



## Crafting Futures

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**MAPPING OF  
NEW MATERIALS  
DEVELOPMENT AND  
REPURPOSING OF  
EXISTING MATERIALS**



BY  
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# Executive Summary



Wall hanging made from patchwork.  
Source: Facebook Threadapeutic

As part of the global British Council Crafting Futures Program, this research aims to support growth and innovation throughout the handicraft industry. In Indonesia, the program begins by Mapping Development of New Materials and Repurposing Existing Materials of the local Craft Sector.

The Research and development of new materials for crafts have been carried out by a number of Art and Design academics. Unfortunately their findings have not been applied outside of the academic sphere. The potential for its application in business practices takes an entrepreneurial spirit to transform an idea into a plan of action. The research and development that has successfully been explored as creative enterprises have resulted in the creation of new materials for crafting

The innovations of materials and techniques in crafts depends on the awareness and understanding of the public for its progression. Through this knowledge and awareness, they are then able to better appreciate the level creativity/craftsmanship involved in producing crafts.

## Methodology

This research was conducted in 4 regions: DKI Jakarta, West Java, East Java and Bali. The mapping used a mixed methodology approach combining qualitative and quantitative approaches. The qualitative data collection approach focused on in-depth interview and focus group discussions using the following aspect guidelines:

### Business owners:

- Business establishment and product conceptualisation
- Raw materials
- Production process and craftsmanship
- Business management and development
- Marketing strategies
- Quality control
- Perceptions, issues and sustainability

### Institutions or communities:

- Role of the institution or community
- Contribution to the development of the craft industry
- Stages and obstacles in programme and activity implementation
- Activities or programs related to sustainability

## Findings:

### Recycled/Upcycled Materials

Rising concerns for the environment have inspired artisans to reuse materials either through recyclability or upcycling. Many crafters and business owners have created awareness building community networks that share knowledge on environmental issues, and the ways of incorporating recycling/upcycling into craft production. According to the research findings, the materials used in crafts are predominantly plastic (bottles, bottle caps, plastic bags), old newspapers, patchwork, scrap metal (keys, padlocks, small metal plates), used glass bottles, sludge waste, eggshell waste, and leftover wood from furniture production. All of these materials are processed in different ways, most of which are done through the unique expertise of each crafter during the production process.



Crafter making rope from pelepah (banana leaf sheaths) for Debog products. Source: BKF/Ariyasa

## Findings: **New Materials**

Our research discovered that existing experimentation on new materials are derived from organic resources. These materials include alternative leather made from chicken skin, leather sheets made from mushrooms and the use of banana and areca nut leaf sheaths. These innovations in raw materials have expanded the different derivations of product development in craft. Not all of those who are developing new materials are crafters. For instance Mycotech, the enterprise experimenting with mushroom-based leather, only focuses on the development of raw materials. While the suppliers of areca nut leaf sheaths produce food containers manufactured by machines. However, creative enterprises such as Hirka (chicken feet leather) and Debog (banana leaf sheath) utilizes research and development to further innovate their products.

“Innovative organic materials such as leather texture sheets made from mushrooms, sheets from chicken feet skin, fibers from banana and areca nut leaf sheaths have emerged as new materials for craft products.”

## Findings: Sustainable Materials

From our in-depth interviews with craftsmen and academics, there are two key factors in determining sustainability in craft products; sustainability with respect to the sourcing of raw materials and sustainability in the production process. Crafters need to be aware of whether their raw materials are easily replenished. A lack of regard for this concept can result in over exploitation of the environment. In relation to the production process, a sustainable system must include ethical principles and practices.

Those with experience in manufacturing bamboo based crafts highlight the sustainable advantages it provides. For instance, conserving bamboo is easier in comparison to other raw materials because of its natural abundance. Crafts made from bamboo are also durable and long lasting. Moreover, bamboo products are known to be eco-friendly and biodegradable, so long as they are not chemically processed or contain any synthetic finishing.



Bamboo chair made by a crafter in Selaawi,  
Garut made using Coiling technique.  
Source: BKF

# Development Of Crafts in The Four Provinces

The substantial growth of Indonesia’s craft sector can be traced back to the last 4 decades. Within this duration, activities to improve the engineering and design aspects were carried out by the central government and its regional governing bodies. For the past three decades, academic research, private sector participation as well as increased aid from non-profit institutions have contributed to the advancement of Indonesia’s crafters. Additionally, the government have implemented programs to help small businesses grow and thrive. This includes training courses in entrepreneurship, and capacity building. Government support is increasingly visible after the existence of law No. 24 2019 pertaining to the Creative Economy, in which craft is one of the 16 creative industry sub-sectors.

Jakarta	West Java
<ul style="list-style-type: none"> <li>● Craft expertise and background:                             <ol style="list-style-type: none"> <li>1) Art and Design Education crafters, and</li> <li>2) Self-taught crafters</li> </ol> </li>   <li>● Activation in the form of festival activities, workshops from the Creative Economy sector</li>   <li>● Continuous involvement of local governments, academics and communities in craft development activities</li>   <li>● Based on Jakarta’s main environmental issue of the quantity of organic and inorganic waste, craft product development have mainly focused on the reusing (recycle and upcycle) of materials</li> </ul>	<ul style="list-style-type: none"> <li>● Craft background and expertise:                             <ol style="list-style-type: none"> <li>1) Art and Design Education Crafters,</li> <li>2) Inherited craftsmanship,</li> <li>3) Self-taught crafters</li> </ol> </li>   <li>● Active involvement of local governments, academics and communities in craft development activities</li>   <li>● Activation in the form of festival activities, workshops from the Creative Economy sector</li>   <li>● Local government support through regulations of the Creative Economy since 2017</li>   <li>● The development of craft products using innovative organic material focus mainly on the use of sustainable organic material, and developing craft products that aim to preserve the continuation of crafters’ knowledge.</li> </ul>





Crafter making rope from pelepah (banana leaf sheaths) for Debog products. Source: BKF/Ariyasa

## Jawa Timur

- Craft expertise and background:
  - 1) Art and Design Education Crafters,
  - 2) Inherited craftsmanship
  - 3) Self-taught crafters.
- Activation in the form of festival activities, workshops from the Creative Economy sector
- Active involvement of local governments, academics and communities in craft development activities.
- Driven by local environmental issues, the development of craft products focus mainly on using sustainable organic material and recycling and upcycling raw materials.

## Bali

- Craft expertise and background:
  - 1) Art and Design Education Crafters,
  - 2) Inherited craftsmanship
  - 3) Self-taught crafters
- Active involvement of academics and communities in craft development activities.
- Festival activities, and workshops in the Creative Economy sector.
- A majority of craft product development focuses on the reusing (recycle and upcycle) of materials.
- The majority of the creative craft practitioners that are reusing materials come from outside Bali and are also environmentalists.



## Programme Recommendation

The materials used in crafts are not limited to traditional or local methods. With the rising concern of environmental issues, crafters are pursuing alternative solutions through the consideration of sustainability. However, traditional handicrafts in Indonesia have close ties to local culture and everyday customs. Traditional craftsmanship and production processes have been passed on from generation to the next. For this reason, we recommend the following :

- **Capacity Building:**

Capacity building in production, design, sustainable materials, sustainability and entrepreneurship for Indonesian crafters. This can be done through mentorship with industry experts and initiating collaborations with craft enterprises within Indonesia and the United Kingdom. The preservation of traditional and cultural knowledge around Indonesian crafts also needs to be shared among younger generations through working with existing expert crafters across the Archipelago who understand traditional techniques, designs and production processes.

- **Research and Development:**

Initiation of cross-sector research in developing materials in the craft sector, research to traditional and cultural values in craft products and craftsmanship to support continuation programs for younger generations. Research and experimentation that focuses on developing eco-friendly materials and their application in craft products.



Dried pelepah (banana leaf sheaths)  
material for Deboq craft products  
Source: BKF/Ariyasa

- **Advocacy** through initiating a series of discussion panels and working groups to develop and design government policies on the potential use of materials and standardization of the use of environmentally friendly and sustainable materials in the craft sector.
- **Public Awareness Campaigns:**  
Ecosystem collaboration in the organisation and campaigning of initiatives that educate consumers about the close relationship between crafts and cultural identity, specifically in the use of eco-friendly and sustainable materials. This aspect can also support a marketing approach for crafts businesses to promote products using crafter stories and production journeys.
- **International Market Access:**  
Supportive initiatives that provide space and opportunities for crafters to test and market their products on a national or international scale. Develop a platform/programme that provides the space, opportunities and resources for crafters to gain knowledge about product quality and design from others within the network both locally and internationally.

# Introduction

Through the Crafting Futures programme, British Council Indonesia aims to support the growth of the Crafts Industry through applying research, collaboration and education. This research is the starting point of the programme in Indonesia and explores the innovations of new materials and environmentally friendly processes within the crafts industry in the country as well as identifying the network of stakeholders and key players within the sector.

As stated in The Creative Economy: Developing National Handicrafts Plan 2015-2019, a study conducted by the Creative Economy Agency (BEKRAF) in 2014, the crafts industry in Indonesia is a growing diverse industry with different types of products and produces a high number of employment. Additionally, the 2016 study conducted by BPS (Indonesia Statistics) and BEKRAF dictated that the export value of the handicrafts industry sits second highest below fashion with a 7.34% export value. These existing research indicate the significance of the crafts industry as a key contributor to economic growth and Indonesia's global position within the creative industries and justifies the need for a programme like Crafting Futures to exist in the Archipelago. Thus, it is important that this study provides the supportive basis for the strategic positioning of this programme.

This study has taken existing research and knowledge as a starting point to continue exploring the Indonesian crafts industry. A new component of this programme is the perspective of social creative enterprises (creative enterprises that have social impact) to assess and explore the industry's contribution to local communities. Another key aspect of this research is the environmental considerations of running crafts businesses. We have considered both aspects to focus our exploration to enterprises that address and consider environmental issues in their production and business processes.

Within the results of this study, we see a movement among creative actors working within the field of crafts towards addressing environmental issues as they have begun incorporating solutions into their work, which has then become a core theme in developing crafts-based creative businesses. These crafters and entrepreneurs are transforming their products through the use of new materials and sustainable production processes (such as recycling and upcycling), combining their traditional techniques with modern developments to become more locally and environmentally friendly whilst also remaining relevant in the modern marketplace. The process of collaboration with new designers is key to new innovative designs in the exploration of the use of sustainable materials. This process in the product design within the craft industry will open up a new marketplace and catalyse a movement for educating consumers about new, sustainable and eco-friendly materials.

This research is a starting point to further develop a deeper understanding of the innovative new materials and sustainable processes that are currently being developed across Indonesia and other regions.

# Research Methodology

## Research Purpose

This study is a mapping of the development of new materials in the production of handicraft products, building a network of existing businesses, institutions and communities working within the crafts sector in Indonesia, specifically in the four research locations: Jakarta, West Java, East Java, and Bali. Additionally, this study will also provide the basis for building a programme recommendation for the Crafting Futures in Indonesia.



Budaya Kreatif Foundation researchers interviewing Pelepah (banana leaf sheaths) crafters in Balen region, Bojonegoro

# Research Methodology

This study applied mixed qualitative and quantitative methodologies for data collection. This approach allowed for an in-depth exploration of existing crafts actors, examining their development and potential. The quantitative approach exists to support the qualitative in providing a general picture of the landscape of the crafts industry within the four identified regions: Jakarta, West Java, East Java and Bali. In the implementation of the study both approaches moved in parallel. We conducted qualitative fieldwork for four months, three weeks in each of the four regions, and distributed questionnaires for quantitative data. Each field team was equipped with a research instrument to guide their interviews which focus on the following aspects:

## **Business owners:**

- Business establishment and product conceptualisation
- Raw materials
- Production process and craftsmanship
- Business management and development
- Marketing strategies
- Quality control
- Perceptions, issues and sustainability

## **Institutions or communities:**

- Role of the institution or community
- Contribution to the development of the craft industry
- Stages and obstacles in programme and activity implementation
- Activities or programs related to sustainability

Qualitative research was conducted by two teams of two researchers: one cultural and one with a design background. This mixed team allowed for our researchers to support one another in the field allowing for both cultural and design perspectives to be present in conducting interviews which was beneficial in the analysis of the collected data. The methodologies applied in the field were mainly interviews, observations and focus group discussions (FGDs). Firstly, semi-structured in-depth interviews and observations were used; semi-structured interviews allowed for flexibility for our researchers in interacting with the respondents, freeing them to explore any new data or information that may have come to light; and observations accompanied the interviews to obtain any unspoken data.



One of our research methods were in-depth interviews  
Source: shutterstock.com

The in-depth interviews and observations were then supported by Focus Group Discussions (FGDs) that were held in the four regions. The FGDs were aimed to bring together the relevant stakeholders and actors to discuss the current developments of their respective craft sectors, identifying opportunities, challenges and needs. The FGDs allowed our researchers to identify the synergies between the interviewed respondents. The quantitative data collection team began with developing an online questionnaire that aimed to reach relevant stakeholders such as crafters/artisans, government and non-government institutions, communities and academic institutions that were not included in the qualitative research. The aims of the questionnaire were to 1) collect data on existing craft-based businesses and craft practitioners 2) map out existing enablers for the ecosystem component of the research (funders, incubators, accelerators etc.). The questionnaires were focused on the following aspects of data collection:

- Raw materials
- Knowledge of new and upcycled materials
- Aspects of the development of the crafts industry
- Existing activities and s that support the development of crafts in Indonesia
- Marketing channels commonly used by crafters/artisans

The finalised questionnaire was distributed in each region through online channels via existing networks and phone interviews to reach those with no internet access. The original target of respondents was 200 (50 from each region) with a total of 246 ultimately collected with 82 respondents from DKI Jakarta, 68 from West Java, 48 from East Java and 35 from Bali and 13 from other Indonesian



Aspects of Research	Definition	Methodology
Actors, Organisations and Communities	Individuals, organisations and communities working within the Craft sector	
Actors	Individuals working within the craft sector looking at the different types of crafts and their creative development	<p><b>Quantitative:</b></p> <ul style="list-style-type: none"> <li>- Literature Review</li> <li>- Online Survey</li> </ul> <p><b>Qualitative:</b></p> <ul style="list-style-type: none"> <li>- In-depth interviews</li> <li>- Observations</li> <li>- Focus Group Discussions</li> </ul>
Organisations	Organisations, formal/informal, working within the creative economy and craft ecosystem looking at their roles in the development of Indonesian traditional and modern crafts	
Communities	Existing crafts, artisan communities in Indonesia, looking at their locations, reputations, development and access	
Craftmanship and Technology	How crafts and cultural arts are made and have developed	
Craftmanship	Capacity and skills of artisans and craft practitioners looking at the past, present and future	<p><b>Qualitative:</b></p> <ul style="list-style-type: none"> <li>- In-depth interviews</li> <li>- Observations</li> <li>- Focus Group Discussions</li> </ul>

Aspects of Research	Definition	Methodology
Technology and Tools	Existing tools and technology within the crafts sector looking the past present and future	<b>Qualitative:</b> - In-depth interviews - Observations - Focus Group Discussions
Design	Product design looking at the past, present and future	
<b>Materials</b>	<b>Identifying the materials used within crafts sector</b>	
Materials	The classification of materials used in within the crafts sector, looking at the past, present and future (wood, fibre, metal etc.)	<b>Qualitative:</b> - In-depth interviews - Observations - Focus Group Discussions
<b>Ecosystem</b>	<b>Existing ecosystem for the crafts sector</b>	
Non-governmental Institution	Non-government organizations that support the development	<b>Quantitative:</b> - Literature Review - Online Survey  <b>Qualitative:</b> - In-depth interviews - Observations - FGD
Government and Policy	Government bodies and existing policy that support the development of the crafts creative sector	

# Data Analysis and Systematics

Data analysis for the study was done in different stages. Firstly, the data collected through the in-depth interviews were analysed descriptively. Second, the qualitative data was combined with the quantitative findings to descriptively analyse the new materials aspect of this research. We have also used different literature to further strengthen our findings and analysis.



## Fieldwork locations:

### 1. DKI Jakarta

### 2. West Java

- Bandung
- Garut

### 3. East Java

- Surabaya
- Bojonegoro
- Malang

### 4. Bali

- Denpasar
- Gianyar
- Badung
- Karangasem

# Defining Craft

Etymologically, *kerajinan* (craft) in Indonesian is defined as being rooted in the word *rajin*, which means diligence - an activity that requires hard work and dedication. With the addition of the prefix *ke-* and the suffix *-an*, this brings an understanding that craft as a noun is something that is created by hand (woven products, earthenware and more).

The Sanskrit *kriya* is part of the English word craft, both defined through an understanding of creating and creation. Thus, we apply the term crafters to those who apply the creative process of knowing,

exploring, designing, to create socially and culturally significant beautiful work (hand power plus mind power-William Morris- John Ruskin). Thus craft is often understood as a combination of practicality (good design) and beauty (pleasing to the eye).

Based on the data from the Ministry of Tourism and Creative Economy in the study of the National Craft Development Plan in 2015, it can be concluded that the focus in the creative industries are art craft and craft design.



Banana Pelepah crafter in Bojonegoro. Source: BKF /Ariyasa

Craft as a concept has developed along with the changes in culture and society, this is evident in all parts of the world including both the UK and Indonesia. Therefore, it is important to know how its definition has evolved in order to fully understand what the industry needs. The following are definitions of craft by academics from the Faculty of Fine Art and Design of the Bandung Institute of Technology (ITB):

### **Prof. Yusuf Affendi**

Craft is often associated mainly with its traditional value and aesthetical symbolism. However, craft has to continuously go through creative changes and innovation as society and culture become more complex, progressive and democratic. Craft design must also consider an artistic perspective along with functionality to remain relevant in the market.

### **Prof. Biranul Anas Zaman**

Following the dynamics of continuous change and its complexities, the discourse around craft has changed its definition. In the Western world, craft is newly defined as contemporary craft or craft art that differentiates it from the concept of handicraft and native/rural craft moving towards freedom in the evolution of craft.

### **Asmudjo J. Irianto**

Craft has gone through an amazing development. The past few decades have been a moment of craft revival that introduced the term contemporary crafters or crafts artists who bring with them a sense of excitement and admiration that attracts the younger generations to become artists themselves and explore new ideas and apply them to the materials around them. Education within the field of craft will bring a new wave of artists, applied/decorative artists and designers.

### Dr. Adhi Nugraha

Craft is a cultural product that follows the changes and evolution of that culture. Thus, this follows the emergence of art craft, craft design and traditional craft that are differentiated through their practicality and philosophical significance.

- Traditional craft known as the original Indonesian art, connected to traditional rituals and customs with skills and knowledge passed down through generations.
- Art craft emerged as a contemporary movement that represents the expression and ideas of the crafter. The crafter feels close to his/her work and experiences a level of satisfaction through making their products. Art Craft is also differentiated by its exclusivity and high value. In the Western World, this category can be considered as 'works of art' and are showcased in galleries.
- Craft design includes crafts that are influenced by design principles such as manufacturing efficiency, price, branding and so on; made in large quantities to be functional and affordable. This category of crafts is considered to be industrial and labour-intensive where crafters work in groups where each stage of production is divided among them.

### Dr. Achmad Haldani, M.Sn

Recent studies around aesthetics include other dimensions that surpass those that are merely tasteful and pleasing to the eye. Humans have bodily and non-bodily senses, they are tactile creatures who experience things through both physical and tacit/unspoken stimulation. These experiences contribute to how ideas are formed and craft is created; crafters create products that stimulate emotions, attraction and desires which lead to the exchange of goods or goods

In our interview with Ir. Hery Budianto, MSA, Ph.D from the University Merderka Malang (Malang Freedom University), he defined craft as something that involves special skills, specifically in working with your hands. This is different to the view of Drs. I Ketut Muka M.Si from Institut Seni Indonesia – Denpasar (Indonesian Arts Institute –Denpasar) who sees craft as a way of expressing artistic ideas on different materials and transforming them into objects of value with artistic and functional basis. Craft itself has been categorized based on their raw materials, such as wood craft, ceramics, metallic craft and more.

Craft academic, Dr. Lucky Wijayanti, M.Sn from Institut Kesenian Jakarta (Jakarta Arts Institute) defined the term “craft” as something to do when you have spare time (a hobby); something that does not have a concept but prioritises functionality. Lucky described craft through its aesthetic, functional and conceptual implications. According to Lucky, there are several definitions of craft used in Indonesian academia, namely (1) Traditional Craft: art from the roots of Indonesian culture linked to customary rituals; (2) Fine Craft: craft as a form of artist expression; (3 ) Craft Design: craft that is made for functionality, mass produced with relatively cheap prices. In her observations, Lucky saw the direction of the development of craft currently tends to prioritize function over aesthetic value and the use of safe finishing, eco-friendly and easily recycled materials with inexpensive production. In her observations, currently emerging technologies that produce new materials that aim to reduce waste, such as the use of glass glaze.

According to David Metcalf (2007), Craft can be classified into two categories: Materials and Functions. First, material denotes a specific medium and its manipulation; what is used and the technology created to manipulate it to create something. For example, wood, steel, knitting and glass are mediums that dictate what skills are needed to produce something and are central to how types of crafts are differentiated. These skills have also defined how different crafts have developed and evolved; as techniques are passed down through generations, they have also changed and adapted through innovation. The second category is Craft with function. For example, clothing, jewelry, furniture, etc. Craft is not distinguished by material in this category; jewelry, clothing and furniture can be made from steel, glass, wood ceramics, and precious stones or a combination of these materials (Metcalf 2007,5). In this instance, craft is differentiated by how the finished products are used, not how or what they are made from.

A variety of craftworks reflect ideas that bridge tradition and modernity. ‘Craft depends on the continuous revival of pre-industrial technologies. Most craft practitioners implement processes that have been used for thousands of years such as using a potter’s wheel, hammering a sheet of metal, spinning and weaving fiber, or blowing glass,’ this establishes that craft is an emphasis of tradition. When the spirit of modernity emerges to separate the present and the past, craft advises a seamless continuity (Metcalf 2007, 19). Craft treats the past as a reference to techniques, visual cues, meanings, and ideas.

However, according to Dormer (Dormer 1994, Press 2007, Sennett 2008), the value of a craft is not solely based on the artisan's skillset or use of traditional tools of the trade, they also represent the crafter's own attitude and philosophy .

Thus, there are five values that are embedded within craft: first, a crafter's personal values and standards; second, the crafter's knowledge and expertise; third, the natural environment and cultural significance of where these crafts come from; fourth, crafts as a way of remedying "social illness" such as reducing consumerism, product homogeneity and the throw-away culture (overconsumption and excessive production of disposable goods); and fifth, crafts can bring unique opportunities and perspectives to the modern world. This sector has the rare ability to merge the innovative era of technology with the long-established practices of local traditions. Combining old and new concepts can lead to a fresher point of view whilst still carrying essential traditional elements.

For artisans, crafting is not only a profession but also an ideology and a 'way of life'. Incorporating their personal attitudes and philosophy into their craftsmanship can help direct new technology to be more suitable for the environment and surrounding communities. New heights of innovation are often achieved within and through the craft industry; a combination of different knowledge by nature, craft encourages cross-disciplinary approaches in the creation of new breakthroughs that can be applied to other industries. David Pye (1968) dictated that crafting is "the workmanship of risk" as skillful material manipulation can produce unexpected breakthroughs. This aspect of craft is what inspires innovative growth.

The concept of craft has gone through several evolutions that have resulted in a variety of meanings. From functional pieces that are used in everyday life to unique, one of a kind collectables displayed in museums, craft and crafters are present in all aspects of society and culture. Within the past decade, crafts development has been heavily influenced by technology and driven by environmental issues and academic research and experimentation has significantly contributed to this process. Spearheaded by innovative alumni and students, The Bandung Institute of Technology's (ITB) Faculty of Fine Arts and Design (FSRD) have been developing crafts through cross-scientific collaborative processes. It is within this scope that FSRD ITB is strategically positioned to foster the development of the craft industry. The faculty encourages their students to experiment with crafts and material science - the discovery and design of new materials. The work of students who have collaborated in Craft and Material Science, have produced innovative products using natural fibers, namely hemp. According to ITB, a hi-tech, hi-concept and hi-touch approach is needed to create artistic craftsmanship and emotional beauty. The collaborative work of students combining Craft and Material Science have produced innovative products using natural fibers, namely hemp. Craft not only produces beautiful work with a variety of methods but it also provides solutions for the future.



According to Piyush Suri, co-founder of Handmade in Britain, crafts are perceived as unique, personal, ethical and sustainable. All of which are core features of the trade. The definition of craft is built on the human connection: crafters and artists are working with their hands putting their stories into the pieces, and these stories continue to live through those who buy them. At the core of craft is the concept of preservation, something that is long-lasting and the philosophical values that are embedded within crafts, specifically for those from Asian countries.

His perception is that there is a gap in how people understand what craft is in respect of cultural identity and tradition. There needs to be a balance between keeping with tradition and innovation. Cultural identity is not as fragile that innovation will challenge or break it, but there needs to be a freedom in exploring new ideas in order for the industry to transform along with cultural development.

The current issue from this perspective is that local businesses are not able to expand their market and can end up being just manufacturers for international designers. This asserts a large gap for local crafters, particularly in rural areas. There is a risk of companies interested in Indonesia's designs to take them and market them as their own without giving any credit to the crafters. In some cases, international designers or companies buy Indonesian craft products and promote them as their own. One key aspect that needs to be considered is Indonesia's lack of presence in the International market. In order to ignite and inspire cultural development as well as the creative development of crafts industry, there is a need for Indonesian businesses to have exposure and learn about the international market; this then needs to be supported by the national and local governments (particularly in logistics) in order to take the necessary steps so that Indonesian craft is known in the international platform.



