batik, elaborated with the potential of local nature and culture in Cimahi, and creatively created new visual motifs of Batik to be produced as a local business.


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Currently, there are only 3 batik home industries (Lembur Batik Cimahi, Batik Sekar Putri, and Batik Anggraeni), which produce clothing products, which are categorized as Micro Small Medium Enterprises. They absorb a good number of skilled laborers in Cimahi and improve the regional income. As an area with no natural resources, the City Government of Cimahi relies its regional income on creative human resources, and Batik industry is one of those. Although one of them, which is Batik Sekar Putri has already able to sell their products into international market, prior research shows that the interest of the local community to buy batik material for other purposes beside as clothing material is still minimal.

Covid 19 pandemic outbreak in Indonesia that starts in March 2020 has a broad impact on all living aspects, including economic. Many industries have experienced a downturn due to declining purchasing power of the society, including the batik industry in Cimahi. In order to support the sustainability of Cimahi Batik, various efforts need to be done to maintain public awareness of the existence of Cimahi Batik. These efforts encourage economic activities in the midst of the pandemic, so that batik remains sustainable.

The term sustainability refers to a concept that was introduced at the beginning of the 18th century in German concerned about sustainable harvests. In 1987, Brundtland Report defined sustainable development as harmonious economic, social, and ecological development that enhances both current and future potential to meet human needs and aspirations.

James et al (2015) state that sustainability is the capacity to go through in a relatively continual way over several domains of life. In the 21st century context, it refers mostly to the capacity for Earth's biosphere and human civilization to co-exist. Sustainability is also defined as the way of people preserving change in a homeostasis-balanced environment that the exploitation of resources, the direction of investments, the orientation of technological development, and institutional shift are all in harmony and increase both current and future potential to meet human needs and aspirations.

The purpose of sustainability, based on the The National Environmental Policy Act of 1969 (NEPA) of United States of America, is to create and maintain conditions so that people and nature can be in productive harmony, enabling the fulfilment of the social, economic and other needs of current and future generations. A sustainable approach is based on a system that seeks an understanding of the interactions that exist among the environmental, social and

economic pillars in order to gain a better understanding of the consequences of human action.

Environmental sustainability means that ecological integrity must be maintained so that all of the earth's environmental systems are kept in equilibrium while humans at such rate consumed natural resources where they can replenish themselves. Economic sustainability is when human communities all over the earth can maintain their independence and have access to the resources that they require, financial and other, to meet their needs. Economic systems are undamaged and activities are available to everyone, such as secure sources of livelihood. Social sustainability means that universal human rights and primary necessities are accessible by all people, who have access to sufficient resources in order to take care their families and communities healthy and secure.

Next to these three pillars, Fritjof Capra states that things that need to be considered in the sub-domains of sustainable development are cultural, technological, and political.

Cultural sustainability in connection to sustainable development relates to maintaining cultural beliefs, cultural practices, heritage conservation, so that culture as an entity itself can exist in the future.

One of the dimensions of cultural sustainability that can be developed in education is the appreciation of one's own culture and heritage, cherishing and maintaining them. This doesn't need to mean becoming stuck in the past, but learning from it: adapting one's heritage to modern life. In this dimension, students are involved in preserving and transmitting cultural heritage and tradition, and adapting and transforming cultural heritage.

One of the story lines developed by Soini and Birkeland on scientific discourse on cultural sustainability relates to how cultural services, events and heritage are in accordance with the changing needs of their users and how cultural heritage is made accessible in a sustainable way

Payne and O'Neil cite Cortese who emphasizes the task of higher education in creating a more sustainable future that integrates ways to preserve and restore cultural diversity that is essential for a sustainable future. Communities will benefit from partnerships with higher education institutions.

Ideally, researches on sustainable solutions are to protect the environment as well as strengthen communities and bring prosperity.

In the context of the existence of Cimahi Batik, the social challenges caused by the Covid 19 pandemic need to be responded appropriately to

