

REUSE

OF

TEXTILE

WASTE

Kathmandu Valley

Reuse of textile waste | Kathmandu Valley

This master thesis is exploring the reuse of textile waste and the concept development of a circular system. The research is conducted in Trondheim, Norway, and Kathmandu Valley in Nepal from the 9th of January to May 30th, 2023. The thesis discusses ways of transforming both pre-and post-consumer waste into a circularity using the diagram for circular economy created by The Great New Recovery project. Activities were done before, during, and after the time spent in Nepal and the final idea is a design of an organization to handle the leftover cut-outs from tailors around the Kathmandu Valley.

table of content

1	acknowledgement
5-6	timeline
7-10	introduction
11	a name changer
12-14	the context: Nepal
15	what is textile waste?
16-18	what to do with the waste?
19-20	waste management terminology
21-22	other visions

BEFORE

January 9th - February 28th

25	interviews
25-26	searching for existing companies
27-28	planning
29-31	actions while in Norway

DURING

March 1st - April 17th

33-35	existing solutions in Nepal
36-42	secondhand shops
43-44	other activities
45-52	working with Upcycle Nepal
53-64	collaborative project

AFTER

April 18th - May 30th

67-71	finding solutions
72-75	PuzzleT
76-83	design of organization
84-88	combining pre-and post-consumer waste
89-91	concluding thoughts
91	the end
92-95	reference list
96-97	appendix i
98-99	appendix ii

acknowledgement

I want to thank all the lovely people I have met on my way during this project. From Upcycle Nepal: Pushpa Sthapit, Rajan Chakradhar, Pretisha Sthapit. From DAVU Gallery, Sujaan Shrestha. Kripa Shakya, Santosh Gurung, Nirvita Shakya, Lakpa Sonam Sherpa, and Promise Gurung for participating in the collaborative project with me. Special thanks to Kunsang Gurung for helping with translation and guidance around Kathmandu. Kriti Panti, Karoline Ryslett Follestad, and Runa Klock who took time talking to me in the beginning. Katja Carmina, Maria Lisa Isaksen, and Markus Pettrém for support and company while being in Kathmandu. Martina Keitsch and Brita Fladvad Nielsen, for help and guidance on my thesis. Divya Agarwal, for being a great travel company when exploring Nepal. Mum, dad and my sister for support and love.

The next page shows a shortened and translated version of the project description. The signed and Norwegian version can be found under appendix i.

Master thesis for student Jenny Marie Jakobsen

Reuse of textile waste in Nepal: An equity-centered design process

(Later changed to Reuse of textile waste | Kathmandu Valley)

Background and goal for the thesis.

The master thesis is a continuation of the project “Litter to Value”, which was conducted by Jenny Marie in the autumn of 2022. The project began looking into ways of reusing textile waste to create new value. The goal is to explore ways of reusing textile waste by learning from experiences in a new context. The project is under the SAMAJ project, a collaborative project between NTNU in Norway and IOE in Kathmandu. A stay in Nepal will be conducted from the 2nd of March to the 17th of April.

Expected approach and methods.

It is wished to use methods that corporates other participants in the design to form a bottom-up perspective on the process. Approaches from equity-centered methods will be explored which include participatory approaches. There will also be looked at systems thinking and sustainable entrepreneurship.

The project is in three parts: before traveling to Nepal, time spent in Nepal, and after the trip to Nepal.

During the time in Nepal, it is wished to conduct a workshop with locals in the Kathmandu Valley to investigate:

- Where textile waste comes from?
- What is the necessary procedure for them to be reused/upcycled?
- How and what products can be made from textile waste?

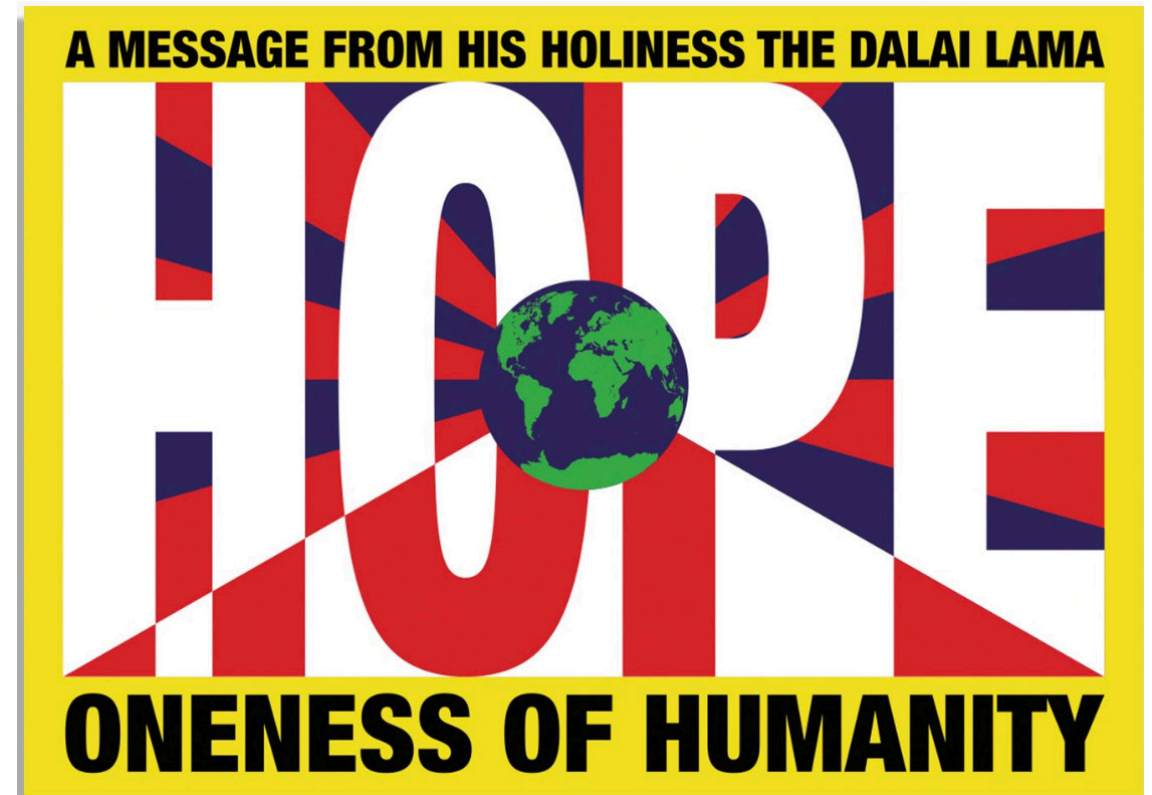
There will be conducted observations (auto-ethnographic methods) and interviews with local designers and relevant stakeholders to gain insight into textile production and textile waste situations in Nepal.

Expected results.

The expected result is an exploration of ways that textile waste can be reused.

“We must continually consider the oneness of humanity, remembering that we all want to be happy. And indeed, everyone has a right to a happy life. Along the way we may be faced with problems, but we must not lose hope. We must keep up our determination without being impatient to achieve quick results.”

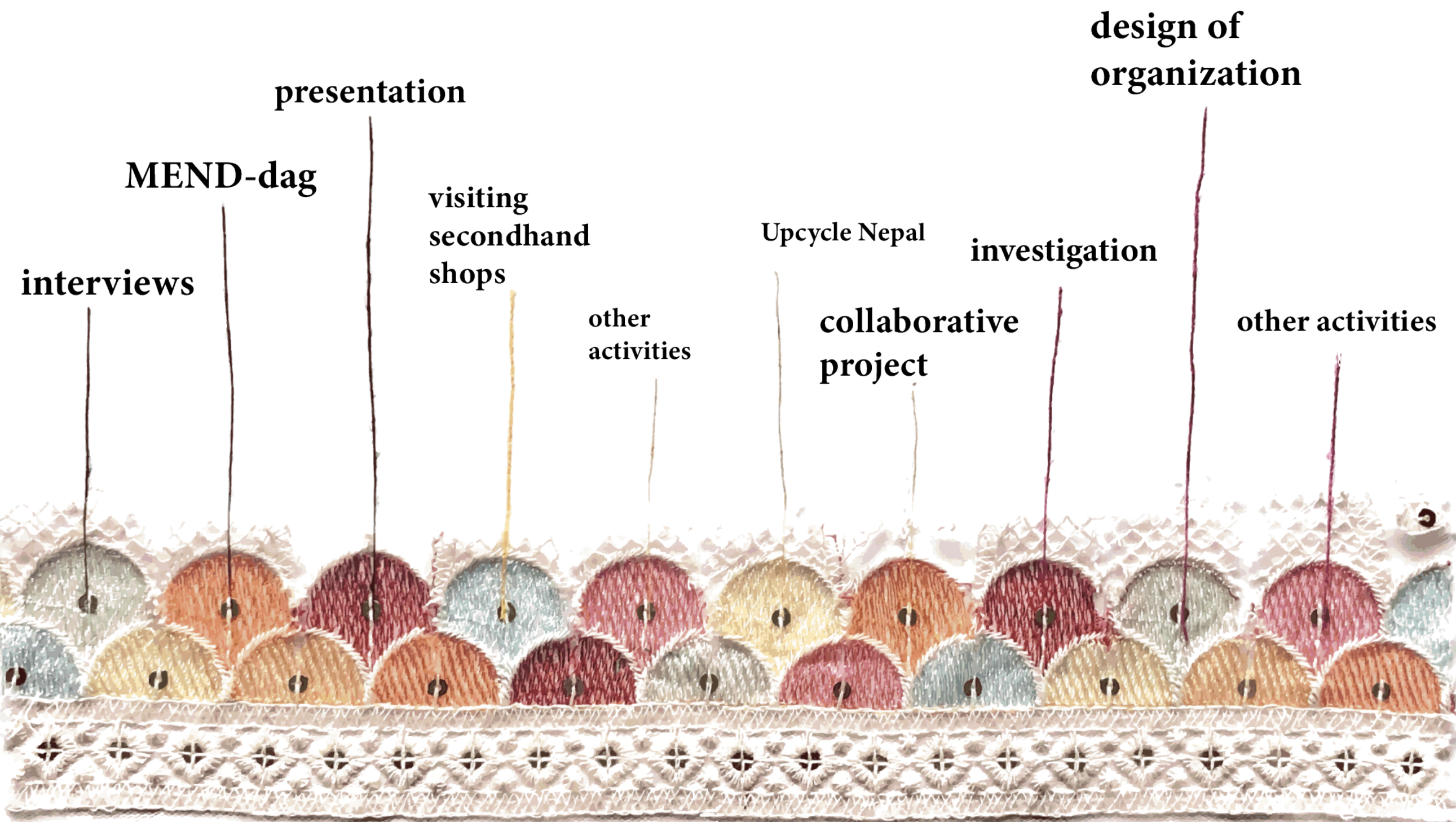
- Dalai Lama



(His Holiness the 14th Dalai Lama, 2023)

This quote and picture is taken from Dalai Lamas collaboration with Circa Art. (Leu, 2023) Circa Art are working with different people on promoting hope. They present a three-minute video on screens around the world. The video from Dalai Lama was presented at Piccadilly Circus in London, Berlin, Melbourne and Los Angeles between the 11th till 31st of January 2023. It reflects the beginning of my project, being influenced by art and the beginning of discovering the culture from the other side of the planet.

timeline



BEFORE

January 9th - February 28th

DURING

March 1st - April 17th

AFTER

April 18th - May 30th

The timeline on the previous page shows the activities conducted during the project. It is created using a textile I took with me back to Norway from Nepal. The activities consists of interviews, MEND-dag and presentation done BEFORE traveling to Nepal. Visiting secondhand shops, working with Upcycle Nepal, and conducting a collaborative project, plus other activities DURING my stay. Investigations done using leftover cut-outs from tailors, combining pre- and post-consumer waste and design of organization AFTER, when coming back to Norway.

introduction

This project intended to find new ways of reusing textile waste by being influenced of a new environment. I traveled to Nepal from the 2nd of March to the 17th of April and I placed myself there to explore how the surroundings and engagement in activities would lead to insights, and from them develop solutions.

The fashion and apparel industries are responsible for 10% of the global carbon emission. 85% of textiles produced are sent to landfills. The average consumer is purchasing 60% more items of clothing as of 2018 compared to 2000, but 40% of the clothes in our wardrobe are not used. (UNECE, 2018) Clothes are a necessity, but the necessity aspect is lost and instead, it has become a problem for the environment. When we reach 2030, 5.4 billion people will be in the category of middle-income class. Continuing the way fashion is influencing the middle-income lifestyle to purchase more and use less will lead to three times more natural resources necessary in 2050 compared to 2000. (2018) The time is up, and the focus is on turning the ship before it crashes into the iceberg.

I used the method of auto-ethnography in my research, meaning that I used myself as the main medium from where questions and solutions arouse. According to Adams et. al (2015), auto-ethnography is when the researcher has both the insider and outsider perspective on the topic they are researching. It is the use of personal experiences, acknowledging the relationship with others, “deep and careful self-reflection” and striving for social justice “to make life better.” (Adams, Jones & Ellis, 2015, p. 2)

Moreover, I have conducted semi-structured interviews to gain insights and understanding, both before traveling to Nepal and during my stay there. Semi-structured interviews, as described by the Robert Wood Johnson Foundation, are when the interviewer has a guide that they follow, but that

the questions might change according to what seems appropriate when the interview occurs. (Cohen & Crabtree, 2006) Finally, I planned to do a workshop with participants during my stay in Nepal. A design workshop is according to Martin and Hanington (2012) when stakeholders are included within a project to gain insights on ideas or evaluation of a concept. However, at last, it ended up becoming a collaborative project with a group of artists in Kathmandu, where we together explored the use of textile waste in art. This project would better be described as an art residency, than a workshop, where an art residency is as described by Lehman: “a time where the artist can reflect, conduct research, and investigate new works or means of production.” (Lehman, 2017, p.9).

My interest in using myself as a medium began after reading the book “Overcrowded: Designing meaningful products in a world awash with ideas” by Roberto Verganti (2017). He argues for the use of an inside-out perspective driven by criticism to develop meaningful products. In a world with an abundance of innovations, how to know what innovation to go for? He suggests starting from yourself, not from outsiders when coming up with solutions and using criticism as a tool to find the right solution.

I would like to introduce myself to give you a better understanding of whom the researcher is. My name is Jenny Marie Jakobsen and I am born and raised in Trondheim, Norway. I have not moved away from my hometown, except twice, and these two times have been the experiences altering my personality the most. The first time was when I did an exchange year in England during my second year at high school. The second time was my exchange year at Aalto University during my fourth year at university. When it happened to be that I would travel to Nepal to conduct this research, I knew it would be my third mind-altering experience.

