



## Crafts and Environment

### [ Discussants ]

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### Introduction

The global environmental crisis that we face today is caused by the rapid development of technology since the nineteenth century. Although science and technology has played a key role in improving the living standards of mankind, it also has led to the unlimited extraction of natural resources and massive environmental destruction for industrialization. Indeed, industrialization has contaminated the most basic environmental resources such as water, air, and soil, and the emergence of new chemicals has had profound effects on humans and our ecosystem.

Today, environmental destruction continues to be a serious problem on a global scale, and the balance of our ecosystem is in great danger. Climate



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change, in particular, is increasing the levels of extinction among living things, depletion of resources, mortality of agricultural and fishery products, deforestation, and natural disasters. According to Mark Lynas, author of *Six Degrees: Our Future on a Hotter Planet*, if the average global temperature rises by 1 degree, glacier will disappear, and the pace of desertification will accelerate. If the average temperature rises by 6 degrees, all plants and animals, including humans, will become extinct. Climate change is also causing food shortages, creating refugees, and producing conflicts between countries over securing fossil fuels and reduction policies.

Climate change is now an inevitable reality. Greenhouse gases are here to stay for a long time, and air temperatures will rise very quickly. In order to respond to this climate change, we need to mitigate and reduce the causative materials, including greenhouse gases, while seeking ways to effectively adapt to the changing climate as human beings. Such processes of mitigation and adaptation are complimentary and can greatly reduce the risks of climate change.

In 1988, the General Assembly of the United Nations issued a resolution, declaring that “climate change is a common concern of mankind.” The United Nations Framework Convention on Climate Change (UNFCCC) was officially adopted by 154 Member States at the 1992 United Nations Conference on Environment and Development (UNCED), also known as the Rio “Earth Summit,” and took effect on March of 1994. The Kyoto Protocol was finally adopted at the third session of the Conference of Parties to the UNFCCC in December of 1997. Unlike the UNFCCC, the Kyoto Protocol explicitly included the obligation of developed countries to reduce greenhouse gas emissions. Sponsored by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), the agreement was reached at the Copenhagen Conference in 2009 that climate change and global warming are caused by greenhouse gases, including carbon dioxide. This enabled the problem of “climate change caused by human activities” to become a political issue.

All living things on Earth survive using a given natural ecosystem (sunlight, atmosphere, climate, soil, water, etc.). Human beings are no exception, and they cannot survive out of this ecosystem. In other words, in

an environment where other living things cannot survive, human life cannot be sustained and human culture cannot be developed.

Mythically speaking, what we now know as craft began with Prometheus stealing “techne” and fire from Athens and Hepaestus. The “techne” here means techniques or skills that manipulate the nature and create tools for everyday life. Fire is the source of energy that enables such technology. Techne is the second nature that controls human nature. On the other hand, fire is the symbol of natural order. Culture is the human efforts to combine and harmonize these two, and its most representative style is craft. In other words, craft is only possible when the natural order of fire and human order of techne are combined. Consequently, in order for crafts to become sustainable, it is essential to preserve and maintain the environment in which natural order is implemented, along with the human order of techne.

Humanity is now making new efforts based on the realization that not only economic growth but also the very survival of human race will be difficult, if environmental destruction continues at its current pace. To this end, a long-term goal of “sustainable development” is being established, with the principle of intergenerational equity and justice. Sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” In other words, for the history of mankind to continue, we must not consume our environment and natural resources in an exploitative manner, but maintain them at levels necessary for survival. Indeed, proposals and problem awareness to implement these goals are now emerging in many aspects of human culture.

The field of craft is no exception. As an essential tool for human beings to lead their daily lives, craft cannot but consider the effects of its materials on the environment. Most notably, with the development of science and technology, there has been a dramatic change in craft materials—from eco-friendly natural materials such as wood to synthetic materials such as plywood, steel, plastic, synthetic resins—that ultimately produced negative effects on the environment and climate change. This reality has raised important awareness among craft designers or craftsmen in their use of craft materials. As a result, they have tried to develop craft products that do

not waste resources or produce trash, yet still allow for inherited use from generation to generation. Their efforts to prevent environmental destruction and lower the risks of climate change now go beyond recycling, as they try to develop designs for upcycling. Furthermore, each country is establishing stricter standards for eco-friendly products and good design that are set out by the government and related agencies and issuing certification marks for following these new standards. This is an effort to create a sustainable environment and cope with global warming by regulating the use of materials and technologies of craft products.

Based on this context and awareness of the problem, the second volume of the *International Journal of Crafts and Folk Arts* developed and asked the following questions, under the theme of “Crafts and Environment”: Has any part of human craft activity and craft industry caused an environmental crisis?; In the midst of massive environmental changes caused by climate change, what efforts have been made by craftsmen, craft organizations, or government to ensure the sustainability of craft?; What role can craft play, given the crisis of our ecosystem?; Can we, through craft activities, raise awareness of the environmental crisis and contribute to the reduction of greenhouse gases and carbon dioxide in our daily lives?; To this end, what efforts can be made by individual craft designers, craft organizations, agencies, and the local governments?; Finally, is there a need to reformulate our understanding of craft and re-regulate its activities in response to the pending environmental issues?

## 1. Awareness of Environmental Issues

*1.1. In your city, have you known or observed any case in which environmental destruction and ecological crisis caused negative effects on craft activities?*

**PITTUNGNAPOO:** From my site visit and interviews conducted in April 2021, pottery creators pointed out that there are greater numbers of ceramic damage than before due to increasing temperatures. For example, it has become more difficult for craft features attached to the wet clay objects due to higher temperature differences between daytime and night-time resulting in more faults and cracked products after baking in the kiln. This issue shows how climate change has had an economic impact on the pottery sector.