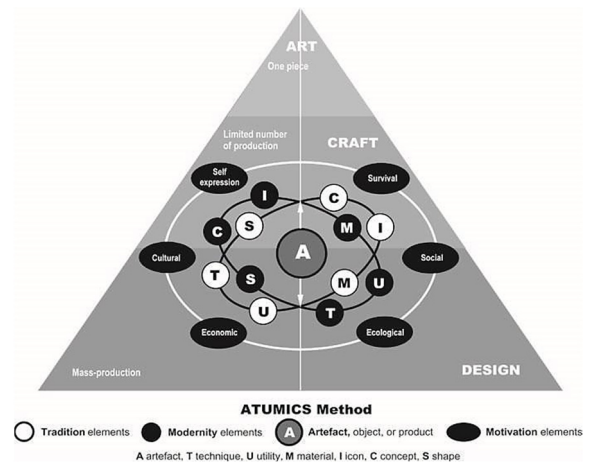
ensure its sustainability. Cultural sustainability in connection to sustainable development relates to maintaining cultural beliefs, cultural practices, heritage conservation, so that culture as an entity itself can exist in the future. The idea of sustainable development is to preserve cultural heritages by elaborating it with to cultural and creative industries. It is obvious that culture is the driving force of the economic, social and environmental dimensions of sustainable development. One of the efforts that can be done is to expand the application of Cimahi Batik into several other arrays of design products - besides textiles - such as architecture, graphic design, etc. as an education for sustainable development.

Education for Sustainable Development (ESD) is an effort to encourage people to be constructive and creative in facing global challenges and creating resilient and sustainable societies. Education for sustainable development enables every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. Education for sustainable development incorporates key issues of sustainable development into teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. It aims to empower and equip current and future generations to meet their needs by using a balanced and integrated approach to the economic, social and cultural dimensions of sustainable development.

Learning must prepare students to find solutions for the challenges of today and future, so that education should be transformative and allow the students to make informed decisions and take individual and collective action to change our societies.

The purpose of this paper is to comprehensively describe the experiment done in studios in applying Cimahi Batik as elements of design and analysed it using the ATUMICS method, which is developed by Adi Nugraha. The term ATUMICS is derived from the acronym Artefact - Technique - Utility - Material - Icon - Concept - Shape. Through this conception, the word "artefact" (A) refers to an object or product, which is the center of this study. The remainder of the 6 words: technique (T), utility (U), material (M), icon (I), concept (C), and shape (S) reflect the six fundamental elements of an artifact. (see Fig. 1)

The main principle of the ATUMICS method is about arrangement, combination, integration or elaboration of fundamental elements of tradition and modernity. In practical level, ATUMICS method is a tool to search for possibilities in creating new objects that inspired from tradition, by rearranging the



(Source: Adi Nugraha, 2012)

Figure 1: ATUMICS Method.

tradition and integrating the 6 elements of tradition and modernity.

## 2 METHODS OF EXPERIMENTS

This experiment involved design students from different disciplines in studios. Students are given a design project that must apply at least one of the Cimahi batik motifs as a design element. During the process, students must do some research regarding the basic idea of those batik motifs and explore possibilities of implementation into their design. Using the ATUMICS method, students are encouraged to elaborate hybrid approaches to produce new designs under supervision of the lecturers.

As mentioned earlier, the idea of ATUMICS method is to elaborate elements of tradition and modernity. This means that an object can be viewed from two levels of existence: the micro level and the macro level. Micro level refers to the technical properties and the performance of objects. This level search for the ideal arrangement of 6 fundamental elements: *technique, utility, material, icon, concept, and shape*. Macro level refers to a broader aspect that includes cultural motives, social aspects, ecological aspects, economical aspects, survival issues and self-expression in creating new products. In ATUMICS concepts, every product must integrate these 2 levels of existence: the micro and macro level.

Steps that need to be done in ATUMICS methods are:

1. Elaborating tradition and modernity. Starting with identifying the potential elements of local tradition that are significant to be developed. It

might be local material, production technique, particular function, ornaments or certain narrative and symbols of the products.

2. Identifying new elements of the actual condition that has the potential to be elaborate with the particular feature of the tradition. In this phase, designers start to search the possibilities of elaborating elements of tradition with contemporary technology, material and needs.
3. Merging tradition and modernity. While the traditional elements and modernity are integrated, they will produce new elements with a new structure and reflect itself as a new object; a combination of the old and new; the traditional and the modern.
4. Determining the quantity and production types.

A certain checklist is used as a tool to help conceptualize ideas from traditional transformation. (see Table 1).

Table 1: ATUMICS Checklist.

Artefact/object/product:				
Mixing Ideas				
Elements	Traditional	Modern		
Technique				
Utility	-	-		
Material	-			
Icon	-	-		
Concept				
Shape				
Motivation				
Aspect	Description	Level		
Survival		1	2	3
Creative self - expression		1	2	3
Culture		1	2	3
Social		1	2	3
Ecology		1	2	3
Economy		1	2	3
Note: Priority Level: (1) First Priority, (2) Second Priority, (3) Third Priority				
Production Aspect				
Produced by		Number of Production per year		
Local Resident	-	-		
Art/Craft Studio	-	-		
Craft Community	-	-		
Brief description of the overall idea				

### 3 RESULTS AND DISCUSSION

Following are the description of the studio projects, the ATUMICS analysis of the projects and some works of the students as the result of the experiment.