Perajin pelapah pisang di Bojonegoro  
Sumber foto : Dokumentasi BKF/Ariyasa

# Research Findings

## Role of Institutions in the Development of Craft in Indonesia

Crafts is one of the 16 sub-sectors of the Indonesian Creative Economy as defined by the Indonesian Agency of Creative Economy (BEKRAF). The development of Indonesia's creative economy is regulated with the implementation of The Creative Economy Law No. 24 in 2019 that aims to foster creativity and optimize human resources based on cultural, scientific and/or technological heritage. With this law, those working within the creative economy sector have the right to support from the national and regional governments. To uphold this policy, the government is implementing capacity building programmes for creative economy actors through training, technical guidance, assistance to improve technical and managerial capabilities, facilitation support to deal with technological developments in business, business standardization and certification.

With the enactment of the Law on Creative Economy, there is a foundation for local governments to be more active in carrying out Creative Economy activities and programs. The development of the creative economy for crafts in East Java rests on RI Law Number 3 of 2014 concerning Industry in section 5 of article 43 which has mandated the Regional Government (Province/ Regency / City) to facilitate creative development & innovation by empowering industrial culture and/or local wisdom; and as a follow up to Presidential Instruction Number 6 of 2009 concerning Creative Economy Development, the Provincial Government of East Java issued the Governor's Decree Number 427 of 2011 concerning the East Java Creative Economy Development Coordination Team. In connection with the development of the craft sub-sector, the East Java provincial government specifically established the Unit Pelaksanaan Teknis (UPT - Technical Implementation Unit) of Industry and Crafts under the Department of Industry and Trade (Disperindag) of East Java Province, as stated in the Governor Regulation of East Java Province no. 60 of 2018.

The law in East Java initiated various activities carried out by the regional government. For example, the Technical Implementation Unit of Industry and Crafts of East Java Industry and Trade Department held advanced training for crafters who have previously received support by district/city offices. After getting business development training from the unit, the crafters were directed to the National Standardization Agency to obtain further product and business development support.

In terms of facilities, the East Java Industry and Trade Agency established the Jatim Information Technology Creative - JITC (East Java Information Technology Creative) which facilitates the establishment and development of creative businesses in East Java. Creative businesses are given free access to facilities at JITC, such as offices and maker spaces, they also receive business incubation and mentoring from many experts presented by JITC management. In addition, JITC also provides access to marketing such as exhibitions and visits.

As for the development of creative economy in Bali, the province formed the Badan Ekonomi Kreatif Daerah - Bekrafda (Regional Creative Economy Agency) through an MOU between the Indonesian Agency of Creative Economy (BEKRAF) and the Governor of Bali on 7 November, 2018 at the World Conference on Creative Economy (WCCE) event at the Bali Nusa Dua Convention Center (BNDCC), Nusa Dua, Bali. The existence of BEKRAF at the regional level is expected to be able to reduce the centralisation of programmes to focus more on its regional implementation. Within the region, the development of the crafts sector is the responsibility of the Bali Provincial Industry and Trade Office. The development of the craft sector is also supported by the establishment of the

Bali Creative Industry Centre (BCIC) in Denpasar. BCIC is a centre for the development of creative industries established by the Indonesian Ministry of Industry to facilitate creative start-ups in developing their businesses through incubation programs, access to marketing facilities, exhibitions and various promotional channels. Triupcycle is one brand that grew from this programme under the support of BCIC, their participation in the incubation programme allowed them to develop their business from the ground up and have access to marketing channels and opportunities. BCIC is also building their own maker space called BIKIN where novice brands can have access to various machinery and equipment for production, such as Kunang Jewelry.

According to I Ketut Muka from ISI Denpasar, the programs that have been implemented in Bali by both the regional and central governments have had extraordinary results, resulting in the naming of the Gianyar district as a World Craft City by the World Craft Council Asia Pacific Region in 22 April 2019. The Creative industry ecosystem, including the craft sector in Bali, is becoming more established. Legally, new laws and regulations on crafts are still being drafted within the Balinese provincial government. These laws are aimed at the Protection of Bali Cultural Work as anticipatory measures for piracy efforts and claims of certain parties related to cultural works from the local area [1]. Though the law is still in its preliminary stages, the craft industry in Bali has been growing through the initiatives and activities of the people. Crafts are central to the Balinese community and their lifestyle and have come to greatly support the tourism industry in the region.

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West Java Province is the only province that already has a Regional Regulation on the Creative Economy, namely West Java Province Regulation No. 15 of 2017 concerning the Creative Economy. Another regulation that supports the development of the Creative Economy is the Regional Regulations of West Java Province Number 10 of 2018 concerning the Management of Intellectual Property.

# Government Institutions

## Ministry of Industry

Within the Ministry, programmes targeted towards supporting the development of crafts businesses fall under the responsibility of the Direktorat Industri Kecil, Menengah dan Aneka (Directorate of Small, Medium and Multifarious Industries). In this role, the directorate built programmes that address the structure of industry, business climate, promotion of industry and industrial service, industry standardization, strategic local and green industries, domestic products, business development and empowerment, entrepreneurship and institutional support and facilitation.

In line with these themes, the programmes offered by the ministry are specifically targeted towards the empowerment and development of entrepreneurs and designed with the consideration of the continuous changes within the business climate. The goal of this integrated strategy is to ensure continuity and a move towards mass industry. The following are key programmes and activities in relation to crafts:

### **Product Design training**

An annual training programme focused on product design and diversification implemented in provinces and districts around Indonesia. The training is open to Small and Medium Enterprises (SME) who are in the process of growing their businesses.

### **Craft Industry Centers**

The development of Small and Medium Industries (SMIs) is supported by the Special Allocation Fund (DAK) that has begun establishing Craft Industry Centres for young entrepreneurs around the country beginning in Kotagede and Kulon Progo Craft Centres. These centres provide facilities for SMIs such as new machines, shared learning spaces. The centres have also implemented design training, business management,

live-in mentorship programmes with designers and management experts where designers collaborate intensively with SMIs over several months to produce a moodboard and design brief that will later be used as a profile for a new design prototype. At present the activities are carried out at the Kota Gede Handicraft Industry Center and the Kulon Progo Handicraft Center. In 2020 it will be expanded to craft industry centers in other cities. live-in mentorship programmes with designers and management experts

### **Creative Business Incubator**

This is a training and mentorship programme that supports pioneering craft and fashion start-ups. This program was created to support start-ups who are entering the industrial world. The scale-up programme



Shoemakers working with chicken feet skin leather.  
Source: Facebook Hirka Indonesia

provides mentorship in management focusing on strengthening the participants' business analytical skills and encouraging them to seek out collaborative business opportunities with outside institutions. The Ministry also facilitates market access to the national craft and fashion sectors. The program began in 2018 with 26 participants, then 20 business owners were re-selected in 2019. The incubator is open to start-up entrepreneurs in the handicraft and fashion sectors throughout Indonesia. The program was carried out in Jakarta (with Prasetya Mulya University) and in Bali (with UNAIR). In Bali, this program takes place at the Bali Creative Industry Center (BCIC) which is the Center for Creative Industry Development for the Ministry of Industry's craft and fashion sub-sector.

### **Design Competition**

In 2019, there was a design competition for craft and fashion products with

the theme of Responsible Design for Sustainability. Plepah's product design was the winner of the competition.

### **Market Access:**

The Ministry also facilitates market access through providing booths and exhibition equipment at national events such as Inacraft, Adi Wastra Indonesia and Gelar Batik Nusantara in Jakarta, as well as Ambiente in Germany.

### **Top down weaving development programs:**

- a. Through collaborations with DEKRANAS, the ministry implemented a programme to support the development of tenun (woven) products through training and marketing initiatives
- b. The Ministry of Agriculture, in working with the South Central Timor District Government, have also implemented initiatives to support the woven textile industry, including a replanting of local organic cotton.

## **Ministry of Trade and HDMI (Himpunan Desainer Mebel Indonesia -Indonesian Furniture Designers**

The Ministry of Trade through the Indonesia Design Development Center runs the Designers Dispatch Services (DDS) that has been underway since 2012. DDS is a collaborative programme between product designers and craft entrepreneurs. This programme structurally sits under the Directorate General of National Export Development which began after the rotan furniture product development programme initiated by JICA (Japan International Cooperation Agency) in 2010 – 2012. The participants of DDS are those with established businesses with quality products who meet the criteria for environmentally friendly production processes. The success indicators of DDS include diversification of export-ready products (in the form of prototypes), potential business expansion, and the expansion of the crafters' knowledge about design. This is an ongoing activity, with 50 participants listed in 2019.

## **Indonesian Agency of Creative Economy (BEKRAF)**

The Indonesian Agency of Creative Economy, which is currently changing its name to the Ministry of Tourism and Creative Economy, has several creative economic development activities for the craft sub-sector, one of which is a program organized by the Deputy for Research, Education and Creative Economy Development which consists of the Directorate of Research and Development of the Creative Economy and Directorate of Creative Economy Education. From the results of interviews with the Director of the Directorate of Creative Economy Research and Development, there are several programs that have been carried out in the last 5 years, including:

### **Deputy for Research, Education and Development**

#### **Future Craft**

In 2017, the Creative Economy Agency in collaboration with HDMI (Himpunan Desainer Mebel Indonesia -Indonesian Furniture Designers Association) conducted research and development for Future Craft, a workshop on the development of new designs for furniture and home decoration items. The workshop activities consisted of design development training and comparative activities to craft centers. It is expected that from this activity, designers will produce new designs that will improve the export quality for their products.

## **Trend Forecasting**

In 2016 and 2018, the Creative Economy Agency conducted research which resulted in the book, Indonesia Trend Forecasting. This book discusses product trends in the Interior Design, Product Design, Craft and Fashion sub-sectors within the next 2 years. The Trend Forecasting research team consisted of professional designers, academics and government parties. Each book published has its own trending themes. In 2016 the theme was Greyzone which predicted trends in 2017-2018. In 2018 the theme was Singularity which predicted trends in 2019-2020. The 2020 theme is planned to be Sustainability, which is still under preparation. It is hoped that this book can help creative economy entrepreneurs in determining the designs of their products.

## **Directorate of Education**

### **IKKON (Inovatif dan Kreatif melalui Kolaborasi Nusantara)**

An annual programme that empowers and encourages the development of local creative economy potential across different regions in Indonesia. The programme takes on a collaborative strategy where teams of experts from different fields ( fashion designers, product and textiles designers, architects, interior designers, photographers, videographers, and anthropologists) immerse themselves into different communities to learn and share knowledge and skills. Running for 4 years since 2016, the programme hopes to strengthen community creative businesses through design interventions and product marketing systems. The collaborative strategy aims to build a comprehensive collaborative ecosystem within the regions where each team of experts are divided into specific roles: Designers focusing on prototype development; Architects and interior designers focusing on exhibitions and creative spaces; The media team handling documentation and advertising; And Anthropologists who function as a bridge between the IKKON team and the local community, providing regional and cultural context

The big idea of this program is to form a creative economic development by involving many professions so as to create a comprehensive ecosystem. The target of the IKKON program is the process of transferring knowledge from these professionals to crafters in the different regions. Each year the program is carried out by the



IKKON team living together (live-in) for 4 months in the chosen areas to establish a relationship with the local community and build trust in order to collaborate with the crafters for design development. This programme provides the opportunity for participants and local communities to interact, explore together, learn and

## **ORBIT**

The ORBIT programme is an effort to accelerate talented Indonesian designers to grow and develop through sustainable capacity building. ORBIT's big vision is to create world-class Indonesian designers who are able to contribute to the development of their nation and country through their profession. The programme is held annually from 2017 to 2019 with the following thematic scopes: interior design, architecture, landscape, visual design communication, fashion design, lighting design, product design, textile design, and craft.

In participating in the programme, selected designers receive certificates of appreciation, facilitation of Intellectual

Property Rights (IPR), ongoing assistance and training, publications and opportunities to engage in other BEKRAF events, national and international internships, and opportunities for international exchanges. The ORBIT program is one of Bekraf's efforts to support Indonesian designers into entering the competitive market by facilitating sustainable capacity building to encourage innovation and production of creating international quality products. The programme is made up of three stages: 1) basic support 2) strengthening (product design and business development) and 3) development (business activation, networking and capacity building).

## Ministry of State-Owned Enterprises (BUMN)

The Ministry of SOEs (State-Owned Enterprises), through state companies, conducts programs aimed at empowering the community, specifically increasing the capacity of micro, small and medium-sized businesses. In this study, the research team interviewed 2 state-owned companies that have capacity building programs for business actors in the field of crafts, including:

### Central Jakarta BRI Creative Space

Central Jakarta BRI through Central Jakarta BRI Creative Home activities aims to help micro, small, and medium enterprises in the Greater Jakarta area develop their businesses through activities that improve their entrepreneurial capacity and facilitate marketing. In 2019 the Central Jakarta BRI Creative Home Jakarta organized an Incubator program for MSMEs with 60 participants from all over Indonesia

who had businesses in the Craft, Culinary, and Fashion sectors. The Incubator Program was organized by BRI throughout Indonesia and in 2019, the Central Jakarta BRI Creative Home was the organizer. The focus of the incubator was to produce products that can be exported, improve business turnover, increase the number of employees, and marketing.



Jakarta BRI Creative Space  
Sumber foto: kb.id/about

## **Pertamina Hulu Energi ONWJ**

Through the 5R ++ program (Reduce, Reuse, Recycle, Resale, Reshare) Homeless Children located in Tanjung Priok, North Jakarta, PHE ONWJ conducted environmentally sound community empowerment programs with their social partners such as the Kumala Foundation in Jakarta. Kumala Foundation is an organization that provides mentorship to homeless children in Tanjung Priok, North Jakarta. This foundation provided paper recycling training to homeless children and assisted them in selling their work. With the concept of 5R ++ (Reduce, Reuse, Recycle, Resale, Reshare) they are taught to help reduce waste and turn waste paper into creative products. The children are also taught to become entrepreneurs through creating their own recycled paper businesses and in becoming instructors for several paper recycling workshop activities. PHE ONWJ is also conducting the 5R ++ activity with the This Ability community empowerment program from 2019 to 2023. The beneficiaries of the This Ability program are mentally disabled people who will receive training in producing recycled paper creative products from durian shells. The mixing of durian shell material with used paper will produce a stronger type of paper. This paper can also be used by oil companies as oil absorbents. The mentoring to become entrepreneurs is also included in the 5R ++ program activities.

## **SMESCO**

SMESCO Indonesia was established in March 2007 by the collective efforts of LLP-KUKM-Kementerian Koperasi, and UKM RI. LLP-KUKM. The purpose of the LLP-KUKM is to provide promotion and marketing services for KUKM Indonesia. These services include: market information, marketing facilities, marketing consultants, improving management skills, enhancing marketing techniques, marketing incubation, and product promotion as well as networking and distribution of KUKM products. SMESCO Indonesia currently accommodates a variety of superior products in 34 provinces across Indonesia [2].

[2] Tentang Kami (About Us), Smesco Indonesia, <https://www.smescoindonesia.com/tentang->

## Non- Governmental Institutions

### HIVOS

From 2013 to 2017 HIVOS carried out the Sustainable Hand-Woven Eco Textile (SHWET) programme funded by European Union's global Switch Asia project and in partnership with the NTFP-EP who implemented the programme in the Philippines and Cita Tenun Indonesia (the Indonesian Weaving Association) and Asosiasi Pendamping Perempuan Usaha Kecil Makro (ASPPUK -Association of Macro Small Business Support) who implemented the programme in Indonesia, namely in South Sumatra, West Sumatra, Central Java, West Kalimantan, East Kalimantan, Central Sulawesi, NTB, NTT and Bali. The programme was designed to tackle Sustainable Consumption and Production (SCP) of the United Nations' Sustainable Development Goals which are focused on the use of natural dyes by weavers on their woven products. Through collaborating with their partners, HIVOS implemented a series of training focused on the utilization of natural dyes and business development and connected weavers to contemporary designers, exhibition opportunities and the apparel industry. At the culmination of the programme, the Good Tenun Practices (GTP) guideline was published, serving as a point of reference for creating an efficient production system for weavers.

In conjunction with capacity building for tenun weavers, the programme also approached government agencies to spread awareness of efficient and environmentally friendly weaving practices and production management. The Ministry of Industry collaborated with The Ministry of Manpower to design Indonesia's National Work Competency Standards (SKKNI) for Traditional Tenun Weavers of the Textile Industry, enabling weavers to finally have professional certification. Public policy advocacy is also carried out to protect the environment. Indonesia's Ministry of Environment and Forestry worked on implementing eco-labeling certification standards for natural dyes in tenun products. This standardization is expected to increase the sale value of naturally dyed tenun products and educate weavers about eco-friendly production management.

## Indonesia Fashion Chamber

The Indonesian Fashion Chamber (IFC) is a non-profit organization of fashion designers and entrepreneurs from 12 cities throughout Indonesia. This institution has a vision to promote Indonesia as an inspiration for the global fashion market. Founded in 2015, IFC offers research, training, mentoring and business development for businesses to be ready on an industrial scale as well as those who want to build small scale handmade products. The organisation supports fashion business in creating unique brands with individual characteristics. IFC is also working with BEKRAF to develop Indonesia Trend Forecasting, a guidebook for the development of creative economic trends in Indonesia, specifically for the fashion sub-sector. Indonesia Trend Forecasting is also expected to increase national awareness of the potential in Indonesia related to cultural wealth that can inspire global trends, thereby opening up opportunities for Indonesia as a center of global trends.

To support the development of fashion in Indonesia, IFC draws inspiration from local ideas with rich cultural roots and a positive environmental impact. They seek to further assist business and fashion entrepreneurs, along with improving design and branding innovations. IFC applies these strategies during collaborations with its partners. Some IFC members have begun to initiate local content development within the fashion sector. This includes the “Sarong is My New Denim” Movement in collaboration with Indonesia’s Ministry of Cooperatives and SMEs that campaigns for sustainable and ethical practices that support a halal lifestyle in fashion. To encourage more up and coming creatives, IFC also participates in competitions such as the Modest Young Competition Designer. To spread their mission nationally, IFC also participate in events and exhibitions like the MUFFEST (Muslim Fashion Festival), Bali Fashion Trend, Jogja Fashion Week, 23 Fashion District, Surabaya Fashion Parade, and Malang Fashion Week.

# Profile of Innovators in The Development of Craft Products in Indonesia

## Case Studies in 4 Provinces:

### DKI Jakarta

Jakarta has a population of 10.5 million (BPS – Statistics Indonesia, 2019), a city rich in natural and human resources. The dense population and consumptive behavior has resulted in a large amount of waste. Based on data from the Jakarta Environment Department, the city produces 7000 tons of waste every day [3]. At present, Jakarta relies on the Bantar Gebang Integrated Waste Disposal site in Bekasi City for its waste processing. The amount of accumulated waste that cannot be treated has become a concern for many people.

The waste issue in Jakarta has given rise for crafters to explore new ideas and experiment with different products and garbage banks and the industrial sector have played a significant role in providing materials for handicrafts such as plastic bottles, rubber, glass and other household waste. The new initiatives around the city have sprouted garbage banks such as the Tri Alam Lestari Garbage Bank and the Gesit Parent Bank in Menteng Pulo, South Jakarta that collect and process waste; both are also active in community education programmes. The Tri Alam Lestari Garbage Bank and the Gesit Parent Bank have both been quite active through community education programs to sort waste and store it in their banks. Their role has been very helpful in providing materials for crafts from household waste such as Plastic Bottles, Rubber, Glass and so on. Recycled materials are not only supplied by garbage banks, the industrial sector also contributes raw materials from their waste such as fabric waste from Cipadu convection centre in Tangerang.



Ondel Ondel Jakarta  
Source: Shutterstock.com

“Jakarta has the character of an urban society that is different from other regions like Yogyakarta or Bandung with dominant local cultures. The aesthetics of Urban Craft are in everyday things. Normal everyday things are aesthetically upgraded so that they are more artistically valuable. For example the value of the exclusivity of t-shirt products that target young consumers.” – Lucky Wijayanti, Craft Art Professor at the Jakarta Arts Institute

## Crafters in Jakarta

### Kreasi Menik

Kreasi Menik and Tri Alam Lestari Waste Bank, founded by Tri Sugiarti in 2013, is a community-based enterprise operating near the Pesanggrahan River in Jakarta creating products from recycled newspapers. Tri participated in community empowerment activities of the Family Empowerment Improvement Program (UP2K) of the Jakarta Family Welfare Empowerment Institution (PKK) that provided training in making craft products using newspaper pulp. She continued independently to develop products by using twisted newspapers that are woven into small containers and fruit containers which became Kreasi Menik's initial product. Tackling the issue of waste management in her community, Tri began collecting old newspapers and brochures from nearby waste banks and donations to be recycled and repurposed into craft products. The brand initially began with making and selling small jars and fruit stands which has now diversified to 50 other household products (tissue holder, trays, glass coasters and lids etc), decorations (lamps, frames etc) and furniture such as tables and chairs.

In the same year Tri founded the Tri Alam Lestari Garbage Bank in the densely populated village in the Pesanggrahan area, South Jakarta. In addition to fulfilling the material needs of Kreasi Menik's craft products, the Garbage Bank helped reduce waste around



the community which experiences problems due to the overflowing Pesanggrahan River during flood season which are affected by the excess of non-organic waste. Kreasi Menik also sources their raw materials from Induk Gesit Garbage Bank in Menteng Pulo, South Jakarta as well as donations from residents around the community.

Kreasi Menik's sustainable zero-waste production process is also shared through an empowerment programme teaching local communities about waste management to empower and encourage people to be more efficient in handling production waste. In running her business, Tri is assisted by family members who also play the role as artisans. In business development Kreasi Menik hopes to collaborate in the development of product design and quality, especially replacing the sheets with safer coatings so that they can produce more and market them overseas.

Through Tri's persistence, Kreasi Menik has been recognized by the regional government through various awards such as the DKI Jakarta for Efforts in Increasing Family Income in 2014, The Best Environment Organization Award from the Department of Natural Resource, the Kalpataru from the Governor of DKI Jakarta in 2018 and as DKI Jakarta's UMKM Inspirational Figure from JakTV media in 2019.



Baskets and tableware made from recycled materials made by Kreasi Menik  
Source: Instagram @radiosmartfm959



Coasters made from old newspapers by Arnetta Craft.  
Source: Instagram @arnettacraft\_jkt

## Arnetta Craft

Arnetta Craft is a community-driven enterprise founded by Chevie Mawarti Setianingrum in 2013 based in East Jakarta. Arnetta Craft repurposes used materials such as newspapers, plastic bottle caps, coffee grounds, dried flowers, and cooking oil into valuable products mobilizing the local community through crafts. Utilising locally-sourced used materials they make fashion accessories, souvenirs, home decorations and soap through a collaborative network of local housewives working as suppliers, crafters, and resellers. Most of these products contain icons from Jakarta.

Arnetta Craft has also contributed to the development of a creative household-based ecosystem in villages in Malaka Sari, East Jakarta through the implementation of creative workshops led by its founder. Through this programme, women are empowered with the skills to create products using their surrounding resources and build their own home-based businesses through the Arnetta Craft brand. Chevie has also taken her work to other parts of Jakarta with a number of one-on-one and group trainings with local foundations, orphanages and disabled communities.

The work of Chevie through Arnetta Craft has gained considerable recognition within the region among government bodies and the private sectors, which has also led to significant support in the form of investments and training. Throughout their progression, Arnetta Craft has gained considerable public recognition through regional and national media platforms and has been nominated for Ibu Ibukota Awards 2019 by National Crafts Council (DEKRANASDA) DKI Jakarta which has opened up opportunities for further business development.

## IMAJI STUDIO

IMAJI Studio is a brand that has been developing eco-friendly products inspired by Indonesia's rich textile culture that combines traditional Indonesian organic dyeing techniques with contemporary motif production. IMAJI is inspired by the Japanese Wabi Sabi aesthetic that finds beauty in human imperfections harmonized with tradition and nature. Their brand image combines reality and fantasy to create fun, colourful and timeless fashion pieces. Their unique "Cosmos" and "Dongeng Alam" collections with the themes of outer space and the Indonesian landscape respectively are indicative of their creative styles and inspirational sources (paintings, sketches, songs, fine arts, nature and culture).

IMAJI Studio was established in 2013 by Shari Semesta and Lyris Alvina, who wanted to create a fashion line that incorporated art, culture and environmental sustainability. The brand began with a year long research journey of Indonesian textiles. In their research, they met with traditional textile weavers from Gianyar, Bali who use natural dyes such as indigofera for blue, secang/sapan wood for red, terminalia cattapa for gray, bungur leaf for black, mango leaves for yellow and mahogany and teak for brown and sustainable agricultural processes such as using organic cottonfriendly brand, found a suitable partner to collaborate with in creating fabrics. The establishment of this environmentally beneficial partnership

In addition, the crafters have also treated their liquid waste as water hyacinth fertilizer, so IMAJI Studio, as an environmentally-friendly brand, found a suitable partner to collaborate with in creating fabrics. The establishment of this environmentally beneficial partnership in fabric production has strengthened the positive branding for IMAJI Studio.



Accessories made from recycled textile materials.

Source: Facebook

IMAJI Studio

IMAJI studio's team consists of three core members; Shari Semesta who is in charge of branding, Leo Pradana leading production, and Lyris Alvina who is the lead designer. The core team is supported by one operational officer and an intern with a background in fine arts and textile crafts.