**PUTRA:** No I did not. In contrast, craft industry in Bali helps to protect the environment by using recycled materials. Balinese craftsmen creatively make crafts with recycled or environmentally friendly materials, such as the use of coconut shells for decorative lamps, kitchen utensils;<sup>1</sup> or use recycled glass to make crafts in the form of aesthetic mini aquariums, flower vases, and home decorations. This blowing glass craft is produced in the tourist area of Ubud so that it can be a souvenir that attracts tourists.<sup>2</sup> In addition, many of the remaining glass can be reused for valuable handicrafts so that they do not become waste that might damage the environment.

1. <https://www.youtube.com/watch?v=6ffVC9lDk5M>.

2. <https://www.youtube.com/watch?v=BvzS7AUh54o>; and <https://www.youtube.com/watch?v=LJLL6Rj64xc>.

*1.2. Are the cultural policies in your local area based on the awareness of the connection between culture and sustainability of the environment?*

**AMANN:** The European system of supporting culture, arts and crafts is based on a multilevel governance framework. Cultural policy and other policies influencing cultural and artistic activities (e.g., innovation policies, social policies, trade policies) are designed and can be implemented at the local (e.g., like a city) and national levels, as well as in the framework of the European Union. What can be observed on all levels is a growing interest for the topics on protection of the environment in the context of cultural policies, development and practices. To highlight some of the ongoing initiatives:

The European Union has launched the New European Bauhaus<sup>3</sup>—an emblematic action for “shaping more beautiful, sustainable and inclusive forms of living together.” It also aims at connecting architecture and design with the ecological transformation (European Green Deal) of living spaces.

National governments have also engaged in the fields of culture and ecology: The French Ministry of Culture, for example, invested in the ecological transformation of cultural infrastructures as part of the Covid-19 Relaunch Programmes.<sup>4</sup>

At the local level, the city of Dresden in Germany,<sup>5</sup> is an interesting case for advanced cultural policies for sustainability. Based on broad exchanges during symposia and meetings, strategies will be developed for sustainable development in five cultural institutions.

3. [https://europa.eu/new-european-bauhaus/index\\_en](https://europa.eu/new-european-bauhaus/index_en).

4. <https://livemap.getwemap.com/embed.html?emmid=15129&token=at56a0ffab3b79a5.41970867#/search?query=transition%20ecologique@46.6252022,2.9712300,7.01>.

5. <https://www.dresden.de/de/kultur/nachhaltigkeit.php>.

**PITTUNGNAPOO:** Regarding the Sukhothai World Heritage Site since 1991, the main mission of the site has mainly focused on increasing people's awareness of the need to protect and preserve cultural heritage for all, which has been part of a quality education (SDG 4) under the management of the Fine Arts Department (Ministry of Culture). Regarding a new role of Sukhothai UCCN for crafts and folk arts since 2021, its UCCN action plan for Sukhothai has become more focused on achieving sustainable cities and communities (SDG 11), including the city's specific goals by pushing a creative city into strategic development in achieving SDG 1 (No Poverty), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 10 (Reduced Inequalities) into a sustainable future.

**PUTRA:** Since the last two decades, almost every local regulation in Bali, both at the provincial and district levels, have included Tri Hita Karana, the Hindu philosophy of "worshipping God" (*parhyangan*), "social harmony" (*pawongan*), and "environmental conservation" (*palemahan*) as philosophical consideration. Since 2018, Governor-elected Wayan Koster has described the philosophy of Tri Hita Karana in more detail as the concept of *sat kerthi* (six essences as source of prosperity), consisting of spiritual enhancement (*atma kerthi*), quality human resources (*yana kerthi*), preservation of lake (*danu kerthi*), forest (*wana kerthi*), ocean (*segara kerthi*), and earth (*jagat kerthi*). Both local wisdom with universal values of Tri Hita Karana and *sat kerthi* are used as philosophical foundation for every regulation or government policies such as the regulations for the culture advancement and cultural tourism. Dissemination of these local wisdoms has been widespread on conventional media (radio and television programs), social media and various occasions, aiming at increasing public awareness of the importance of preserving environment by using values of local culture. Such campaign plays an important role in supporting the island's attempt to reduce excessive use of plastic bags in daily shopping and in high frequencies of communal religious rituals or temple festivals. In short, government policies in Bali has clearly shown their serious concern on the importance of cultural and environment sustainability.

## 2. Responding to Environmental Issues 1: Raising Awareness

*2.1. What kind of understanding about the environment does traditional craft contain? What role can such understanding, wisdom, or tacit knowledge play in responding to the crisis in the ecosystem?*

**TODATE:** Traditional crafts made from natural materials such as lacquer and wood can be used for a long time, even while being repaired. Unlike plastic, lacquer and wood do not pollute the environment. Also, when disposing of glass, metal, and ceramic products, we can protect the ecosystem by re-melting glass and metal or converting ceramics into recycled clay so that they can be used as raw materials for the next generation of traditional crafts.

**BREUSS:** Traditional crafts are a logical consequence of a particular environment, the availability of resources, and the social framework. Traditional craftspeople know their resources very well, the growth and origin of a tree, its adequate handling and its value. It is sort of a commitment to the environment when a joiner only uses local types of wood. Gathering knowledge about a craftsman's environment means field research, walking through the landscape with open senses, watching carefully what's around, observing an unpleasant or a beautiful aging of wooden buildings, the changes in the growth of a tree, the phenomena of weather and seasons. Centuries of experience, for example, show that wood felled in wintertime, when the tree "is not in sap," that this wood is more durable and more resistant to rot and infestation. Pests cannot find food, as the food supply is interrupted in wintertime. Furthermore, the wood twists less, which makes it suitable as construction timber.