#### 3.1 Batik in Still Life Projects

This project aims to introduce students to the distinctive Cimahi regional batik motifs, by applying it as a complementary element to still life images and self-figures. Batik motifs can appear as the foreground, side background, background, and part of the relief of still life objects.

This project was carried out in 4 meetings (2 weeks) for each topic. There are three topics: Geometric Still Life, Biomorphical Still Life, Work Equipment and one topic of Self-Figure, with pencils on paper medias on the following process:

1. First meeting: doing a rough sketch of several compositions of objects with different points of view. Drawing techniques by paying attention to the principles of good composition: balance, proportion, shape, rhythm, focal points. For the student figure object, take a self-portrait first and start doing a sketch following the photo.
2. Second meeting: choose a composition with the best point of view and try to apply shading that gives a contrasting 3-dimensional impression. At this stage, it is necessary to have sensitivity to the dimensional value of each object due to the influence of light, shadow, and shading characters. For Self-Figure project, students draw following the photo object by free hand drawing by paying attention to the visual accuracy of positive space and negative space.
3. Third meeting: students apply dark and light shading of the whole object/ figure and apply the Cimahi batik motifs to the foreground/ side ground /background/ relief which corresponds to the reality of the composition.
4. Fourth week: students finish the overall shading of the composition by applying the Cimahi batik motif according to the topic and self-model chosen by each.

Table 2: ATUMICS in Drawing Still Life.

Artefact/object/produk: Drawing Still Life Geometric, Biomorphic, Work Kit, Figure				
MIXING IDEAS				
Elements	Traditional	Modern		
Technique	Hand made batik 'canting', manual dyes	Free hands drawing		
Utility	Cimahi batik motif on textile	Cimahi batik motif on drawing composition		
Material	Textile, wax, textile color	Pencil, paper		
Icon	Symbols and meanings of the Cimahi batik motif	Imitation symbols and meanings of the Cimahi batik motif		
Concept	The embodiment of the life philosophy and expressions of the Cimahi people in local aesthetic expressions.	Supporting the embodiment of the life philosophy and expressions of the Cimahi people in local aesthetic expressions.		
Shape	Shape, character, and system of batik motifs on textile	Shape, character, and system of batik motif on drawing sketch		
MOTIVATION				
Aspect	Description	Level		
Survival	Sustainability of Cimahi Batik in the Basic Art and Design Education	1	2	3
Survival	Sustainability of Cimahi Batik in the Basic Art and Design Education	1	2	3
Creative self - expression	Students creativity expression in drawing using Cimahi Batik motifs without losing its values and identity	1	2	3
Culture	Recognizing and re-cultivating the youth's love for batik as a Humanitarian Heritage for Oral and Non-Object Culture-Unesco. Recognized as a wealth of exclusive Indonesian cultural traditions, not owned by other nations.	1	2	3
Social	The activity of presenting batik motifs	1	2	3

	in assignments will broaden horizons and build students and lecturers' pride in the diversity of batik cultures that we share. Indirectly, it also becomes a means of promotion that has a broad impact, both for the academic community and the wider community through the resulting output publications: research, journals, exhibitions, artish talk, etc.			
Ecology	There is no waste	1	2	3
Economy	The new awareness about batik will foster a love and pride to wear batik at every opportunity. This will foster a balance of production-promotion-consumption cycles that revitalize the regional economy and tourism	1	2	3
Notes: Priority Level: (1) First Priority, (2) Second Priority, (3) Third Priority				
PRODUCTION ASPECT				
Produced by		Number of Production per year		
Local Resident	-	-		
Art/Craft Studio	Diploma Art and Design's Students	120 drawing sketches every year (15 students - 4 topics- 2 semester)		
Craft Community				
Brief description of the overall idea				
Including the Cimahi batik decoration in the material for the Basic Drawing Court assignment is a good starting point. In the future, students will get to know the diversity of traditional batik decorations in each region, both in the form and the philosophical meaning contained therein. Students have a strong foundation of their own culture, have enough insight to be explored and applied in various forms of other subject assignments in each Art and Design study program. The habit of applying this rich variety of Indonesian batik decorations will build a creative, explorative young generation in reviving and promoting the uniqueness of the local culture.				



The following is a sample of the drawing sketches that have been made Fashion Design Student.