IMAJI Studio has also highlighted their social and environmental branding through a variety of initiatives. Their #imajizerowaste project aims to promote minimal waste in production; taking convection fabric waste and turning them into accessories, the campaign invites embroiderers to practice repurposing. Their creative community, Vice Versa connects local women-owned businesses with the goal of sharing knowledge and creating a market for crafts. IMAJI Studio hopes the brand will build awareness among the general public to be more sustainable and socially conscious.

From the release of their first women's clothing line in August 2015, IMAJI Studio has been consistently growing and has gained wide recognition. They have collaborated with NAPLAB in building a poncho installation where the proceeds from their joint auction were donated to WWF's Sumatran Elephant Conservation. IMAJI have also partnered up with local singer Kalulla for Coachella and illustrators have given them opportunities to promote their brand at music events like Coachella and produced clothing for We The Fest music festival working with local illustrators and hand-embroidery

artists from Surabaya. Their dedication as a textile studio was recognized by Fthing where IMAJI Studio was awarded the Best Menswear category. Their achievements have also opened up different international opportunities such as the Moscow Festival Indonesia and a fashion showcase at the 17th of August (Independence day) event at the Indonesian Embassy in New York. IMAJI Studio have also worked together with women-led local brands to form the Vice Versa community with the aim of sharing knowledge to create a brand and have access to markets. One such event was their pop-up market at Little League Coffee & Bar Jakarta, on 5-8 December 2019.



Mixed-Media piece from Gazewanny Lab.  
Source : BKF/Claudia

## Wooden Crop Circle Gazewanny Lab

Gazewanny Lab was built by Danny Yuwanda as a space to experiment with different methods of wood waste treatment and explore the sustainability of an object by maintaining its original material elements. Working mainly with teak, false elder, white meranti, angšana/Andaman rosewood, white oak, camphor, and plywood, the lab has produced a variety of products including the incorporation of objects such as used toys found at the Gembrong market in East Jakarta, melted paint containers, and patchwork fabric to form mix-media art pieces. Gazewanny Lab has created 90 products with unique designs that have been displayed at the Kuarta Graha Office and shared on social media platforms such as Instagram and Behance.

Danny is currently a lecturer in Wood Crafting at Insitut Kesenian Jakarta (IKJ - Jakarta Art Institute) in their Wood Craft

Arts Department where he shares the knowledge of repurposing waste material into functional objects developed in the lab across Sukabumi and in high schools around Jakarts Gonzaga, SMAN 70 and SMAN 6 with the aim of conveying the message that anyone can turn any object into unique by handmade products. In his training, Danny has used old containers collected from Senen to teach students how to turn them into functional objects such as frames, wall clocks or bookshelves. Danny also completed a three-month residency at the Rempah Rumah Karya in Surakarta in which he collaborated to develop lighting products that are now on display at Green House Yogyakarta. He was also a finalist of the ORBIT program in the field of crafts in 2018 for a product called Buffalo Horn Light.

## Kertabumi Klinik Sampah

Kertabumi Klinik Sampah is a community founded in 2015 by Iqbal Alexander and activists for ASEAN youth and women empowerment. The name Kertabumi comes from the word “Kerta” which means soldier, and “Bumi” which means earth, which romanticizes the volunteers and village crafters as soldiers of earth. The community was initially created to empower the disabled community and was supported by BUMN companies to provide jobs for disabled people. Kertabumi has also empowered elderly communities through the implementation of workshops on waste management. Their original idea was simply to replace the existing products to be more sustainable. The brand has produced tote bags, lanyards, card wallets, pouches, and folders made from sustainable materials, which are marketed towards corporate millennials. Kertabumi changed from being a Foundation in 2017 and to a Limited Liability company in 2018.

Kertabumi collaborates with sponsors (Coca Cola, Pertamina, Danone - Aqua, Telkomsel, Tangerang Environment Agency, DKI Jakarta Forest Service, Indonesian Red Cross, UN, and ASEAN), waste banks and surrounding communities who provide domestic waste materials such as plastic, glass, cans, cartons, Styrofoam, patchwork fabrics and tires to be used in the production of their craft. The collaborative model commits to an agreement that a minimum of 60-70% of the products of the target villages will be purchased by the project owner, and the rest will be sold through the local market and local government agencies.

In production, the organisation focuses on Recycling and Upcycling. Female crafters are focused more on upcycling where they apply their sewing and weaving skill sets to plastic, cartons, and natural fiber materials. Male crafters are equipped with the skills of recycling using heavy machinery such as cutting up plastic, melting bottle caps, and molding into coasters. Throughout production, Kertabumi has implemented measures to minimize waste and use of water.

Kertabumi is continuously exploring how to diversify their products. They have created household items such as trays and baskets made with a mix of bamboo fibers and instant noodle packaging; fashion accessories made from old toothbrushes; and interior decorations such as pillows from cut up food packaging, floor tiles from melted plastic bottles and building blocks from cement and Styrofoam. Kertabumi shares their message of an environmentally aware lifestyle through installations, training and educational programmes. Their 2-meter globe made from recycled plastic



Mixed media coasters made from recycled bottle caps and bamboo materials made by Kertabumi.  
Source : BKF/Claudia

bottles was showcased in Summarecon Mall and owned by the DAAI Foundation; their turtle statues installation made from trash and old magazines was exhibited in Pantai Indah Kapuk (a mall in Jakarta); and finally, their collaboration with GADIS magazine built an installation out of old magazines was showcased at the Jakarta Convention Centre (JCC). These different installations around areas around Jakarta shed light on the issue of waste and through their continuing efforts, Kertabumi was included as a finalist representative of the Indonesian Handicraft Exporters and Manufacturers Association (ASEPHI) for the Inacraft exhibition and finalists of the DEKRANASDA Lifestyle Design competition in the category of products supporting business travel in Jakarta.

Kertabumi's core team consists of 12 members made up of the Board (Founders and Co-Founders), 4 people who are in charge of the company's vision, mission, policy and finance, the 3 coordinators in charge of production, and 5 crafters within the creative team who make their prototypes. Kertabumi's collaborative efforts have implemented initiatives in surrounding villages under the waste regulation No. 18 of 2008 article 12 which states that all agencies must be responsible for processing waste in their environment. Kertabumi plans to build a recycling center for the general public in GBK Senayan in 2020, and is in the process of proposing the idea to the Governor of DKI Jakarta and the Merdeka Palace to be the first zero-waste government office, where they hope to be replicated to other areas.

## Yayasan Kumala

Kumala Foundation is an organization with a program of supervising homeless youth. The space was formerly made as temporary housing for homeless youth near Tanjung Priok. The owner of the Foundation, Dinin, began by developing a training programme for youths focusing on paper recycling, crafts production and marketing their products to stationery stores. The programme aims to help the kids in obtaining their independent income without resorting to crime. Paper waste is sourced from building partnerships with surrounding businesses where the foundation will store their used paper in their waste bank. These businesses will then receive recycled paper for their donations.



A Kumala Foundation student is making recycled paper  
Source: tekno.tempo.co



## Threadapeutic

Threadapeutic was established in 2015. Beginning with Goody Bags made from used banner materials for the 2015 Indonesian Fashion Week event, founder Hana realized that an item considered as waste could be of economic and aesthetic value if it was processed properly. Hana also realized that someone had to process the items that were considered as waste. Assisted by designer Dina Midiani, Hana began making bag designs from waste banners, sacks and patchwork. She began trying out some of the designs and techniques commonly used in the fashion world to make bag products. Hana started making bags with faux chenille technique using patchwork material. Production bags are quite attractive to consumers from the middle to upper class who are currently the largest consumers.

Using repurposed materials such as fabric waste from garment manufacturers, coffee bags from distributors and old banners from events, Threadapeutic creates unique bags and patchwork fabric. Patchwork fabric is obtained from the clothing convection business or from fashion designers, coffee sacks are obtained from coffee distributors and used banners are obtained from institutions that often hold events such as Waste for Change, an organization that conducts waste treatment. Almost all material used is waste that is obtained for free following their principle of Threadapeutic is Imperfection Stitch With Good Intention, changing imperfect

material with the aim of transforming waste into a valuable product. To improve quality, Threadapeutic pays close attention to the design and the stitching of their products. To prevent their products from becoming new waste and part of their eco-friendly mission, Threadapeutic also encourages their customers to repair their products to minimize their waste production. Following the principle that waste can be turned into high-value products, the brand's creations are produced using a zero-waste and sustainable process.

Threadapeutic does not make their products in large quantities because of their production process led by only 6 people including 2 people who have sewing skills. In addition, Threadapeutic also wants to avoid excess stock of goods. The enterprise develops their designs with Dina Midiani as their design consultant and requests by customers.



Faux Chenille technique on bags using fabric scraps.  
Source: Threadapeutic Facebook

Besides bags, Threadapeutic also produces Tapestry which is used as interior decoration. Threadapeutic has experienced the most success through marketing their pieces at national and international exhibitions supported by the Agency of Creative Economy (BEKRAF) such as the Maison et Objet in Paris in 2019. This recognition has expanded their marketbase from being predominantly middle-class women to attracting other design professionals such as interior designers and architects. Threadapeutic juga memberikan pelatihan workshop untuk membuat tas *faux chenille* sebagai bagian dari misinya untuk memberikan edukasi kepada masyarakat terhadap produk-produk dari material daur ulang. Threadapeutic menginginkan lebih banyak lagi terselenggara kegiatan-kegiatan yang memberikan edukasi kepada masyarakat untuk lebih menghargai produk-produk dari material daur ulang dan bahwa mereka bisa menjadi kreatif dengan memanfaatkan tersebut.



Faux chenille bag made from patchwork.  
Source: Threadapeutic.com

# Institutions in the Craft Sector

## National Crafts Council (DEKRANASDA) DKI Jakarta

The DKI Jakarta National Crafts Council (DEKRANASDA) was founded in 1983 to support quality craft development in Jakarta. Chaired by the Governor's wife, the development programmes implemented by the council focus on product market competitiveness, exhibitions, business management training, access to funding, capacity building and digital market integration training (IT, website development, database building, and non-cash payments). The council also provides business incubation for crafters to support their acceleration, innovation excellence, and collaboration.

Institutional activities carried out within the past two years have provided opportunities for artisans to market their products by increasing the number of sales outlets supported by Jakarta Dekranasda and improving their quality in terms of service and quantity of goods. In 2018-2019, 3 new outlets were opened in the Thamrin City shopping center, Artha Gading Mall and the Jakarta History Museum (Fatahillah), Kota Tua [4]. Previously, DKI Jakarta's Dekranasda outlets only existed in the mayor and governor's offices. Crafters' competitiveness and managerial skills were also enhanced by the implementation of an integrated digital information system from the website, database and non-cash payments. This is done to ease the crafters' integration into the digital market. Some of the collaborations have been carried out with the Jakarta Mass Rapid Transit (MRT) and the Kota Tua Museum under the provision of DKI Jakarta Dekranasda, Moka and JAKmikro outlets and the DPRD. In the future, it will collaborate to open new outlets in PD Pasar Jaya at Sudirman and Angkasa Pura Terminal 3 in Soekarno Hatta airport. In 2020, Dekranasda DKI Jakarta will participate in the Designer Dispatch Service with the Ministry of Trade, in parallel with the Pengembangan Kewirausahaan Terpadu (PKT) programme by DKI Jakarta provincial government.

[4] Dekatkan Karya Kerajinan Kepada Wisatawan Dekranasda DKI Jakarta Resmikan Gerai Baru di Museum Sejarah Jakarta, 2019, <http://www.dekranasdakijakarta.id/b/dekatkan-karya-kerajinan-kepada-wisatawan-dekranasda-dki-jakarta-resmikan-gerai-baru-di-museum-sejarah-jakarta>



To become a member of Dekranasda, crafters are assessed based on the quality of their products. Coaching and mentorship for crafters are conducted once every one or two months in collaboration with the Provincial Department of Industry. The crafters are divided into five levels, from the beginners who are crafters with no initial products to established crafters who have quality products and need assistance in design development, branding, market access and funding. In 2020, DKI Jakarta Dekranasda also plans to develop sustainable and ethical products with crafters who have incorporated eco-friendly processes and waste management systems. Currently the council has 400 crafters in their database with a majority at grassroots economic levels who need knowledge building on the growing market, how to create globally marketable designs, new technological and digitalization processes and sustainable business values. DEKRANASDA facilitated the craft exhibition and workshop at the JakCraft event which took place in the 11th year on 25-28 November 2019.

## Jakarta Creative Hub (JCH)

The Jakarta Creative Hub (JCH) is a public space built for the Jakarta creative community as a platform to connect young entrepreneurs and creative industry players with the general public. The space was established by Basuki Tjahaja Purnama (Ahok), the former Governor of DKI Jakarta inspired by his visit to a creative space in Rotterdam, The Netherlands. as a place for young creatives to host different events such as workshops, seminars and exhibitions.

Inaugurated in 2017 by the DKI Regional Government, Jakarta Creative Hub (JHC), which is located at Graha Niaga Thamrin, 1st Floor, Jalan Kb. Melati 5 No.20, Kecamatan Tanah Abang, Kota Jakarta Pusat provides classroom spaces for members. The hub has three rooms; classroom A with a capacity of 80 people and classrooms B and C with a capacity of 50 people which can be used for workshops, seminars and exhibitions. The public audience is free to join training or workshops simply by registering as a member of JCH with their Jakarta ID. Creative work can also be displayed for sale in the main lobby at JHC.

The hub includes a makerspace area which is divided into fashion, woodworking and digital labs which house equipment such as sewing machines, woodworking tools, and a 3D printer unit made available for members of the community to develop their products. For security reasons, visitors must first become JCH members/partners by submitting their personal data and portfolio.

In addition to the classrooms and maker space, there are also 12 co-office areas that are currently housing potential start-ups that have gone through a selection process and have received subsidies in the form of office space and access to makerspace facilities. The subsidy is provided for a duration of at least 1 (one) year allowing for the next batch of applicants. The criteria for selection are; the start-up has to already be registered for at least 6 months and up to 3 years<sup>[5]</sup>. The contribution of members in the hub is not only limited to JCH, but also for assisting local governments to organize training for rusun (council housing), Ruang Publik Terpadu Ramah Anak (RPTRA - Child Friendly Integrated Public Spaces) and other places. Furthermore, there is a cafe and library area that is open to the public from 10:00 to 17:00 WIB.

[5]Jakarta Creative Hub, Wadah Untuk Menumpahkan Kreativitas, Puteri, A., 2020, <https://crafters.getcraft.com/id-articles/jakarta-creative-hub-wadah-kreativitas>

# Communities in the Craft Sector

## ID Ceramics

ID Ceramics began as a ceramics community that was formed at the 2015 'Keramik Identitas' (Ceramic Identity) exhibition at the Museum of Fine Arts and Ceramics in Kota Tua (Jakarta). The community continued growing in Jakarta, Bandung, Surabaya and Yogyakarta and now holds bi-annual exhibitions in the Museum of Ceramics to present a contemporary perspective to traditional ceramic crafts with past themes including earthenware pots (Kendi), Temperature Effects and female ceramic artists for Kartini Day. In 2019, the community finally changed its name to ID Ceramics in an attempt to reach a younger audience.

Members of the community include Kandura, Kar Jewelry, Jinjit Pottery, Pekunden, Damdam Ceramics Studio, Made by Margaret Yap, and Spectrum Sinergi School for Children with Special Needs. ID Ceramics has held the Jakarta Ceramic Market in partnership with Galeri MULA Creative Hub in Cilandak Town Square, public workshops, and has built partnerships with universities and museums. These events were aimed to bring individual ceramic artists together creating opportunities for partnership building with other communities and gathering funds to implement more events around Indonesia. The community also aims to support beginners who are interested in learning ceramics and developing their own business.

Ceramics was considered to be a sustainable medium to replace plastic, but in reality, the production process is not environmentally friendly, both in the raw materials used and gas and electrical emissions from burning in production. However, ceramics can be seen as sustainable through the perspective of design and culture, with its roots in Indonesian culture and history.

With its abundant mineral resources in regions such as Sukabumi and Pacitan, industrial development in Jatiwangi for creating roof tiles, crafts development in Bayat and Klaten, famous for their unique putar miring techniques, and academic institutions (SMKN 2 Jepara, Ceramic Craft ITB, IKJ, and ISI), Indonesia's resources have the foundation for the growth of this craft. There is the potential for Indonesian crafters to collaborate and produce contemporary designs with a strong signature style that is hard to be replicated.

According to community members, Bregas Harrimardoyo from Pekunden Pottery and Antin Sambodo from Jinjit Pottery, the trends of Eco-products or sustainable materials have not affected the ceramics industry, though now they have seen an increase in their market. For example, in Indonesia today there has been a rise in tableware and daily functional items because restaurants are beginning to tap into the craft industry. There has even been demand for handmade tiles from America. There are peak seasons for ceramics, such as Eid and Christmas holidays for the local market, and the summer holidays or the end of the year for foreign markets with the increase of Christmas bazaar events.

In the future, the community plans to be more organised and conduct more artists' studio visits to see how artists present their work and develop their business, and establish a ceramic shop at CITOS MULA to conduct market testing. The community is also open for collaboration, however, they have found that for those who have already developed their style, it has proven to be challenging to work with fellow ceramics artisans, so they choose to collaborate with artists outside the field. For example, Jinjit Pottery collaborates with textile artists to make macrame necklaces with ceramic pendants.

## Precious Plastic Indonesia

Precious Plastic Indonesia is a community of plastic recycling crafters formed in mid-2016 associated with Precious Plastic in the Netherlands. Started by Benjamin Dobb and friends, Precious Plastic Indonesia wanted to find viable solutions to reducing plastic waste by transforming it into other valuable products. The community itself is spread across Indonesia with members such as Duakala in Bali and Robries in Surabaya sharing knowledge about making products out of plastic and how to manage plastic waste. Precious Plastic Indonesia also networks with artisans outside their communities and other plastic waste management groups.

In Jakarta, Benjamin Dobb established a production studio called Precious Plastic Ciledug. In his studio, Benjamin Benjamin is currently conducting experiments on making home decor products such as coasters, wall panels, accessories, stools and plastic pillars for chairs, all made from HDPE plastic bottle tops bought from scavengers at a price of Rp. 8,000 per kilogram. He uses a plastic shredder, oven, mold and machine for making filaments.

Benjamin is currently conducting experiments to make plastic pillars to replace wood in simple buildings such as small cottages. The design uses a large amount of plastic which repurposes them into long-term use to delay turning them into waste.

In Jakarta, On top of sharing his own experiences in manufacturing products from plastic through social media, Benjamin also shares his knowledge face-to-face through short workshop events at schools or other environmental and entrepreneurial-themed events, part of the community's public educational initiative.



Recyclable plastic bottle tops  
Source: BKF/NinieK

## West Java

Bandung, the capital city of West Java is the reputed benchmark for creative cities in Indonesia, listed in UNESCO's creative cities network. The criteria for assessing creative cities is the existence of design-based businesses, education institutions with a focus in design and the commitment of the government to support the creative industries. Bandung became a design locomotive and an experimental space for designers to develop something new. In the last decade, there have been emerging business sectors based on product design, the majority of which rely on hand skills in the manufacturing process. These creative businesses combine traditional craft techniques with contemporary designs for contemporary consumers such as Amygdala dan Studio Dapur.

Collaboration with designers is important to create innovation in design that explores new and reusable materials





Chicken feet leather by Hirka  
Source: BKF/Claudia

# Crafter in West Java

## Amygdala

Established in 2014, Amygdala Bamboo uses bamboo to construct distinctive contemporary bird-cage design inspired interior products. Harry Mawardi began Amygdala Bamboo through his research on bamboo crafters in Garut where he was inspired by the skills and techniques of crafting birdhouses. Harry observed that the precision of the handmade birdcage products are almost equal to something made in a factory. Though the unique handmade products made by local crafters using their expertise in coiling and bending lamination techniques are sold at high prices, their standard of living remains less than standard. Through his research with the ITB Product Design team in Selaawi District, Garut, Harry observed the different techniques used by the bamboo crafters. For Harry, their expertise must be preserved; the issue of sustainability of the craft sector addresses the continuation and passing down of the skills to the next generations.

Working with a local crafter who takes on the role of Head of Production, Harry began developing contemporary designs such as bamboo stools and cutlery that combines traditional techniques from Selaawi with contemporary designs. Amygdala Bamboo's first products were bamboo stools and cutlery. Amygdala currently employs 2 local crafters to oversee production, they are assisted by 8 others from Selaawi who are each in charge of different components of the process. Management is currently still run by Harry who plays the role of founder and designer and assisted by one financial manager. Amygdala Bamboo continues to strive to develop interesting products, including innovating their designs that combine different materials such as ceramics through their collaboration with Pori Goods with whom they developed mugs and cups as part of their popular tableware line. Amygdala's style focuses on developing interior products such as tableware, lampshades, flower vases, wall clocks and many more.

In addition to his expertise in product design, Harry has also taken part in the Creative Social Enterprise Catalyst Camp and Business Investment Readiness held by the British Council in 2016, the ORBIT program organized by BEKRAF in 2018 and was a winner in the Mandiri Young Entrepreneur program from Bank Mandiri in 2015. The enterprise's business growth has opened up opportunities for international collaborations such as a potential partnership with Jerry Bag to produce bamboo bags and Dr. Noah Bamboo Toothbrush for bamboo toothbrushes. Amygdala has achieved international status with their products exported all over the world. Amygdala has successfully marketed their products internationally in exhibitions such Seoul International Handmade Fair in 2017, facilitated by the British Council and Milan Design Week in 2017 and 2018, facilitated by BEKRAF. Amygdala have also



Bamboo lamps with bird nest inspired design  
Source: Facebook Amygdala

successfully obtained a national following through their participation at national exhibitions such as Inacraft. Through his position within a team of creative economists in the West Java Province and Bandung Creative City Forum, Harry has also gained opportunities to work with international designers in Singapore and Australia.

Through the success of his enterprise Harry has become a prominent name within the contemporary craft industry. As a leading creative social entrepreneur, Harry has shared his experience with other craft entrepreneurs, most recently as a mentor in the Designer Dispatch Service (DDS) at the Ministry of Trade, a program that aims to develop crafters businesses by mentoring crafters' in product design. According to Harry, being able to help develop the local crafters' businesses is the goal in developing the Amygdala Bamboo brand. Based on his insight, what is needed for craft business owners is support in product design, materials development and managing production systems for a sustainable business. At the community level, Amygdala Bamboo promotes a sustainable business practice by initiating a bamboo conservation programme in the Selaawi District. Amygdala Bamboo itself aims to support the district in lobbying for the improvement of road infrastructure and energy supply which will not only empower the region but also support the growth of the business. To be sustainable in terms of bamboo material, Harry participated in bamboo plant conservation activities conducted in the Selaawi District. The need for Amygdala Bamboo itself today is the improvement of road infrastructure and a stable electricity supply in Selaawi. These two things can affect the speed of the production and delivery system of Amygdala Bamboo products.

## Hirka

Nurman Ramdhany started Hirka in 2014 when he chose to forgo pursuing a university degree and began making canvas shoes. After the competitive market of canvas shoes, he began experimenting with alternative materials to create his own space in the saturated market. When learning about leatherwork, he created prototypes for leather-based shoes and bags using stingray and chicken feet skin. Ultimately in 2017, Hirka established itself as a shoe brand known for their use of chicken feet skin which are easier to source than other types of leather. Obtaining the raw materials from traditional markets, local households and culinary businesses, Nurman considers chicken feet skin as sustainable material as it can be sourced in abundance from the growing number of chicken restaurants around the city. In addition, Nurman also wants to utilize chicken feet skin leather as an alternative to exotic leather materials such as snake or crocodile skin.

The process of treating the chicken feet skin is similar to processing cow or sheep leather, from tanning, coloring to assembly; 1 kilogram of chicken feet can produce 25-27 pieces of leather. The use of the leather varies according to the design and size of the product; for example, a pair of size 39 shoes in full chicken feet skin leather requires around 140-150 pieces and for shoes that are mixed with other materials use less. In assembly, cow leather is still used as a base layer.



Shoes made from chicken feet skin leather  
Source: Facebook Hirka Indonesia

In production, Nurman is assisted by 1 shoemaker who is the head of production, 3 people who process the leather and 3 people who support the finance and marketing team. Hirka shoes are 100% handmade, from the tannery process of individual leather pieces to assembly. Their intricate process produces around 40 pairs of men and women shoes. Hirka products have continued to change; initially making canvas shoes, they have begun making women's shoes, both heels and flats. However, their biggest demand is for formal shoes and sneakers. In their marketing, Hirka has received both national and international recognition through entrepreneurship competitions such as Top 20 Blibli Big Start Indonesia, ASTRA Satu Indonesia Award and exhibitions in Turkey facilitated by the Ministry of Youth and Sports.

In their colouring, Hirka products previously used chemical dyes. However, Nurman realized that this was bad for the environment and they did not have the right technology to manage production waste. Liquid waste was deposited, filtered and then discharged into household water drains and left over small pieces of leather were made of accessories. Hirka has begun changing their practices through their collaboration with ARANE to incorporate more eco-friendly processes such as using natural dyes and the establishment of a wastewater management system of filters and drain channels. As part of their product development process, Hikra have also begun using their spare sheets of leather to make accessories and watch straps in partnership with Pala Nusantara.