The main reason why this project is conducted in Nepal is because of the SAMAJ Project between NTNU: the Norwegian University of Science and Technology, and IOE: the Institute of Engineering in Kathmandu. The project aims towards “transdisciplinary education for a sustainable society” and to integrate the Sustainable Development Goals through collaborations between higher education and society (Keitsch, 2021). Martina Keitsch is the project lead and the main tutor for this project. There is no conducted research on textile waste under the SAMAJ project before. My interest in looking into the problem of textile waste began during the course Design 9, TPD4500 at NTNU, in autumn 2022.

During the course Design 9, my concern was how humans could become aware of our co-existence with nature. I wanted to explore how to reduce the human-nature dichotomy by using thoughts from philosophical thinkers such as Gilles Deleuze, Felix Guattari, and Brian Massumi. The rhizome from Deleuze and Guattari (1987) and “affect and being affected” from Massumi (1995) were

introduced to me while studying at Aalto University. I got concerned about ecological thinking and wanted to explore how ways of thinking could change our behaviour towards understanding our interdependency with nature. It became a huge task, and instead, I changed the direction and decided to focus on taking waste out of nature to give nature more room to flourish. This time, it became textile waste I wanted to explore.

Clothes are part of the socio-technical system, where technical and social issues are intertwined. The technicalities come from the production and the social from its symbolic meaning. Solutions to issues in this system are to be found in the intertwinement. (Oxford Reference, 2023)

According to The Sustainable Development Goals it is focused on goal number 12 in particular:

Responsible production and consumption. Especially it states under target 5:

By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

Other goals to highlight are:

Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Target 8.3: *Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.*

Goal 10: Reduce inequalities.

Target 10.2: *By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.*

Goal number 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Target 14.1: *By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.*

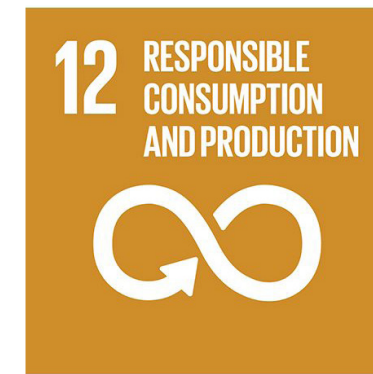
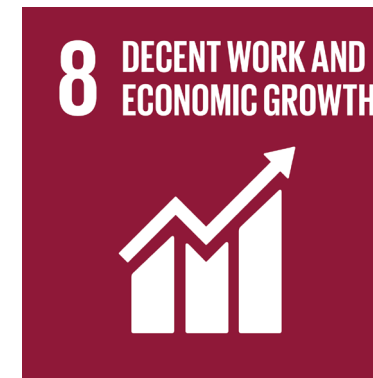
Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Target 16.7: *Ensure responsive, inclusive, participatory and representative decision-making at all levels.*

Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

Target 17.16: *Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries.*

(United Nations, 2022)



a name changer

In the beginning, the name of the project was “Reuse of textile in Nepal: an equity-centered design process”. It later changed to “Reuse of textile waste in Nepal” and now I am calling it “Reuse of textile waste | Kathmandu Valley”. During my stay in Nepal, I got asked why I was conducting the research there and my answer was that I could have placed myself in a different country and the result would have been different. The line in the heading represents that the place can change, but the problem to the left remains similar.

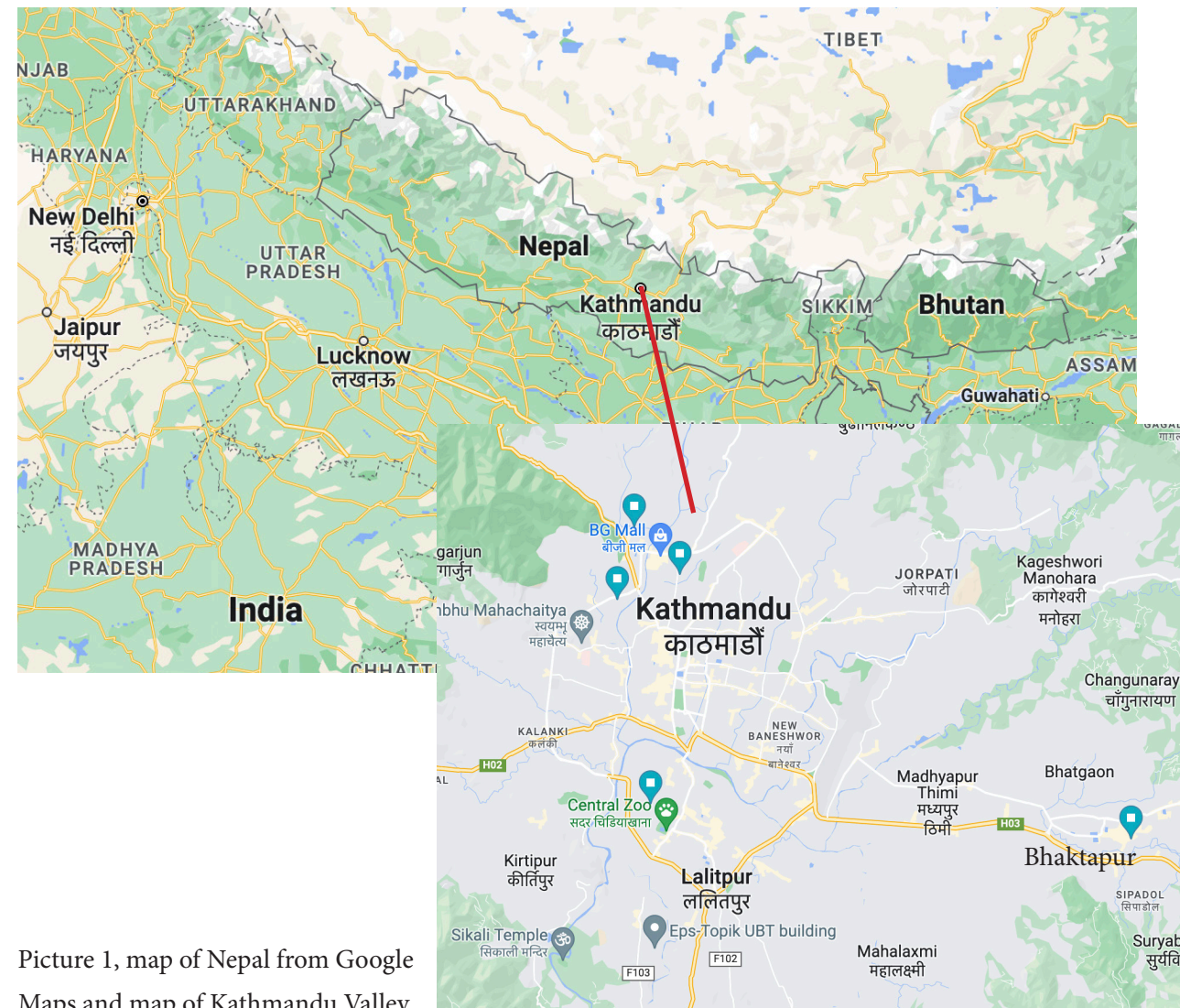
The locality is highlighted by Arturo Escobar in his book “Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds”. (2018) “[...] the transition from the hegemony of modernity’s one-world ontology to a pluriverse of socionatural configurations; in this context, designs for the pluriverse becomes a tool for reimagining and reconstructing local worlds.” (Escobar, 2018, p.) I wanted to explore the importance of place and locality to find solutions, and not striving for one solution to fit all circumstances.

Before traveling to Nepal I read what Pauline van Dongen and others had done in Mozambique, and that is where “an equity-centered design process” came from. (Dongen, Dekker & Brouwer, 2021) They conducted a workshop with local artists where the aim was to collaboratively create items that combined solar panels and local craft. The method they used challenged “the inequities based on race and gender whilst being applied to design and crafts, by dismantling power constructs in the design process.”(p.197) They refer to the Creative Reaction Lab, who are working towards redesigning for justice. The Creative Reaction Lab aims for a shift of mindset rather than a process improvement. (Creative reaction lab, 2019) Similarly, in “An Introduction to Equity-Centered Design” written by Bill&Melinda Gates Foundation, they are explaining it as a “commitment to a lifelong change in the way you think about solving problems by constantly questioning how inequities and biases are showing up in your work.” (Bill&Melinda Gates Foundation, 2016, p.3)

I feared how to approach the question of difference. How to face the fact that I had been given this opportunity to travel to a different country, which others wouldn’t necessarily get. But after some days spent in Nepal, I realized that people are people, and to approach everyone as you would approach a friend, is equity. There are of course differences in our memory and that is where understanding the context comes into play. The changing of the heading goes to show my change of behavior toward the problem. Following what is said about the equity-centered design process, being a change of mindset, my mindset changed to design within a context as if it was any other new context that I would place myself in.

the context: Nepal

Nepal is a landlocked country situated between India and the Tibet Autonomous Region of the People’s Republic of China. The geography varies from the Tarai region on the border to India, with its lowest altitude at 70 meters above sea level, to the Upper Himalayas with Mount Everest standing at 8848 meters above sea level on the border to Tibet. (Pradyumna, Proud & Rose, 2023) The Kathmandu Valley is in the mid-mountain region and consists of Lalitpur, also called Patan, Bhaktapur, Kritipur, Madhyapur Thimi as well as Kathmandu, which is the capital. (Peng, 2018) The Bagmati River runs through the valley, and it is home to UNESCO heritage sites such as Pashupatinath Temple, Kathmandu Durbar square, Patan durbar square, and Bhaktapur durbar square. (UNESCO 2023) The research I did was mostly conducted in Kathmandu and Lalitpur.



Picture 1, map of Nepal from Google Maps and map of Kathmandu Valley.

Kathmandu Valley has experienced a fast growth in population with now over 2.5 million people living there. (Facts and Details, 2022) This has caused a densely populated city which creates poor environmental conditions such as air pollution due to the increase of traffic and lack of water supply. (Ishtiaque, Shrestha, & Chhetri, 2017). The day I left Kathmandu on the 17th of April, The Kathmandu Post reported that Kathmandu was the most polluted city in the world. This was due to increase in forest fires throughout the country. (Arjun, 2023)

The report from 2017 on “Population situation analysis of Nepal. (With Respect to sustainable development)” (UNFPA, 2017) shows that there is an increase in the working population and a decrease in total population due to a reduced birth rate. This is called a demographic dividend and is a situation to take advantage from by investing in the younger population by creating situations where they can be empowered to give the country prosperous opportunities in the future. (Ross, 2004) “The country has a ‘window of opportunity for rapid economic growth if the right social and economic policies developed and investments made.” (2017, p. 2)

It is a country rich in traditions with its 125 different ethnic groups and 123 different languages spoken. (Government of Nepal, n.d.) Nepali is the official language spoken by about 85% of the population. In the Kathmandu Valley, the native group is the Newar community, and their culture is a mix of Hindu and Buddhism. (Facts and details, 2022) Overall in the country, the percentages are 81% Hindu and 9% Buddhist. (Evason, 2017) With the traditions comes clothing worn for special occasions such as wedding, festivals, and religious ceremonies. These are typically produced by tailors and are rich in embroideries and decorations. (Kathleen, 2022) Picture 2 shows an illustration of the variety of dresses.



Picture 2, taken by me from a shop in Lalitpur.

According to research done by Mallika Shakaya, the mass production of clothing co-exists with craft in Nepal. She also explains how traditionally the tailoring is done by specific casts, which cast depends on the location in the country. In the Kathmandu Valley the tailoring was traditionally done by Sujikars, which was equal to artisans and merchants. (Shakaya, 2011)

The Nepali Dhaka is a traditional weaving pattern found in several items. It has a strong identity symbol for Nepalese culture and throughout the country it is made on a handloom. (Rue, 2022) In picture 3 you can see me trying out making a Dhaka textile.



Picture 3, me trying out a handloom at a market in Lalitpur.



Picture 4, picture taken by me of a woman wearing Dhaka fabric as a shawl.

The textile industry in Nepal has had an annual growth of 2.69% over the last 12 years. (New business age, 2021) India is its main trading partner consisting of 66% of its exports. (Textile value chain, 2019) The main product is knotted carpets, felt products, shawls, scarves, and other handicraft products. (Kushal, 2021) There is anyways not as vast production as in its neighboring countries, which makes it a competitive market to be in. (Kharel, P. & Bhattarai, P. 2012) However, there is the production of textiles using natural fibers such as hemp and jute and this can give an advantage to Nepal to promote eco-friendly textiles to the market. (2021)

what is textile waste?

Textile waste can be classified into two main categories: pre-consumer waste and post-consumer waste. Pre-consumer waste includes scraps and leftovers from the textile manufacturing process, while post-consumer waste refers to clothing and other textiles that are discarded by consumers after use. (Kendra, 2019).

Both pre-consumer and post-consumer waste is generated due to a variety of reasons. Pre-consumer waste comes from manufacturing defects and leftovers after the cutting and trimming. A tailor cuts the textiles in shapes of a pattern that they later sew into the desired clothing. In most cases there are leftover textile pieces after the cutting of the pattern. A solution is to use zero-waste patterns, which is designed to take advantage of the whole textile. (Riisanen, 2013). The manufacturing defects come when the clothing does not meet the standard it is supposed to meet and therefore is discarded.

Reasons for post-consumer textile waste involve how the user perceives the garments. Research at SIFO, which is the research centre for consumer waste at OsloMet, is currently concerned about this. They are looking into the habits within households on why clothes are discarded. (OsloMet, n.d.) From their investigations, they found three main reasons why clothes are disposed:

Intrinsic quality: Wear and tear-related issues such as shrinkage, tears and holes, fading of colour, broken zippers and loss of technical functions such as waterproofness.

Fit: Garments that do not fit either because the user has changed size, or the garment did not fit well to start with (for example due to unsuitable grading, insufficient wear ease or wrong size).

Perceived value: reasons where the consumer no longer wants the garment because it is outdated or out of fashion, or no longer is needed or wanted, or is not valued, for example when there is a lack of space in the wardrobe. (Laitala & Klepp, 2022)

The authors highlight that to ensure the extended lifetime of clothing it is important to balance these three aspects. If, for example, the strength is there, but the fit and value is not, then it does not matter how strong it is because the other two factors will create a disposable product.

what to do with the waste?