PROJECT STILL LIFE BIOMORPHIC	
Student's drawing	Description
	Doc: Priscilla Meylia Media: Pencil on Paper Size: A3 Motif: Sekar Daun Sampeu Galing Shape: Batik pattern as side ground and relief outer wall of the earthenware
Note: earthenware means <i>gerabah</i>	
	Doc: Lexa Justine Media: Pencil on Paper Size: A3 Motif: Sekar Daun Awi Shape: Batik pattern as side ground and relief outer wall of the earthenware

Figure 2: Drawings of earthenware using Batik as background and reliefs.

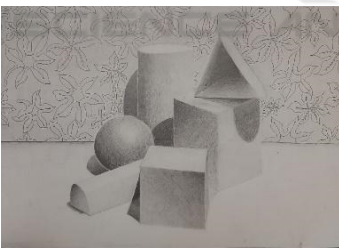

PROJECT STILL LIFE GEOMETRIC	
	Doc: Cathleen Levina Media: Pencil on Paper Size: A3 Motif: Sekar Daun Sampeu Galing Shape: Batik Motif as Background wall fabric
	Doc: Fransisca Evelyn Media: Pencil on Paper Size: A3 Motif: Sekar Daun Awi Shape: Batik Motif as Background wall fabric

Figure 3: Drawings of geometric objects using batik as background.



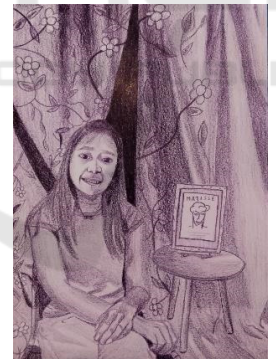

PROJECT SELF FIGURE	
Drawing Figure	Description
	Doc: Natasha Tesselonika Media: Pencil Colour on Paper Size: A3 Pattern: Sekar Kujang Matahari Mekar Shape: Batik motif as Background
	Doc: Agnes Vania Media: Pencil Colour on Paper Size: A3 Pattern: Sekar Daun Sampeu Galing Shape: Batik motif as Background
	Doc: Lexa Justine Media: Pencil Colour on Paper Size: A3 Pattern: Sekar Melati Ligar Shape: Batik motif as Background
	Doc: Reva Janet Media: Pencil Colour on Paper Size: A3 Pattern: Sekar Melati Ligar Shape: Batik motif as Background

Figure 4: Drawings of self-figure using Batik as background.

### 3.2 Batik in Font Design Projects

This project aims to enable students to transform tradition into modern font designs. Cimahi Batik has motifs that come from the traditional visual culture of the Cimahi people, which is influenced by geographical indications.

This project was carried out in 4 meetings (1 month) with the following process:

1. First week: conduct research on Cimahi batik motifs, and information about the name of the motif and its meaning, study the visual style character of the selected Cimahi batik motif, whether it is organic, stiff, bold, skinny and so on.
2. Second week: look for existing fonts whose characters match the batik motif so that they can be harmoniously combined. Start sketching font modifications according to the selected Cimahi batik motif.
3. Third week: finishing sketches manually and digitally.
4. Fourth week: insert a font design into the Glyph app and name it accordingly.

Table 3: ATUMICS Cimahi Batik motifs in Font Design.

Artefact/object/product: CIMAHI BATIK MOTIFS (Ciawitali and Pusdik) in Font Design		
MIXING IDEAS		
Elements	Traditional	Modern
Technique	Canting, wax, natural dyes	Digital media
Utility	Cimahi Batik as clothing material	Fonts for communication and information media
Material	Cloth	Computer graphics applications
Icon	Symbols and meanings of the Cimahi batik motif and visual variations	Symbols and meanings of the Cimahi batik motif and visual variations on the font
Concept	The embodiment of the life philosophy and expressions of the Cimahi people in local aesthetic expressions.	The embodiment of the life philosophy and expressions of the Cimahi people in local aesthetic expressions.
Shape	The shape, anatomy, and system of batik motifs	Typeface, basic shapes, anatomy, grid and font system.
MOTIVATION		
Aspects	Description	Level
Survival	Sustainability of Cimahi Batik in the visual	1 2 3