Questioning the sourcing, the processing and exploitation of raw materials has become urgency in the current environmental crisis, throughout the world. The leaves of hybrid or genetically modified maize, for example, are no longer suitable for weaving baskets, so makers need to set up new cycles of raw material sourcing. Such experiences go hand in

hand with tacit knowledge. The observation is inherently tied to the process of making, to the immediate perception of a material. The example of a traditional sawmill shows how slow time and alert senses help in assessing a quality of wood. The sawyers (son and father), specialized in specific cuts for carpenters, instrument makers and joiners say: “We still take the time to check every single board.” They pick it up by hand, look at it, turn it, feel and smell it. When they are asked about the smell of different types of wood, they would probably recognize all their lumbers blindly, in fresh condition. Especially when a piece of wood is faulty, the sense of smell becomes suddenly attentive. Infestation by bacteria or mold is registered more rapidly by the nose than by the eye: a mildewy or rotten smell is identified immediately. It is hard to describe, but nevertheless known. This timber can then no longer be used for all purposes, and they are cut into stumps for bars rather than long purlins. Reacting to damages in this early processing is a sustainable way of using all parts of a material, from nose to tail. Production of waste can be avoided.

**PITTUNGAPOO:** From my experience, it is important to educate local artisans and craft creators to understand the cultural significance of their own unique crafts and to design products according to the local identity. However, many of them have the misperception that to respect cultural uniqueness means to maintain the same design without any adaptation. Therefore, I have applied a conservation approach in dealing with this issue. There are three salient approaches which craft creators could take into account to adopt and adapt their creative designs by considering value-based, material-based, and living heritage approaches. Each approach can be a convergence of crafts across conventional characteristics in responding to new designs for a different ecosystem.

**AMANN:** Traditional crafts are described in the context of the UNESCO Intangible Heritage: “There are numerous expressions of traditional craftsmanship: tools; clothing and jewellery; costumes and props for festivals and performing arts; storage containers, objects used for storage, transport and shelter; decorative art and ritual objects; musical instruments and

household utensils, and toys, both for amusement and education. Many of these objects are only intended to be used for a short time, such as those created for festival rites, while others may become heirloom that are passed from generation to generation.”<sup>6</sup>

As there are many different types of material in traditional crafts, the understanding and their impact on the environment also vary. For example, the use of precious wood from tropical forests for a traditional craft can have a rather negative impact, while the recycling of organic rests for weaving a basket might have a much better carbon footprint. Furthermore, the historic context and narrative related to a craft object can be an additional element which influences the understanding of the impact of this specific work on the environment.

Therefore, a communication strategy for crafts and environment requires further specification and needs to be built on the local context. In many cases, the use of local (eco-certified) materials for crafted objects is a good argument to show environmental consciousness. A further promising point strongly translated by crafts activities is the handmade principle. The latter is most often linked to practices with limited use of (fossil) energy.

**PUTRA:** In the beginning, traditional Balinese crafts were using environmentally friendly raw materials such as wood, bamboo, and padas stone. Some of the wood is imported from outside Bali such as Kalimantan, while bamboo and soft-rock are mostly found in Bali. In recent years, many crafts are made with materials that are not environmentally friendly but easy to work with, such as styrofoam and plastic. Signboards to convey congratulations, such as congratulations for the opening of a new hotel or office or condolences for a death are made with styrofoam, usually 1.50 m x 2.00 m in size. After the event is over, the handicrafts become waste that is easy to destroy and damage the environment, or if burned, can possibly endanger human health. In view of this concern, there have been calls for the use of styrofoam or plastic to be reduced, in order to preserve the environment. Craftsmen are advised to use natural materials such as bamboo

6. <https://ich.unesco.org/en/traditional-craftsmanship-00057>.

and material elements from coconut trees.

**MOON:** Traditional crafts are hand-made items produced from natural materials for daily life before the advent of industrialization. Examples are wooden furniture or small items. They are eco-friendly products made from natural timbers by joining wood pieces with natural adhesives such as glue extracted from animal skin or bone marrow, without using metal nails.

As locally-sourced timbers are used for traditional wooden furniture, they have variant sculptural or inlaid ornaments that reflect the characteristics of the natural surroundings of each region. However, common joint techniques for making furniture are often observed in the East and West alike, such as miter joint, dado joint, mortise and tenon joint, and dovetail joint. This is such a basic feature of traditional wooden furniture that eco-friendliness is not particularly emphasized in the production. Wooden furniture is made out of implicitly passed-on routine practices rather than a special understanding, knowledge, or wisdom.

Traditional wooden furniture, which uses joint and decoration techniques acquired through innumerable times of practices over a long period of time, allows us to glimpse into the essence of the wooden furniture culture of each country. Therefore, the furniture culture of each country obtains a global competitiveness for its uniqueness, rarity, and creative artistry. We can appreciate a remarkable beauty emanating from the joints, sculptures, and inlays while using them continuously through generations.

Continuous use of the same pieces of furniture without throwing them away reduces timber consumption, conserves more resources, and generates less waste. For that reason, traditional woodcraft seems to be the best type of furniture to rescue us from the crisis of the ecosystem and thus, we need to make efforts to enhance this field by forging a balance between the merits of its transmission and industrialization.

*2.2. Can you give specific examples of works or artists that contribute to solving the ecological crisis through craft activities? How did such craft activities raise awareness about environmental issues?*

**PITTUNGNAPOO:** One of good example is Usa Sangkhalok which is a small local pottery business in Sukhothai old town district. A female craft-creator who is also the owner has collected sawdust which is a by-product of furniture-making from a small factory which is a village cooperative group, to mix as a new material with clay to create her new pottery designs. Her inspiration behind this creation is not only to solve environmental issues by reducing a great amount of unused sawdust which is the main source of air pollution and a local health issue in her village; but it also reduces the amount of clay with a new material replacement (cost saving). More interestingly, sawdust has not only created a unique new look of Usa potteries' colour and textures; but also, it has value-added in terms of a friendly environment which can attract more green customers.