The main efforts of today are put into transforming the clothing industry from a linear to a circular system. The effort is to go away from the produce-use-throw-away, into a place where nothing is wasted, but where materials go in a loop and never end up in landfills or to be incinerated. The Ellen MacArthur Foundation is one of the greatest promoters of the transition into circular economy. In the report “a new textile economy: Redesigning fashion's future” (Ellen MacArthur Foundation, 2017) they give ambitions to follow four approaches to generate a circular economy in the fashion sector, which is shown in Figure 1. The three core principles are to eliminate waste and pollution, circulate products and regenerate nature. “Make effective use of resources [...]” is the main sentence I have taken with me from this illustration.

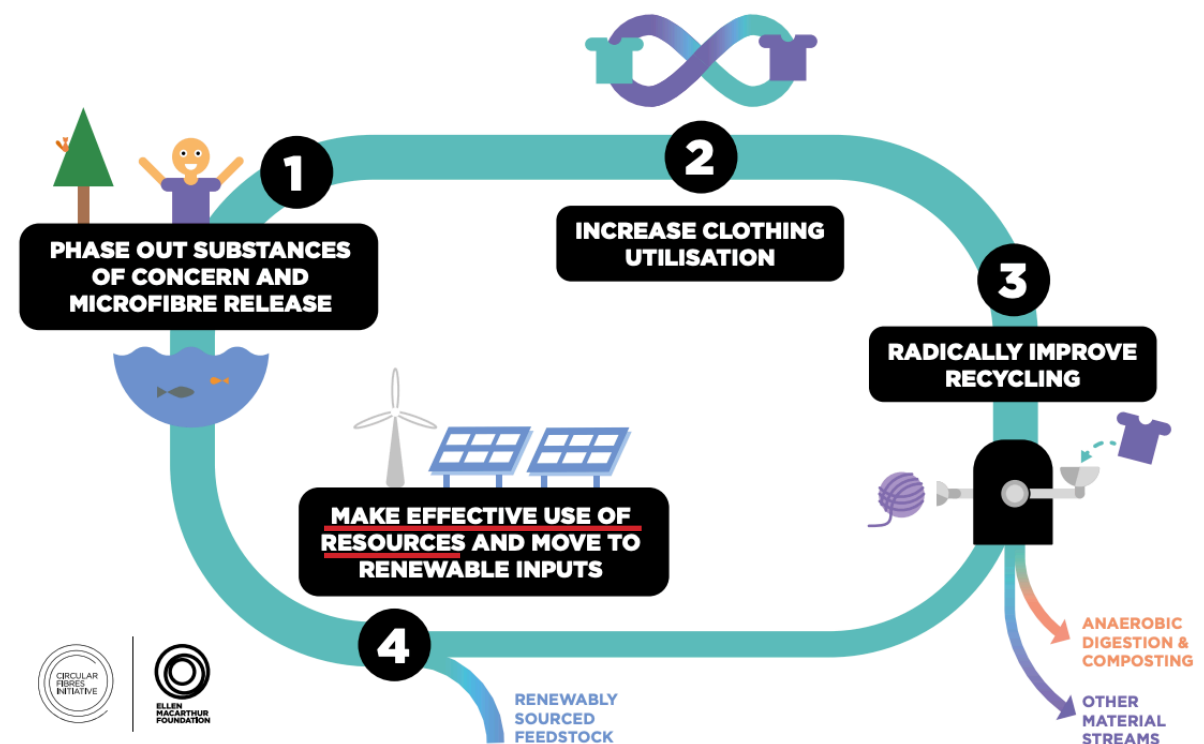


Figure 1, “Ambitions for a new textile economy”, (2017, p. 23)

Figure 2 shows the circular approach generated by the Royal Society of Arts from their work on The Great New Recovery conducted between 2012-2016. They investigated waste and how to transform it circularly. (RSA,2016) This illustration goes to show how material, production, suppliers, and consumers are linked together from the outer to the inner circle. It is the model for circularity that I have taken with me when thinking of the circular economy in this project.

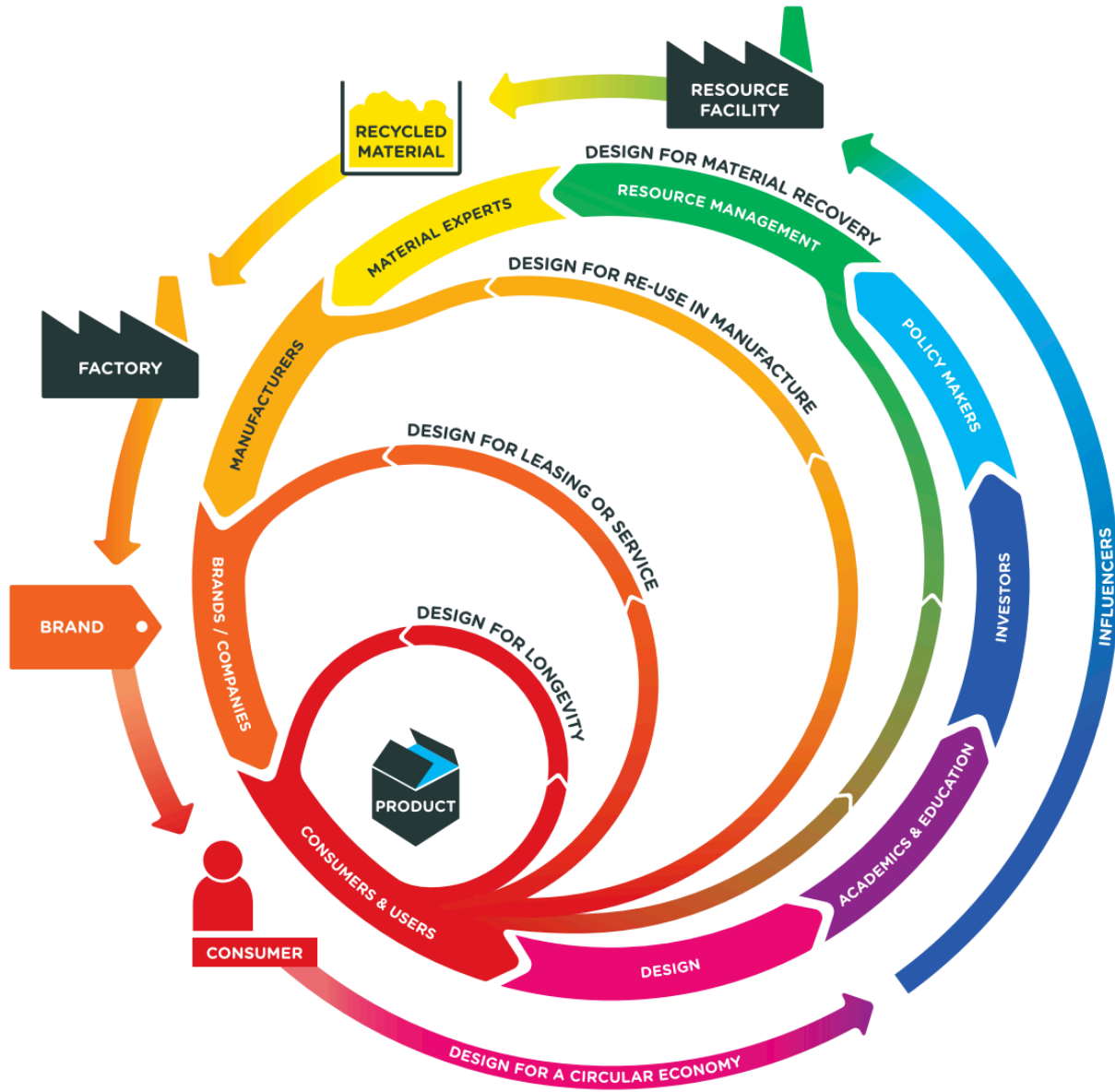


Figure 2, Circular economy, (2016, p.14)

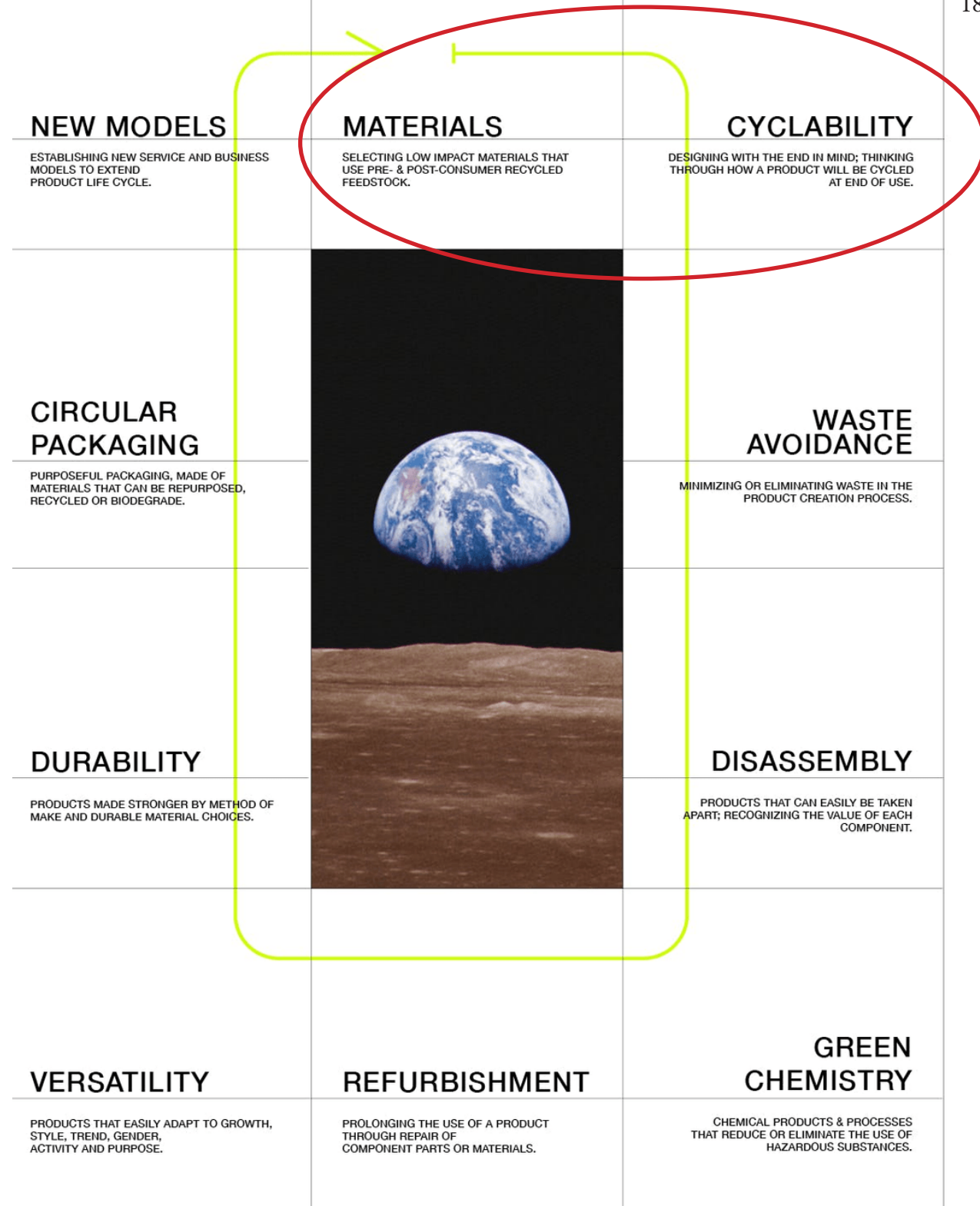


Figure 3, 10 principles of circular design, (Nike, n.d)



The shoe manufacturer Nike is contributing with their illustration of circularity within the textile industry, shown in Figure 3. (Nike, n.d.) From this illustration I want to highlight Materials: selecting low impact materials that use pre-and post-consumer recycled feedstock, and Cyclability: Designing with the end in mind, thinking through how a product will be cycled at end of use.

waste management terminology

reuse

The material is reused for another purpose or reused with the same purpose by a different owner.

recycled

The reprocessing of pre- or post-consumer waste by mechanical or chemical processing where the outcome is used in new textiles or as other products.

closed-loop recycling

The material from a product is recycled and used in more or less identical product.

open-loop recycling

The material from a product is recycled and used in another product.

downcycling

The quality after the reusing or recycling is less than the original, resulting in lower value.

upcycling

The quality of the product after reusing or recycled is increased, resulting in higher value.