## Ffrash

Ffrash was founded in 2012 by Gina Provó Kluit-Gonesh who volunteered at the Yayasan Kampus Diakonia Modern (KDM) while accompanying her husband who served at the Dutch embassy in Indonesia. Through this experience, Gina saw the potential of teenage street children at the Foundation and wanted to help them re-join their community through providing training. Gina was saw Jakarta's waste problem and began recycling and repurposing waste into products. In collaboration with KDM, Gina began teaching Indonesian former street children how to make furniture and interior products from trash. They used the tagline, "then trash became fresh" aimed at turning trash into something new using wine and beer bottles, plastic bottle caps, used cardboard, fishing lights, and recycled teak wood obtained from collectors, communities, restaurants, hotels, fishermen in Muara Angke and KARSA design studios. For a year, Ffrash invited foreign designers who wanted to volunteer to experiment with different materials, processes and product composition. Production started in 2013 and now there are 15 product lines: wine glasses, tumblers, egg holders, toothpicks, candle holders, dispensers, vases, wall clocks, chairs and coasters.

In their experiments, Ffrash began only using only yellow, dark blue, light blue, green and orange bottle caps because they found that white pocari sweat bottle caps emit a dirty color when melted and the coca cola bottle caps do not completely melt. Currently, the Ffrash workshop is complete with welding machines, sandpaper machines, wood shaving machines, wood grinding machines, oxygen using gas, ovens, teflons, and a mini wood grinder, all provided by the Dutch Embassy. Other sponsors such as Holland Colors, Frisian Flag, Cargill, Equil, Intercontinental Hotels and KLM Royal Dutch Airlines have also provided support.

Ffrash's management team is still incorporated with the KDM Foundation made up of Gina, a head of management who changes annually, Yoki as the workshop manager, Mari as the financial and administrative manager, and Malin as the social media manager. Yoki himself is a KDM graduate who was recruited because of his experience in caring for adolescents.

The role of the designer in the development of Ffrash products is very important, some of the collaborations that have existed are the first collections in 2013-2014 developed by Dutch designers, Karin van Lieshout and Guido Ooms from OOOMS Design Studio. The next collection in May 2014 was a collaboration with Dutch designer Celine van Raamt, and the last collection in 2015 was a collaboration with Indonesian designer Joshua Simandjuntak from KARSA Design Studio producing family-themed furniture named Trashure, "*a treasure trove of rubbish*".



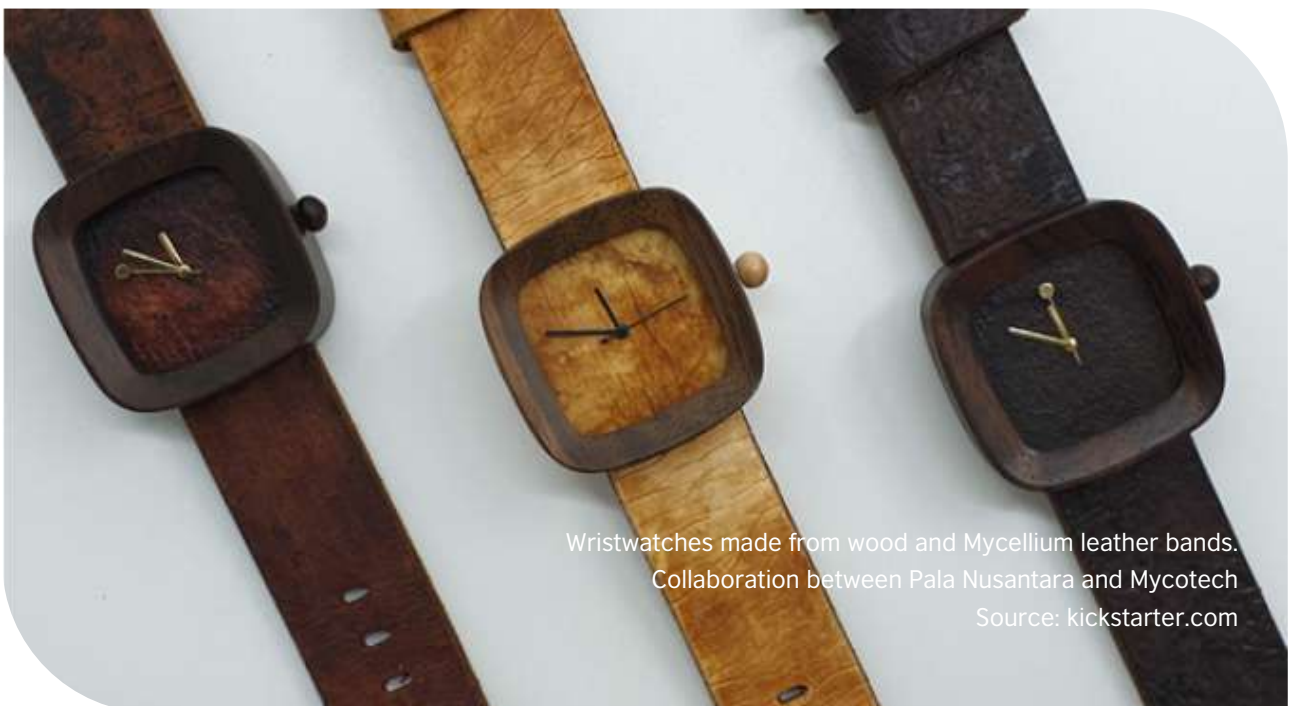
Home decoration and tableware made from recycled bottles by Ffrash  
Source: Ffrash

Ffrash provides training for youth in 4 (three month long) annual phases. In the first phase, the kids are taught how to safely use the machines and the basics of making products. The second phase begins with learning the Ffrash product eligibility standards. The third phase covers brainstorming and new product development while teaching a new batch of kids in the first phase. The fourth phase is a mentoring programme for graduates and exploring other opportunities. According to workshop manager Yoki, he hopes that Ffrash can collaborate more with designers and expand their business to provide rental services for certain events and introduce training for institutions, designers and the general public because in addition to transferring knowledge.

## Pala Nusantara

Pala Nusantara was founded in 2017 with the aim of making products that use wood and leather materials with unique designs. The name Pala Nusantara was chosen to raise the cultural values of the archipelago for example, with the use of distinctive Indonesian colours. The brand highlights their use of wood and leather to create high-quality handmade watches, wallets and bow ties. Pala Nusantara products are specifically handmade, such as the leather bands for watches made by local leather crafters.

Pala Nusantara has had opportunities to exhibit internationally such as in 2018 at New York Now. Through this experience, Pala Nusantara was able to test their market through sharing knowledge with fellow craft entrepreneurs and get input on the importance of using sustainable materials for their products. In October 2018, Pala Nusantara began collaborating with Mycotech who produces Mycellium Leather made of mushrooms. The two enterprises began to work together to make a series of Pala X Mylea wooden watches and mycelium leather products. In 2019, this product won the Emerging Award from ASEPHI. Motivated to continue innovating, in 2020 Pala Nusantara plans to make several series of wooden watches with graphic designs in collaboration with graphic designers. In the same year, Pala Nusantara plans to collaborate with Hirka, to make watches with chicken feet leather straps.



Wristwatches made from wood and Mycellium leather bands.  
Collaboration between Pala Nusantara and Mycotech  
Source: kickstarter.com





Glasses and Case made from teak wood by C1-7 Woodstyles  
Source: BKF/Claudia

## C1-7 Woodstyles

The name “C1-7 Woodstyles” comes from the address of the workshop. C1-7 Woodstyles business owner, Anjar Budiman utilizes wood waste to repurpose them into glasses. Inspired by the rise of young entrepreneurs in Indonesia, Anjar was motivated to start a business of his own. In 2018, Anjar experimented with transforming wood materials into plaques, wall clocks and accessories such as necklaces, rings, earrings. Anjar began working with wood because of the philosophy that wood is a work of God, each with its unique, individual patterns. From mid-2019, C1-7 Woodstyles began making eyewear products which eventually became their most successful product. Their iconic eyewear gained popularity because of their good quality and unique style attracting the interest of friends which resulted in C1-7 Woodstyles being invited for collaborative exhibitions and for other creatives to sell their products in the space.

## Bank Sampah BUMDES Kerta Rahayu Desa Samida (Garut) (Kerta Rahayu Samida Village Business Agency Garbage Collection)

In 2018, the head of Samida Village invited student volunteers from Parahyangan University to visit the village to motivate the local community to do a village clean up to raise awareness about plastic waste management. In 2019, with the support of the Paragita Foundation, Samida Village residents formed a Bank Sampah (Garbage Bank) chaired by Yayan Sopian and made crafts from the collected plastic waste. The initiative was formed under the BUMDES Kerta Rahayu with Yayan Sopian. Community participation is encouraged through collecting their

plastic waste and taking them to the centre in exchange for credit/money that can be used to pay their property tax. The crafts products such as bags and accessories are currently produced by village housewives who have free time. These products are then marketed and sold in a small scale to the Samida Village Educational Tourism Village and relatives.

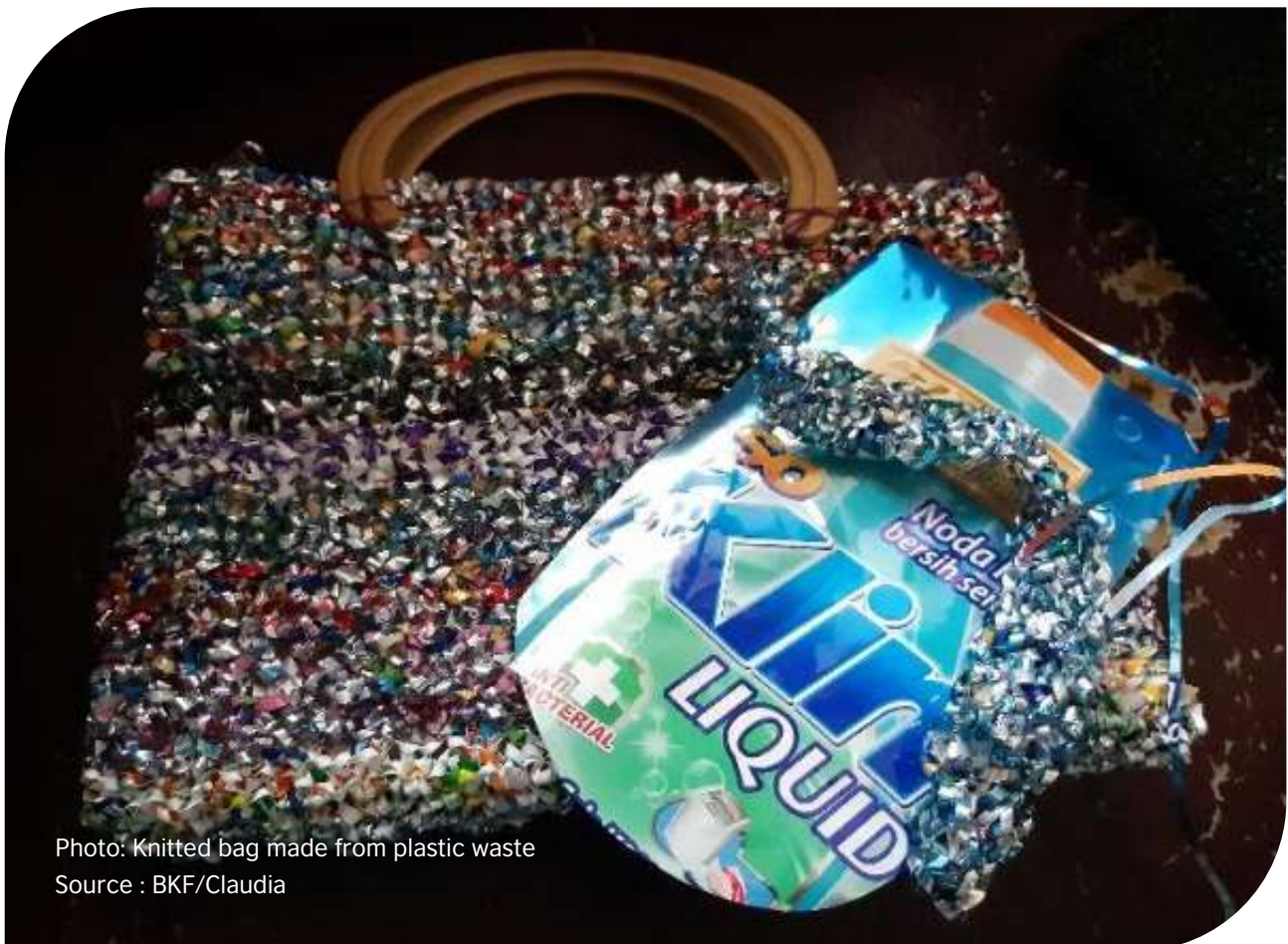


Photo: Knitted bag made from plastic waste  
Source : BKF/Claudia

## Studio Dapur

We expect appreciation for those who have specific skills or expertise, and that these skills are their greatest tools in making a living. However, this is not the case for bamboo crafters. The three founders of Studio Dapur saw that for bamboo crafters, expertise in making craft products does not necessarily contribute to improving their livelihoods. Motivated to help these crafters, Mega, Alain and Maulana established Studio Dapur in 2016 as an initiative to support bamboo crafters in Tasikmalaya. Beginning with one bamboo crafter they are now collaborating with 20 crafters from villages across the region.

Studio Dapur teaches bamboo crafters to optimize their expertise to make variations in the design of their products to follow market trends. They hope that this will have an impact on the income of the crafters which will contribute to bettering their standard of living and continue to maintain their survival as bamboo crafters. Studio Dapur sees sustainability in the craft sector, especially bamboo craft, as something that must be preserved, from the expertise of the crafters, their techniques, the use of bamboo as raw materials and the continuation of the profession. Studio Dapur believes that maintaining sustainability will have an impact on balancing the environment and social life of a community, especially in the communities.

Combining traditional bamboo weaving and coiling techniques, Studio Dapur develops contemporary products such as tableware, Boboko food containers, trays, food coverings and more. With these products, Studio Dapur also shares the narratives of local community traditions and stories. In running the business, Studio Dapur uses a partnership model with local crafters where they are entitled to 10% ownership as well as monthly salaries and health benefits for the head of production. Additionally, they collaborate with local crafters in designing their products and buy directly from them at a fair price. This arrangement hopes to instill structure to the production process as well as provide fair and mutual benefits for all parties.

Studio Dapur also aims to educate consumers about the value of bamboo products. Through product design innovations and experimenting with different material combinations, Studio Dapur hopes to introduce the different ways that bamboo can be used as a sustainable raw material. Studio Dapur has begun a collaboration with Kembara Studio in producing a tableware line that combines ceramics with bamboo and finished with Bio Industry products.



Tableware products made from bamboo by Studio Dapur.  
Sumber foto: Facebook Studio Dapur

Central to Studio Dapur’s eco-friendly and sustainable business identity is their use of organic materials such as bamboo and their partnerships with only eco-friendly enterprises. Studio Dapur is also conscious of maintaining the ecosystem and renewing the materials they are using, thus setting up their collaborative partnership with Ecoware to plant bamboo seeds in the Tasikmalaya region.

Studio Dapur, as a growing enterprise, has now begun to make a name for themselves both in the national and international markets. Nationally, Studio Dapur is a supplier for bamboo tableware for a leading hotel restaurant in Bali. And internationally, their products have been exported to Finland, United States, Spain and Japan. For their exported products, they have made several adjustments, including size and function. Studio Dapur plans to continue growing their business through participating in local exhibitions such as Inacraft and international opportunities such as New York Now. Studio Dapur feels that exhibitions are their most effective marketing media; they have been able to expand their network and directly educate their consumers about the benefits of products from bamboo.

# Institutions in the Craft Sector

## West Java Department of Trade and Industry

The West Java Department of Trade and Industry has the responsibility of implementing programmes for small and medium enterprises in regions that are known to be crafts centres. Currently, the department has implemented the

- **2017:** The Mendong material woven product design training in Mendikmalaya and Design training for leather products in Garut.
- **2018:** Training on clean production in the textile industry around the Citarum River. Training on natural color tanning for leather in Garut. Product design workshops for seashell products in Karawang. According to the Ministry of Environment and Forestry, Clean Production is a preventive, integrated and continuously implemented environmental management strategy for every activity from upstream to downstream related to production processes, products and services to improve the efficient use of natural resources, prevent the occurrence of environmental pollution and reduce the formation of waste at the source so as to minimize risks to human health and safety and environmental damage.
  - Training on clean production in the textile industry in the context of the citarum
  - Training on natural color tanning for leather in Garut
  - Product design workshops for seashell products in Karawang
- **2019:** Rattan design development training in Cirebon
- **Plans for 2020:** Bamboo weaving product design in Tasikmalaya, Rattan product development workshops in Cirebon, Capacity building workshops for leather products in Garut.

# Communities in the Craft Sector

## Hijau Lestari Indonesia (Green Lestari Indonesia)

The Bambu Juara Bambu Jawa Barat (Baju Baja) programme was initiated by Hijau Lestari Indonesia (HLI - Green Lestari Indonesia environmental conservation community) in 17 January, 2019 and has succeeded in fostering 35 villages and 2 boarding schools (pesantren) in regencies and cities around West Java. Beginning with their participation as the campaign team for the West Java Deputy Governor in 2018, they initiated a programme that aims to solve the bamboo problem and spread local wisdom across the West Java Province. The logging of bamboo (with 54 different types) has been an issue in the region with 14 species declared to be endangered, including the Tutul, Betung and Wulung(black) species. Oki Hikmawa, Chairperson of the program said that they are focused on the concept of conservation in cities or districts. In this activity the community will be given a six-month training and capital to start planting and utilizing bamboo and managing production and marketing for their products. Product marketing is done through social media, outlets, and Bambu Vaganza activities on National Bamboo Day on November 27.

The Baju Baja cooperation program itself is in line with government and private institutions such as the *Dinas Pemberdayaan Masyarakat Desa* (Village Community Empowerment Office), *Dinas Perindustrian dan Perdagangan* (Industry and Trade Office), *Dinas Tenaga Kerja dan Transmigrasi* (Office of Manpower and Transmigration), *Dinas Lingkungan Hidup* (Environmental Office), *Dinas Kehutanan* (Office of Forestry), *Dinas Koperasi dan Usaha Kecil* (Cooperatives and Small Businesses Office), and DEKRANASDA (Regional Craft Council). The organisation has implemented several preservation programmes in cooperation with local government and private institutions such as the Edu Forest activity plan with the Office of the Environment and the Forestry Office. The cooperation has received support to implement the *Baju Baja* Programme from the West Java provincial government in the form of an official letter and a declaration that states bamboo as local wisdom. From this, every hotel, restaurant, entertainment venue, and tourist site in West Java will be required to have a bamboo corner or use bamboo materials in their business activities.

“Bamboo has a philosophical value for the people of West Java. In terms of access to material, bamboo is easy to plant and can be harvested in 3-5 years, in contrast to wood which must wait for 7-15 years. We can also use all parts of a bamboo plant, even the remnants of bamboo shavings can be used as supporting materials for bamboo crafts using coiling techniques.” Oki, Hijau Lestari Indonesia.

The programme is run by 26 people. In its implementation, they received assistance from 59 people who were placed in each district city to conduct field supervision, the availability of natural resources and human resources, mentoring crafters and report on the progress of training. Baju Baja focuses on producing products that adjust to market demands. This is done so that local businesses can continue to grow. The obstacles faced by the team is in addition to lack of funding, there is limited research on bamboo finishing and treatment that is environmentally friendly and safe for food products; another challenge is the lack of collaboration with designers in product design development. For product design, Baju Baja has opened cooperative opportunities with several universities such as Telkom University, ITENAS and Pelita Bangsa Bekasi.

Following these successes, villages around West Java have begun producing bamboo crafts such as Kalijati Timur, Subang for laminated bamboo products, Ciaseum Girang, Subang for decorative lamp shades, Kujang Sari Village in Banjar City for kitchenware and Kadudampit Village in Sukabumi for sitting lamps. They have also developed other products such as bamboo speakers, watches, wall clocks, radios, souvenir packaging baskets as well as matchstick and cigarette cases. The organization has also successfully partnered up with IKEA and INFORMA to stock bamboo furniture and home décor.

Currently, Baja is also exploring potential partnerships for making bamboo trays for the fast food restaurant, Hoka-Hoka Bento. The Baja Baja programme aims to build 100 Creative Villages in 2020 and market bamboo handicraft products overseas. Through the efforts of their awareness campaign, the West Java Provincial Forestry Service has provided planting space in Kiara Payung forest in the Karawang Regency covering 25 hectares and in Cianjur forest area covering 10 hectares.



Interior design and furniture made from bamboo  
Source: Sutterstock.com



# Material Innovators in Craft Products

## Mycotech

Mycotech originated from a bio building block product which began research and development in 2015. In 2018, research found that the surface of the bio building block is similar to the texture of cow leather, which then inspired the production of Mycelium Leather. Mycelium Leather is a sheet produced from the seeding of the GanoDerma mushroom in a container that has been filled with Hickory wood shavings in a temperature and humidity regulated room. The duration of the mushroom seeding process depends on the thickness and thinness of the desired sheet. Until now, the produced sheet is measured below 1mm. After the surface has formed, a mushroom sheet is taken and boiled to kill the fungus. Then the coloring process is done by using natural colors (tingi and secang, both colors commonly used for batik) and then dried in the sun until the sheets are ready to be processed into products. Mycelium Leather has 2 standard sizes, namely 10 cm x 35 cm and 15 x 20 cm and Mycotech produces approximately 200 sheets a month.

In 2019, Mycotech began introducing Mycelium Leather among handicraft business owners including Vitarlenology diary books, Pala Nusantara watches, Brodo shoes and several other businesses with products made from animal skin. Mycotech developed the quality of their Mycelium Leather alongside a partner

through kickstarter and plans to launch several Mycelium Leather products in 2020.



Mycelium Leather applied to fashion  
Source: Facebook Mycotech

## Innatex

Innatex began with Soetomo who had a background in Textile Engineering, after graduating he began working at a bandage company in Pasuruan as head of production. After years in the field, the civil unrest in 1965 meant that he was unable to continue working. Soetomo then left the company and continued his studies. Through his position in the bandage company, Soetomo was able to explore different raw materials and was able to buy cotton from a cotton factory in Tegal that had burned down and processed it into yarn at home. This affected the emergence of cotton spinning production in Cipadu, Tangerang. From this, Soetomo began providing gauze and sanitary towels to a local distributor. Innatex was founded by Soetomo in 1967 as a CV, taking its name from the word Inna which means “textile/real clothing”. Soetomo focused on processing natural raw materials, both fibers and organic dyes because he believed in the natural wealth of Indonesia. The concept takes the principle that if a fiber can be processed into yarn, it can also be developed into other products.

Innatex’s initial product development began with a collaboration with ITB Textile Craft students in creating interior and fashion products. Now, Innatex is a supplier of raw materials, semi-finished materials and handicraft products for different designers and companies. Some of the items produced are woven cloth, bags, mats, pillows, tablecloths, curtains and wall hangings. Innatex takes inspiration from foreign textile books and adapts new designs to the skills of crafters with the help from textile students and designers such as Sancaya Rini (KANA GOODS) and Carmen.

Innatex has developed different organic materials such as cotton, jute, wool, hemp, kenaf, pandanus, banana fiber, and mendong which are processed into yarn and rope. For dyes, Innatex have developed pastes and powders made from secang, indigo, mango leaves, teak leaves, red yeast rice, and mahogany. All components of Innatex production are spread across from different parts of Java, with materials sourced from Bandung, Sukabumi and Yogyakarta and processed in Bandung and Pekalongan.

Innatex’s core team consists of 3 people; Soetomo as founder and education instructor, Kusiati as head of production, finance, marketing, inventory, and Urik as Kusiati’s assistant. Innatex is also assisted by 10 weavers in Pekalongan who still use Non-Machine Loom (ATBM). For two months, the weavers are trained in quality control to observe the best fabric density and neatness. The equipment used in the Innatex warehouse are stoves, pans, buckets, stainless plates for fiber cleaning and coloring, and wood for drying. Innatex used to have offline stores in big cities, but since the Jakarta bombings, all shops were closed and they now only have a warehouse in Jl. Cikutra, Bandung.



Textiles made from natural fibre material produced by Innatex  
Source: BKF/Claudia

Through Innatex, Soetomo has also been active in providing education about natural fibers to different institutions and crafter communities. Soetomo has also inspired students to explore and experiment with different fibers and dyes found around his home and allowed them to weave their final projects. These initiatives have led to Innatex being nationally recognised as an enterprise that is committed to the preservation of craft by the BPD ASEPHI West Java in 2009. Soetomo is currently known as a national fiber expert in the Indonesian Fiber Council since 2018 under the Ministry of Industry. He has spread awareness about Indonesia's natural resources. Soetomo has also taken his knowledge of product development to Banyuwangi and Minangkabau where he has been working with weavers and crafters working with pandanus. Soetomo hopes that more young people will further develop the use of fiber, natural dyes and the by-products (residual materials) and consider environmental impact in their work.

# Potential New Materials Entrepreneurs in the Craft Sector

## Plepah

Plepah is a social enterprise under the Footloose Initiative, a social design enterprise that utilizes areca nut waste. The business grew from founder Rengkuh Banyu's visit to India where he brought back souvenirs made from betel nuts. The product's quality inspired Rengkuh to explore its potential in Indonesia. Through his research, he discovered that Indonesia is one of the largest producers of areca nuts and exports them to India.

In April 2018, the three founders joined the IKKON<sup>[6]</sup> programme under BEKRAF where Rengkuh and Almira Zulfikar traveled to Wakatobi and M. Fadhlan Makarim to Singkawang. After the program ended in October 2018, they felt that there was no continuation. Following an independent research they conducted on online food deliveries, they discovered there was an issue with plastic and styrofoam waste. This data inspired them to develop alternative environmentally-friendly food packaging for businesses.