**PUTRA:** One example is the ban on the use of styrofoam to make giant *ogoh-ogoh* effigy which is paraded to enliven the Caka New Year's Eve carnival in Bali, usually during March/April.<sup>7</sup> Thousands of *ogoh-ogoh* used to be made and paraded at that time and a few days later were thrown away or burned. Since the 1980s, craftsmen have made *ogoh-ogoh* using styrofoam because it is easy to shape, easier to work with, and the results are relatively beautiful. However, because styrofoam is considered dangerous and can damage the environment, starting in 2015, the manufacture of *ogoh-ogoh* with styrofoam was prohibited. Since then, the *ogoh-ogoh* craftsmen have slowly returned to using environmentally friendly materials such as bamboo, wood, and newsprint powder. After the carnival, the *ogoh-ogoh* made from natural elements is easy to burn. The ban on using styrofoam is a campaign to build awareness of environmental conservation. By using bamboo and wood

7. [https://www.youtube.com/watch?v=trke\\_\\_pfWr4](https://www.youtube.com/watch?v=trke__pfWr4).

materials, the shape of the *ogoh-ogoh* remains aesthetic, the annual New Year's Eve parade continues to be lively, and environmental sustainability can be maintained. Mini *ogoh-ogoh* as souvenir is also now made of environmentally friendly materials.

**BREUSS:** Woodmaker Helmut Fink draws his knowledge from a deep familiarity with the forest and the trees, exclusively working with local wood. He processes the whole tree, using both knot-rich and knot-poor parts and creates new expressions of wood. Conical laying pattern and mixed lengths and widths of the board of either floors, walls or ceilings reveal how Fink's cut follows the growth of a spruce or a fir. His sustainable products will remain for generations to come. In the last years, Austria had an enormous ash dieback, and all the ashes were felled, causing an abundance of ash wood. Open-minded for experiments and challenges, Fink immediately adapted ash wood for new purposes. With the right arguments, this approach reacts and raises awareness for an environmental issue.

Recent forest issues, due to climate change, recommend the afforestation of hardwood rather than fir wood, as it is getting to dry where fir wood grows naturally. As a sufficiently available raw material, hardwood offers promising opportunities, especially the fast-growing beech. A structural and material innovation is the Baubuche ("building beech"), a laminated veneer lumber made from locally sourced beech, first manufactured by a German company. It is produced in a completely new, yet highly economical process. Peeled veneer layers of 3 mm in thickness are parallel- or cross-laminated and turned into beams, boards and panels. Anton Mohr, a cabinet maker in the Bregenzerwald, has built the extension of his workshop with this material, a few years ago. Its high strength allows new structures with significantly slimmer dimensions, which in turn allows new aesthetical solutions. As the technology was still new at that time, the builder, the architect and the carpenter acted as an avant-garde group, with awareness for climate issues. They tried out new things and faced the specific challenges of this material in processing, its hardness and weight and the sensitivity to moisture. Craftspeople take those risks and show with their own examples—problem solving is characteristic to them, in the past and still today. People come and

watch these pilot projects, media reports about it, and discussions about climate change issues are triggered within the Crafts, at the interface to industrial developments.

**TODATE:** Tomonosuke Tagami, a ceramic designer working in the Tokai region, one of the major ceramic areas in Japan, is working on producing tableware using recycled ceramic clay. Recycled clay in the Tokai area, Mino, is available in two types: one with 20% Selbene content and the other with 50 percent.

Currently, the Japanese Eco Mark certification standard for recycled ceramics is 15 percent or higher. However, even if it is only 10 percent, as long as many makers work on it, it should still have an ecological effect as a whole.

### 3. Responding to Environmental Issues 2: Reduction and Adaptive Activities

*3.1. How do you think crafts exhibitions and traditional crafts biennales can help to raise awareness about environmental issues and ecological crisis, and further, lead to adopting a new vision for the ecosystem?*

**AMANN:** First, it is important to organize exhibitions and crafts biennales as so-called green events. The green events are a recognized standard with many available practices of reference. For example, in Austria, green events are certified<sup>8</sup> and dispose of an online information database<sup>9</sup> covering a wide range of environmental actions to be addressed.

8. <https://meetings.umweltzeichen.at/>.

9. <https://infothek.greenevents.at/>.



Second, we need to address the environmental dimension in the overarching themes of the crafts exhibitions and biennales. The KulttuuriKauppila Art Centre in Finland has a focus on environmental art and also organizes a biennale. The 2016 edition was dedicated to the relation “between environmental art and the use of natural materials in the Sámi crafts tradition (. . .) and the theme was “The Poetics of Material.”<sup>10</sup>

Third, we must raise the voice. In a different context, the 2018 Taipei Biennial<sup>11</sup> dedicated an exhibition to the topic “Post-Nature: a Museum as Ecosystem” involving indigenous activists. Curator Wu explains the concept:<sup>12</sup> “Over the past two years, the indigenous class has been fighting to keep its traditional territory—in vain. Post-Nature is about how people live in a certain environment, so when you lose your land, or your traditional territory, it means not just that you lose your land but you also lose the tradition, all the culture, even the language, of what you experience in your daily life.” In this sense, crafts exhibitions and biennales can also be a platform for expressing the effects of environmental damage on traditional crafts, values, protection and safeguarding measures (e.g., establishment of crafts museums, actions for skills transfer, etc.).

**PUTRA:** Arts exhibition can be a powerful medium to increase public awareness of the environmental crisis. In the departure hall of the Bali International Airport, in 2018/2019, an installation art exhibition was also held in the form of making an octopus statue with a beautiful plastic bottle of mineral water. This beautiful installation art caught the attention of many passengers and they were encouraged to reduce the use of plastic waste. The Hindu New Year’s Eve carnival in Bali, which originally used styrofoam *ogoh-ogoh* but now uses environmentally friendly materials, can also be seen as a form of arts exhibition. This carnival is not only related to customs, the tradition of celebrating Hindu New Year’s Eve in Bali, but is also a collective way to remind the public that environmental conservation is an important

10. <https://artii.fi/biennials/art-ii-biennial-2016-2/>.