	communication design industry.	1	2	3
Creative self-expression	Students creativity exploration in designing font using Cimahi Batik motifs without losing its values and identity of the Batik	1	2	3
Culture	Reintroducing the philosophy, values and characteristics of Cimahi Batik to the public in a modern font.	1	2	3
Social	Empowerment of the Cimahi batik producer community and its collaboration with visual communication designers to mutually contribute to the preservation and sustainability of Cimahi Batik.	1	2	3
Ecology	No waste	1	2	3
Economy	The use of the Cimahi Batik font can add value and the selling value of Cimahi Batik. Fonts can be sold to the Cimahi Regional Government as an exclusive font.	1	2	3
Notes: Priority Level: (1) First Priority, (2) Second Priority, (3) Third Priority				
PRODUCTION ASPECT				
Produced by			Number of Production per year	
Local Resident	-	-	-	-
Art/Craft Studio	Students of Visual Communication Design	2 font design every year	-	-
Craft Community	-	-	-	-
Brief description of the overall idea				
The fonts of Cimahi batik use the Ciawi Tali and Pusdik motifs, which aim to strengthen Cimahi's identity as a batik-producing area that has a clear geographical indication. The idea is to remind the public of the existence of Cimahi batik which is almost extinct due to the Covid-19 pandemic. This transforming tradition project is the result of the collaboration of young batik makers and designers (DKV students of Maranatha Christian University). This product offers students the opportunity to earn income from selling fonts, and becomes a medium to increase public awareness of the sustainability of Cimahi batik.				

The approach of the Visual Communication Design discipline to support the existence of Cimahi Batik is to increase public awareness through the design of the Cimahi batik motif font. This font can be used exclusively by the Cimahi City Government as a regional identity that has a quality batik industry.

The following is the sample of the fonts that have been made by students of Department of Visual Communication Design Universitas Kristen Maranatha: Valentino Adriel and Beverly Clara.

The Ciawitali font was designed by Valentino and has been made in the form of a Glyph application so that it can be used directly on computer graphics. Valentino chose a sans serif typeface that was slender and elegant so that it was suitable to be combined with the shape of the bamboo leaves which came from the Cimahi batik motif called Ciawitali. (See Figure 4).

Beverly chooses a bold sans serif typeface so that it is suitable to be transformed into a Pusdik motif that comes from the form of a weapon. (See Figure 5).



Figure 5: Ciawitali Font by Valentino Adriel.

### 3.3 Batik in 3D Still Life Projects

The 3D Design course has two types of learning categories, including Hard Surface Modelling and Organic Modelling. The method of learning 3D design through the Hard Surface Modelling category focuses mainly on the creation of inanimate objects. The theme used in the lesson was making Still Life 3D compositions about Cimahi Batik. The application of the Cimahi Batik theme in learning 3D design based on Hard Surface Modelling in 3D courses is carried out quite briefly, namely for four meetings, where each meeting consists of modelling objects, giving materials and textures to objects,

lighting settings, cameras, and rendering images. The result comes in the form of a short-animated video.



Figure 6: Pusdik Font by Beverly Clara.

The goal to be achieved from this lesson is that students can operate the Blender software using simple basic functions in a relatively short time with the ultimate goal of producing 3D design animation work. The theme of Still Life 3D also aims to cultivate student sensitivity regarding the scale, proportion, and comparison of the position of each object compared to the plane of the camera frame while introducing Cimahi Batik to students.

The following will explain the results of learning 3D design based on Hard Surface Modelling by applying the Still Life Cimahi Batik theme from several students, including Sherley (1864016) using Cimahi Batik “*Sekar Awi Alit*” like the texture of the batik cloth, meanwhile, Viona Forister (1764012) uses the motif Cimahi Batik “Pusdik” and Chandra Octavianus Wijaya (1864007) using the Kujang Cakra Batik motif in their works.



Table 4: ATUMICS 3D Still Life of Cimahi Batik.

Artefact/object/product: 3D Still Life Cimahi Batik				
MIXING IDEAS				
Elements	Traditional	Modern		
Technique	Can use photography techniques, each object is composed in such a way and then the lighting settings are made and photographed	Using modelling techniques with the help of 3D software, starting from the modelling stage, giving materials and textures, lighting settings, and rendering. In general, it uses the same techniques like photography, except that all steps are done digitally		
Utility	-	-		
Material	-	Digital material, obtained from scanning / photographing the original batik texture and then used as a texture on 3D digital objects		
Icon	-	-		
Concept	-	A still life composition when a piece of batik is done manually (hand-written batik), complete with every piece of equipment		
Shape	-	The shapes of objects that are made digitally 3D are made as closely as possible to the original object		
MOTIVATION				
Aspects	Description	Level		
Survival	The sustainability and existence of Cimahi Batik, in particular, will be developed.	1	2	3
Creative self-expression	Digital creators can further explore the ideas and creativity that can be generated through the use of tools in the form of 3D processing	1	2	3