(Sandin & Peters, 2017)

Circularity strategies within the production chain, in order of priority

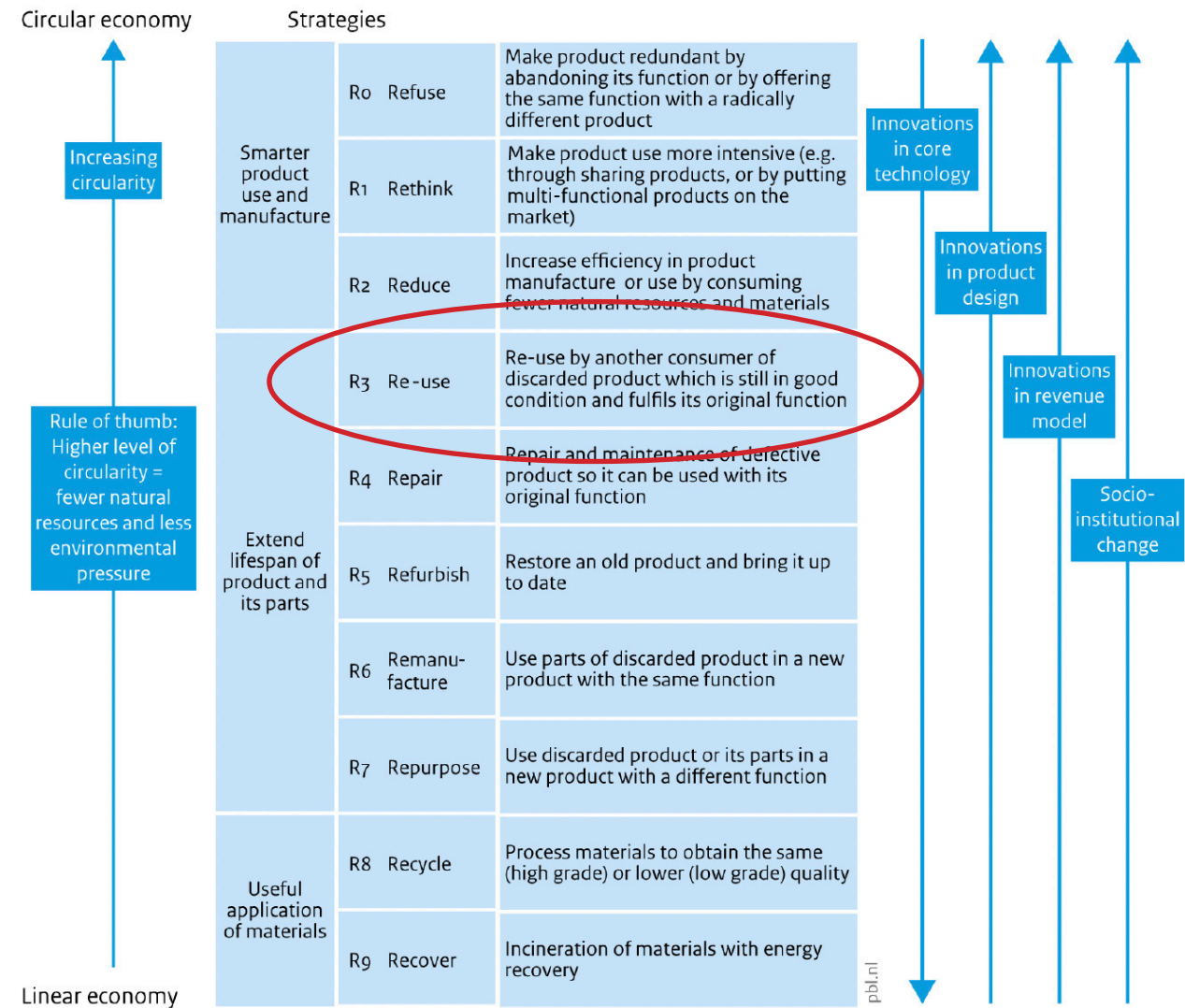


Figure 4,(Potting, Hekkert, Worrell & Hanemaaijer, 2017)

Figure 3 shows the levels of technological requirements at different stages in the circular system. As it shows, reuse is high up on the ladder, meaning it requires less technological solutions. I wanted to explore the reuse of textile waste because of the less dependency on technological requirements, as I did not want the focus to be on technical solutions in this project.

other visions

Other visions on how to tackle the problem of textile waste is by using new lenses when regarding the fashion system. The “earth logic, fashion, action research plan” is one way that Kate Fletcher & Mathilda Tham are approaching this change where they introduce thinking within the earth-logic. (Fletcher & Tham, 2019) Earth-logic refers to a way of thinking and problem-solving that prioritizes the health of the planet and its ecosystems. It is a philosophy that recognizes that the well-being of humans and the natural world are interconnected, and that we must act with a long-term, holistic view to create a sustainable future.(2019, p.8) They are saying: “We need to profoundly rethink fashion.» (2019, p.3) “We must dare to take a leap out of the current paradigm.”(2019, p.4) “There are a pluriverse of possible fashion systems if we set fashion free.”(2019, p.46)

To create this change, they put focus of six landscapes:

1. LESS: Grow out of growth. To fit all activity within Earth’s limits
2. LOCAL: Scaling, re-centring. For action rooted in place and community.
3. PLURAL: New centres for fashion. For social justice and diversity of imagination.
4. LEARNING: New knowledge, skills, mindsets for fashion.
How to educate, research and innovate.
5. LANGUAGE: New communication for fashion.
How to create mind shifts through words, imagery, stories.
6. GOVERNANCE: New ways of organising fashion.
How to organise, negotiate and regulate.

The description of the landscapes is a mix of their first publication, Earth-logic research plan, and their second publication, which came out in May 2023. This publication they named: Earth-logic Gardening.(Fletcher & Tham, 2023) They are suggesting a way to do fashion in a new way by using the analogy of gardening. The nine principles they present are:

- | | |
|----------------------------------|---------------------------|
| 1. Paying attention to the soil. | 6. Nurturing edges. |
| 2. Planning the garden | 7. Responding to change. |
| 3. Sorting out the tool shed. | 8. Harvesting honourably. |
| 4. Gardening with many species. | 9. Fallowing. |
| 5. Tending, caring, maintaining. | |



Picture 5, Kpone Landfill.

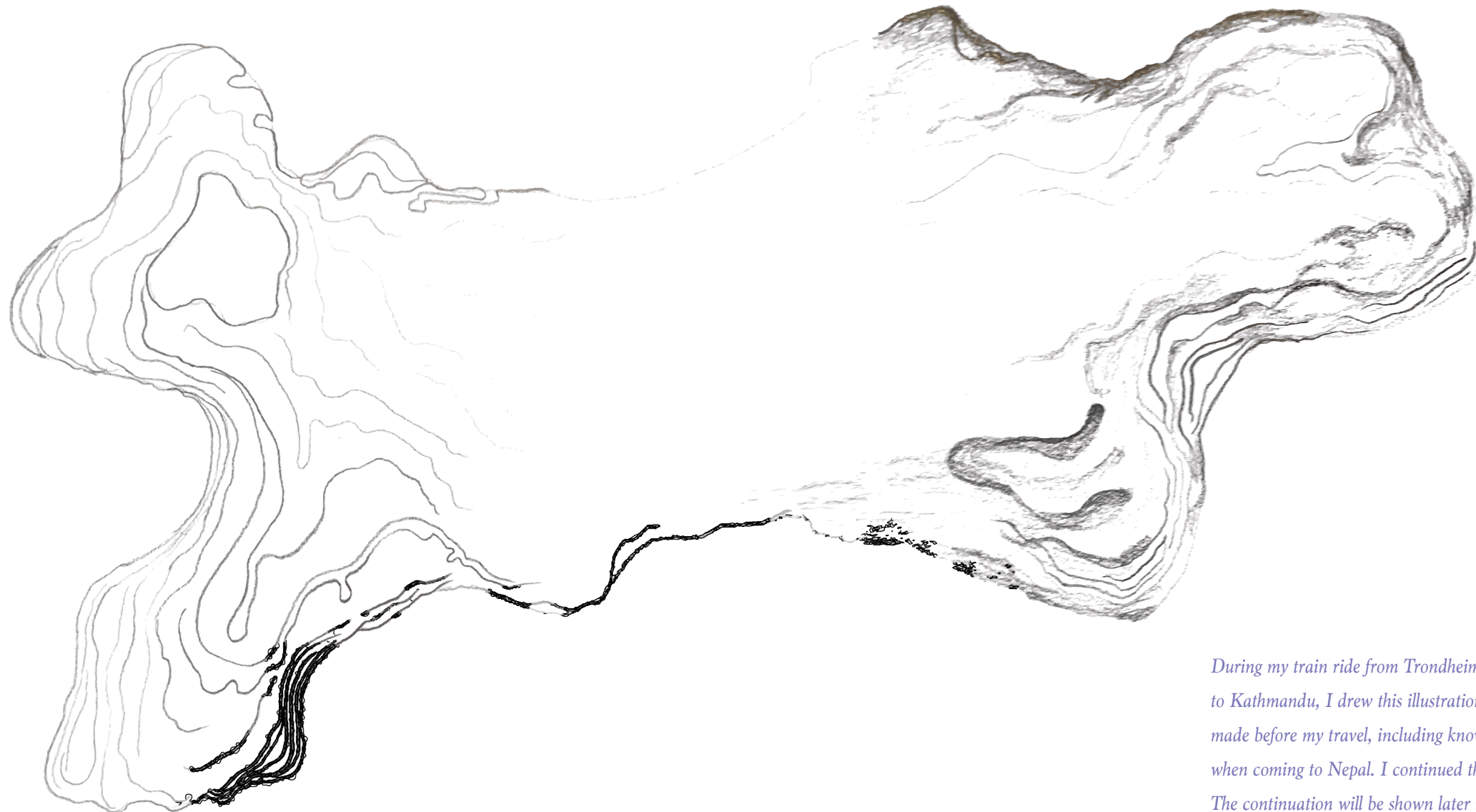
Picture 5 shows the Kpone Landfill, located in Tema on the east side of Accra, Ghana (Ricketts, L. & Skinner, B. 2023). In 2019, it caught fire and the main contributor is deemed to be textile waste. Every week fifteen million articles of clothing in sent to Kantamanto, in the heart of Accra, where retailers are doing their best to sell them further. But the amount is too much and forty percent of these are reported to end up in landfills, like the Kpone Landfill, or incinerated. (Ahiabile & Triki, 2021)

The Kantamanto community, facilitated by The Or Foundation, are working on tackling this and in February 2023 they began their #StopWasteColonialism campaign. They encourage to sign their petition to get an EPR law for retailers. EPR stands for Extended Producer Responsibility, which means that the producers will have extended responsibility for the post-consumers waste. This will make a brand accountable for the waste they ultimately produce at the end of the value chain. (The Or Foundation, 2023)

Waste colonialism is the domination of land through dumping waste from one country onto land in another country. According to the campaign, this is exactly what is happening in Kantamanto. (2023)

It is not reported that waste is being dumped in Nepal, but this example is to illustrate the urgency to change the current fashion system to reduce waste and give more room for nature to flourish.

BEFORE



During my train ride from Trondheim to Oslo, before my flight from Oslo to Kathmandu, I drew this illustration. It represents the Skeleton I had made before my travel, including knowledge and actions I wanted to do when coming to Nepal. I continued the drawing during and after my stay. The continuation will be shown later in the report.

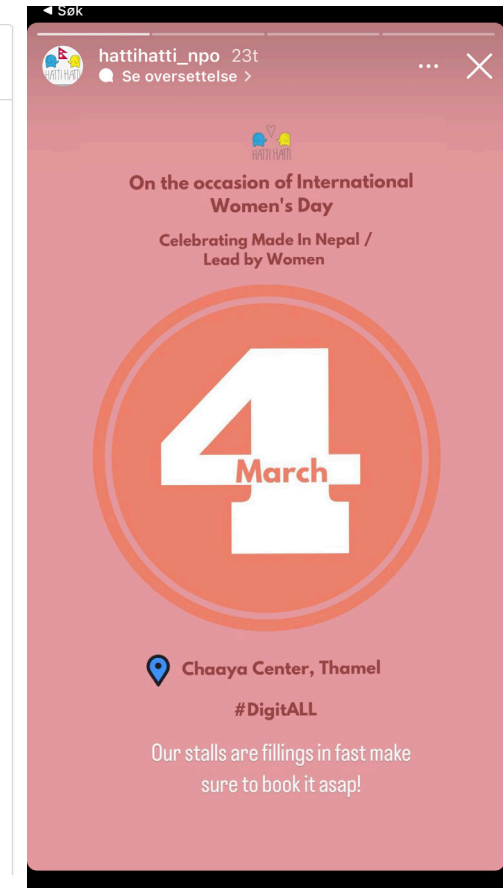
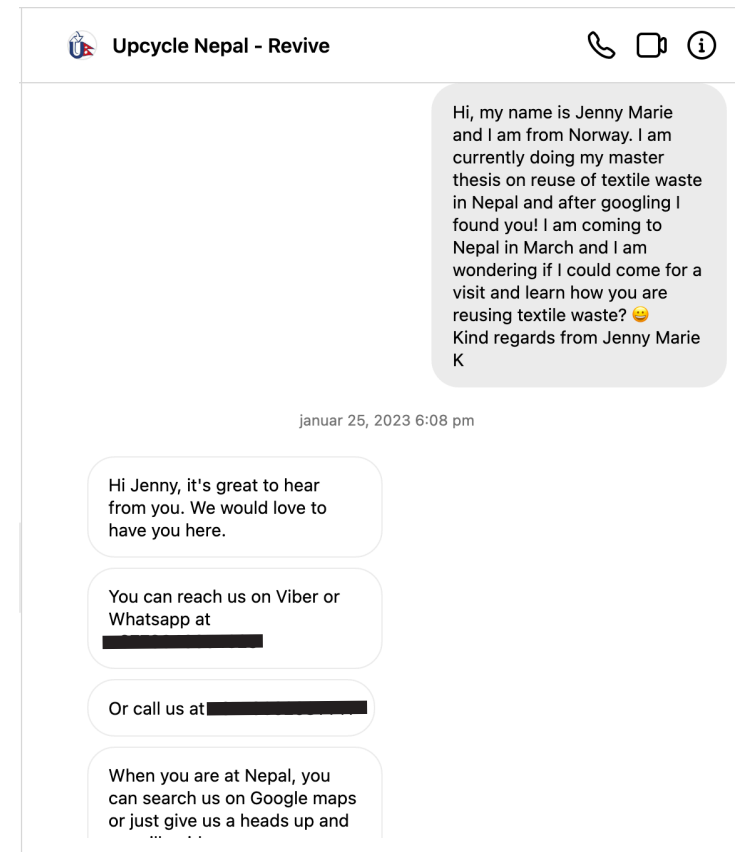
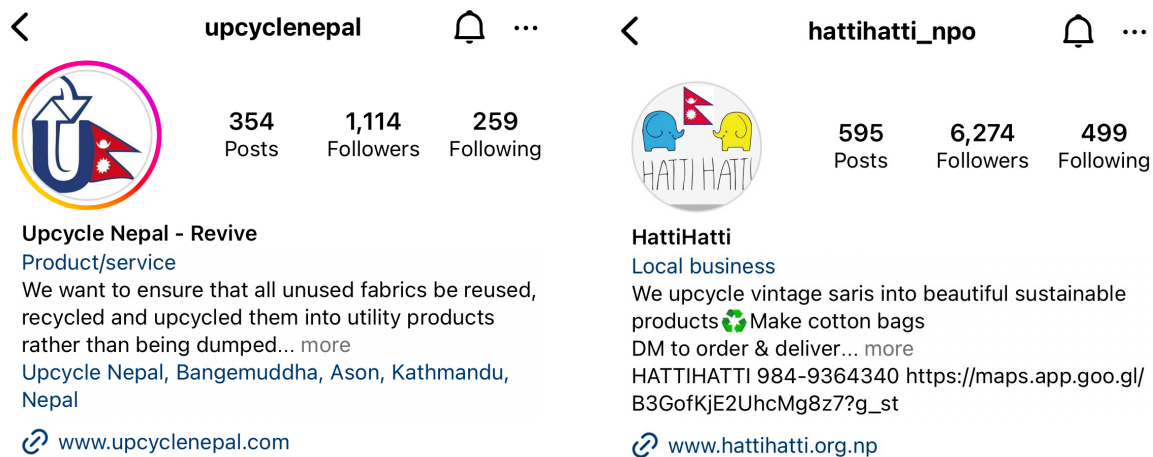
interviews

The process began with interviewing people who had connections to Nepal. The concent form can be found under appendix ii. First, I talked to Kriti Panti, who has family in Kathmandu and lived there when she was younger. She told me that when she lived in there, they used to go to tailors to get ordinary clothing, like jeans. She also introduced to me traditional textiles, like Dhaka. The next person I interviewed was Karoline Ryslett Follestad. She had done her master thesis in anthropology on the Newar community in Kathmandu. Karoline told me that when she had asked people from Kathmandu whether they were Hindu or Buddhist, and they would answer yes, describing that it wasn't of importance what you believed in. The stranger thing was if you didn't believe in anything.