11. <https://www.taipeiennial.org/2018/information/160>.

12. <https://www.theartnewspaper.com/review/taipei-biennale-review>.

thing that must be done together. Various ways can be taken to raise public awareness to prevent environmental crises, especially arts exhibitions and traditional carnivals at the local level which can in turn have a global effect.

**TODATE:** It is expected that appreciation of craft exhibitions and craft biennales will encourage many people to take an interest in the familiar objects around them.

**PITTUNGNAPOO:** The crafts exhibitions and traditional crafts biennales will provide a great opportunity for learning and sharing good practice in raising awareness of environmental and ecological issues at the international level. A special theme can be initiated in this area in line with climate change adaptation for the crafts and creative sectors across participants and experts from different cities. Further research collaboration is a future activity based on mutual interest as much as opportunity during the Jinju international crafts event.

**BREUSS:** A good relationship between designers, craftspeople and architects is based on trust, mutual respect, and the capability to leave the comfort zone, when it comes to problem solving as a team. In this sense, the competition “Handwerk + Form” (Arts and Crafts) has been established more than 20 years ago, in a triennial call. Promoting a cross-sectorial exchange is a first step, and paying attention to the long-term benefits of a craft product, to the consumption of energy and raw material, to dual-use and reparability are some of the sustainable-relevant issues. When presented in an exhibition, these measures reach a wide audience. The change of consumer behaviors does not happen from day to another. It starts with projects like this.

In the European Cultural Program, heritage is considered as a key factor in sustainable development. Sustainability re-images industrial, religious and military sites under the topic of heritage in transition. Responsible and sustainable tourism around cultural heritage proposes ways aside of the typical touristic paths. Vienna, for example, is full of coffee-house-culture, yet only a few of them are listed in the programs of great tour operators.

European Heritage Days have become a major event for the tangible

cultural heritage all over Austria. One of the 300 sites is the Information and Training for Architectural Conservation Kartause Mauerbach, a Carthusian monastery near Vienna. The general public is offered access and free admission to performances of traditional craft techniques such as lime burning, brick construction, production of pigments, mixing of linseed oil paints, and repairing of wooden window frames are professionally performed face to face. During the year, special workshops are offered, including “Crafts and Sustainability—Silence and Loneliness of the Carthusians.”

The fair Monumento Salzburg is an international platform for cross-border collaboration and a meeting point for monument preservation, restoration and conservation with European reputation. Every two years, the fair unites owners, craftspeople, restorer, conservators, trainers, scholars and tourists.

All of the above-mentioned activities are dedicated to make sustainable issues public, and interested craftspeople get inputs for their daily work, pushing sustainable issues. To create a new vision of an ecosystem, we need to take actions together, nationwide and globally.

*3.2. What is the ideal direction for craft technology and design that can successfully respond to the ecological crisis and pursue a sustainable ecosystem? What are the appropriate educational programs that need to be in place?*

**BREUSS:** That crafts contribute to ecological sustainability by using materials and resources mindfully has been shown and said before by collaborations between architects and craftspeople. High standards in material culture create favorable conditions for ecological responsibility, with the main parameters of sustainability being products that last long and can be repaired and recycled.

An ideal direction for craft technology and design that can successfully create answers to the ecological crisis is, from my point of view, the

collaboration between young designers and traditional craftspeople, such as the transnational project MADE IN. In this project, traditional Craftspeople and contemporary Designers from Austria and the Balcan States (Croatia, Slovenia and Serbia) exchanged knowledge and discussed current issues, including questions about sustainability. Asked questions were how social design can stimulate local production or how research into locally sourced materials can address wider social, environmental and political conditions, or how design can reconnect with raw materials through craft. For the young designers, their curiosity to understand the skills of traditional crafts was crucial to them. By nurturing those skills, the designers often added a modern twist, which was a truly refreshing in “our era of hyperproduction,” as the Serbian industrial designer Tamara Panic says. Many workshops and seminars took place around this project, and wandering exhibitions spread the results of this process throughout Europe.

Appropriate educational programs that needed to be in place should set up transdisciplinary teams, and should bring experts from the field of traditional crafts, designers and ecologists in formal training programs together. Other learning paths should also be developed, outside the academia. For example, platforms to explore, share and exchange the “burning questions” are needed, in order to contribute to the development of a region and a community. Formats could be workshops and seminars, exhibitions and speeches. This also implies that institutions such as museums see sustainable issues as one of their missions and are willing to invest in such training programs in their premises.

**TODATE:** There are at least two things that are educationally important.

The first is to convey traceability. It is important to know what raw materials and processes are used to make the crafts you see in front of you, so that you can recognize the origins of the products.

The second is to let people know what happens to the finished crafts. This is to let people know what happens to the finished artifacts after they have been used for a long time, how they return to nature, or how they can be reused as raw materials.

**MOON:** Korea Forest Service (KFS) has implemented the wood education training program to nurture wood specialists who are needed to operate the wood culture experience centers, which are being installed across the nation since 2020. Institutes specializing in wood education have been designated to spread wood education and cultivate the human resources under the Act on the Sustainable Use of Timbers, the Act on the Vitalization of Forest Education, and the Ordinance on the Operation of the Wood Culture Experience Centers. These actions are geared to promote the use of timbers in everyday life and strengthen its foundation.

The institutes run a 176-hour training program in which the participants attend lectures on various subjects—including physical and chemical characteristics of timbers, wood weathering and jointing, design and coating/painting of wood products, and making DIY (do-it-yourself) wooden stuffs—and take exams to obtain a certificate. Wood experts produced from the program are sent to the wood culture experience centers, which are scheduled to be established in more than 90 places across the nation to educate scientific knowledge on wood (e.g., carbon storage capacity) as well as woodcraft skills.