	software for the work. Can produce various design alternatives more quickly and efficiently by knowing the features of the software.			
Culture	Introducing to the younger generation the variety of batik found in Indonesia, especially Cimahi Batik.	1	2	3
Social	Product results can be sent to different communities of 3D / animation artists for feedback, as well as for networking and employment opportunities.	1	2	3
Ecology	Digital artwork products are very friendly to the environment, do not produce waste or waste that threatens the sustainability of the ecosystem.	1	2	3
Economy	Digital work products can be applied as part of marketing/ advertising media, for example, combining videography and animation in an advertisement for selling batik products.	1	2	3
Notes: Priority Level: (1) First Priority, (2) Second Priority, (3) Third Priority				
PRODUCTION ASPECT				
Produced by		Number of Production per year		
Local Resident	-	-		
Art/Craft Studio	-	-		
Craft Community	-	-		
Brief description of the overall idea				
The process of creating a natural composition of 3D Cimahi Batik objects was inspired by a photo of a scene of a grandmother working on batik making. The still life creation aims to reproduce the scene in 3D as closely as possible to the original conditions in terms of form, material, texture, lighting, and rendering quality.				



Figure 7: 3D still life by Sherley.



Figure 8: 3D still life by Viona Forister.

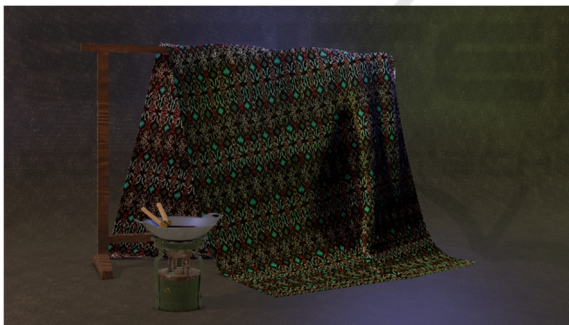


Figure 9: 3D still life by Chandra Octavianus Wijaya.

Overall, students are quite capable of operating the Blender software, this can be seen from the shape of the 3D objects produced, the application of various materials and textures that are suitable, the quality of lighting is good, and the composition of Still Life that suits the learning materials.

### 3.4 Batik in Fashion Projects

The ready to wear deluxe project aims to encourage students to create womenswear fashion products, applying Cimahi Batik as the main elements in order to build students awareness in preserving the local cultural heritage. Students were divided into groups consisting of 3 students, and they needed to do the project for 4-week studio sessions with these agenda:

1. First week: theoretical background, explanation about Cimahi Batik and followed by creating conceptual narration, mood board and image study on Cimahi Batik.
2. Second week: designing collection starts with fabric selection and manipulation.
3. Third week: Final design supervision
4. Fourth week: Visualization and Portfolios preparation.

The following is the sample of the works of one group of fashion design students of Universitas Kristen Maranatha that consist of 3 person that is:

1. Omar Mohammad - 1961901
2. Verrel Widura - 1961012
3. Kirana Kartawidjaja - 1961018



Figure 10: Ready-to-wear deluxe woman wear by students.

Table 5: ATUMICS of ready to wear deluxe fashion

Artefact/object/product: ready-to-wear deluxe fashion with the inspiration of Kujang motif of Cimahi Batik				
MIXING IDEAS				
Elements	Traditional	Modern		
Technique	Handmade Batik & natural colouring	Fabric Manipulation -Structure: pattern drafting -Surface: top stitch, patchwork, embellishment, embroidery		
Utility	textile	ready-to-wear deluxe fashion		
Material	cotton	Linen fabric, cotton, silk, polyester		
Icon	Rereng Kujang & Kujang Cakra motifs	Silhouette & motifs of Kujang Batik		
Concept	Presenting the identity of Cimahi by creating Batik with the motif of Kujang (a traditional weapon in the West Java Region)	Revitalization of Cimahi Batik in certain steps: <ul style="list-style-type: none"> <li>Using Cimahi Batik especially in Kujang motif in ready-to-wear deluxe fashion</li> <li>Adapting the form of Kujang into siluets and the structure of the fashion.</li> </ul>		
Shape	Textile	Ready-to-wear deluxe fashion(womenswear)		
MOTIVATION				
Aspects	Description	Level		
Survival	Sustainability of Cimahi Batik in the fashion industry.	1	2	3
Creative self-expression	Students' creativity exploration in designing ready-to-wear deluxe fashion using Cimahi Batik elaborating with implementation of Kujang motif as the structure of the fashion without losing its values and identity of the Batik	1	2	3
Culture	Reintroducing the philosophy, values and characteristics of Cimahi Batik to	1	2	3