I interviewed Runa Klock who is running the Bokhari company where they create merch to companies in Norway that is produced in Sultan Town in Pakistan. (Bokhari, n.d.) The merch is made from recycled leftover cut-outs from a factory close to the town, and a particular superb aspect of the company is that they run a school next to the factory. This gives the children opportunity to go to school while their family members work at the factory. They have a holistic view where the work gives long-term benefits. Klock told me that people in the village would come up to her when she visited and say thanks for the possibility Bokhari had given to them.

searching for existing companies

Before my travel, I researched companies doing related things already in Nepal and found out about Upcycle Nepal and HattiHatti.



Upcycle Nepal is creating bags out of old jeans, under the brand REVIVE. (Upcycle Nepal, n.d.) HattiHatti creates products out of discarded saris. (Pandey, 2022)

I contacted Upcycle Nepal and planned to meet them when coming to Nepal. HattiHatti was having an event on the occasion of woman's day and I planned to attend the event when coming to Nepal. This gave me a starting point to create a tentative plan for what to do in Nepal.

planning

2 MARCH
Arrival:
Fix sim kort
Take out money

EARTH

3 MARCH
Visit upcycle Nepal.
Get to know them.
And Kathmandu
Square.
Get to know the city

4 MARCH
Womans day with
Hatti Hatti at
Chhaya center.
Interview. What
does Nepal need?

5 MARCH
(Visit Backpacker hostel and talk to
them.) Get to know the city. More
UpNep.
Or visit IOE, Kaalo.101, Embassy of
Norway, Patan Square

6 MARCH
(Spend a day with
upcycle Nepal.)
Holi festival

Explore

7 MARCH
Visit Backpacker
hostel and talk to
them. interview.
Full moon
visit Buddha Stupa
in the evening

8 MARCH
Kvinnedag
Reflection day.
meeting w martina
@ 18:00.
Move or stay.
Go to Latipur.

9 MARCH
Spent time with
Upcycle Nepal.
If this is the case,
what has happened
to get us here?
WATER

10 MARCH
Spent time with
Upcycle Nepal
Start with making.

11 MARCH
Create a hopeful
vision with UpNep

visit Sams Bar v M

12 MARCH
Visit Buktapur and
Lokta paper
fabrication. or
Landfill w Katja.

13 MARCH
Reframe
"if this is the case,
what other ideas is
there."

14 MARCH
Visit other ways of
re-using textile from
IEO info.

15 MARCH
Visit Tolk. Local
weavers and
tailors. Local
organic food shops,
why is this okey?

16 MARCH
Plan for workshop
FIRE

17 MARCH
plan for workshop
Hold this
complexity for the
moment.

18 MARCH
WORKSHOP
perhaps at the
artistic club.

19 MARCH
WORKSHOP day 2?
Reflection day.

Buktapur?

20 MARCH
Create

This is about
thinking big. w
UpNep.

21 MARCH
Second creating
day with UpNep.

22 MARCH
Travel to Pohkara.

23 MARCH
Pohkara.

WIND

24 MARCH
Pohkara.
Local Pashmina.
WIND

25 MARCH
Pohkara.

WIND

26 MARCH
Pohkara.

WIND

27 MARCH
Back to Kathmandu.
CATALYSE

WIND

28 MARCH
With UpNep
Use sustainable
business model.
Kriti?

29 MARCH
Show people what a
new vision looks
like in a tangible
way.

30 MARCH

Continue
development

SPACE

31 MARCH

Continue
development.

1 MARCH

Vipassana

2 MARCH

Vipassana

3 MARCH

Vipassana

4 MARCH

Vipassana

5 MARCH

Vipassana

6 MARCH

Vipassana

7 MARCH

Vipassana

8 MARCH

Vipassana

9 MARCH

Vipassana

10 MARCH

Vipassana

11 MARCH

Vipassana

12 MARCH

Vipassana

13 MARCH

buffer room

See the mountains.

14 MARCH
Hear live music
Watch movie.

Continue journey

15 MARCH
Notice the impact
your intervention
had on ther parts of
the system.

16 MARCH
Strengthen the
connection and
alliances you have
built.

17 MARCH
GOING HOME
GOAL: Found a way
to reuse textile
waste both
according to locals
and visitors.

I wanted to understand more about the culture in Nepal and therefore read about Buddhism and Hinduism. I came across the five elements of Tibetan Buddhism: earth, water, fire, wind, and space. (Villarrea, 2022) I used the ideas from these elements to form the concept of my plan in Nepal. Earth is the first one and, in the plan, represented by the squares with the grey color. With Earth in mind, I would first and foremost be on the ground where I would do the research. I would get to know the ground and find stability.

Next is water, and with this I imagine a creek where there is a constant rhythm of the water passing through. That rhythm would be my everyday activities as in finding the flow of life in Nepal.

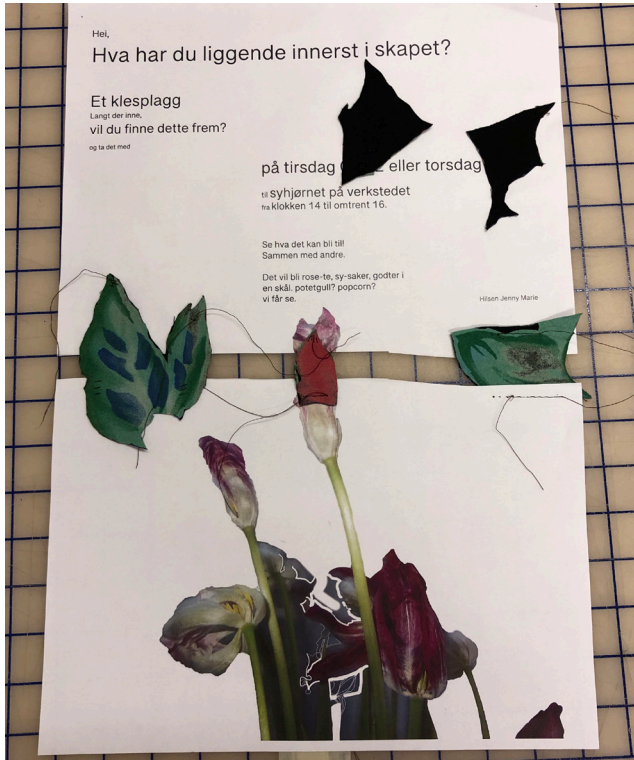
Fire is the red squares, and that would be the time for ideation, creativity, and sparks of imagination.

Coming after is the wind and it resembles a change of direction.

The last one, space, would be the empty room to reflect on the events.

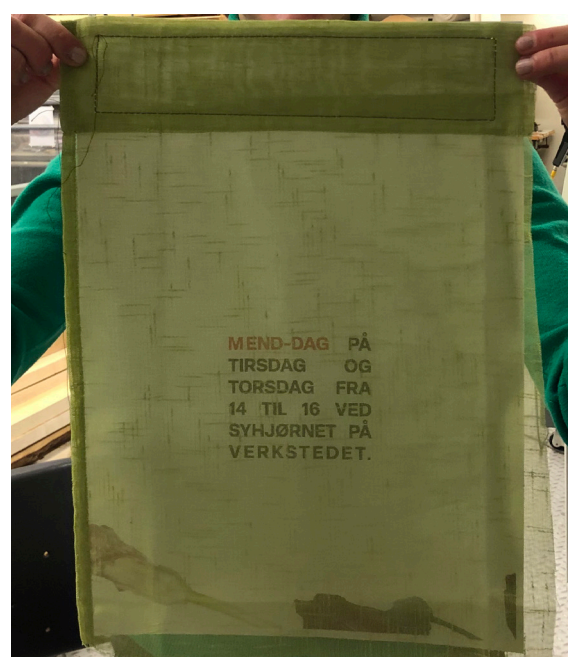
actions while in Norway

While in Norway, I organized an event, "MEND-dag". MEND stands for mending which means fixing and repairing broken objects, and in this case clothing. It was a dedicated timeslot during the week for students at the industrial design faculty to come and mend their broken clothes. The pictures below show posters that I created for the event.



MEND-DAG PÅ TIRSDAG OG TORSDAG FRA 14 TIL 16 VED SYHJØRNET PÅ VERKSTEDET.

The poster says "MEND-dag on Tuesday and Thursday from 14 to 16 at the sewing corner in the workshop."



Pictures taken on MEND-dag.

StudioBeta is a student group for architects and designers at NTNU. (StudioBeta, n.d.) They asked me to hold a presentation for students about textile waste. My presentation was about my view of how we have dragged the planet out of its equilibrium, and what to do to get the planet back to its equilibrium state. My presentation ended by saying “reduce you throw-away power. Take responsibility for the clothes you have. Think when buying new clothes, that you will keep the garment with you until you die.”

While having the presentation I asked the audience what factors were of importance for them when deciding what clothes to wear. Some of the answers were:

Want to look representable for others.

Want to feel comfortable.

According to the weather.

According to what message I want to express.

Influenced by others.

Influenced by trends.

Identity.

Belongingness.

Merch from artists that I like.

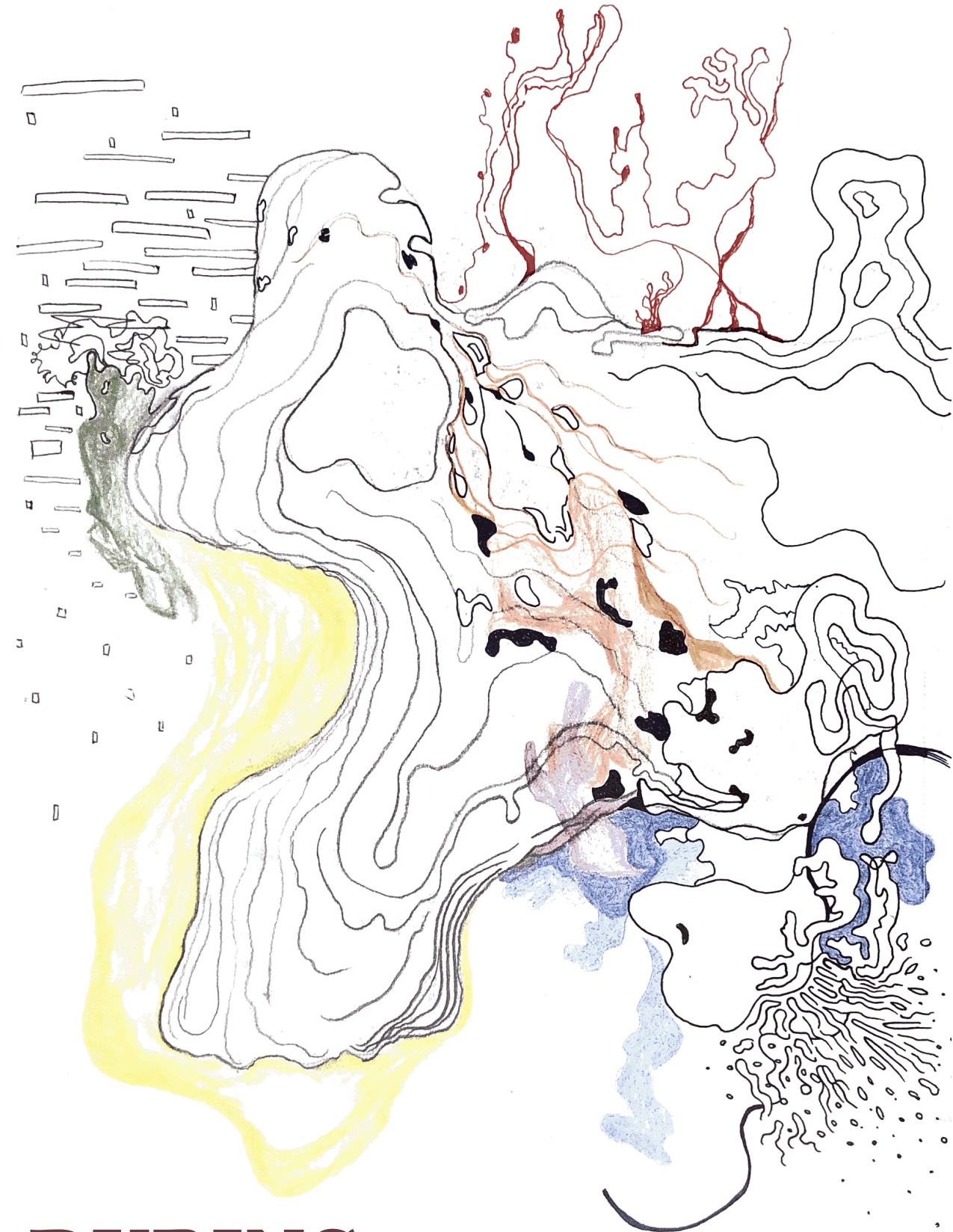
Memories I get when I wear the garment from previous occasions I have worn it.



Picture 6, me presenting

Picture 6 shows me while presenting. I made the sweater that I am wearing from textile leftovers. I created a video of the making of this sweater and presented it to the audience as an example of how one can create clothes out of textile waste. The video can be found under this link:
<https://youtu.be/EK3S8xCxkW0>

While I stayed in Nepal I intuitively continued to draw on the skeleton and this illustration shows the result.



DURING

existing solutions in Nepal

I arrived in Nepal and after talking to people I realized there are many traditions on what to do with old clothes. I got told people are coming home to families to collect unused clothes. Some bring kitchen utensils that they swap with clothes, for example, six items of clothing for one kitchen utensil. Old clothes are not necessarily regarded as waste, but as something to be used for a new purpose. One thing they do is to rip the clothes apart and use them as a tablecloth, another is to shred the old clothes into what is called “black cotton”, which is used in mattresses. I went to explore how these mattresses were made by the riverbend in Kathmandu.