Providing training on wood and woodcraft, the institutes teach how to design and make wooden furniture and small items which are needed in daily life and suit individual tastes. Drawing on a minimalism concept, products are made with simple and easy wood joint techniques instead of metal pieces. The focus of the education lies on the development of products that use simple easy-to-learn methods but deliver multiple functions with as little wood as possible. Therefore, KFS's wood education program can be conducive to the sustainable ecosystem.

**PITTUNGNAPOO:** Regarding Sukhothai UCCN for crafts and folk art, we have integrated crafts entrepreneurs through lifelong learning communities for all ages of either formal or informal education system. Undoubtedly, one of our ambitious commitments, determined in the UCCN application form for developing Sukhothai to be the world learning center for crafts and folk art, has been integrated into the city education program at all levels. Moreover, one of the projects named “Craft the Craft” which is part of Sukhothai

UCCN action plan was implemented by empowering local crafts creators with creative capacity building by adapting local wisdom with appropriate technology (under the theme of “When Craft Meets Technology”) to suit new normal markets during the COVID-19 crisis. These are examples of the new direction for educational activities in creative crafts during the uncertainty of the ecological crisis.

#### 4. Cooperation or Convergence with Other Fields or Disciplines

##### *4.1. What kind of cooperation or convergence do you think crafts can seek with other fields of cultural arts to cope with climate change?*

**PITTUNGNAPOO:** Sukhothai World Heritage Site has mainly focused on quality education (SDG 4) under the management of the Fine Arts Department (Ministry of Culture). However, there have been some efforts in applying climate concern into the heritage sites. A reduction of CO2 emissions is a case in point which has been implemented into the heritage site so far (e.g., tree planting, renewable energy usage, cycling and electric trams and forbidding cars and commercial vehicles from entering certain areas, etc.).

However, since Sukhothai is designated as a member of the UCCN, the city has applied this framework as another urban mechanism to integrate the intangible wisdom of Sukhothai's crafts into a cultural-based and creative economy. Therefore, it is a future challenge for the city to make more room to integrate climate action (SDG 13) into the craft and cultural sector for a more sustainable future. Green design is a crucial value-added approach which may involve combined crafts' wisdom with a friendly environmental process.

**BREUSS:** I give you an example of a project, realized between experts of Communication Design and scientists of Biomimicry, Ecology and Botany.

The exhibition “Alphabet of Life—Nature’s Learning Lab,” shown in the Werkraum House in 2018, has been set up as a research project, subsidized by the federal state of Austria. Developed as a nature’s learning lab, the exhibition told the story of a tree’s eco-system and thereby demonstrated nature’s strategies and patterns that have been evolving for more than 3.8 thousand million years. The audience was introduced to the framework and the practice of biomimicry by learning from ordinary and innovative applications in various crafts and design professions. The life of a tree was a good example. A tree lives mainly from water, light and air, and is a prime example for cycling nutrients through the system. Furthermore, it offers habitat and nourishment for an immense diversity of fauna, flora, fungi and micro-organisms. “The tree is a symbol of an intact eco-system in which every living creature plays its role and in which the natural cycles are perfectly optimized,” says curator Elisabeth Kopf, who along with woodworkers and gardeners brought nature into the Werkraumhaus, and explored this in the project work, together with her students at the Vienna University of Applied Arts. This transdisciplinary exhibition project is underpinned by extensive collaborative research and oriented toward educating all stakeholders. Thus, the exhibition brought together science, crafts and artistic production in an inspiring learning lab for the whole family (cf. Press Release, 2018).

Furthermore, the exhibition presented a rammed earth by the Earth and Clay expert, Martin Rauch. The focus of his work, renown in Europe, is concentrated on the rammed earth building technique—proven over thousands of years with new perspectives and developments.<sup>13</sup>

An example of a State Prize in the field of “Architecture and Sustainability” is advertised every two years by The Federal Ministry Republic of Austria, Climate Action, Environment and Energy. Honored are excellent works of builders, architects and special planners that show the combination of resource saving construction with sophisticated architecture. Craftspeople are excellent partners for this kind of cooperation.

In November 2021, the exhibition “Constructive Alps. Building for the Climate” was presented in the Werkraum House. Shown here were the prized

13. <https://www.lehmtonerde.at/en/>.

objects related to sustainable renovation and new sustainable building in the Alps. The exhibition was the result of a competition, responding to a call by the Swiss Ministry of Spatial Development and Environment since 2006. In the accompanying program, the students of the Werkraum School built their own little “Werkraum House.”

**AMANN:** The environmental protection movement as well as the engagement for reducing climate change is strongly anchored in practices and activities of many art and culture fields. To name some of the initiatives in Europe:

The Green Screen project aims to “inspire and educate the nomadic world of filming by creating sustainable working practices. By reducing the environmental impact of filming essentials such as transport, construction, lighting and catering we aspire to lead European film & TV production into a greener way of life.”<sup>14</sup>

Nemo, the museums network, works for Green Museums and has “invited NEMO Project Officer and sustainability expert Elizabeth Rosenberg to discuss museums’ role in ensuring a sustainable future and the initiative Museums For Future”<sup>15</sup> in a podcast in June 2021. This complements a wide range of actions from the network for sustainability in museums.

COAL, the Coalition for Art and Sustainable Development, “mobilizes artists and cultural actors on societal and environmental issues and supports the emergence of a culture of ecology through its actions such as the COAL Art & Environment Prize, curation of exhibitions, consultancy services for institutions and communities, European cooperation, and the animation of conferences, workshops and resource websites.”<sup>16</sup>

Just as diverse the initiatives are, there are also many cooperation and exchange opportunities with the craft sector including actions for safeguarding of endangered crafts to promotion of handmade crafts with green filming and many other options more.

14. <https://www.interregeurope.eu/greenscreen/>.

15. <https://www.ne-mo.org/news/article/nemo/nemo-discussed-sustainability-in-the-green-museum-podcast.html>.