Following the programme, the three founders went to the border of Jambi and Riau to meet with the village chief and residents of Teluk Kulbi Village, Tanjung Jabung Barat who were areca farmers. Through a collaborative partnership with the village, the enterprise began experimenting with pelepah (leaf sheaths) to produce eco-friendly plates using a machine made in Bandung. Product design samples were first made as part of the ITB Product Design study programme. Plépah then received assistance from the London Zoological Society (ZSL Indonesia) to implement its production in Mendis, Banyuasin village where the residents had formed a crafts community but limited raw materials. With the financial assistance from LPIK ITB, they were able to procure machines for Desa Mendis to continue production with raw materials sourced from Teluk Kulbi and surrounding villages.

Plépah has produced food containers, plates and bowls. The production process is: (1) fallen pelepah is collected and selected and washed with soap and brushed clean; (2) the stem is then cut into pieces. One leaf sheath, usually measuring around 90-100 cm, is removed from the hard edges and divided into two 40x40 cm sizes; (3) the stem is then pressed by a machine, heated and shaped, then wiped clean; (4) because there is no sterilization system in the village, the products are wrapped using plastic wrap for each dozen dishes - this is done in order to hold the shape in its hot state after printing to avoid deformation - Mendis village can produce as many as 250-300 containers in a day; (5) the final product is then sent to Jakarta for Quality Control, sterilization using a UV machine and branding.

At present Plépah's core team consists of 11 people who work as business developers, researchers, technicians, designers, financial consultants, and legal officers for village MOUs and IPRs. In production, Plépah is assisted by 2 villagers in Teluk Kulbi Village who are vocational high school graduates and 10 people from Mendis Village. So far, Plépah products are bought in bulk from the Mendis Village Cooperative. The brand has also focused on collaborating with gastronomic parties for cooking shows to showcase their product and has not yet gone commercial. Plépah so far have produced food containers, plates and bowls promoting them on social media, through cooking shows and participating in design exhibitions. In 2020, Plépah plans to launch their product and begin market tests with restaurants in Jakarta, Bandung and Bali. In addition to developing container cover designs, Plépah also wants to focus on finding solutions for waste management, especially from the use of plastic wrap. Plépah hopes that this effort can educate the public to reduce waste by improving habits when buying food and choosing to use natural products rather than plastic and styrofoam.



Plates made from pelepah pinang (areca nut leaf sheaths)  
Source: archfy.com

## East Java

East Java is one of the provinces with the largest population on the island of Java, recorded to have 39 million inhabitants in 2019. Our field research covers 3 cities in East Java consisting of Surabaya, Bojonegoro and Malang; the three cities were chosen because of their different demographic characteristics and natural conditions. Surabaya is the provincial capital, Malang is the second largest city in the region and Bojonegoro is considered to be a district that has been quite active in craft development with its own iconic products.

I think if pelepah pisang (banana leaf sheaths) can replace wood, then I will continue to try making anything that is traditionally made from wood, but replacing the raw material with pelepah pisang”  
- Maisir, Debog.



Areca Nut leaf sheaths from Debog  
Source: BKF/Ariyasa

As the economic centre of East Java, Surabaya is considered an urban community. The city is supported by a port that is a sea distribution channel and its proximity to Bali connects it to the center of Indonesia's tourism industry. Surabaya City also has an advantage in the creative industry design sector because of its academic institutions such as the University of Surabaya (UBAYA) and the Sepuluh November Institute of Technology (ITS). Both of these universities have graduated individuals who are now engaged in the creative industry in product design or fashion. A unique product that has emerged from Surabaya is a watch product made from Lumpur Lapindo (mudflow) material and products made from old cement sacks by EMS Craft.

Bojonegoro is a region in East Java known for its huge natural resource potential. One of the biggest regional revenues for the Bojonegoro Regency comes from the contribution of oil and gas. Another natural wealth is teak which has a good density making it suitable for furniture products, including tables, chairs and cabinets. The local teak wood crafters mostly come from Batokan Village, Kasiman District, west of Bojonegoro Regency and mainly use modern chainsaws and electric grinders. Their main products include souvenirs, ornaments and home decorating accessories.

Malang was named a Creative City nominee by BEKRAF in 2019 because of its progress in the field of innovation; the city has also

become a prominent tourist destination within the region. The development of the creative industries in the city has also benefited from the Bromo-Tengger-Semeru (BTS) program and the Kawasan Ekonomi Khusus (KEK- Special Economic Zone) Singosari by the Provincial Government of East Java. Malang city itself has long been known as a supplier of craft products to various other cities, one of which are traditional wooden kelom shoes that have been in production in the area for decades. Dinoyo Village has also revived the ceramic industry center in the area which had faded in 2003; at present, the Doyo Ceramic Village is an educational tourism village where visitors can learn about ceramics.



# Crafters in East Java

## Debog

Debog is an enterprise that manufactures accessories, picture frames, home decor, and other crafts using pelepah pisang (banana leaf sheaths). It was first established in Bojonegoro, East Java by Maisir in November 2014 and officially registered as Kelompok Usaha Bersama (KUB - joint venture group) by the Bojonegoro Team Creative (BTC). Maisir saw the potential of banana trees in Bojonegoro which were quite abundant, and tapped into the crafting skills he learned in elementary school making products using banana leaf sheaths. The brand began with producing coasters, but Debog has now released over 60 product types. The concept behind the brand is to replace wood with banana leaf sheaths as a raw material.

The dried banana leaf sheaths are obtained from the local community for production. Maisir begins with creating designs and prototypes using simple techniques and tools and then sticking it to a leaf sheath as a reference for cutting. The pieces are then handed to the tailor who sews according to the design. The final step before packaging and shipping is quality control. According to Maisir, theirs is a low waste process where leftover scraps are also used for smaller accessories.

Debog products have predominantly marketed through exhibitions, walk-in visits, and the biggest success has come from their social media reach. Among the three ways, marketing through Facebook is considered the most effective. Debog customers are

individuals and institutions from various regions in Indonesia, especially East Java. Along with running the business, Maisir also conducts workshops in different schools, from kindergarten to tertiary education institutions both in Bojonegoro and surrounding areas to demonstrate the many ways of using banana leaf sheaths for craft. For this reason, Maisir formed a special team of coaches called the Bojonegoro Creative Team (BTC).

In running his business, Maisir is assisted by 25 non-permanent employees, which are divided into: (1) Manufacturing of banana leaf sheaths; (2) Tailors; and (3) Debog educational tourism instructor. The team is made of local residents from Bojonegoro, some over the age of 65 and disabled persons. Debog implements a wage system based on the work done. Maisir often receives support from various parties to develop its business. From Lembaga Manajemen Infaq (LMI- Infaq Management Institute), Maisir and his team received an assistance of Rp. 500,000 per person to be used to buy equipment. From the government, Maisir often receives equipment, training (marketing, production) and also the opportunity to exhibit. Maisir himself has also received media coverage, including Net TV, Trans TV, Trans 7, JTV, TV 9, and Jawa Pos. He claimed that these opportunities have been quite influential, resulting in growing interest about Debog products and the public wanting to learn about banana leaf sheaths processing. The constraints faced by Debog are mainly



Craft products made from banana leaf sheaths made by Deboq.  
Source: Dokumentasi BKF/Ariyasa

around equipment; Debog often receives mass orders for thousands of products, such as 5000 pairs of hotel slippers, but because they are still using manual equipment, they end up rejecting these large orders. Today Maisir is collaborating with other creative enterprises in Bojonegoro under the Industry and Manpower Office such as Zahidah Craft, Eryul, and Rumah Telur. They often hold exhibitions together and display each other's products in their respective galleries. Maisir hopes to collaborate with more parties to hold a Banana Festival with workshop activities, exhibitions, cultural performances in the Balen District, where he lives.

## ESM Collection

ESM is a Surabaya based handicraft business founded by Ermien Setyawati (66) in 2011 as a registered micro enterprise. ESM manufactures bags, wallets, umbrellas, fans, lampshades, flowers, paintings, and various accessories made from leftover cement sacks, along with leaves and natural dyes as decorative additions. The idea behind ESM products is to replace fabric with cement sacks. Aside from reducing waste, Ermien believes that cement sacks are unique and strong. In 2011, Ermien began accumulating more knowledge by attending a training session held by Surabaya's Department of Cooperatives and SMEs. Ermin initially built the business as a form of self-therapy following the death of her husband in 2006. The production process begins with collecting Semen Gresik cement sacks (considered to be more sturdy) from local builders and cleaning them. Once cleaned, leaves are taken for eco-printing to create patterns and decorations. The sacks are then rolled up and steamed for approximately 2 hours. After preparation, the sheets are cut in accordance with the prepared designs and then sewn together to construct the final product. In this process, Ermien is assisted by one disabled person working as a part-time tailor. The tailor is paid using a wage system based on the number finished products. Ermien uses simple equipment such as scissors, cutters, rulers, cooking utensils, and sewing machines in her production. The waste of left over sacks and leaves are usually thrown directly into the trash.

The finished products are then marketed mainly at exhibitions, galleries, souvenir shops in Surabaya, through social media, media coverage, and word of mouth. ESM have successfully sold products to both national and international consumers.

Ermien also often conducts commercial and social training within her village, sub-district, Integrated Healthcare Centre, Public Health Centre and even outside the city. Additionally, Ermien, as founder of ESM, is also part of local associations in support of the creative economy in Surabaya including: AHJ (East Java Handicraft Association), Asprinta, MUKJ, and the Pahlawan Ekonomi Surabaya (Surabaya Economic Heroes). Ermien has also been rewarded the Pahlawan Ekonomi Surabaya (Surabaya Economic Heroes) award for her achievements as an enterprise and the contribution in the field of Creative Economy. She has also received prominent recognition in local and national media: Jawa Pos, Surya, Radar, JTV, and Trans TV newspapers.

ESM has received assistance and support from several parties. From the government, ESM received formal training and promotional opportunities. From Telkom, ESM has participated in the Telkomcraft exhibition in Bali. UNTAG in Surabaya has donated sewing machines and promotional media. Additionally, their progress has been supported by a number of academic institutions around East Java through the



Bag and fan made from old cement sacks  
Source: BKF/Gusti

age of 66, Ermien still wants to continue to learn to develop her business. She realized the importance of keeping up with the times, especially with the technological developments that could help in making ESM products. For this reason, she hopes to learn more about how to use social media for marketing so that she is not left behind in the age of technology and information.

## Mapro

Mapro is a craft business located in Singosari, Malang founded by Darto who produces sandals made of mahogany wood. Darto learned his skills from his uncle who owned a wooden sandal business. In 1999, Darto was finally able to open Mapro under the registered name of UD Indohasta Wooden Heel. The intention behind Mapro was to maintain Singosari's status as a primary hub for wooden slippers production which has been famous for two generations before Darto.

Mapro obtains their raw materials from wood plantations such as Perhutani and merchants around the area and produces sandals using traditional techniques. For the process, wood is cut according to the mold pattern and then sanded down. Once neat, the wood is then burned to expose the wood fibers. The final step before packaging is decorative drawing on the wooden sandals. In production, Darto is assisted by 14 permanent employees and 4 temporary employees, mainly from family members and closest neighbors. They are paid through a wholesale system. Mapro sells in bulk to a wide range of souvenir shops within tourist areas and Bali (Krisna Shop) and Batu, Malang.

Through the support of the government, the brand has predominantly marketed their products at exhibitions and showcases in and out of the city. Within Malang, Mapro often participates in exhibitions by the district government. Mapro won the best stand award at an exhibition in Sleman in October 2019. Mapro's profile has also gained significant local and national media attention such as Trans TV, JTV, and Darma TV. The TV coverage has been quite influential; after airing, many people visited the Mapro production house in Singosari, Malang. Darto has difficulty in selling retail, and until now he has not used social media to market his products.

Our area is already known as the center of the wooden sandal industry. If it is not maintained as a center, it will later be lost. So I founded this business “.  
- Darto, Sandal Wood Mapro.



Wooden sandals  
Source: BKF

In developing his business, Darto has received assistance from the government in the form of exhibition opportunities and equipment. Darto is involved with local handicraft associations, such as the Asosiasi Handicraft Jawa Timur (AHJ - East Java Handicraft Association) and CTH (Cooperative Trading House) supported by the District Department of Cooperatives. Mapro has been able to form fruitful collaborations with crafters across Mojokerto and Surabaya in supplying them with semi-finished products. Darto participated in several competency tests conducted by the government until he finally received certificates such as a P3EI certificate for international exports. However, Darto admitted that the certificate did not significantly affect the development of his business and has never used it for any purpose. In expanding the business, Darto aims to build a workshop that can house more production equipment, and consequently increase productivity.

## Luido

Luido was formed in Surabaya in 2016 with a unique product line made from mudflow. The brand originated from a university product design project from the Sepuluh Nopember Institute of Technology Surabaya (ITS) where the creators experimented and explored different ways of using mudflow to make products. Ultimately, Luido discovered a new way of treating mudflow into clay which is then molded into tableware, clocks and their iconic watches. Their brand has garnered positive attention from the community, the media and has opened up access to local and national government resources such as studio space and business development tools.

Manufacturing products involves 3 stages: material collection, mixing, and molding. The process of production usually takes a week from raw material to finishing. For example, watches are made using 100-200 meters of mud with sack material. A single sack can be used to make 100 watches. The mud is dried and burned until it becomes like clay. The mud is then softened by mixing it with different ingredients and colorings. After colouring, it is then molded and shaped into different shapes for tableware, watches and clocks.

Luido mencoba melihat fenomena bencana Lumpur Lapindo dari sudut pandang lain yakni pemanfaatan lumpur yang terbangun menjadi produk bernilai dan dapat diterima oleh konsumen.

Luido Craft's popularity comes from their unique use of mudflow to create clocks. The brand has become famous in Sidoarjo, a region famous for its mudflow disaster. Luido Craft products could be found at many governmental exhibitions and have garnered media attention from Detik.com, JawaPos and Tribune. Despite their success, Luido have faced challenges with the sourcing of their raw material, quality mud has to be taken from the center of the mudflow which adds risk to the production process. Quality mudflow can be found close to the epicentre of the blast because it is not mixed with gravel or other substances making it better for processing. Additionally, the rainy season is also challenging because it makes it more difficult to collect the mud. To overcome this, there must always be a sufficient amount of mud in stock to ensure that production does not cease.



Luido home decoration products made from mud.  
Source: Facebook luido.co

Lapindo mudflow is a versatile material that can be used for different types of craft such as watches, stationery, flower vases, table clocks and other products as long as they could be printed on. Luido products can be characterized as durable and sustainable as they can be used for up to two years without needing maintenance. Currently, Luido predominantly markets their products through social media and exhibitions and receives support from the local government (local department of industry) and tools from the central government (BEKRAF). In the future, Luido Craft hopes to expand their team to support sales and promotion which has faced challenges due to cost and time constraints. Luido Craft also hopes to connect to a wider network of creative marketing beyond the Surabaya domestic market which has low purchasing power. The brand has also been expanding their network both nationally and internationally through participating in overseas events and local business incubation programmes.



## Guweeng Craft (Rumah Telur)

Guweeng Craft began upcycling waste (primarily wood waste) into craft products in 2009. The brand was founded by Yasin, a teak furniture crafter. Yasin began with reprocessing wood waste from his furniture business into other products such as wooden bags, bracelets and interior ornaments. Eventually, Yasin began experimenting with other raw materials such as egg shells to create accessories. This resulted in the founding of Rumah Telur under the brand name Guweeng Craft with his wife, Utami. Utami incorporated her skills learned from participating in local craft workshops into creating new products.

Guweeng Craft chose to use eggshells as their main material because of its uniqueness. Focused on making women's bags, earrings, bracelets and other fashion products, the crafting of products from eggshells requires careful precision and ample experience. During the production process, eggshells are cleaned, dried, and added as decorative details on different handicrafts.

The brand has had positive environmental impact because of its use of waste material and their working with the local community. Currently, the business is still focused on women's fashion driven by the founders' interests and skills. Guweeng Craft prides itself as a community-based sustainable brand that uses predominantly upcycling processes in their production. Using Facebook as their primary marketing platform, Guweeng Craft is still in their early development stages, focusing on growing their business through capacity building.



## Robries

Robries was founded in 2015 by Syukriatun Niamah, or Niam. As a student in the Industrial Product Design Department of the Surabaya Institute of Technology (ITS), Niam noticed the plastic waste problem around where he lived and began experimenting with recycling plastic bottles to make different products along with his classmates. In 2015, they began making Home Decor and Filament products for 3D Printing under the name Roasted Bottle Home Accessories, abbreviated as Robries. Throughout 2015 to 2017, Robries was still in its experimental stage, testing different products and techniques which used a mixture of synthetic resin material, until receiving backlash from consumers for spurring new waste problems with the use of synthetic resins which are difficult to decompose.

In 2018, Robries legally became a CV. The brand predominantly sells interior home decorations including coasters, wall clocks, vases, trays, wall paneling and filaments for 3D Printing. Robries' consumer segmentation is between the ages of 25-50, mainly from Bali where their products are used to decorate restaurants or cafes, and Jakarta where they are well-known among interior designers and home decor businesses.

In the same year, Robries returned to working solely with plastic bottles, removing the use of environmentally harmful materials. Robries mainly source their materials from residential areas, scavengers and garbage banks around Surabaya (price range 5000 - 6000 per kg) utilising bottles that contain Polyethylene Terephthalate (PET) and bottle

caps with High-Density Polyethylene (HDPE) which are recyclable. The production process starts from cleaning and categorising the bottles and caps according to color and type before putting them into a plastic shredder. The plastic flakes are then heated and molded into the desired shapes. The business is managed through different divisions; 2 people in production, 1 person in finance, 1 person in product design, and Niam remains as CEO in charge of orders, client relations and sourcing raw materials and equipment.

At the beginning, Robries experienced many obstacles in production and marketing. To overcome these obstacles, Robries received a lot of support and knowledge from their community networks such as Precious Plastic where they learned about how to work with recycled plastic. From this connection, the brand developed an understanding about sustainability in recycled plastic products, specifically that it is more than just reducing plastic waste.

In 2018, Robries received a grant from the Ministry of Research and Technology and Higher Education (Kemenristek Dikti) to develop their Filament machine and in 2019 to continue their research. In pursuing the grant, Robries presented a proposal that included a business incubation programme. Tapping into her alma mater, who prioritises collaboration between students and teachers, Niam submitted a proposal in a partnership with Universitas Pembangunan Nasional (UPN) in Surabaya, and now their production process is currently done at the campus.



Tray made from recycled bottle tops by Robries.  
Source: Robries Gallery

In their business development, Robries has successfully collaborated with local product designers such as Hendiyanto in 2018 to create stools and Denny Priyatna in 2019 to make containers and vases for the Rossana Orlandi Guiltless Plastic programme and showcased at the Rossana Orlandi gallery in Italy. In 2019, Robries was nominated for the Emerging Award organized by Inacraft. These collaborations have continuously opened up opportunities for the expansion

of their business such as their upcoming partnerships with Fujifilm to make products from plastic refill containers and Oriflame and Body Shop to source raw materials. Robries takes advantage of their community to expand their knowledge on sustainability and share their experiences. Through the brand, Niam also hopes to spread the message of the value of recycling and upcycling, building awareness about sustainability and changing mindsets about waste management.

# Institutions in the Craft Sector

## The Technical Implementation Unit of Industries and Crafts for the East Java Province

The Technical Implementation Unit (Unit Pelaksana Teknis - UPT) of Industries and Crafts is an implementation team working under the Department of Industry and Trade of East Java Province. Their role is to provide guidance as well as manpower and business-related resources to small/medium enterprises (IKM). Their aid can come in the form of technical training that encompasses management, technology, processing, production, standardization, environment and industry know-how. This UPT is regulated in the East Java Governor regulation no. 60 of 2018 concerning NOMENCLATURES, ORGANIZATIONAL COMPOSITION, DUTIES AND FUNCTIONS AS WELL AS WORKING PROCEDURES FOR TECHNICAL IMPLEMENTATION OF TECHNOLOGY OF EAST JAVA PROVINCE AND TRADE.

Based on our interview with the head of the craft industry technical development section Reny Suharto (55 years), program activities in the development of the craft sector are more focused on developing the advanced stages of the development carried out by the industry service at the city / district level to the craftsmen.

*“We provide advanced training, not from zero. We also choose craftsmen who attend our training who already have a business. Basic skills training is usually given by the City/Regional Department of Industry” - Reny Suharto*

The programme is implemented twice a year. Program participants are crafters who were recommended by the city / district industry office who have attended training at the provincial level. The basis for determining the location of origin of program participants is the availability of crafters based on their specialties. This is done in order to strategically tailor the next stages of the programme. One example of the training that has been carried out was their training for ceramics entrepreneurs. The unit opened the opportunity for crafters with existing businesses to develop and grow their enterprise.

The programme has been implemented in 5 districts: Malang, Lamongan Regency, Kediri Regency, Mojokerto Regency, and Pasuruan Regency. The target or indicator of the achievement of the program is an increase in orders for crafters, as well as product diversification. The programme's Exit Strategy for participants includes their partaking in the National Standardization Agency (BSN) Program.

However, the UPT's activities / programs have not prioritized training in sustainable materials, but rather on utilizing the natural resources available in East Java. In the future, the UPT will try to provide specialized training in developing sustainable use of materials.

## Aryani Widagdo Creativity Nest

Aryani Widagdo Creativity Nest is an educational research institute of fashion and arts, founded by Aryani Widagdo in 2015. “Fashion is the second biggest contributor to waste in the world. That fact pushed me to take responsibility in doing my part to save the environment. It led me to start Creativity Nest” said Aryani, who initiated different studies into sustainable fashion.” Taking her academic experience from the Arya School of Passion, Aryani began conducting studies on sustainable fashion as a step towards protecting the environment.

“Passion and honour” is the spirit of this institution and it is depicted by the small Robin logo. This independently run research institute has depended on book sales, DIY package sales, and workshops to finance their research. Within the institution, Aryani is supported by five people; two in charge of book publication and sales and three researchers and instructors.

Aryani’s research about sustainable fashion has contributed to the “Zero Waste Fashion” movement where she designed patterns that would reduce fabric waste, and / or utilize the fabric itself. At present there are three main findings:

**Yoyo Fabric**, patchwork consisting of circular cut fabrics with the edges stripped into tiny, puffed ridges which

can be used to create tablecloths, seat cushions, dolls and many others; Zero waste, the concept of utilizing fabric sheets without leaving leftover scraps;

**Slow stitching**, a beautiful form of hand embroidery that places focus on the process on top of the resulting product, it can be applied to: Tote bags, chair cushions, frames as wall hangings and many more.

Through this institution, Aryani Widagdo wants to continue to echo the concept of “Zero Waste Fashion” so that fashion practitioners and connoisseurs can also understand the importance of environmental sustainability while still having their own style.



Aryani shared the results of her research with the public through her books, workshops and DIY (Do it Yourself) packages for those interested in fashion and environmental sustainability. Aryani Widagdo is now a household name and her training sessions are highly sought after. Through these programmes, Aryani wants to popularize the Home Sewing movement whilst still integrating the concept of sustainable fashion.

In her research, Aryani experiments with leftover scraps and patchwork from crafters and fellow fashion industry colleagues sourcing natural fibre materials. The institute's business model is currently focused on funding the research; they are not mass-producing clothing but are depending on books sales, workshops and their DIY packages to fund their research projects. The DIY package is a specifically unique product that contains the materials needed to produce a zero-waste garment which includes fabric, patterns, and procedures / instructions for sewing.

Fellow designers and crafters within the region have already taken part in this endeavour and have begun to consider environmental impacts into their work. Through her research, Aryani will continue to spread awareness and knowledge so future designers and crafters will be diligent in preserving the environment. For her hard work in sustainable fashion, Aryani has received several awards such as:

1. Womanblitz : Blitz Inspiring Woman 2016, in 22 December 2016
2. Jawa Pos : Kartini Kita Kini - 8 Inspiring Women, in 18 April 2017
3. Surabaya Fashion Parade 2017: Life Time Achievement, in 3 May 2017
4. Yayasan Anne Avantie : Kartini Masa Kini (Kartini of today), in 21 April 2018

At present, Aryani Widagdo Creativity Nest hopes to collaborate with videographers to document their research. As for their short term targets for the next 1-5 years, Aryani wants to sell as many DIY packages as possible throughout Indonesia. While the long-term goal of the next 5 years is the continuation of the Zero Waste movement. Thus Aryani hopes that new researchers will continue expanding the field of sustainable design.

# Communities in the Craft Sector

## Surabaya's Muda Mudi Community (KMS) - Youth Community in Surabaya

The Surabaya Muda Mudi Community (KMS) was founded by Zubaidulloh (Ubed) in 2018 and uses crafts to champion their cause for environmental conservation. KMS's activities involve combining diaper waste and used cooking oil to create craft products such as ashtrays, plant pots, accessories and home decor. The community group was created to promote environmental conscientiousness among the youth.

As a youth activist, Ubed was the former chairman of the community. Seeing the need to support the group, Ubed dedicated his time to continue educating the community's younger generation about sustainability and environmental protection through initiating environment-based activities.

The community is unique for their use of diapers and old cooking oil in making craft. Their production begins by collecting diapers and used cooking oil donated from surrounding neighborhoods. The process combines the waste material with concrete to be molded into their final products. The next step is to clean and sanitise the diaper, removing the gel and to make the right composition cement mixture. The cleansed diaper is then coated in the cement mixture and then moulded into the desired shape (plastic jars or astor containers, etc.). After waiting around 2-3 days for the mould to dry and then colour is added. In the production process, KMS uses simple equipment such as a small shovel (for mixing cement), a bucket, and used containers (as moulds) obtained from buying and finding items that are around the house.