The first stop was at a factory where they sew ready-made clothes to sell at different shops in Kathmandu. Here they have leftover cut-outs, and they sell it to a nearby sorting facility.



Picture 7, factory producing clothes to sell at shops around Kathmandu.



Picture 8, leftover cut-outs from the factory.

At the sorting facility the workers sort the leftover cut-outs into a pile of white cut-outs and a black/color pile. The white cotton is valued more than the black. These are further sold to a facility that shreds the cut-outs into cotton that is used in mattresses.



Picture 9, sorting of the leftover cut-outs from the factory.

Further down the river I came across a man sewing the mattresses. Every day he sews the mattresses, and it didn't take long until he had finished one.



Picture 10, making of the mattress.



Picture 11, black-cotton.

Walking further down the river there was a family having their own shredding machine. People came there with their old clothes and got them shredded into black-cotton. I got an illustration of how the machine worked by using an old pillow that contained black cotton to make new black cotton for filling in a new pillow. In this way, it goes in a loop where old pillows become filling for new pillows.



Picture 12, machine to make black-cotton connected to the back of a tractor.

This goes to show how recycling textiles already exists in Nepal. The process of recycling leftover cut-outs from one product to be used as the material in a different product will categorize as open-loop recycling. Since the fibres in the textiles are shredded to a shorter length, the material is also under the category of downcycling.

I saw many places where they were making and selling these mattresses. At the same time, people said to me that they used to buy these mattresses, but that nowadays they wanted new ones, not mattresses out of recycled cotton. The conditions of the production where the black-cotton was made expressed a lower value of the work they were doing. The facilities were dirty and poor. I see the work they do as valuable, as they are keeping the textile in the loop and reducing the amount of waste. The conditions of their work facilities should express this value, and perhaps upgrading the conditions will bring up to date the value and benefits of black-cotton. To keep the interest in buying these mattresses, instead of buying new ones.



Picture 13, mattresses.

secondhand shops

I wanted to explore the culture for secondhand shop in Kathmandu to investigate the use of them among the citizens. During my search before coming to Nepal I found out about Affordable Vintage and went to observe who the clientele was. Affordable Vintage is located by one of the main roads in Kathmandu.

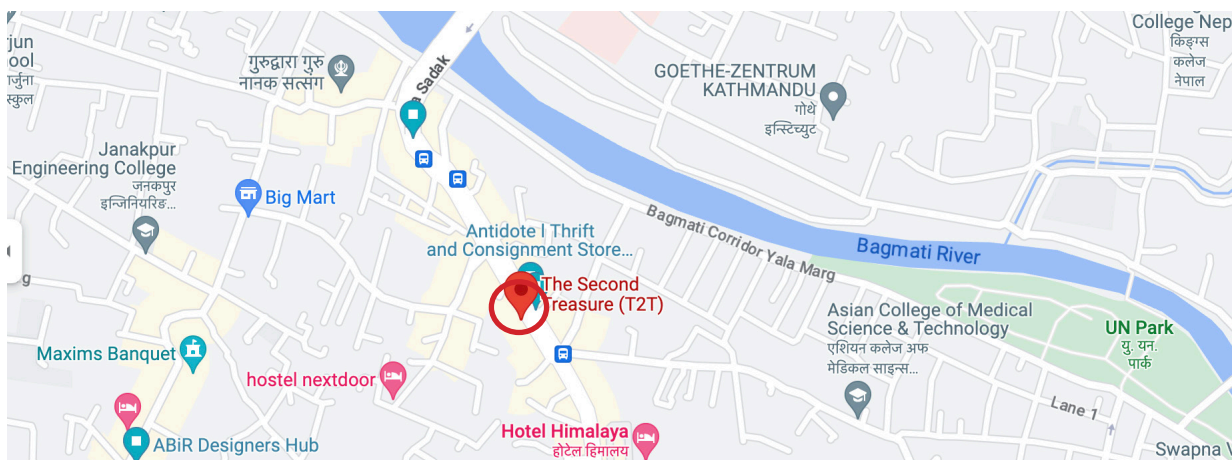


When I visited the store I met two girls and asked them about their thrift shopping experience. One of them had been buying secondhand clothing before, while the other had her first thriftpopping experience. They were around twenty years of age and had heard about the store through TikTok. They explained to me that because they were girls, they liked to change their outfits for different occasions, and buying secondhand allowed them to do so without spending too much money. Thrift shopping was becoming more and more popular among the younger generations, and the influence of TikTok and other social media platform was a reason for this. The girls also told me that they did not tell their parents they were buying secondhand clothes, as it would not be accepted by them. This goes to show how there is a difference between the generations and how they perceive buying secondhand clothes.



Picture 14, girls looking for clothes at Affordable Thriftshop.

When visiting Affordable Vintage I got recommended to go to another secondhand store, called Second Treasure.



Second treasure is located in Lalitpur and run by Barsha Paudel and her family. They also have an NGO where they work towards promoting health education to people in Nepal. Varsa told me that the worst comment she would get from costumers was that she was selling dead people's clothes. When she got this comment, she let them speak out what they had in their mind. When they had expressed their thoughts she then went on explaining her side of the story. If they were willing to listen the costumers would show understanding. She said that you can't change a person's perspective on things if they are not willing to listen, and to make them listen you first have to listen to them. It was inspiring to hear her story and the work they were doing.



Picture 15, this is Barsha standing in the Second Treasure shop.

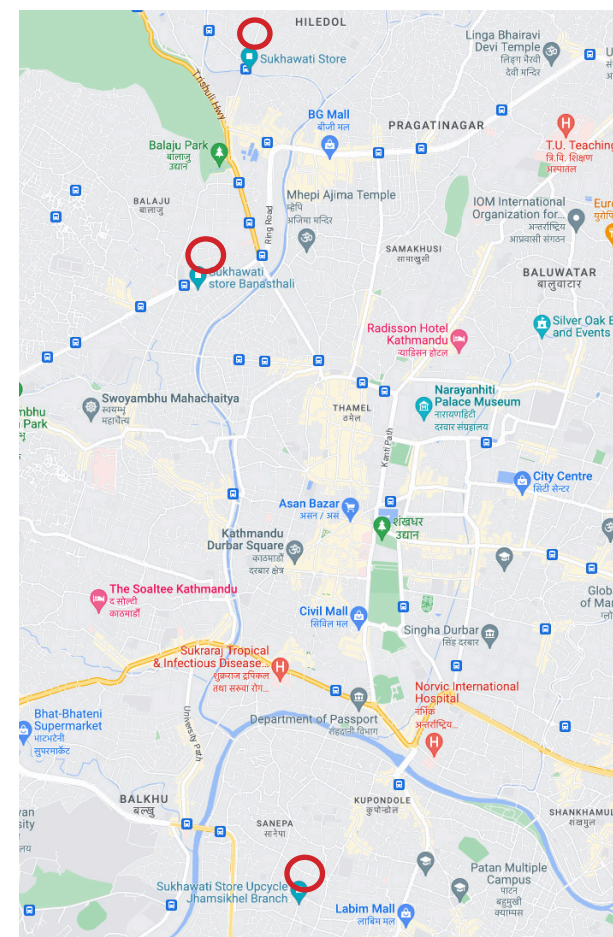
Second treasure was run in the way that the people donating the clothes would get 60% of the money earned from the clothes. Another thing Second Treasure did was to donate the clothes they were not able to sell to poor people on the streets. She said that she had the experience of knowing who was in need of the clothes and in that way giving the clothes to the right people.

The third store I visited was Shuwati Store, and I found out about them through recommendation on Facebook.



Picture 16, picture of the front of Sukhawati Store located in Banasthali.

Sukhawati Store is the cheapest store, where they sell clothes all down to ten rupees. They have shops located in three different places in Kathmandu. Two of them is located on the outskirts of the main city and the last one in Lalitpur.



They have donation boxes located outside their shop and they have a very good system of collecting clothes, sorting them, and selling them at the stores. I got introduced to this system when visiting the store.



Picture 17, donation box outside of the store.



Picture 18, rooms for different purposes.



Picture 18, worker working on sorting the donated clothes.

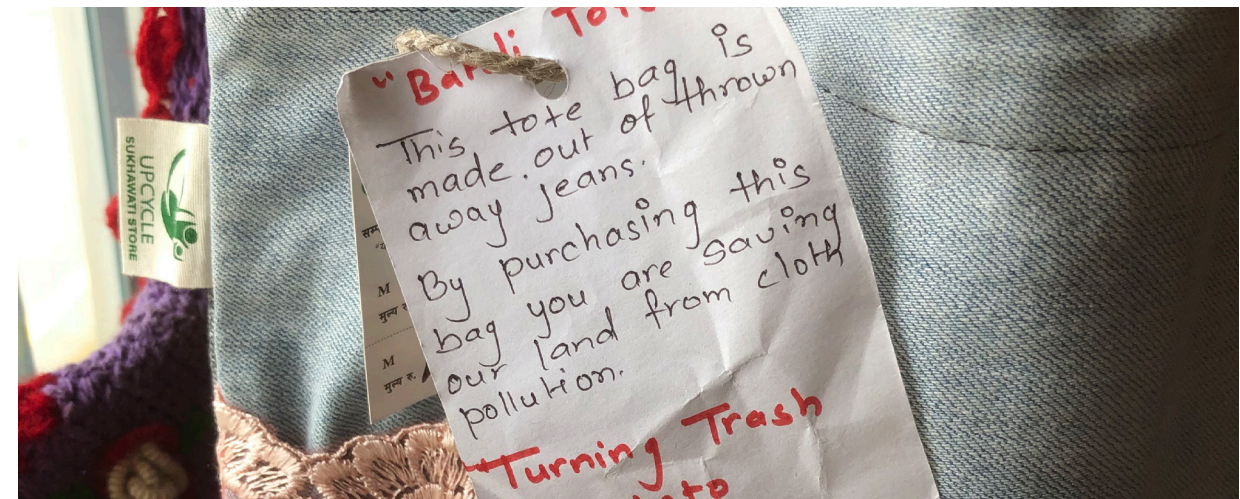
What they recently had started to do was upcycling clothes they experienced could not be sold in their regular state. The upcycling was done by a girl named Sharmila Tamang. She did not have any experience in sewing, but learned upcycling through watching YouTube videos. The upcycled clothes are sold in the shop in Lalitpur and I visited the store and found many dresses and other upcycled items. I experienced that they did not feel limitations on what they could upcycle. It was inspiring to see how easily upcycling could be done, even without expert knowledge on tailoring.



Picture 19, Sharmila showing the upcycled items.

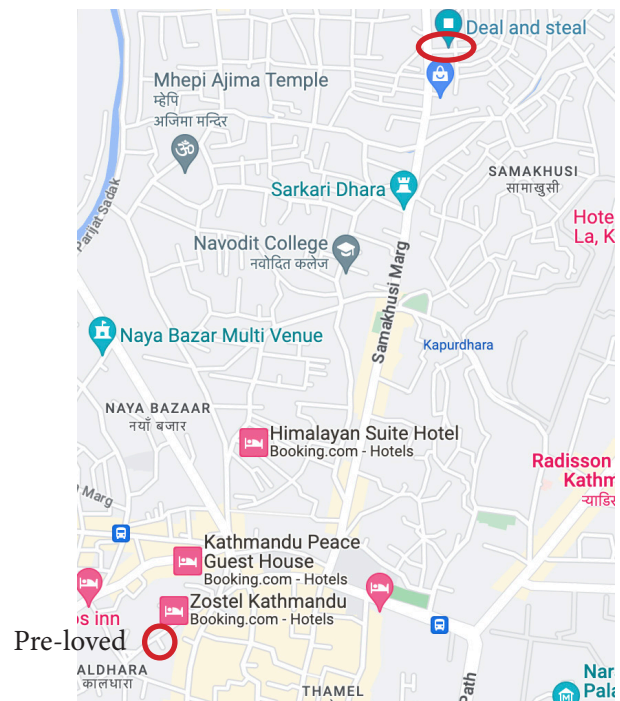


Picture 20, upcycle dresses at the Sukhawati store in Lalitpur.



Picture 21, upcycled bags at the Sukhawati store in Lalitpur.

The two last secondhand stores I visited were "Deal and Steal" and "Pre-loved".



This map shows the location of Deal and Steal, and pre-loved.

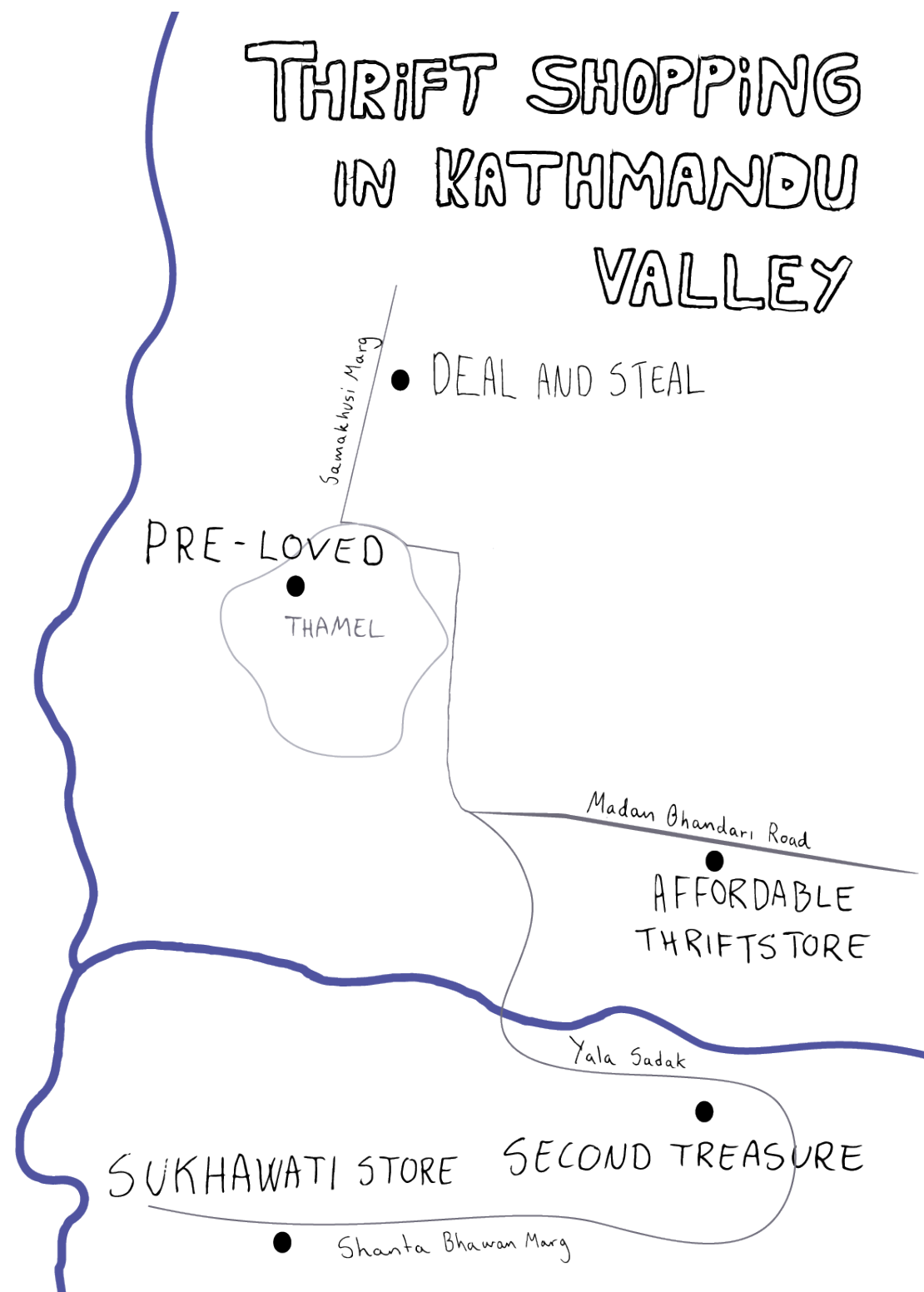


Picture 22, entrance to Deal and Steal.