16. <http://www.projetcoal.org/coal/en/le-prix-coal-art-et-environnement/>.

*4.2. Do you think crafts that have converged with other fields require a new separate aesthetic understanding of their own genre?*

**MOON:** Just as contemporary arts, particularly, paintings and sculptures, attempt to enhance communication with viewers or users by breaking down the boundaries of different genres, crafts offer diverse ways of interpretation and appreciation by presenting symbols harboring metaphorical messages about social issues, e.g., climate change, or expressing environmental meanings with recycled materials.

Furthermore, crafts can create a wide range of daily items by using eco-friendly materials (which have been previously inconceivable) with the assistance of engineering beyond the confines of arts and culture field.

One example is “dry lacquer” (乾漆) technique, which had been traditionally developed in Korea, Japan, and China. In Korea, particularly, the tradition of applying dry lacquer on vases, fruit plates, and trays began in the Three Kingdoms period, continued into Goryeo and Joseon dynasties and still survives today. In this technique, which is often employed for large pieces of lacquerware, three layers of hemp cloth are applied over a core carved of wood, onto which lacquering is repeated twelve times to get the desired thickness. While it involves delicate and lengthy handwork, the finished product is very lightweight and durable, lasting for many generations. It can also boast of a great beauty with mother-of-pearl decorations inlaid on the surface of lacquered pieces.

In traditional dry lacquer technique, large or small hemp cloths can be used depending on the size of utensils. With the help of paper-making engineering, a repeated lacquering over a single layer of hemp cloth can be turned into something resembling a thin paper sheet. From this, lacquered hemp cups, akin to paper cups in form, can be immediately cut out by a machine or scissors.

As their strength is not affected by holding water, they are eco-friendly in a sense that they can be used repeatedly after washing without being wasted upon first use. Lacquered furniture does not dampen and is resistant to mold.

Traditional Korean wooden furniture is finished through at least five times of lacquerwork, thus acquiring anti-acidic, anti-alkalic, and anti-septic qualities, which makes it good for our health.

Although lacquering allegedly causes no harmful health effects once it gets dry, potential health problems which may occur to people who are allergic to the lacquer tree or lacquer coating should be resolved by adding certain substances based on scientific experiments.

When the viscous lacquer fluid is mixed with a lump of fine hemp bits, it becomes malleable into any shape, like soft clay. With scientific analysis of the mixing ratio for the optimum level of strength and drying time, molding can create a vast number of items of any form, e.g., accessories decorated with mother-of-pearl (character molds, brooches, necklaces, pins, etc.). Small items of diverse designs can be cut from a lacquered hemp plane.

For the industrial development of mass production of small items through collaborating with paper-making engineering, we need a new way of appreciating the aesthetics of paper cup and accessory crafts which have diverse usages in everyday life. This is a traditional beauty discovered in mundane pieces of lacquerware which we can see everywhere and use on a daily basis, rather than dry-lacquered handicrafts.

**PUTRA:** In order to become a sustainable field, crafts must continue to cooperate with at least these key areas: economic, socio-cultural, and environmental. To get economic benefits, crafts produced must be salable and profitable. Without economic benefits, craftsmen will not work. Craftsmen must also ensure that the products made are environmentally friendly, in the sense of using abandoned upcycled so as to prevent exploitation of natural resources, or using environmentally friendly materials so as to reduce pollution or waste. From a socio-cultural point of view, handicrafts must be able to build a consumer culture that values environmentally friendly products. The role of education, mass media, and public figures are very important in building awareness of environmentally friendly product crafts. It seems necessary to build social awareness that enjoying environmentally friendly crafts is a noble thing. Crafts cannot stand alone, but must work together with other fields so that they can both contribute to sustainable

development.

**TODATE:** Both appreciative and utilitarian crafts require the same basic aesthetic understanding. The fundamental idea behind all types of crafts is the attitude that human beings should be aware of the importance of natural resources and live in harmony with nature while shaping and expressing something.

**PITTUNGNAPOO:** In my opinion, the creation of crafts can be designed and developed for various purposes based on different contexts, which is a challenge for cross-creative cluster collaboration. However, it is important to understand and respect traditional contexts and the cultural significance before applying and recreating new aesthetic designs. From my experience, appropriate combinations between traditional wisdom with creativity are good practices in the creative craft sector. Interestingly, conservation approaches can be taken into consideration in terms of value-based, material-based, and living heritage or intangible approaches that can be converged across conventional boundaries.

## 5. The New Value and Meaning of Crafts

*5.1. Do we need new social and cultural definitions or regulations for crafts, as we try to make crafts to become more sustainable and eco-friendly?*

**AMANN:** The power of definition related to environmental rules lies not alone in culture including craft sectors. A wide range of environmental frameworks are defined by Ministries of the Environment, Transport, Economy, etc. A related specific challenge is the fact that those defining these rules are most often not very familiar with the specific nature of culture, culture heritage

and crafts. In a study published in the context of the EU research project “ROCK—Cultural Heritage leading urban futures,” coordinated and co-written by the author, the decision-makers’ attention was drawn to this challenge: “Environmental rules are not (yet) mainstreamed in cultural heritage and not appropriately adapted to the very specific needs of CH valorisation.”<sup>17</sup>

Furthermore, the regulation of crafts—if they consume energy or cause damage to the environment—not only has an environmental dimension. In the framework of the broad ecological transformation, debate is needed to define which activities create enough values for the society that would justify their environmental harms or damaging practices. Related arguments for the maintenance of these craft practices could be cultural traditions linked to specific territories, or social arguments to maintain opportunities for income generation for certain disadvantaged strata of the society.

Last but not least, regulations might also concern the so-called “new materials,” including those reintegrated from recycling into production cycles—a new framework to be defined together with the recycling industries and environmental legislators.