The KMS organization is open to anyone in the community who believe in the mission to save the environment. "It is not complicated to join this community, just come to our events, and be active in the WA group or Facebook," says Ubed. Prospective new members often become connected through the KMS social media and community acquaintances. KMS's core team is made up of 7 members, supported by 7 other community members. In addition to being in charge of managing the production process, the core team are also the instructors to teach their waste management process. The core team currently do not receive any special salary, but often earn a honorarium through the training they implement with any extra earnings are collected for the KMS cash. KMS predominantly promote their campaigns, activities and products through social media and whatsapp groups. Their main customers are from the public, friends or orders from agencies mainly from Surabaya. Their achievements have also been covered in local media such as SBO TV, BBS TV, JTV, TVRI, Surabaya TV, and iNews which have helped in spreading their mission and expanding their market.

KMS is an independently- run organization, beginning with Ubed using personal funds to finance their activities. KMS has already built a name for themselves within the community, especially among environmentalists. This recognition has since gained them support from local stakeholders such as local schools and other environmental organisations. Through the support of their expanding

network, KMS hopes to build state-of-the-art garbage bank management center and continue to empower their community to conserve the environment and promote sustainability. KMS also hopes to maximize community empowerment by activating youth organizations in their regions to reduce unemployment rates.



The Surabaya Muda-Mudi Community training to local communities about plastic and paper waste management  
Source: Facebook Komunitas Muda Mudi Surabaya



## Bali

Bali is known for its diverse, rich culture and the traditionally rooted lifestyle of its people. The island is abundant in natural resources, cultural heritage and livelihood. Both of these factors are the driving forces behind Bali's economic backbone. Domestic and foreign tourism in Bali have both made significant impacts on their social and cultural life. With a number of approximately 6.3 million visitors in 2019, Bali has become a major destination and a benchmark for the Indonesian tourism industry.

Over the years, Bali's tourism industry has been rapidly growing with new hotels, restaurants, and other businesses emerging around the island. However, there has been a growing concern regarding the preservation of Bali's natural surroundings. Bali's tourism industry is the biggest contributor of waste through the growth of hotels and cafes.

One of the problems in developing handicrafts in Bali is the reduced interest of young Balinese in pursuing jobs in the craft sector. They are more interested in the tourism sector. There should be an activity that invites young Balinese to re-pursue the craft sector given the market potential, raw materials and hereditary craft skills in Bali. " (I Ketut Muka, Art Craft Lecturer at Denpasar Art Institute)



Balinese Hindu procession  
Source: Shutterstock

Bali's growing waste management issue has prompted the local government to implement island-wide initiatives. In 2018, the Governor of Bali also established the Peraturan Gubernur Bali No.97/2018, a regulation that limits the use of disposable plastic products and styrofoam to manage the disposal of plastic waste.

These changes have introduced an opportunity for the crafts industry to explore how waste can be a rich resource for raw materials. Businesses have collected and repurposed waste such as glass bottles, old linen and metal waste into useful products, diversifying the crafts industry in the region. These brands have found success through promoting their knowledge of sustainability; they are using existing materials so that they are no longer (or at least reduce) exploiting resources or producing new waste. Lovelife Studio has taken inspiration from the liquor bottles from local bars and restaurants and transformed them into glasses, pots and accessories. This model has certainly benefited both parties; Lovelife Studio gets a free supply of used bottles, while the bars and restaurants have somewhere to dispose of their waste for free. For Triupcycle, they have built their brand through sourcing used bed linen from local hotels and inns to turn them into bandanas and slayers, which are sold and the profits donated for orangutan conservation in Kalimantan.

The new restrictive regulations regarding disposable plastic have not necessarily made Bali free of plastic waste; those from the lower middle classes are still using disposable plastic bags because they are considered to be cheaper. This fact is the inspiration behind the I\_Substic brand founded by 2 Balinese students, using plastic bags to make bags and wallets. Finally, Duakala is also a brand out of Bali who transforms plastic bottles into attractive souvenirs.

Kunang Jewelry is a brand who takes metal waste to produce jewelry led by Dian Suri Handayani, a designer with more than 10 years experience with an international jewelry brand. Dian was driven by her knowledge of the exploitation of natural resources within the jewelry industry which damage the environment. Dian's initiative utilises metal waste to make attractive jewelry. Additionally, some of the profits from Kunang sales are used to empower prison women in Denpasar.

Balinese brands are not worried about their market; crafts are still present in Balinese everyday cultural life and support the local tourism industry. Bali craft products can be found in souvenir shops, galleries, and exhibitions around the region with a strong foreign and domestic market.

## Crafters in Bali

### Duakala

Duakala is a self-financed and self-taught company founded by Nur Fit. Rapid industrialization has ushered in an era of excessive urbanization and a consumptive lifestyle that produces high amounts of waste. Nur began the brand to find ways of transforming waste into reusable products and run a business with the concept of effective waste management.

Duakala mainly uses plastic as it is relatively easy to process and obtain; plastic processing itself is not a new concept with many companies such as Aqua (Danone) have their own plastic processing facilities. Applying Circular management, they have incorporated a sustainable production process into their business practice. Plastic was their first choice as it is relatively easy to process and easily sourced in Bali. Being sustainable does not only apply to raw materials but also the production process itself; sustainable materials still generate waste if the process does not include proper waste management systems.



Duakala developed their production process through open sourcing from the internet, mainly inspired by the Precious Plastic Movement, a community where people learn and share knowledge about processing plastic. Through experimentation and product development, Duakala created their product lines of coasters and lanyards. The enterprise runs their business through collaborating with suppliers, designers, communities and policy makers.

Duakala mainly uses a plastic cutter to slice plastic into small pieces before they are melted and shaped into the final products. They also use an oven to melt the plastic into new forms. In terms of production, there are many challenges to recycling plastic; from getting the raw materials, and operating the production equipment to finding sufficient manpower.

Despite these challenges, Duakala continues with their mission by educating local communities. Duakala works together with Kopernik (NGO) to teach children and young adults about recycling. Through workshops and seminars, Duakala hopes to spread enthusiasm for waste management, especially with plastic. All activities are still funded independently through personal funds. In the near future, the company's goal is to educate more communities, especially the younger generation.

## I-Substic

I-Substic is a business that manufactures bags and accessories made from plastic waste. It was founded by two students from Bali, I Gusti Ayu Puspita Dewi and Ni Putu Aseri Devi in June 2019 through their participation in the Parade Cinta Tanah Air (PCTA) or Love Parade contest hosted by the Indonesian Ministry of Defense. Their enterprise developed from the concept of sustainability; activities that use environmentally friendly materials from pre-existing products, supporting the notion that no new materials should be used in production

In production, plastic waste is collected from local neighborhoods and communities including Bali's Green School, washed thoroughly, dried and stored. The plastic is then cut according to the patterns designs and ironed to be glued. The ironed plastic is then sewn and constructed into the desired bag design. Production is currently managed by one person (our informant) who oversees the process from beginning to quality control, they are assisted by one other person who is paid per finished product. Their recruitment system is currently based on personal networks.

I-Substic's perception is that waste can be repurposed to help preserve the environment. The enterprise supports the Balinese government in creating and encouraging a plastic-free lifestyle.

I-Substic markets its products through Instagram, exhibitions, and sells directly on campus and at home. Their main customers are Balinese locals such as campus students, lecturers, and exhibition visitors. I-Substic products have received a lot of appreciation, especially among the campus community, as an environmentally friendly and innovative product. In the PCTA competition, I-Substic

I-Substic has been running independently from their initiation, from equipment to marketing with their skills developed through participating in fashion workshops. Going forward, I-Substic wants to further develop the business by empowering the female leaders and

mothers within their community. For this, they need venture capital and product innovations to increase both quantity and quality in production. "I want to empower unemployed women around where we live," said Puspita .



Tote bag made from recycled plastic bags from I-Substic  
Source: BKF/Fajar

## Kunang

Kunang Jewelry is a family founded small and medium enterprise founded by Dian Suri Handayani alias “Disur”, Ajeng Tri, and Farah. The establishment of Kunang Jewelry began with product research in 2017 and officially launched in October 2018. Driven by Disur’s knowledge, their environmentally friendly design concept focuses on reusing and extending the product life cycle, incorporating a production process that is sustainable and does not damage the community or natural habitat. Based in Denpasar Bali, Kunang recycles metal waste or in their words, “reincarnating metal waste” into jewelry.

In addition to addressing environmental issues, Kunang also tries to address social issues by empowering people. Every product made by Kunang has a meaning, story, and philosophy that is conveyed.



Rings made from recycled metals from keys from Kunang Jewelry  
Source: instagram @kunangjewelry



Kunang Jewelry's production process begins with collecting and organising metal waste from scavengers and garbage banks. Metal with low oxidation is specifically selected for the products. Disur designs the jewelry referencing Emerald Cut and geometric shapes. Finally, the materials are melted using combustion and then printed based on the designs. The finished products are then packaged and distributed. Kunang jewelry produces almost no waste in their process as any wasted metal is re-used, glass waste is given to glass crafters and plastic is collected and separated by colour for storage. Currently, plastic waste is still stored for future experimentation that incorporates new materials into classic jewelry designs. In production, Disur empowers 5 crafters as temporary employees and several scavengers who used to work at landfills whose wages are paid based on the amount of work done.

Kunang Jewelry's target market is mainly active, independent women, from Jakarta, Bali and Surabaya. Their promotion channels are done through: (1) Social media, (2) galleries, (3) mouth to mouth and (4) exhibitions. Kunang incorporates community empowerment into their business working with local crafters, scavengers and landfills. The products are often made in collaboration

with local institutions and to fundraise for social humanitarian campaigns. Kunang have also provided training for female prisoners in Denpasar to produce souvenirs, fashion, and jewelry. Through their empowerment activities, Kunang have been recognized by local media (Bali Pos and Leak Magazine) and have seen success in promotion through social media, exhibitions, partnerships with galleries and word of mouth."I want the female prisoners to be independent after they serve their detention." explains Disur.

Kunang has predominantly been an independently grown enterprise with in-house artisans, but since their initiation, has received support from the Indonesian Ministry of Industry and the BIKIN Making Space – Bali Creative Industry Centre for production equipment and space for workshops. Nevertheless, Disur prefers in-house production working with her trained crafters. In the future, Kunang hopes to include a conservation initiative to plant 500 mangrove seedlings and continue their community empowerment programme along with expanding their workshop and business and be more responsible for their own waste.

## Loveliflife Studio

Loveliflife is a creative studio founded by Boedi Santoso located in Ubud, Bali that processes used bottles into new products such as glasses, water bottles, etc. The main concept is to reuse bottles turning them into new items to promote environmental sustainability. Loveliflife Studio was founded under the concept that sustainability is about product circulation where the waste could be used again to reduce the use of new goods. Essentially, that all materials could be recycled to zero.

The production process begins with collecting used bottles from bars, restaurants and hotels from around Bali; they are then sorted according to shape, type and size. Product design is led by Boedi who examines the different types of bottles collected and builds his designs based on each shape and size, bringing in his own imaginative concepts. The next step is to cut the bottle based on the final designs and then finished by smoothing, combustion and sterilization before the final aesthetic touches.

Loveliflife stores their production waste to be processed into other products or given to scavengers in order to continue the life cycle of the materials. Loveliflife Studio houses simple cutting machines and grindstones, however most of the equipment is self-made to control how they could adapt to specific production needs. In production, Boedi is assisted by 3 permanent employees who are paid the regional minimum wage. The sourcing of employees proved to be difficult as there was a lack of enthusiasm in working in recycling.

Loveliflife Studio products are marketed through Instagram, exhibitions and word of mouth. Their philosophy about sustainability has also been promoted by Trans TV, Kompas TV, and other local media outlets. Their coverage has influenced the public's views about the waste; rubbish is no longer regarded as useless, but as assets with economic value. Loveliflife Studio's consumer base is mainly made up of café owners from Jakarta, Bali, and abroad. Loveliflife has received several feedback from foreign consumers such as (1) a concern of waste management regarding stickers and (2) regarding price difference for local and foreigners consumers. Loveliflife maintains their mission of promoting the philosophy in waste management by practicing what they preach; any waste that comes from production is stored, re-used or distributed to scavengers.



Vases made from recycled bottles  
from Lovelife Studio Bali  
Source: Instagram @lovelifestudiobali

For Boedi, the most important thing is people to be wise about how they dispose of their trash. Boedi himself separates the stickers from his plastic waste before giving them to the scavengers he is in partnership with. Regarding price, he has never applied different prices for his products, both for local or foreign customers.

Lovelifestudio is an independently-run business that sources their own materials, equipment and machinery that is still growing. Through their collaborations with Kunang Jewelry community environmentalists, Zero Waste and Trash Hero, they educate the public about environmental awareness. Boedi's hope for Lovelife Studio is to expand his workshop to accommodate larger production and more employment in the processing of glass bottle waste.

## Triupcycle

Triupcycle is a social enterprise that grew from a small school project. With climate change and environmental destruction becoming a central topic within the past decade, Triupcycle's goal was to reduce the use of non-organic materials. Taking materials such as organic bed linen from local hotels, they developed their early products with the concept of upcycling them into bandanas and bags. As the enterprise grew, they began developing scarves made from organic cotton to reduce waste by replacing non-organic fabric with organic materials.

The initial purpose of this project was not to commercialize but rather to experiment with making environmentally products. Though their branding does not explicitly state "sustainable product," triupcycle adhere to the concept of sustainability. According to founder Annisa, sustainability is something that does not produce waste or new issues for both the community and environment; items that when disposed, can still be reused or transformed into something else. Triupcycle's mission is to reduce waste by educating the community about responsible consumption, and replanting trees in the forest.

The production process begins by collecting linen which are then cleansed and sanitized before being re-processed into raw material. Once sterilized, they are ready for cutting and colouring using natural dyes. In production, Triupcycle's most important component is the linen waste treatment process which ensures that the selection of raw materials is

still viable and strong. Therefore, the quality control process of raw materials begins even before the making of the final product. Quality control is a simple process of sorting the used sheets by pulling them with hands, if the material is torn or have difficult stains, they are labelled unusable.

Triupcycle is not only building a profitable business, but also implementing three main initiatives: reducing waste, raising public awareness about wise consumption and the greening mission which have had real impact both for society and the environment.

Triupcycle products are sold both offline in the local marketplace and official stores in Ubud, Jakarta and Kalimantan; and online through their official website [www.triupcycle.com](http://www.triupcycle.com) and social media. In the future, Triupcycle hopes to build and explore more quality designs using different recycled materials. For this, they are recruiting product designers who can develop new and different products using recycled materials.

There are still many people who think that the recycled raw material uses materials from waste directly. Many people do not understand that raw materials for recycled products require special processing.



Product by Triupcycle  
Source: Instagram @triupcycle

## Cilota

Cilota is a business founded by I Komang Sukarma in September 2016, producing souvenirs made from palm leaves. The name Cilota stands for Cili and Lontar; Cili (usually a triangle) is a cultural symbol that represents beauty and fertility; while lontar or often referred to as siwalan/palmyra is a type of palm plant that thrives in KarangAsem - Bali, where Cilota originates from. Initially, the Cilota product was made by Komang as a prototype for the Lomba Karya Tulis Ilmiah – LKTI (Scientific Writing Competition) to show the meaning of palmyra leaves in Balinese culture. Komang used his knowledge on sustainability, conducted experiments for approximately 3 months to :

- Preserving local culture
- Reducing waste
- Empowering local communities
- Preserve Balinese language and local script
- Pass on the universal philosophical message to younger generations.

Raw materials from palm leaves are still obtained easily, “incidentally in our area there are a lot of palm plants,” said Komang. Cilota conserves palm trees as natural resources for palm leaves which are then sun dried and cut according to the desired size. The next process includes weaving the doll’s body parts, such as legs, arms, and body with the head usually replaced by a picture of the customer. Then finally, using materials such as old newspapers, ropes, fabrics, threads, etc. as details, the final product is assembled, packaged and sent to the customer.



Photo: Cilota's craft products  
Source: Instagram @cilotabali



Anyaman crafter from Karangasem Bali.  
Source: Cilota Bali Facebook

The main target market for Cilota is campuses in Bali who buy them for their graduates. Currently, Cilota is building partnerships with campuses in Bali to make official campus souvenirs. In addition to that, Cilota hopes to obtain funding to continue their product development process and eventually open a production house in Komang's village.

Cilota is an independently run business that empowers local communities working with mothers and teenagers. The enterprise's main objective is to improve the local community's economy and for the younger generation to preserve local culture by inheriting traditional weaving skills.

Komang also hopes that younger generations will continue to inherit their local culture through the preservation of weaving skills. Komang recruits university graduates, neighbors, and their families for his business. They do not get a regular salary, but are paid based on a wholesale system. In the short term, Cilota wants to focus on funding and product development, while in the long term Cilota wants to open a production house in the village so that its employees can do work in the production house, as well as have a place for trainings.

# Communities in the Craft Sector

## Rumah Sanur

Rumah Sanur is a community hub that provides creative space for local businesses, entrepreneurs, traders, and start-ups as well as artists in the creative industry. The goal of Rumah Sanur is also to enable collaboration by providing a space for meetings, workshops, seminars, presentations, and small exhibitions.

Since its inception in 2015, Rumah Sanur has been an important public space hosting discussions on socio-cultural topics, global wisdom and supporting the local creative industries. Rumah Sanur has partnered up with 160 small to medium-sized enterprises and is an inclusive space with facilities built specifically to accommodate people with disabilities fostering international collaboration with entities from Thailand, Singapore, Germany, France, Australia and other countries.

One of the most important programmes related to sustainable product material development is the MASABOCA Boot Camp that aims to assist new designers in developing their creative potential and solutions for environmental problems. The programme chooses three designers who receive training to develop their skills in a variety of fields ranging from product design, branding to marketing and product launches, as well as giving participants the opportunity to hold workshops at Rumah Sanur. Sanur House

offers opportunities for new designers to support the development of their creative potential in a competitive industry and find solutions to environmental problems. Since 2016, Rumah Sanur and Creative Hub have partnered together for Chiang Mai Design Week. In 2019, they presented Bambooina, a collaboration that introduced 11 Indonesian designers and bamboo products on the world stage. In 2018 they introduced Wake Wadho, a partnership between BEKRAF and Kopikkon which fosters collaboration between designers and artists in Central Flores, at the World Economic Forum in Davos. Rumah Sanur is expected to become the center hub for Upcycling Products and hopes to become a gathering place for social enterprises as well as product designers.

By 2021, Rumah Sanur is expected to become the center hub for Upcycling Products and hopes to become a gathering place for social enterprises as well as product designers.



## Ketemu Project

Ketemu Project is a hub for artists to gather and tell their stories. The main purpose of the project itself is not for business production, but rather to be a starting point for artists to meet and become inspired to work together.

Ketemu was conceived in 2011 by artists Budi Agung Kuswara (Kabul) & Samantha Tio (Mintio). Kabul who is Indonesian and Mintio who is Singaporean both have formal training in painting and photography. After feeling confined by their work system and practice that only reached a limited audience in commercial art markets, they tried to work together to develop projects that involved the participation of community members to overcome social problems and utilize creativity for social empowerment. In 2012, Mintio and Kabul reached a milestone in their joint creation initiative with Klaten batik craft workers in Central Java. Their project, “Malam di Jari Kita” (Wax on Our Fingertips) was a collaboration intended to overcome the marginalized status of batik workers in craft industries and rural areas in Indonesia.

After two years developing workshops and participatory activities for students and audiences to access their research, Mintio & Kabul founded Ketemu Space Project in early 2015 as a platform for residency programs and projects in Bali.

“*Danau Imajinasi Kami/Danau Imajinasi Kita*” was the Space’s pilot project done in partnership with students from Kintamani on arts and environmental education projects. The Space has since implemented workshops and dialogue sessions and has expanded the Ketemu Team. Currently, the team is focusing on building their programmes and developing creative initiatives to build the first psycho-social rehabilitation creative space for those suffering from schizophrenia in Bali.

In partnership with The Arts Development Company (ADC), a social enterprise based in Dorset - England, Ketemu Project has implemented a programme to raise awareness on social issues, stimulate discussions, change the perception and demonstrate the contribution of people with disabilities to the economy. This project was awarded with a grant from Developing Inclusive and Creative Economies (DICE) from the British Council, starting from March 2019 and running from March 2020. With the same project name, Ketemu will expand the focus of this trial to three other ASEAN countries with the support of YSEALI Seeds for the Future grant, which starts from February till October 2019. The program has had a significant impact on the organisation’s management and operation.



Gerakan Kreabilitas Ketemu Project participants  
Source: Instagram @ketemuproject

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## Kaji Mundo

Kaji Mundo is a community-based movement with a mission to spread awareness about sustainable fashion. It was founded by Fiona Caripis, an ethical fashion designer who believes in the importance of educating others about environmentally friendly, sustainable clothing.

Kaji Mundo was created because of Fiona's dedication to eliminate waste from the fashion industry. The existing market is dominated by fast-fashion products that pollute the environment with excessive disposal of dye waste. The fast fashion industry also contributes to social and economic issues. Fiona hopes to change this trend through her work at Kanji Mundo. Kaji Mundo is funded through their workshop programmes and their product sales.

Their main focus is to create a more sustainable world through design and community intervention. With that in mind, Kaji Mundo participates in better practices and collaborations to build a viable solution for both the community and planet. Through events, workshops and their own products, Kaji Mundo seeks to foster relationships between communities and inspire people to live more sustainably. The concept of this movement is to create a safer world for everyone. So far, Kaji Mundo has collaborated with several art communities and galleries in organizing events.

Kaji Mundo holds regular fabric designing/printing workshops for the public for them to learn about working with organic materials. Classes are mainly made up of around 6-10 people who are guided to design and experiment in making bandanas. During the 3-hour printing class, participants explore natural materials to create unique motifs inspired by local stamp printing techniques on textiles. Kaji Mundo guides participants to create contemporary motifs using organic dyes such as indigo sourced from Java and Bali, which they also sell to the public.

In 2020, Kaji Mundo is currently building a programme called Bali Pivot, an event that promotes traditional skills and beautiful works of the past. Bali Pivot closely observes the process of slow fashion and crafts economy, whilst also exhibiting traditional works and collaborations of contemporary crafters. The event will feature an interactive talk session, live workshops and networking events with experts specializing in fashion, accessories, and luxury jewelry. This event was created with the aim of educating and introducing the public to sustainable fashion seeking a different approach to the industry.



Organic dyes screen printing workshop at Kajimundo  
Source: Instagram @kajimundo

# Sustainable Materials and The Development Of Craft In Indonesia

## The Utilisation of Sustainable Materials in Crafts

Craft is an industry built on human creative skills in making functional and decorative or art. Craft is an industry that continuously re-invents itself. Catharine Rossi (Kingston University) stated that 'the craft of tomorrow will be collective and creative, it will be a site of alterity and authenticity, or skilled production, and socially committed subversion' (Crafting Continuum, 2013). The future of craft is currently moving towards addressing social issues, leading to the creative development of the industry itself. Market developments have introduced new patterns of consumerism, increased interest demand inspired changes in production processes, and new social and cultural influences have driven innovation in materials and techniques, all contributing to how the industry has been changing as a whole.

This study has identified new materials that could be the future for crafts materials in Indonesia. The archipelago is rich in natural resources, however not all crafters implement sustainable processes, so there is a risk that these resources will eventually run out. The materials in our findings have been divided into New Materials and Reuse/Recycled Materials. New Materials are defined as new discoveries in crafts. Reuse/Recycled materials are categorised based on how they are processed in the production of different crafts.