Picture 23, taken from inside the Pre-Loved shop.

I experienced that the use of secondhand clothing in Kathmandu was becoming more common. The influence of TikTok and other social media platforms was partly the reason for this, as the young girls at "Affordable Thriftshop" explained to me. However, when talking to people at hostels they were wondering where to find secondhand stores. Therefore, I created this map to advertise secondhand stores at hostels and hotels around the city. This map can be printed and hung up on boards in the reception.



other activities

I came across GMIN, “Grassroot movement in Nepal”, who is a non-profit organization working primarily on providing education in rural areas in Nepal. (Grassroot movement in Nepal, n.d) What they also do is collect donated clothes which they upcycle and sell to the villages in the rural areas. I went to talk to them to hear about their work.



Picture 24, showing GMINs work with upcycling clothes. From Upcycling, By Grassroot movement in Nepal, 2023, Facebook. (<https://www.facebook.com/GMIN.Nepal/photos/a.10158548212793597/10159605758953597/>)

The donated clothes sent to the village are sold for a cheap price. They said that without the price on the clothes the clothes would not be valued and therefore be discarded more easily. As they started donating clothes to the village they realized that the clothes did not fit the people living there. Therefore, they started upcycling the clothes to fit them better.



Picture 25 to the right, example of how they upcycled a shirt to childrens wear.

From Upcycling, By Grassroot movement in Nepal, 2023, Facebook. (<https://www.facebook.com/GMIN.Nepal/photo/a.10158548212793597/10159605758953597/>)

The school children in the rural areas need school bags, so they create bags for them out of donated jeans. The sewing of the bags is done by the women in the village to train them in sewing and giving them a skill.



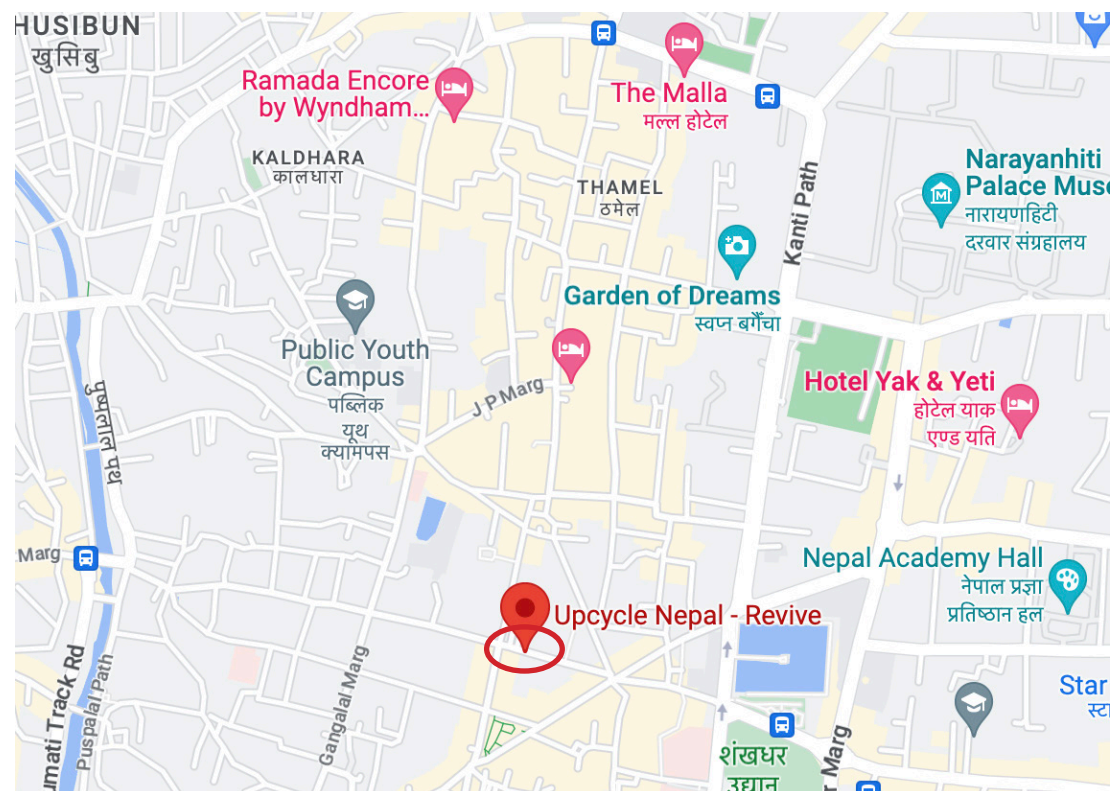
Picture 26, a school bag sewn out of donated Recently, GMIN have begun collaborating with a clothing factory to receive their leftover cut-outs from their production. The idea is to combine the cut-outs into a blanket. Because of their network in Kathmandu, they know about another organization that gives blankets to homeless people during the winter season. Today that organization gets its blankets from China, but GMINs idea is to create blankets out of the leftovers to replace the blankets from China. It was inspiring to talk to GMIN and see how they used their network in Kathmandu to get ideas on what to use the leftover cut-outs for. This goes to show how knowledge of the context of an area is important to know what products should be made.



Picture 27, blanket made from leftover cut-outs from factory.

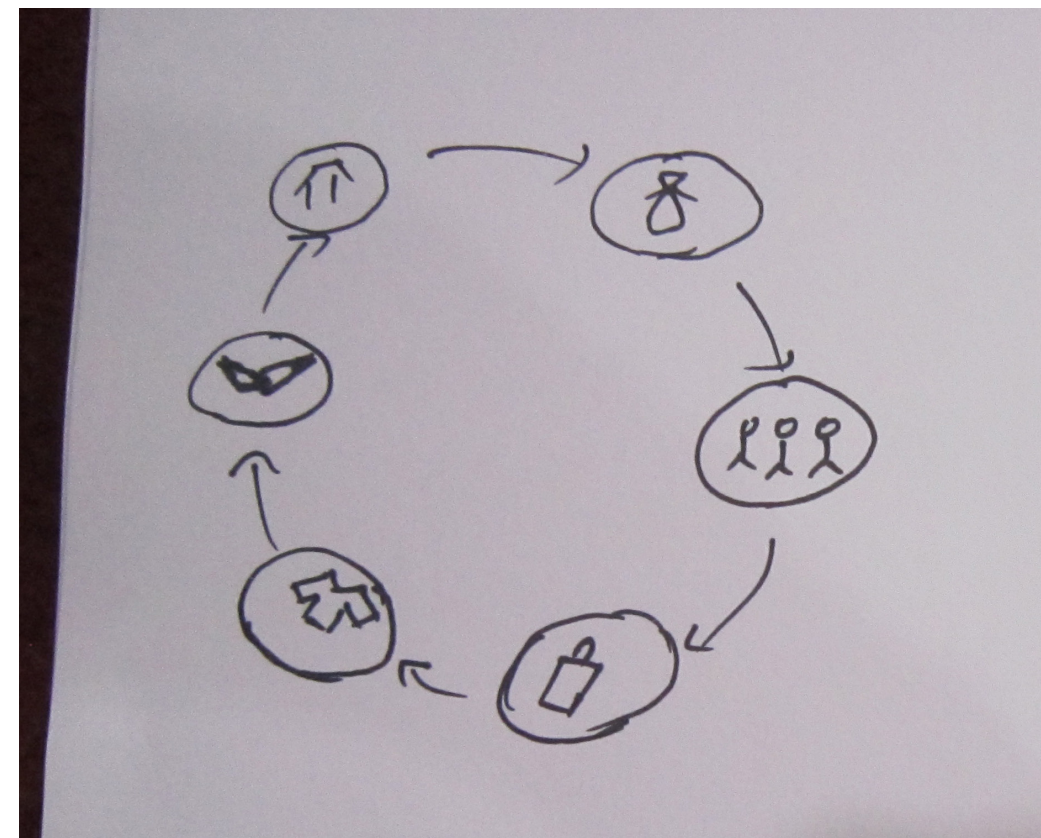
working with Upcycle Nepal

Before my travel to Nepal I researched “upcycling in Nepal” and found out about Upcycle Nepal. Upcycle Nepal is a company in Kathmandu that works towards creating products out of textile waste. Today they make bags for everyday commuters out of donated jeans. I went to visit their newly opened stores located south of Thamel.

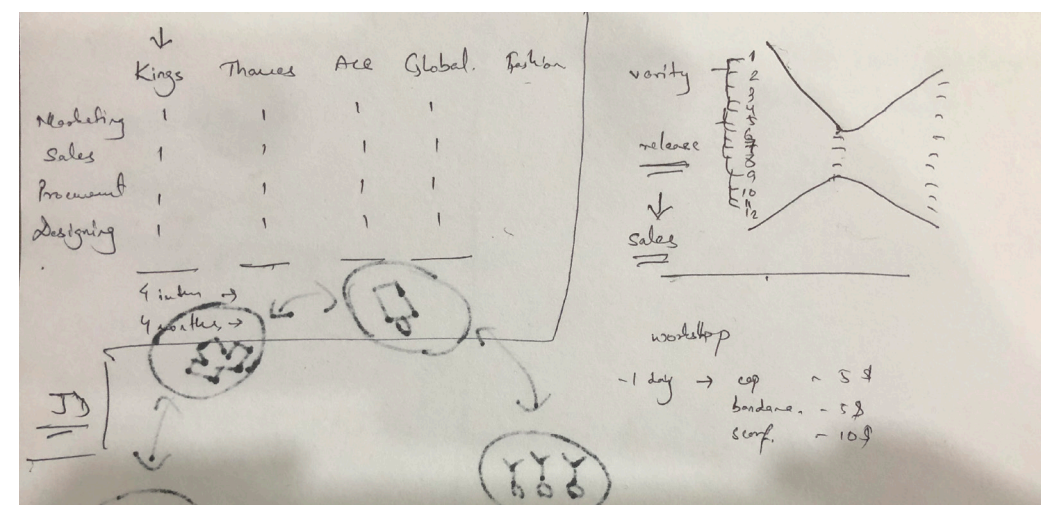


The two co-founders, Pushpa Sthapit and Rajan Chakradhar, started the company in 2018 after coming up with the idea at university. They studied entrepreneurship at King's College in Kathmandu where they were challenged to pitch an entrepreneurial idea. Inspired by her mom, who had worked as a tailor, Pushpa came up with the idea of sewing handbags out of old jeans. The professors liked the concept and motivated them to continue working on the idea.

On the 8th of March I met up with Pushpa and Rajan to explore how we could collaborate. With the use of graphical elicitation method, I asked them to draw down what the company was working towards. (Bagnoli, 2009) Picture 28 and 29 shows the result of the drawings. Pushpa drew a circle with six nodes that represents starting from the top right: getting investments, hiring interns, creating products, handling donations of clothes, collaborations with other companies, creation of the store. Rajan drew a timeline on how the involvement of interns would take place. After the meeting they said that the drawing session help them to get a better understanding on what they were working towards.



Picture 28, drawing made by Pushpa.



Picture 29, drawing made by Rajan.



Picture 30, during our first meeting.



Picture 31, first meeting.



Picture 32, Upcycle Nepal office.

When I arrived, they had just recently started a collaboration with a factory that was making outdoor wear. From the factory they received the leftover cut-outs and out of that they were planning to make a product. My collaboration with them became exploring ways these leftover cut-outs could become a product and I wanted to see how they could become a vest or a sweater. The cut-outs came in 3 to 10 pieces of the same size. The idea was to make the vest by combining the pieces without needing further cutting, to not create further cut-out waste out of the existing waste.

I began with combining the pieces and testing the result.



Pictures 33, shows the pieces coming in 3 to 10 pieces of the same size.



Picture 34 and 35, Pushpa trying on the first iteration of the vest.

The solution became a vest (pictures to the left) and a t-shirt (pictures below).



Since the combining of the cutouts creates a more irregular piece than a ready-made would, it is a question how the market would react to it. The products became an example for Upcycle Nepal on what they can make out of the donated textile waste they receive from factories. The products need more iterations to become something they can sell. The combining of leftover cutouts was more difficult task than anticipated as the fitting became more irregular. The regular method of using a pattern to make clothes is a better way to make a standardized product. Costumers aware of the environmental impact of the garment industry might be the right costumers to approach with this type of product, as they might be more willing to wear an unstandardized piece.



Picture 36, me, Pretisha, Pushpa and Rajan.

Collaborating with Upcycle Nepal got me to better understand how it is to run an organization. I experienced that there are a lot of things going on at the same time and that sometimes unexpected happenings occur that need attention. I also experienced that when one is starting a company it is important to have a good partner to work with, as Pushpa and Rajan were a great team. The work I did with them was an experience for them as well, on how it can be to collaborate with a designer. The product I came up with is an inspiration for what other products they can create. For the future, an in-house designer that stays with them for a longer period, from half a year to one year, will be more beneficial. Upcycle Nepal had many things going on, and I am excited to see where they will be in the future.