	the public in a modern outfit.			
Social	Empowerment of the Cimahi Batik producer community and its collaboration with fashion designers preserve and maintain the sustainability of Cimahi Batik	1	2	3
Ecology	The textile waste can be processed and reused into complementary accessories for clothing.	1	2	3
Economy	The use of Cimahi Batik and the adaptation of the motif implemented as silhouette and structure of the ready-to-wear deluxe fashion can increase the proposition values of the product and direct selling.	1	2	3
Notes: Priority Level: (1) First Priority, (2) Second Priority, (3) Third Priority				
PRODUCTION ASPECT				
Produced by		Number of Production per year		
Local Resident	Small Cimahi Batik artist (home industries)	Small amount of production (1-50pcs)		
Art/ Craft Studio	Students and Fashion designers, medium enterprise	Medium amount of production (50-100pcs)		
Craft Community	Large enterprise/ fashion factory/ industries	Mass production (>100 pcs)		
Brief description of the overall idea				
The revitalization of Cimahi Batik by combining the Batik with other materials into a modern ready-to-wear deluxe clothing collection that is expected to add value and expand the market of the Cimahi Batik. Not only using the original Cimahi Batik clothes, but this fashion collection also adapts the Kujang motif into the structure and surface of the clothing. The textile designs used are pattern drafting, top stitch, patchwork, embellishment, emboiderry. It is hoped that the combination of traditional and modern elements can support the preservation and sustainability of Cimahi Batik, especially in the fashion industry.				

### 3.5 Batik in Jewellery Design Projects

The jewellery design course aims to encourage students to develop traditional jewellery with new material and finishes, applying Cimahi Batik motifs as the shape inspiration in order to build students' awareness in preserving the local cultural heritage. Students are working independently on creating a necklace with pendants. The material used for the pendants will be cow bone that has been boiled for 4 hours. The pendant must be cut, carved, filed, smoothed with sandpaper, and finished by a transparent topcoat paint. They needed to do the project for 4-week studio sessions with these agenda:

1. First week: theoretical background, explanation about Cimahi Batik and followed by creating conceptual narration, mood board and image study on Cimahi Batik.
2. Second week: working on cow bone: shaping and carving, working on brass: shaping and forming.
3. Third week: colouring and eco-friendly finishing.
4. Fourth week: colouring, finishing, leather necklace and accessories application, combining the final product. Production activity in collaboration with local craft communities

Table 6: ATUMICS of Necklace with Batik Motif Pendant

Artefact/object/product: Necklace with Batik motif pendant		
<b>MIXING IDEAS</b>		
Elements	Traditional	Modern
Technique	Brass/ Copper which already being shaped and polished.	Brass which is already being formed is given a layer of Crystal Coat finishes
Utility		
Material	Brass	Combination of Cow bone and brass, leather rope
Icon	Cimahi	Cimahi
Concept		
Shape	Jewelry in the form of a necklace	Jewelry in the form of a bone necklace
<b>MOTIVATION</b>		
Aspects	Description	Level
Survival	Sustainability of Cimahi Batik in the Fashion Industry	1 2 3

Creative self-expression	Produce various pendant design in new materials with Cimahi Batik motif	1	2	3
Culture	Reintroducing the value and use of brass to the younger generation. And the possibilities of combining with other materials (cow bone) to preserve cultural icons	1	2	3
Social	Production activities will involve several craft communities and other local groups, such as marketing agencies. This process will build local social networks that benefit the entire community.	1	2	3
Ecology	environment friendly, does not produce waste or waste that threatens the sustainability of the ecosystem.	1	2	3
Economy	With a new design, new products can be more valuable to increase the income of the craft community	1	2	3

Notes: Priority Level: (1) First Priority , (2) Second Priority, (3) Third Priority

<b>PRODUCTION ASPECT</b>		
Produced by		Number of Production per year
Local Resident	Small to medium size company	Small (1-50 pcs)
Art/Craft Studio	Art and craft industry	Medium (200-1000 pcs)
Craft Community	Industrial Factory	Large (more than 1000 pcs)

**Brief description of the overall idea**  
 The necklace design with Indonesian ornament is similar to the traditional necklace but is given a new contemporary design according to its functions as a woman's accessory. The new idea is created to fit the present taste. It is produced by the craft community who are familiar with copper and cow bone material. The new design of this product offers an opportunity to increase the income of the local craft community that join the collaboration.

The following are the cow bone pendant in Batik motif shapes with necklace done by the students.