**MAP INSERT**



**Number of interviewed entrepreneurs**

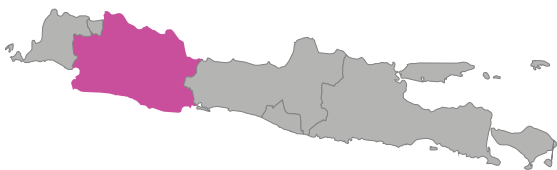
7 Craft entrepreneurs

# Jakarta

1. Cooking oil
2. Old newspapers
3. Wood waste (teak, shrub, meranti, angsana, camphor, white meranti, white oak)
4. Cotton
5. Domestic waste (plastic, glass, cans, cartons, styrofoam, leftover fabric, tire rubber, etc.).
6. Recycled plastic packaging
7. Plastic bottle tops
8. Patch work fabric
9. Old banner



**MAP INSERT**



# West Java

**New Materials**

1. Mycelium Leather (Vegan Leather)
2. Chicken feet skin leather

**Potential New Materials for Craft**

1. Pelepah Pinang (Betel nut leaf sheaths)

**Recycled Materials**

1. Glass bottles
2. Wood waste (teak, maple and Sonokeling)
3. Canvas fabric
4. Plastic bottle tops
5. Plastic wrappers
6. Plastic bags
7. Bamboo

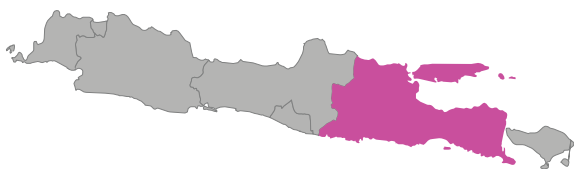
**Number of interviewed entrepreneurs**

Bandung 8 Craft entrepreneurs

Garut 2 Craft entrepreneurs



MAP INSERT



# East Java

**New Materials**

1. Pelepah Pisang (Banana leaf sheaths)

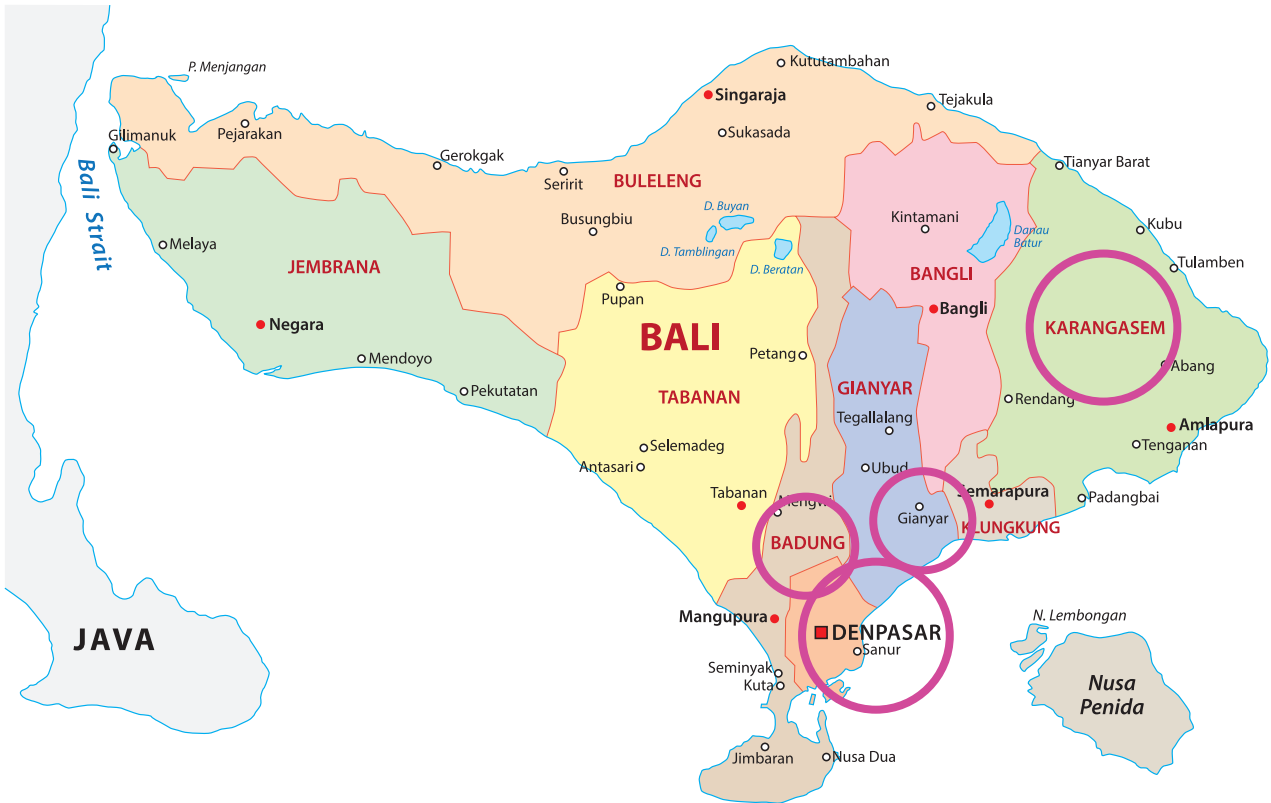
**Recycled Materials**

1. Mudflow
2. Cement bag
3. Eggshell
4. Banana Pelepah (banana leaf sheaths)
- Wood (mahogany, teak, rosewood)
5. Pandan
6. Old diapers
7. Plastic bottle tops

**Number of interviewed entrepreneurs**

Surabaya 3 Craft entrepreneurs  
 Bojonegoro 2 Craft entrepreneurs  
 Malang 1 Craft entrepreneurs





**MAP INSERT**



# Bali

## Recycled/repurposed materials

**Number of interviewed entrepreneurs**

- Denpasar 2 Craft entrepreneurs
- Gianyar 2 Craft entrepreneurs
- Badung 1 Craft entrepreneurs
- Karangasem 2 Craft entrepreneurs

1. Brass metal waste (85%)
2. Plastic bottle caps
3. Old keys
4. Recycled liquor bottles
5. Recycled bed linen
6. Palm leaves
7. Bamboo
8. Plastic bags

This study has identified new materials that could be the future for crafts materials in Indonesia. The archipelago is rich in natural resources, however not all crafters implement sustainable processes, so there is a risk that these resources will eventually run out. The materials in our findings have been divided into New Materials and Reuse/ Recycled Materials. New Materials are defined as new discoveries in crafts. Reuse/ Recycled materials are categorised based on how they are processed in the production of different crafts.

### **1. Inventive (new materials innovations using technology)**

Inventive materials are new materials that have never been used before in crafts. They are derived from new discoveries or developed from experimentation. Inventive materials have gone through an extensive process of experimentation and testing using new technology and approaches. These new materials were created as solutions to overcome issues in using traditional materials. One example comes from MyCotech who have invented a unique new raw material made from fungi. Currently being used for different types of products, MyCotech is still experimenting its uses as a solution to the limitations of plastic materials. Their inventive material is expected to be a solution to the limitations of materials made from animal skin.

### **2. Reinventive (re-developed traditional materials)**

Reinventive materials are classified based on their re-processing techniques such as Reuse, Recycle, Upcycle.

- **Reuse**

Materials that can be reused without further processing. This practice has been popular within the past few years because of the availability of single-use materials such as plastic. We have seen plastic bottles, old candy wrappers and bottle tops turned into bags or other accessories. The advantage of the reuse process is that the materials can be turned into new products without requiring special treatment.

- **Recycle**

There are several definitions for recycled materials; extending their life through reprocessing or degrading them into new forms. Within this study, we have focused on the latter, materials that are destroyed and reshaped into similar forms. One example is plastic that is reheated and processed into new products or old ceramics that are crushed into raw materials.

### ● Upcycle

Recycling follows the philosophy that used goods can still be useful - or provide alternative materials. Upcycling is in line with this philosophy but requires further processing. Upcycling involves creative ways of incorporating waste materials, old or unwanted products and by-products into new creations. Designers have often used this process for clothing, accessories and homeware. Brands often include their creative upcycling story in their branding to reach a customer base that respects this practice. Before this, the products do not visibly show radically re-processed materials.

Indonesian crafters are experts in self-reinvention, fine-tuning their unique skills through generations to create their products; this comes with the natural ability to adapt to the diverse natural resources they have around them. These natural resources have influenced the different varieties of craft materials that exist and are used today. Based on our quantitative survey in the four provinces, 246 responses were collected and we summarised that 32.9% create and use textiles, 14% use wood, 5.3% work with beads, 4.9% work with rattan and 4.1% are experts with bamboo. These figures reflect the landscape of crafters who still use traditional raw materials.

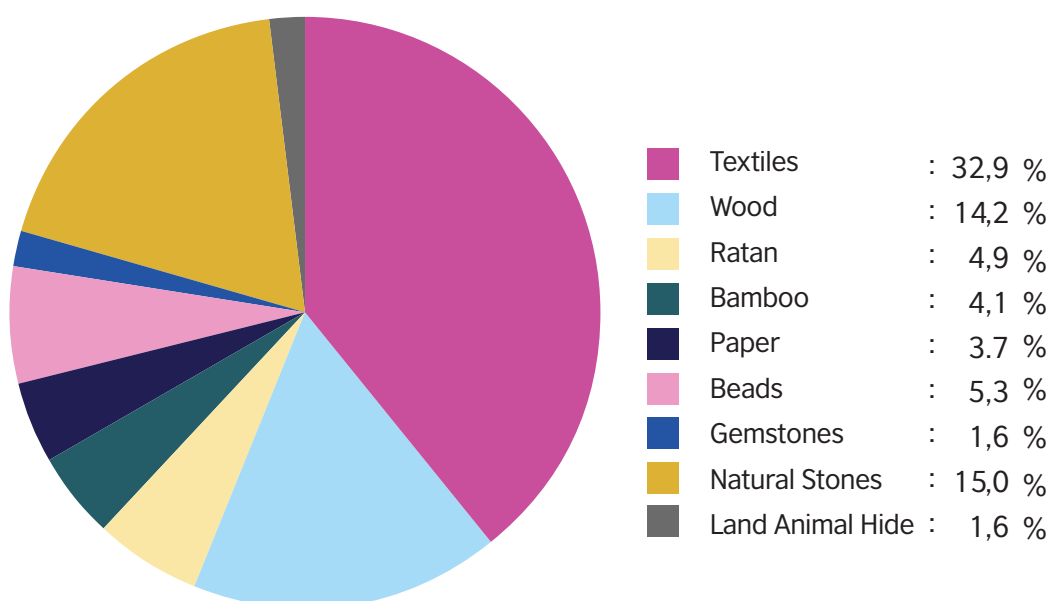


Figure 4.1 Diagram for Use of Craft Materials in 4 Provinces

## Use of Sustainable Materials in the Craft Sector

Based on the results of in-depth interviews, we identified a variety of ways that people understand sustainability in relation to the craft sector. These differences are due to the age, educational background and networks and interactions of our respondents in how they obtain their information. The majority of answers define sustainability with 'keberlanjutan' or 'keberlangsungan'. In Indonesian, both words have roughly the same meaning as sustainable, with subtle differences. Keberlanjutan can be translated 'ability to be sustained' while keberlangsungan can mean 'the ability to keep going'. However, there are also those who are able to explain the concept further. Based on the idealism of the importance of preserving the skills of expert bamboo crafters, Maulana from Dapur Studio, the sustainability in bamboo crafts must start by preserving the expertise in making bamboo products. The specific skills of the crafters, their techniques in how they use bamboo material are the key to the regeneration of bamboo crafters and crafts. For Amygdala, the understanding of sustainability in craft also applies to product design development, material development and production system management to ensure the longevity of a crafter's business and livelihood.

Miranda Rustam, former Program Manager of the Switch Asia Hand Woven Textile programme at HIVOS realized

that sustainability is connected to the continuation of the crafter profession. To support this, according to Miranda, it is necessary to connect the important elements that build this ecosystem; the environment, the social and the economic. Environmental sustainability considers the management of production processes and the sourcing of materials that do not damage the environment. Social sustainability refers to the preservation of crafter skills, the functionality of craft products and the cultural values that are embedded in products. Finally, economic sustainability refers to how crafts can provide wellbeing to crafters through transparency in their production process. According to Drs. I Ketut Muka, M. Si, lecturer and chairman of the Art Craft department at the Indonesian Institute of the Arts Denpasar - Bali, there are 3 things that must be considered in categorising crafts as sustainable. The first is in the sourcing of raw materials that are readily available, recyclable, can be re-used and the process of its acquisition does not damage the natural surroundings. The second is a sustainable production process that pays attention to environmental impacts and the livelihood of the crafters. I Ketut Muka added that the knowledge and skills of crafters must be preserved through continuation. The third is the existence of a market that will provide a continuous demand for craft products.

The principle of sustainability as something that has continuation is the basis for Guweeng (producing crafts with eggshells), I-Substic (plastic bags), Duakala (plastic), Lovelife (glass bottles) and Kunang (metal). They see the existing resources in the environment around them and use their creativity to transform waste material into more useful products. For businesses such as Hirka, Debug, Gazewanny Lab, Studio Dapur and Luido, sustainability is defined by the quantity and availability of their raw materials (chicken feet skin, banana leaf sheaths, wood, bamboo and mud).

Adhi Nugraha from the Faculty of Fine Arts and Design ITB sees sustainability in the context of how raw materials are used; it is important that naturally sourced materials are not exploited. The craft industry, according to Adhi, is an industry where production should be limited, unlike mass industrial products.

*“When talking about sustainability there must be a production limit. Craft items must be limited in quantity. If crafts remain, in principle, crafts with craftsmanship, not following mass industrial patterns, then the materials used will remain sustainable... not using wood or bamboo excessively. Researchers can propose new materials that can be applied in crafts. As long as its use is not exploitative, there is no urgency to create new material. Existing materials can still be used, and crafts can continue to follow changes to applying new materials. New material can be seen as substitution.*  
 “ - Adhi Nugraha

Piyush Suri, co-founder of Handmade in Britain, shared that sustainability is different for each type of craft, but at the centre is being eco-conscious and managing waste production and being as local as possible. The element of slow living is also a key aspect of sustainability that will have less harmful impact on the earth – there is no need to be fully eco-conscious or organic, but it is about minimizing where we can. According to Piyush, sustainability can also be defined through the preservation of products, the mending and re-using certain products, not only in the materials used. This element not only contributes to the eco-friendly component to crafts and handmade products, but it is also central to the sustainability of new businesses. This connects to the concept of durability, the idea of having valuable products that last a long time.

With regards to sustainability in the craft industry, Hery Budianto, a lecturer at the Merdeka University in Malang, views that the key is to consider the cycle of the production process from beginning to end. With this perception, it is easy to understand why raw materials do not have to be new. To take it a step further, educating others on how to be sustainable can leave a more lasting effect. Whilst it is true that the crafts industry acquires raw materials from natural resources that can be replenished (such as bamboo and wood), the production process is still far from sustainable. There is a need to use materials that can be processed continuously and utilized properly so that a cycle is formed within the craft production process.

The perspective of sustainability as a cycle is also a principle that Robries has implemented in running their business. Robries transforms plastic bottle waste into interior products, viewing bottles and plastic bottle caps as having economic value, not waste or rubbish. This change in perspective could have an impact on the mindset that something wasted can be transformed into something valuable, sustaining the life cycle of a particular object.

The cyclical perspective of sustainability is also at the core of Tryupcycle, Threadapeutic and Kaji Mundo. One of the founders of Kaji Mundo stated that a circular scheme is needed so that the end of a process does not stop, but can return to the beginning. In the concept of sustainable fashion, it is important to choose organic materials so that they can be reprocessed, it is also important to think of a business model that will be used to generate profits, without this the circular process will not work.

In his research on the development of sustainable materials and their use in product design, Fazli I Bachrudin classified material uses based on 3 categories based on material types; their origins, roots and manufacturing processes such as renewable, semi-renewable and not renewable<sup>[7]</sup>. In the research that discusses sustainable materials, Bachrudin conducted research on someone’s appreciation for products that use sustainable materials based on their knowledge of sustainable materials.

The results of our quantitative research showed a variety of responses to sustainable materials. We asked respondents to test their knowledge about sustainable materials, specifically in the context of craft products. The questions began with asking about their knowledge about upcycled or recycled materials used in crafts. Recycled products are defined as something that requires raw materials to be processed first before being used; upcycled products are defined as made from raw materials that do not need additional processing.

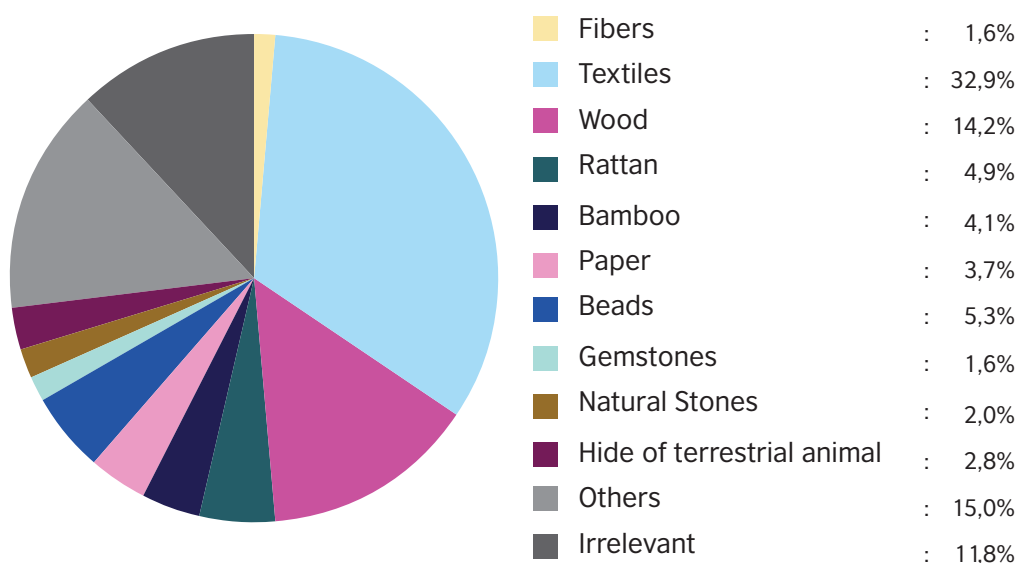


Diagram 4.2 Respondents knowledge about the types of material used in craft products in general

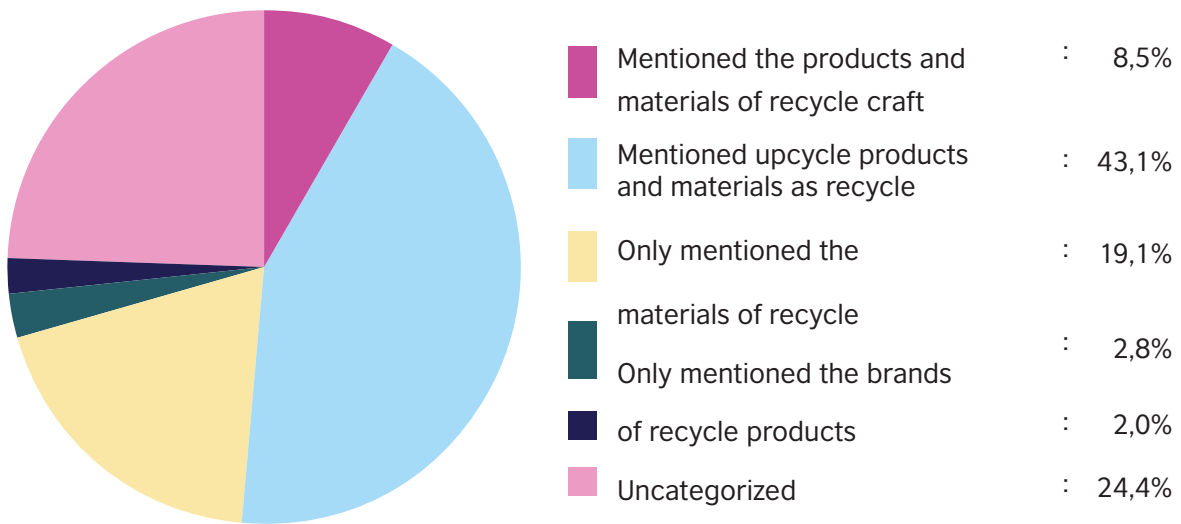


Diagram 4.3 Respondents knowledge about the type of materials in Recycled products

We then collected data on knowledge regarding recycled and upcycled craft products. From the above table we can conclude that most respondents have some knowledge of the recycled materials used in crafts with a majority identifying plastic and paper.

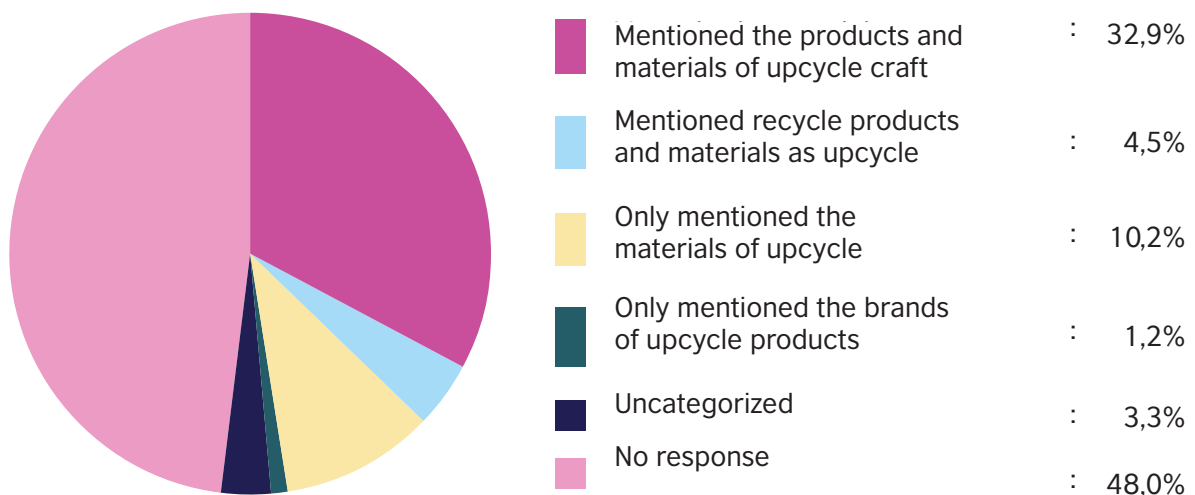


Diagram 4.4 Respondents knowledge about the type of materials in upcycle products



Salah satu metode penelitian yang dilakukan adalah wawancara mendalam dengan narasumber.  
Sumber foto: shutterstock.com

As in the case of recycle products, most respondents are able to name the different types of materials of upcycled crafts identifying raw materials such as bamboo, wood, coconut shells, plastic and paper.

This research has identified different new materials across 4 different provinces in Indonesia: Jakarta, West Java, East Java and Bali. Though these findings do not represent Indonesia as a whole, the 4 provinces sampled have a total population of 101,951,300 people (38.9%) out of the country's total population of 261,890,900. Additionally, each province has their own unique character in terms of its natural and human resources and ecosystems.

- **Jakarta**

Crafts enterprises in Jakarta have the great advantage of access to information, community support, and infrastructure. Jakarta has provided an abundance of resources and infrastructure for the crafts industry allowing for crafters and entrepreneurs to expand their knowledge about waste management and learn new techniques for upcycling materials for crafts production. Arnetta Craft is one example of an enterprise who has taken advantage of Jakarta's resources such as using cooking oil for soap products, and newspapers for tissue boxes. Local government institutions and organisations have also supported craft development through implementing trainings about processing recycled materials.

- **West Java**

Bandung has been the driving force behind the development of craft in the region. The city is a design machine providing an abundance of experimental space for craft designers to create new products and innovative materials such as what MyCotech has done. A breakthrough new material made from fungi Mycelium leather is as strong as wood and is as malleable as leather. Mycotech's innovation can be a substitute



material that emerged from West Java is chicken feet skin; made by Hirka Shoes, this material has the advantage of being abundant and easier to obtain than cow, crocodile or buffalo leather.

West Java can produce creative craft materials because its ecosystem is supported by four factors. The first is the Design Industry that has already been developing. Their pioneering fashion industry has contributed greatly to the growth of the creative economy in Indonesia (based on Indonesia Statistics 2016) through its exports. This has inspired more market competition among creative industry players. The second factor is the abundance of resources; West Java is rich with natural resources, not only in Bandung but also surrounding areas such as Majalengka, famous for its textile industry, Garut and Tasikmalaya, both known for their leather and bamboo products. Third, the diverse pool of creatives in West Java drives growth through their innovations and new products. Finally, the government's strong commitment to support innovation of new materials and the development of creative products have made a great impact in the crafts industry.

#### ● **East Java**

East Java is made up of unique cities with their own beneficial characteristics influenced by the diverse geographical conditions. In 2016, the East Java Province accounted for 2.17% (2,460,868) of the national creative economy workforce. East Java has a higher percentage of creative economy workers with 16.28% compared to the national statistic<sup>[8]</sup>. This suggests that the East Java craft industry plays a vital role in economic development. The region's diverse landscape has provided a variety of natural resources that have become icons among the region's cities such as different types of wood found in Bojonegoro and Banyuwangi and pandan and banana leaf sheaths. Among these resources, banana trees from Bojonegoro's banana farms have provided a unique raw material that have been used to make tissue boxes, hats, bags and souvenirs. Though craft in East Java is known for its use of organic resources, new materials such as old cement sacks used to make bags and umbrellas, old bottles and plastic caps to make interior house decorations and mud to produce watches and stationery.

#### ● **Bali**

Bali's tourism industry is the biggest contributor of waste through the growth of hotels and cafes. Bali's growing waste management issue has prompted the local government to implement island-wide initiatives. In 2018, the mayor of Denpasar implemented the Peraturan Walikota Denpasar No.36/2018 that states a reduction in use of plastic bags in the city. In the same year, the Governor of Bali also established the Peraturan Gubernur Bali No.97/2018, a regulation that limits the use of disposable plastic products to manage

the disposal of plastic waste. These regulations have slowly made significant impact in the region with the culinary industry, including online delivery services such as Go-Jek and Grab Food switching to paper bags and refusing to provide plastic bags. Tourists have also felt the impact of the new regulations as local communities begin to adapt their habits and begin using canvas or paper bags as substitutes. These changes have introduced an opportunity for the crafts industry to explore how waste can be a rich resource for raw materials. Businesses have collected and repurposed waste such as glass bottles, old linen and metal waste into useful products, diversifying the crafts industry in the region. One such enterprise is Kunang Jewelry who have built their business on the basis of reducing waste and community empowerment. Triupcycle is another brand that has developed an enterprise that utilizes waste from the tourism industry to create products such as flower vases, drinking glasses and soap boggles.

In terms of organic materials, Bali is known for its abundance of bamboo and palm leaves. The Karangasem Regency is known to be rich in natural resources which has become the inspiration for Cilota Bali and their souvenir crafters. There is a symbiotic relationship of mutualism between the tourism industry and craft brands/designers. Alongside the access to raw materials, Bali's handicraft industry is harmonised by the rise in awareness and appreciation for waste management and recycled/repurposed products among the local community as well as visitors. The main consumers of craft products are foreign tourists who are interested in learning about manufacturing processes and their contribution to the protection of the environment which in turn, has greatly contributed to the public's literacy about waste management.

Regulations regarding the use of disposable plastic bags has thus brought a new lifestyle in Bali, including encouraging the community to adopt the 3R lifestyle (Reduce, Reuse, Recycle). Since the enactment of the regulation, several changes have occurred, although not yet comprehensive.