**PITTUNGNAPOO:** It is a challenge for each individual city to initiate their own new social and cultural definitions or directions for crafts-making which can be developed as a standard of practice (SOP). However, it will be great if we can work together to develop a SOP with other members of the UCCN for crafts and folk art; particularly in terms of eco-friendly crafts for climate adaptation in line with SDG 13 (Climate Action) and for achieving SDG 11 (Sustainable Cities and Communities) as my research concern.

**MOON:** Crafts, which are necessary daily items for living, are naturally imbued with the environment and used to lack any explicit sociocultural definition or regulatory scheme. With the growing demand for eco-friendly everything since the late 1900s, however, crafts have celebrated the buzzwords of well-being and LOHAS (lifestyle of health and sustainability), just as conventional cars—

17. <https://rockproject.eu/documents-list> select “Regulatory Framework, ROCK Procurement and Policy Recommendations,” p. 119.

the main source of air pollutants—are being gradually replaced by hybrid or electric ones. So far, crafts have addressed such social and cultural issues in a plain way by using eco-labeled materials to develop green sustainable items.

For imported hardwood, the origin should be checked for environmental soundness to begin with. In the case of planks (plywood, MDF, HDF, and special-purpose wood), environmental concerns are addressed by using chemical bond with the KS (Korean Standard) mark. For the finish coating or painting, the analysis and descriptions of the ingredients applied in compliance with specifications required for coating materials and the use of KS-marked green coating ensure the environmental soundness of the final products. Therefore, it can be said that the requirements to indicate on the crafts such as the information regarding the materials used and the development process work out as a sociocultural definition and regulatory mechanism.

*5.2. In order to reduce the waste of resources and respond to the crisis caused by climate change, there are increasing cases in which arts are produced by re-designing and re-creating abandoned products (upcycled crafts). What are the social and cultural value and meaning of this type of craft?*

**PITTUNGNAPOO:** Referring to previous question (Question 2.2), a good practice of Usa Sangkhalok as a small local pottery business in Sukhothai has shown how to re-design and re-create crafts with new leftover materials. Sawdust generated from a furniture making factory is an example of unwanted rubbish which need more storage space. Without proper management, it can generate small particles into the environment and atmosphere resulting in health issues for neighbours. Undoubtedly, when Usa potter creator collected this sawdust and mixed it to create a new look for her products, a new value-added product was created. A co-benefit between both crafts entrepreneurs

either furniture or pottery making has become noticeable in terms of economic benefits (capital and operational costs saving, and decent work), environmental benefits (waste reduction, reduction of air pollution, and CO<sup>2</sup> emission), health benefits (reduction of asthma, and skin irritation, etc.), social benefits (increasing in partnership and community ties, decreasing in social conflicts, decent work with better well-being) and cultural benefits (creative crafts value-added with a green eco-design). These benefits are social and cultural values that make crafts more meaningful to people and help to create a more sustainable future.

**BREUSS:** Linking an object to someone who made it, for example a craftspeople, and connecting it to the material's and technique's origin can help develop a proper appreciation for objects in our consumer culture. This credo applies to re-created, upcycled crafts objects, realized by artists or craftspeople.

The concept of repairing or the future dismantling of a work piece can already be considered during design and construction. Sustainability-related craftspeople follow this principle in their work, whether they lay a wooden floor, build a house, or a heating system.

Austrian artist Belinda Waeger showed in an exhibition at the Vorarlberg Museum how used furniture becomes sculpture. Her work started with found objects, used stools personally collected at flea markets or brought in from private persons, after a call of the Museum.

The upcycling process displaced the objects from their original function, converted it into another condition, into another look. Visitors were shown, what potential can be discovered in a used piece of furniture, in an artistic and playful way. In the accompanying program, people were invited to lend a hand, to experience the process of transformation of their own objects that they brought with. Performances like this draw attention to the cultural habit that an average European household counts an estimated number of 10,000 objects. It raises the question, how many of them do we really need. Furthermore, the artistic approach might raise a wish of imitation, of doing it yourself, in an unconventional manner, being a lay person or hobbyist.

Doing it yourself strategies are significant from various points of view. A

Swiss cabinet maker offers workshops for clients and let them build a wooden box on their own. After six hours they have at least an idea of the high requirements and skills a simple box is asking for, what benefits and cultural values are behind a handcrafted product. The concept of manual labor as a worthwhile occupation on par with mental activity, is a fundamental tenet of our economically oriented, rational modern age since the eighteenth century. It might be the right time recalling that.

**PUTRA:** The use of abandoned products (upcycled crafts) has at least four meanings of universal cultural values. First, the use of abandoned products or materials clearly reduces waste that can potentially damage the environment. Second, abandoned products are cheap raw materials for the manufacture of various forms of valuable or profitably craft products. Third, making crafts with abandoned materials is innovative and creative in itself that can attract people in general and buyers in particular. Fourth, enjoying handicrafts made from abandoned materials or recycled products is a growing modern lifestyle. Using products with recycled materials creates specific sense of pride for many people in the world.

**MOON:** Upcycling stores in Korea, operating under the brand name of “new-cycling stores,” are working to transform wasted resources into new products, provide them with aesthetic values, and foster a green lifestyle. The Seoul Upcycling Plaza is the world’s largest upcycling cultural complex, where visitors can experience, learn, and observe everything about upcycling.

Anchored by the idea of “zero waste,” a newly-coined term in 1998, upcycling goes beyond recycling. From the product planning and design stage, new cycling takes into consideration of recycling, upcycling, and zero waste before deciding on the ingredients, size, shape, and usage of the finished items.

This approach can have an immediate effect on crafts, including our daily items. As new craft goods made from recycled or upcycled ones (for zero waste) are used in everyday living, they also have mental and physical effects on us. The practice of recycling, the use of upcycled crafts aimed at zero waste, and appreciation of a new aesthetics in recycled or upcycled

products foster a green awareness in all aspects of life, which leads to form an eco-friendly lifestyle in society and culture. Here lies, it seems, the social and cultural value and significance of crafts.