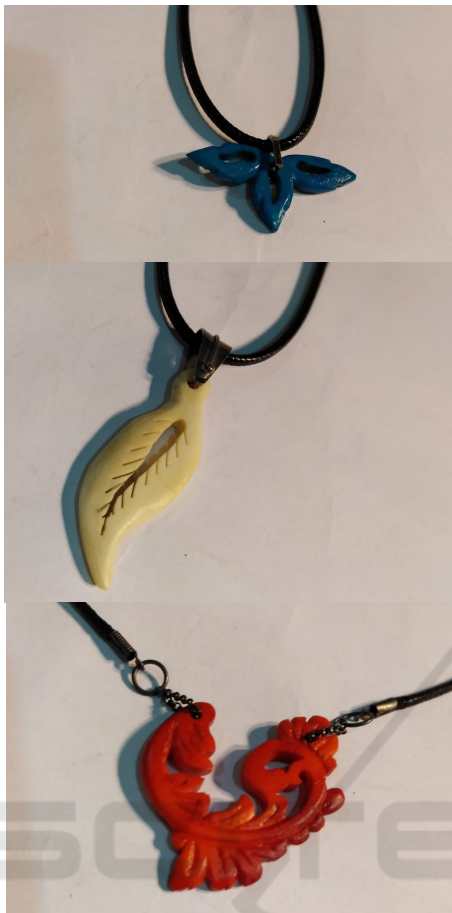


Figure 11: Necklaces with Batik motifs pendants by students.

### 3.6 Batik in Architecture Projects

Architecture students are required to design a 350 square meters house in a residential area whose owner

Table 7: ATUMICS of a House Design.

Artefact/object/product: 350sqm House and Cimahi Batik Showroom		
MIXING IDEAS		
Elements	Traditional	Modern
Technique	Canting, wax, natural dyes	Motif carving on plate
Utility	Cimahi Batik as clothing material	Cimahi Batik motifs as secondary skin in house design that function as decorative elements and sun shade

Material	Cloth	metal		
Icon	Symbols and meanings of the Cimahi batik motif and visual variations	Decorative elements of a building façade		
Concept	The embodiment of the life philosophy and expressions of the Cimahi people in local aesthetic expressions.	Identity expression of the owner		
Shape	The shape, anatomy, and pattern of batik motifs	Enlarge shape, anatomy, and pattern of batik motifs		
MOTIVATION				
Aspect	Description	Level		
Survival	Sustainability of Cimahi Batik as the visual decorative elements of a building façade.	1	2	3
Creative self-expression	Students' creativity exploration in designing building façade using Cimahi Batik motifs without losing its values and identity of the Batik	1	2	3
Culture	Reintroducing the philosophy, values and characteristics of Cimahi Batik to the public as a decorative element.	1	2	3
Social	Empowerment of the Cimahi batik producer community to mutually contribute to the preservation and sustainability of Cimahi Batik.	1	2	3
Ecology	No waste	1	2	3
Economy	The use of the Cimahi Batik as a decorative element can be expanded into other space decoration elements	1	2	3
Note : Priority Level: (1) First Priority, (2) Second Priority, (3) Third Priority				
PRODUCTION ASPECT				
Produced by		Number of Production per year		
Local Resident	-	-		
Art/Craft Studio	-	-		
Craft Community	-	-		
Brief description of the overall idea				
A house must represent the identity of the owner. The use of Cimahi Batik motif as building elements must appear clearly to public. The most suitable elements is wall elements of a house that become the façade which is the skin of a building. The idea is to create a secondary skin of the building using metal sheet as a decorative element and also function as a sunshade for the inner space.				

is a Cimahi Batik entrepreneur. The house needs to accommodate a small Batik showroom open to the public and express the passion of the owner towards Cimahi Batik. The project needs to be done within 15 sessions of studios from site survey, identifying design briefs, space programming, building mass study, site planning, structural and construction design, design development and visualization.

The following is one of the work of Department of Architecture Universitas Kristen Maranatha student. The student designed a modern box house with configuration of monochrome boxes as the façade. One of the façade elements is a secondary skin decorative element with a Cimahi Batik motif that becomes decorative holes on the metal surface. The secondary skin decoration does not only promote Cimahi Batik and express the identity values of the owner, but also function as a sun shade to the glass behind it towards a 2 storey void living space.



Figure 12: Box House Design by Dave Vian.

## 4 CONCLUSIONS

Academicians are supporting the sustainability of Cimahi Batik through students' assignments which in

turn support the home industry by sharing an array of new design or in the long term to develop new products based on Cimahi Batik design. The aim is to expand the income potential of Cimahi Batik based art and craft industry.

In the field of crafts, especially in local communities, design is always an issue. Craft design in Indonesia is considered left behind. Therefore, collaboration with academicians and students in the field of design is essential. The ATUMICS method is very helpful in giving a structure to adapt traditional forms into new presentation that is more appealing to the modern market, especially the young potential customer, as it is also designed by students of the same generation. The next step is to train the local community in understanding and know how to practically use the ATUMICS method.

Therefore the application of Cimahi Batik needs to be broadened into other areas to distribute the possibilities of batik business in other fields.

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