# Material Development in Academia

Within the past decade, crafts development has been heavily influenced by technology and driven by environmental issues and academic research and experimentation has significantly contributed to this process. Spearheaded by innovative alumni and students, The Bandung Institute of Technology's (ITB) Faculty of Fine Arts and Design (FSRD) have been developing crafts through cross-scientific collaborative processes. It is within this scope that FSRD ITB is strategically positioned to foster the development of the craft industry. The faculty encourages their students to experiment with crafts and material science - the discovery and design of new materials. They have produced innovative products using natural fibres which highlights that craft can create diverse beautiful work that provides solutions for the future.

## **Dr. Dian Widiawati and Dr. Ratna Panggabean:**

The two discovered a way of processing coconut fibre waste from Cibenda, Ciamis, West Java to be used as organic dyes and natural fibres to make accessories such as bags. Chyndar Naya Putri innovated her processing technique for Alabasiah wood waste and exploration of sugarcane fibres to create new materials for fashion products. Chyndar has collaborated her techniques with Dian Widiawati and Ratna Panggabean's coconut fibres to experiment with new designs in fashion.

## **Bells Society:**

Created by the Bells Society, microbial cellulose sheets are alternative leather material made from the fermentation of sweet potato waste using bacteria. Initially funded in 2017 through the Student Creativity me, this invention will potentially replace animal leather as an acceptable alternative material for furniture and fashion products.

## **Innamia Indriani:**

Innamia Indriani discovered a way of using nanotechnology to combine nano silica particles with flax plant fibre used in traditional Indonesian fabrics to develop Smart Textiles. Nano Silica is a strengthening additive to materials such as plastics or concrete, it is non-toxic and stable which allows for a variety of applications. The process involves treating spun yarn using environmentally friendly chemicals such as chitin and silica before they are used to make textiles. This engineering process has transformed traditional fabrics so that they are water repellent and self-cleaning, extending their lifespan.

**Sapta Priadia Soemowidkoko:**

Sapta Priadia Soemowidkoko experimented with kombucha and bamboo to make new raw materials for textiles, 'Bioaccessories through the Utilization of Fermented Kombucha Ingredients'. Using his science background, Sapta attempts to develop new environmentally friendly things for the fashion industry. He takes bacteria that is used in making kombucha (a tea drink from East Asia) to make cellulose-based textile materials that resemble leather. The cellulose cloth takes around two weeks with special treatment to be done at home and has been used to develop several prototypes products like bow ties and suspenders. With treatment this fabric can also be combined with bamboo fibres to get the desired material for textiles.

**Adhi Nugraha (Product Design ITB):**

Bamboo and Coconuts have long existed as traditional materials used among Indonesian crafters to make bowls, cups, spoons and other kitchen utensils, but these have been replaced by plastic and other mass produced products. Adhi Nugraha from ITB Product design initiated a revival of coconut shells and bamboo as sustainable materials for everyday products.

**Maharani Dian Permanasari:**

Maharani Dian Permanasari also experimented with the benefits of kapok banana leaf sheaths (*musa acuminax balbisiana calla*) and discovered new properties; not only can it be used for furniture but it can also reduce sound when arranged and woven into specific patterns. The results of the research at the Centre for Research and Development for Settlements (Puslitbangkim) identified that a sample of a two centimeter thick banana leaf sheaths reduced sound frequency of 200 hertz by 63%. To do this, the leaf sheaths must be woven into a hexagonal pattern similar to a beehive to be most effective in tightly closing holes. The pattern is not commonly

# Craft in The United Kingdom

The United Kingdom has accomplished many breakthroughs in the sustainable development of crafts. The creative industry has been in steady growth within the last few years through constant innovation. Through new processes and modern technology, designers and crafters are not only improving old practices but also discovering new products and new ways of applying crafts techniques.

- **Anna Neklesa** is a textile designer who employs modern technology in her exploration of material. LIVING COTTON is a new non-woven material made from pure cotton that is constructed by modifying the molecular structure of cotton. This interactive material can respond to human skin & moisture by changing its shape.
- **Oluwaseyi Sosanya** uses multi-disciplinary experiments to develop a new 3D Weaving Machine; a loom that can make a range of woven patterns. One of the patterns he made was turned into the insoles of shoes and can be applied to make robust products that were not previously associated with woven textiles.
- **Mario Yasin** developed an innovative product through traditional techniques. Yasin's Petit Pli line uses known pleating techniques in garments that are designed to adapt to a toddler's growth pattern. The folds allow his chosen lightweight and waterproof fabric to expand up to seven times its original size. The lightweight and waterproof material allows toddlers to move freely.
- Working closely with researchers at the Royal Free Hospital, **Matt Durrant** discovered a new method of making glass products. His work then triggered a breakthrough in engineering that eventually led to the world's first engineering network. This discovery was facilitated by further research in engineering and other disciplines.
- **Lauren Bowker** is an expert in chemistry and textiles. She began working as a material innovator making compounds that are responsive to the environment, changing colours when exposed to heat, ultraviolet light, friction, humidity, chemicals, and air pollution. Through her company, The Unseen, Bowker has also been developing bandages and software that monitors a patient's condition and applying her knowledge to car aerodynamics for Formula One.



In addition to several designers who have successfully developed new materials and techniques in the craft production, there are also several organizations that provide support and have succeeded in creating a sustainable and innovative craft development movement:

- **Craft Central**

Craft Central is a charity that has been operating for 40 years. The Omo organization has supported the development of crafters by encouraging the public to value craftsmanship and purchase quality handicraft products as well as provide resources such as studio and workshop spaces for creative individuals and enterprises. As a creative community, Craft Central has connected a growing network of designers and crafters and supported their work through exhibitions and participation in marketplaces.

- **Craft Council**

Knowledge Transfer Network, in partnership with the University of Brighton, created the Craft Council, which seeks to further evidence of how innovation occurs and the extent to which it is effectively supported. In 2016, Craft Council collaborated with KPMG to investigate the process and impact of innovation through crafts and obstacles that need to be overcome to achieve economic potential. Innovation through Crafts includes opportunities for growth. Innovation in crafts refers to the evolution of techniques, the discovery of new materials, and the application of new tools. KPMG found that innovation through crafts is hampered by a lack of understanding of the value of craft innovation and the level of risk that led to underinvestment in innovation by individual firms, and a lack of investment in education and craft skills. This highlights the need to invest in scaled up activities to demonstrate and publicize the value of innovation through cross-sector collaboration. Intermediary and coordination of business-to-business collaboration

between craft and business experts from other sectors is essential. For example, leaders in engineering, technology, and manufacturing can work together to push the kind of R&D needed to catalyze a more successful business.

- **Craft Council Programme**

Craft Council developed a programme that focuses on how advances in materials, processes and technology drive innovation in craft practices, catalyze new knowledge, and foster interdisciplinary collaboration in the fields of craft, engineering, science, and technology. This encourages leading specialists, practitioners and experts to experiment with innovative products and methods in the future. The Craft Council innovation programme consists of two main elements: 1.) The biennial conference, Make: Shift, and 2.) Partner projects including Make: Shift: Do and Parallel Practice, which aims to advance new ideas and support cross-sector exploration. The programme aims to identify and display new developments and trends in craft innovation, advanced understanding of how innovation occurs in craft making and cross-innovation between crafts and other sectors.

- **Handmade in Britain**

Handmade in Britain aims to support and promote up and coming British designers by providing market access and bringing craft into the mainstream market. The movement was initiated by Piyush Suri, who has a background in business design, development and marketing. Taking the contemporary development of crafts design, the company also runs a mentorship programme for crafts/handmade product businesses that focuses on creative and business development for graduates who want to start a business and new businesses who have been running for 3+ years. Handmade in Britain also provides young designer-makers subsidized stands to participate in festivals, and start-up capital for new endeavours. Most recently, Handmade has been developing an online platform, a marketplace for participating artists, designer-makers to sell their products.

Handmade in Britain's main goal has always been to provide commercial access for creative enterprises in the crafts and handmade industry and to support UK artisans and designers to collaborate with one another and connect them with designers/artisans from outside the United Kingdom. This began through events and its own contemporary arts festival which eventually led to participation in art festivals around the UK and Europe, specifically their special collaboration with the Kew Royal Botanic Gardens



At the core of Handmade in Britain, there are two key messages:

- That crafts are not that expensive, they can be part of everyday life and are accessible
- That you can make a living from crafts

Craft festival activities:

- Craft market
- Workshops
- Exhibitions
- Culinary market





# Challenges In The Development Of Craft in Indonesia

## Preservation and Continuation

The issue of preservation and continuation in the handicraft sector has been a constant in Indonesia. Lifestyle changes and technology have slowly reduced traditional handicraft production in the country and introduced the low perception of the craft profession as a low-income sector. This has led to disinterest among younger generations to learn the skills and enter the field. The lack of appreciation of the significance of traditional craft has not only put their preservation at risk, but also introduced challenges for new businesses such as Bamboostraw and Duakala in recruitment and expanding their enterprises.

The regional context also has an influence on the issue of preservation and continuation. In Bali, many young people prefer to work in the tourism industry such as hotels, bars and other recreational areas. For example, as experienced by bamboo straw craftsmen in Ubud (Bamboostraw), they find it difficult to retain young workers because many of them prefer to find employment in villas. Bali tourism ecosystem factors contribute to the process of regenerating crafts; many young Balinese prefer to work in the tourism sector rather than developing their own craft. Some artisans such as Cilota and Bamboostraw try to empower young people by recruiting them as workers but not many survive. Finally, the majority of crafters who work with them are people over 30 years old, and to overcome the problem of maintaining the sustainability of this workforce they rely on familial connections.

East Java is also faced with challenges of preservation and continuation. Guweeng Craft has built a team of crafters made up of housewives as they are considered to be easier to work with because they consider this as additional income. According to the owner of Rumah Telur, not many teenagers want to work because of low wages. Workers' wages for crafters are provided with a production wage system ranging from Rp. 2,000 - Rp. 10,000. In the province of Jakarta, Arnetta Craft works mainly with surrounding households because their circulation comes through the Integrated Healthcare Center and neighbours.

In West Java, Muhammad Ihsan from the Faculty of Fine Arts and Design of the Bandung Institute of Technology stated that the area was once known as a craft center. However, now the younger generations are no longer interested in working as artisans, they prefer to work in big cities like Bandung or other informal sector jobs such as traveling vendors or motorcycle taxi drivers. Muhammad Ihsan felt there is a need for an activity that could develop the entrepreneurial spirit of the younger generation.

*“These young people say it is better to drive a gojek (motorcycle taxi) rather than pursue weaving, like old people. So, we ask them again, why don't you come back to weaving? We look for solutions to attract these young people through using social media. So what we can do right now is to form a programme to catalyse a sense of entrepreneurship”* - Muhammad Ihsan

The spirit to preserve the skills of crafters and to support the continuation of the craft industry can actually be led by young people who have taken an interest, as is the case with Amygdala and Studio Dapur. With an entrepreneurial spirit, Amygdala and Studio Dapur create bamboo products that still use the traditional skills of bamboo crafters.

## **Low wages of workers in the craft sector**

There is a lack of standards and regulations for workers in Indonesia, and specifically in the craft sector, workers are often exposed to unfair conditions with many business owners not providing fair compensation to their employees. There is no national standard for wages and employers often implement a wage system that is based on production. Business owners then have the freedom to determine their own estimates, exploiting their workers to gain more profit. For example workers/crafters in Malang are only paid RP 2,000 (approx. 11 Cents) per finished clogs, under the condition that they fulfill their targeted quantity.

In 2017, in collaboration with BPS (Indonesia Statistics), BEKRAF issued a standardization for wages for workers in the creative economy sector, the Creative Economic Working Wages 2011-2016. The publication dictated that the wages for those in the creative economy sectors should fall under the status of labourers/workers/employees. A labourer/worker/employee is defined as someone who works for another person or institution/office/company permanently by receiving a wage/salary in the form of money

or goods. Workers who are not permanently employed are not classified as labourers/workers/employees but as freelancers.

The BPS<sup>[9]</sup> data shows that young workers aged 15-19 years were paid the lowest in 2011-2016 because they are just entering the labour market after completing their secondary education. In the same period, the highest average salary/wages were paid to those aged 50-54 years, except for 2014-2015 where the highest were received by those aged 45-49 years. The current president proposed a new wage scheme through the Employment Copyright Bill in 2020 which offers wage flexibility for those who work under 40 hours a week. This new regulation hopes to push employers to employ workers to the standards set by the government. There is currently also no legal protection for craft workers. For example, in Bojonegoro, crafters working under ESM, Debog BTC and Guweeng Craft are not contracted and their professional relationship is only based on trust. This is problematic as it can lead to legal disputes where the workers will end up powerless

## Marketing and Promotion

Supported by our qualitative findings, many of our respondents have addressed that the main challenge in building their businesses is access to national and international marketing and promotional opportunities. Many of our respondents are community-based enterprises with a limited reach to the marketplace beyond their immediate regional areas. This has hindered many small businesses to reach a national level which limits both their opportunities and their knowledge of the national and international market potential.

They hope that there is more support to gain access to promotion and marketing for their businesses in the form of support to participate at festivals and national and international exhibitions. A business owner who manufactures products from recycled materials shared his experience of low consumer appreciation when he markets his products; consumers assume that products with recycled materials are of low value because the materials used come from waste. According to him, a separate marketing media is needed to market recycled material products, with the focus on disseminating information about recycled products and the benefits of supporting recycled products.

The tables below show that based on our findings, the most prominent key aspect for the development of the craft sector is marketing and promotion. 80% of the respondents in this quantitative survey were craft business owners. In questions that were only asked to craft business owners about marketing tools, it was found that social media was the most commonly used marketing tool, followed by exhibitions.

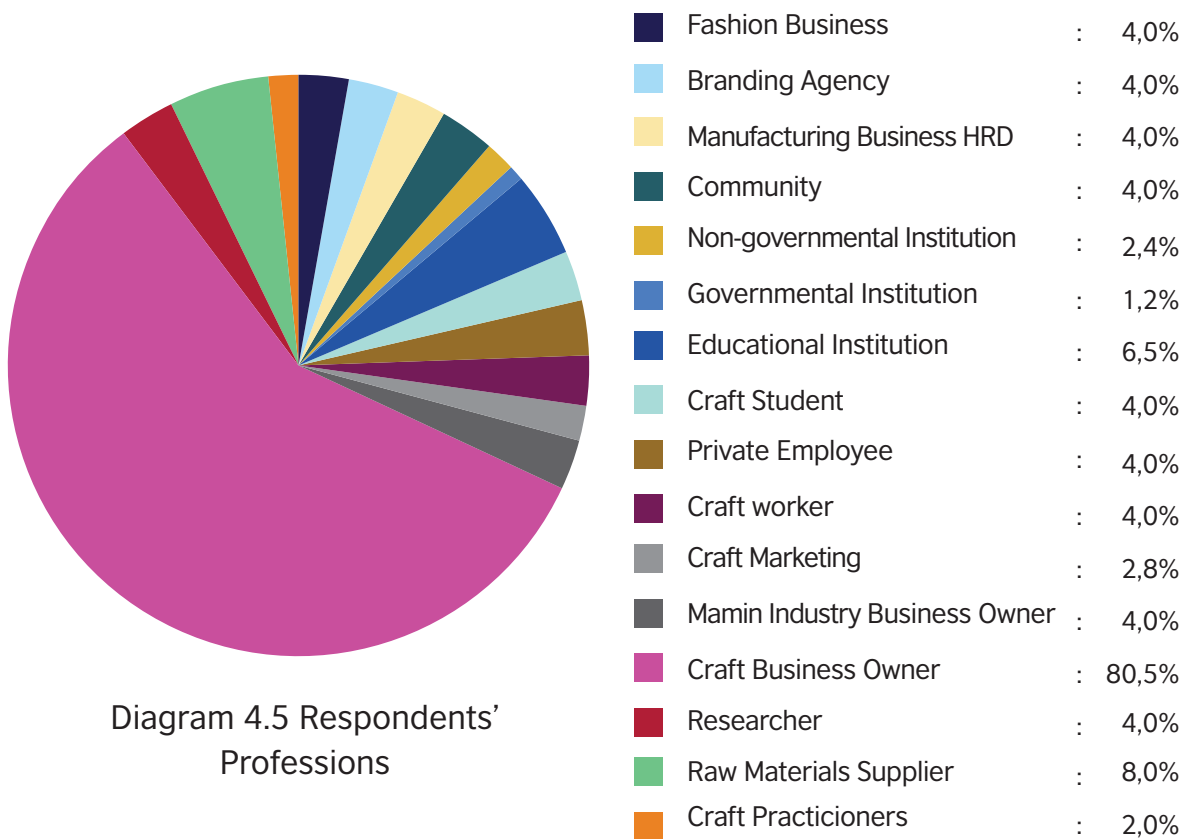


Diagram 4.5 Respondents' Professions

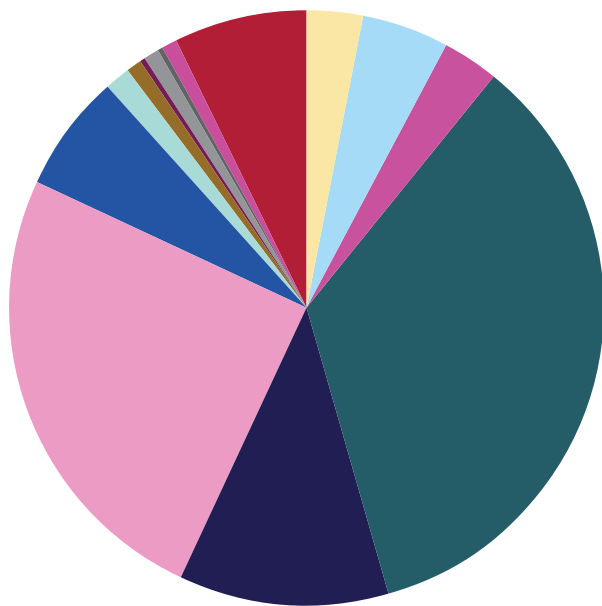


Diagram 4.6 Marketing channels

<span style="color: #f1c232;">■</span> Traditional markets	:	3,1%
<span style="color: #87ceeb;">■</span> Shopping centres	:	4,7%
<span style="color: #e91e63;">■</span> Bazaar	:	3,1%
<span style="color: #2e7d72;">■</span> Social Media	:	34,8%
<span style="color: #191970;">■</span> Shops/boutiques	:	11,3%
<span style="color: #f48fb1;">■</span> Exhibitions/showcases	:	25,0%
<span style="color: #1e7145;">■</span> Events	:	6,6%
<span style="color: #a2d2c2;">■</span> Direct selling	:	1,2%
<span style="color: #8b4513;">■</span> Export	:	0,8%
<span style="color: #5d192b;">■</span> WorkshopOthers	:	0,4%
<span style="color: #7f7f7f;">■</span> Distributors	:	0,8%
<span style="color: #4f4f4f;">■</span> Galleries	:	0,4%
<span style="color: #e91e63;">■</span> e-commerce	:	0,8%
<span style="color: #c00000;">■</span> No response	:	7,0%

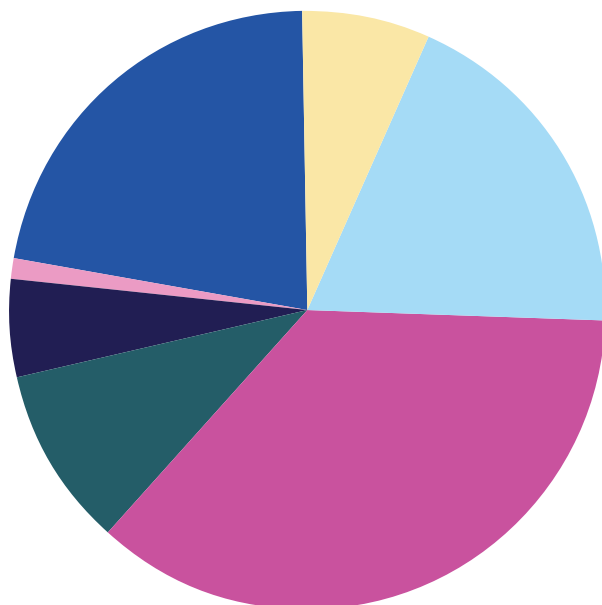


Diagram 4.7 Aspects to focus on in developing the crafts sector

<span style="color: #f1c232;">■</span> Research and Development for new materials in craft products	:	6,9%
<span style="color: #87ceeb;">■</span> Development and capacity building of crafter skills	:	18,7%
<span style="color: #e91e63;">■</span> Promotional and marketing facilities	:	36,2%
<span style="color: #2e7d72;">■</span> Government policies that support the development of the craft sector	:	9,8%
<span style="color: #191970;">■</span> Capital	:	5,3%
<span style="color: #f48fb1;">■</span> Raw materials	:	1,2%
<span style="color: #1e7145;">■</span> No response	:	22,0%

To support this further, our interview with Piyush Suri (co-founder of Handmade in Britain) highlighted Indonesia's lack of presence in the International market. Indonesian craft entrepreneurs lack the capability of operating on an international scale because of limited access to these networks. However, there is the potential for collaboration with international designers or companies who are interested in Indonesian craft products. Piyush' insight into Indonesia's craft industry comes from his participation in the BEKRAF ORBIT programme as a marketing and commercialisation mentor for two years where he believes there is a lot of potential in furniture and interior products. Piyush, who focuses on educating about developing new businesses that are sustainable and eco-friendly, sees bamboo as having potential to be successful and it is not available in a lot of places in the UK or Europe. Indonesia excels in the skillset for making handmade products, specifically those who have studied abroad and going back to Indonesia to build their businesses, collaborating with local crafters and artists. There is also a need to fill in the gap of the different market perceptions between Asia and Europe. Whilst in Europe, there is value in design and the stories behind the crafts and quality, in Asia it is about the skills and technique. There needs to be a collaboration of the two perceptions, they need to be present in both local and international markets.

In Europe, there is a strong value on traditional products, an element of exoticism around traditional crafts. This perception is also present in Indonesia which raises questions about how traditional products can compete with contemporary products. There needs to be market awareness on how craft can evolve both in Indonesia and abroad, a new way of understanding what craft is beyond its traditional roots. Possible opportunities for collaborative activities include connecting European crafters, specifically from the UK with Indonesian crafters in the form of training and mentoring, supporting exhibitions and opportunities for market testing.

According to Piyush, the market test is important to understand consumer habits. There are differences in consumer habits related to craft products between the UK and in Asia. For those in Asia, craft products are used in their daily lives. For the UK, the growth of crafts is driven by a change in buyer habits; British consumers now buy quality products at higher prices, in small quantities. This has created market segmentation that respects the manufacturing process and the materials used, paving the way for the craft industry to develop.

# Recommendation

With its diverse ecosystems and landscapes, Indonesian traditional crafts have long depended and grown from the abundance of natural/organic resources for raw materials. However, in line with emerging environmental issues, many crafters are pursuing alternative solutions to these problems by considering sustainability in the materials they use. This adaptive approach has had a significant impact on the environment with crafters diversifying their resources to explore new materials derived from waste and through experimentation with new technologies. Additionally, at the core of traditional crafts in Indonesia is the close relationship between cultural values and daily life. Craftsmanship and knowledge have traditionally been passed down through generations and this still remains central to the development of craft in Indonesia. Therefore, whilst it is important to further develop and research innovative or sustainable methods for crafts in Indonesia, it is equally important to maintain their cultural significance. Following these philosophies, this study presents four recommendations in supporting the development of the crafts industry in Indonesia.

## ● Policy and Program Synergy

There is a need for a program in which there is collaboration between stakeholders involved within the handicraft sector, with governmental support. Collaboration is a key component in building a strong ecosystem that supports the growth and development of the creative industries. Therefore, it is necessary to develop relevant programmes such as working groups or discussions that focus on a collaborative approach to identifying and connecting key players within the governmental, private and public sectors who are committed to supporting the Indonesian creative economy network in Indonesia. Additionally, we recommend Advocacy through initiating a series of discussion panels and working groups consisting of government agencies and non profit institutions with experience in craft development in Indonesia and; Facilitating development through implementing programmes for capacity building in the production and commercialisation of craft products derived from recycled, upcycled, and eco-friendly materials and processes.

## ● Capacity Building Synergy

At the core of Indonesian craft is the tradition of passing down skills and values and it is important to ensure that younger generations are interested in becoming crafters. Thus, It is necessary to develop programmes that consider the importance of the regeneration of crafters/artisans, specifically highlighting the role of the younger generation for the continuation and evolution of the crafts industry. We recommend programmes that Foster interest among the younger demographic to enter the craft sector by connecting traditional and contemporary crafters with creatives with international experience to inspire collaboration and expand knowledge and; Capacity building through training and mentorship in business design and development across different Indonesian regions specifically targeted for younger generations.



There is a need for collaboration and program synergy between the stakeholders to grow Indonesia's craft industry.  
source: shutterstock.com

- **Material Research and Development Synergy**

There is a need for support in the research and development of materials in crafts for educational institutions that are already paving the way. We recommend Research and experimentation that focuses on developing eco-friendly materials and their application in craft products.

- **Collaboration and Knowledge Sharing Synergy**

There is a need to support past and contemporary crafters and entrepreneurs in market access which holds the key to the growth of the craft industry. A key component of any business, large or small, market access and expansion not only can have an impact on the economic benefits of the crafter, but also in expanding their knowledge about the progress and changes in the industry which will significantly contribute to the future of their business. We recommend the implementation of Supportive platforms and programmes that provide space and opportunities for crafters to test and market their products on a national or international scale and ; the development of a platform/me that provides the space, opportunities and resources for crafters to gain knowledge from others within the network both locally and internationally.



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