After exploring the different routes of textile waste in Nepal, I created this map. In the next project I did, I wanted to create a new route for the leftover cut-outs by using them in art.

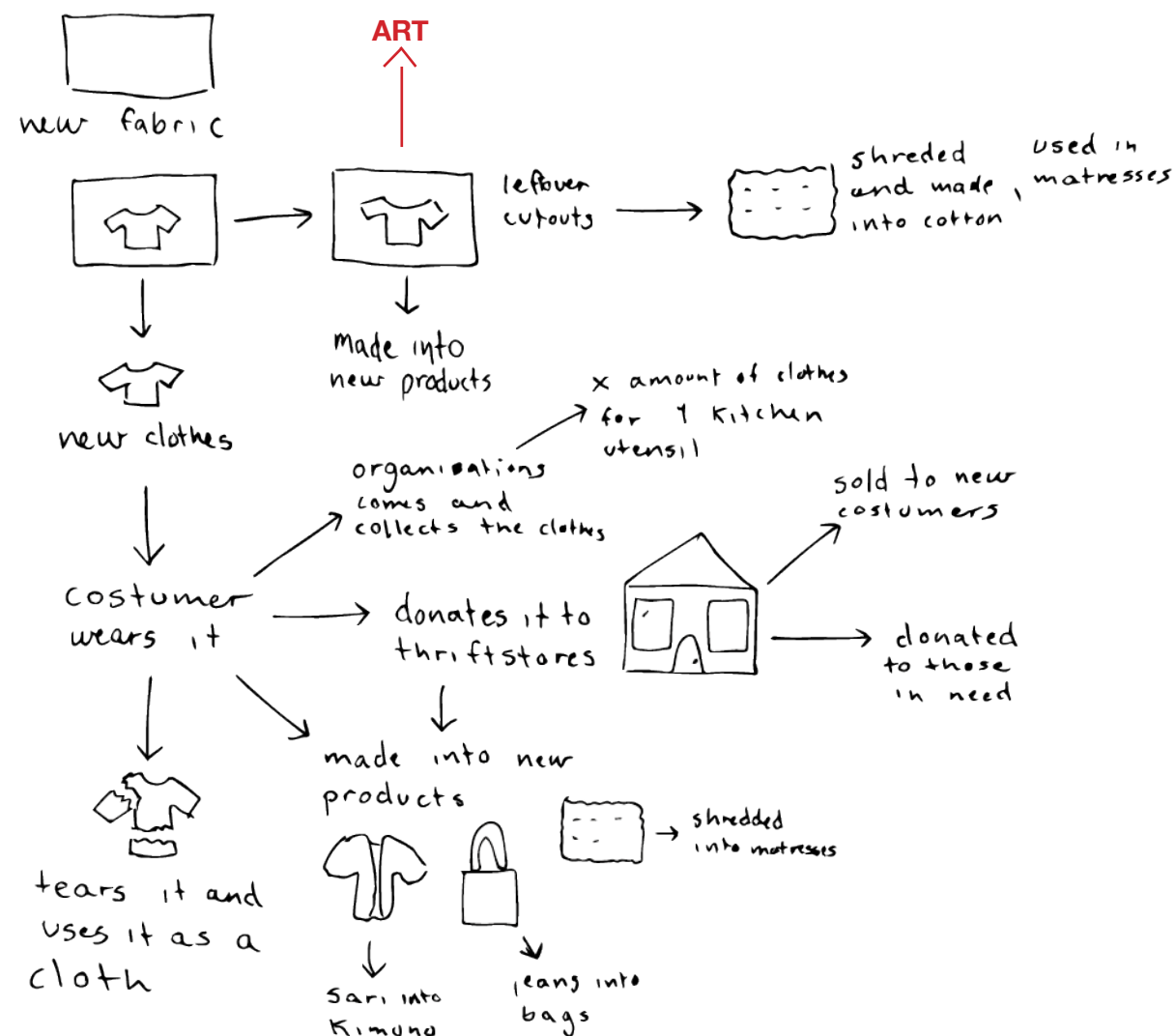


illustration 1, map of textile waste in Nepal.

collaborative project

I noticed when walking the streets of Kathmandu that there were many sewing machines in eyesight.



Picture 37, sewing machine 1.



Picture 38, sewing machine 2.



Picture 39, sewing machine 3.

I also noticed many tailors having lots of textile waste lying in the ground of their shops and in bags, not knowing what to do with them. Some tailors create items out of the waste, for example, ribbons and cooking gloves. My thought was, however, that not all tailors have the capacity to make items out of the waste. Shredding the leftovers into mattresses is a possibility, but this would be downcycling the material, as explained earlier. I wanted to explore what the leftover cut-outs from tailors could be upcycled into.

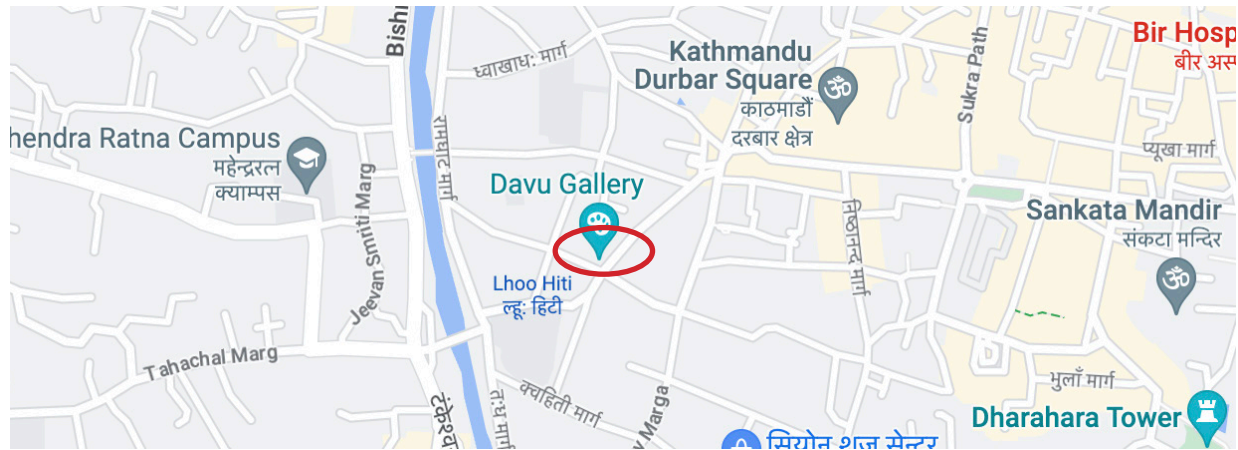


Picture 40, textile waste on tailor floor.



Picture 41, examples of what to make out of the textile waste.

During my stay in Nepal I wanted to arrange a workshop to use participatory approach on what to do with textile waste. Before my travel to Nepal I found galleries around the Kathmandu Valley that I wanted to visit. One day I went to DAVU Gallery, which is located near Kathmandu durbar square.



Picture 42, outside of DAVU gallery.

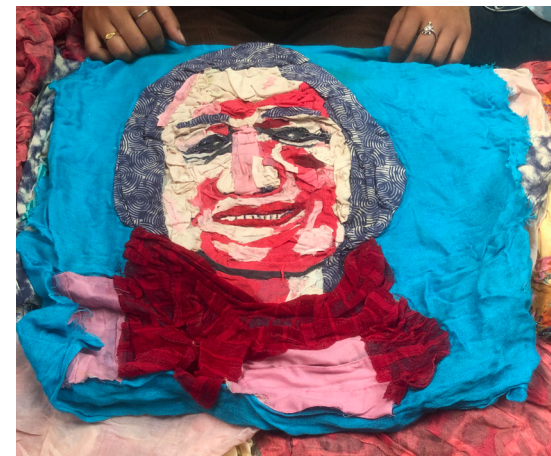
On that day the owner of the gallery, Sujaan, was available for a chat and we spoke about my project and her work with the gallery. She had recently graduated with a bachelor's from Kathmandu university, department of art and design. Now she is managing the gallery as well as doing a master's in urban planning. At the time I arrived there was an exhibition with local women artists showing their work on the occasion of woman's Day. Some of the works were using textiles in their piece.



Picture 43 and 44, textile work by Kripa to the left. Work by Nirvita to the right.

With help from Sujaan I got to meet the artists that used textiles in their piece. I spoke to Kripa Shakya, Sophia Maharjan, and Nirvita Shakya about their art practice and learned from them about the art scene in Kathmandu.

I met with Nirvita at a café to discuss the possibility of having a workshop together using the leftover cut-outs from tailors. She showed me some of the previous work she had done using textile waste.



Picture 45 and 46, previous work by Nirvita using textile waste.

During the meeting it did not take long before we started planning for a three-day workshop to be held at the studio where she was working. On Monday we met, and on Wednesday we planned to begin the workshop. We realized that calling it a workshop would give the wrong impression, as we were working together to form a collaborative piece. Instead, we called it a collaborative project, as the artist coming in and creating together were all equal and using their skills to create something out of the textile waste and learning from each other.

Sophia had a solo exhibition coming up and therefore could not participate, but she kindly contributed with textile waste from her mom's tailoring shop. On Tuesday I went to her mom's shop and gathered some of the pieces.



Picture 47, receiving bags of textile waste.

Picture 47 shows the bags with leftover cut-outs I got from Sophia's mother. Picture 48 is taken of the bags with textile waste outside of the studio we were going to create the collaborative piece.



Picture 48, bags of textile waste outside studio.

The participants were Nirvita, Kripa, Santosh Gurung, Lakpa Sonam Sherpa (Lash), and Promise Gurung and me. The agenda was like this:

Day 1: Introduction to the collaborative work and getting to know each other. Writing a word on a piece of paper that will guide us in the creation of the piece. Work individually creating the surface, guided by the word, using the textile waste.

Day 2: Continue the individual work on the piece by layering textile waste on top of the surface created on the first day.

Day 3: Combining the pieces.



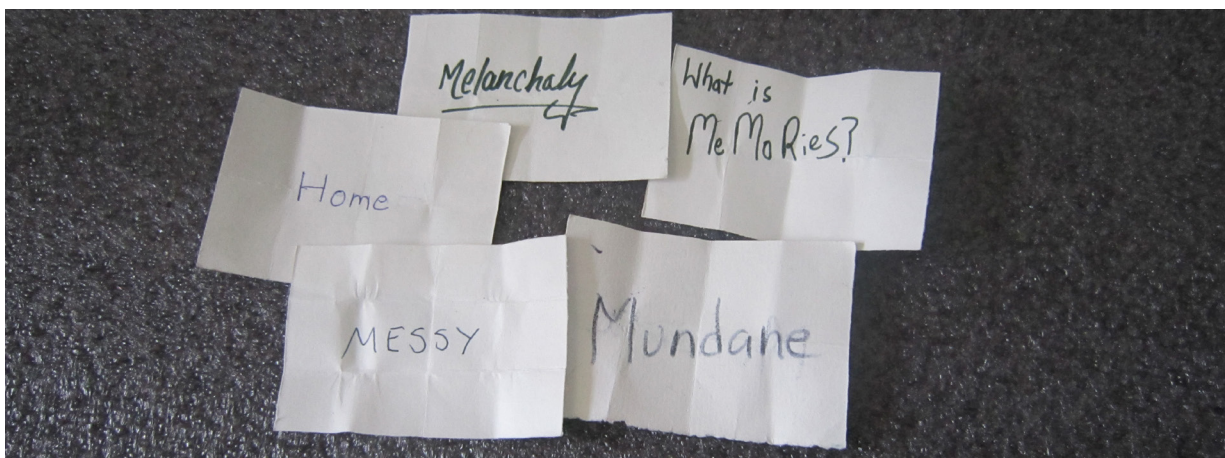
Picture 49, The space at the studio with cut-outs distributed around.



Pictur 50, Nirvita, Santosh, Kripa and Lash in the studio.

We met on the first day, sat together, and talked about what we would do. We wrote down words on a piece of paper, put them in a bowl, and then randomly picked up one. The words were mundane, messy, melancholy, what are memories, and home. I got the word mundane, which is a good word to describe what I have been thinking of when it comes to dressing, why we put on the clothes we wear each day, and the mundane activities in our everyday life. Kripa got “What are memories?” It was perfect as she grew up with her mom being a tailor and she remembered making dolls out of the fabric waste. Nirvita got the word home, Promise got melancholy, and Santhos got the word messy. Lash arrived later and I gave him the word rhythm.

We each worked individually on the first day and created the surface of our pieces.



Pictur 51, the words directing our work.



Pictures after the first day. Top left: Santosh. Top right: Kripa. Down left: Nirvita. Down right: Promise.

On the second day we met again and continued our individual work. This day was about layering on top of the surface we had made the previous day.

I started knitting with the clothing, and so did Promise. Kripa had the first day made the layer, so she was now working on the surface, i.e. the body of the doll. Nirvita was braiding the textiles together and wanted to use more neutral colors, as she had the first day used more variety of colors and patterns. The patterns she had decided to go for were reminding her of home. Shantos had a little difficulty working with the word messy. He began adding clothes as he thought of his room as messy and he used that thought in his piece. Lash continued with his piece of making the rhythm of the water, the rhythm of his life, and the rhythm of the seasons. He colored in the background in white and stitched pink thread onto the fabric.



Pictures after the second day. Top left: Lash working on his piece. Top right: Santosh showing his piece.

Below: Pieces by Promise and Nirvita

On the third day, we worked on our individual pieces a bit more while we waited for everyone to show up. Then we began combining the pieces. I started by hanging up my piece, Nirvita followed with hers and then continued with Lash, Promise, Santhos, and Kripa.

Eventually, we all sat and looked at the piece. Nirvita said nicely, that we would not have been sitting like this to look at the fabric waste if we had not made this piece. We felt happy with the outcome, even though it was a bit messy. It was a creation we had made together, and it goes to show what you can do with leftover cut-outs from tailors. We ended the collaborative work with a barbeque outside the studio.

Kripa and Nirvita talked about creating another workshop to invite other artists where they would create pieces out of the textile waste using their technique. This was exactly what I was hoping for, that this work would create a wave that would evolve without me being present.



Pictur 52, me putting up my piece.



Pictur 53, putting up the pieces together.



Pictur 54, Lash putting up his piece.



Pictur 55, Nirvita putting up her piece.



Pictur 56, the final outcome.

This work goes to show one way of exploring the use of a new material with a group of others. We used words to guide our work, but there can be other ways of doing this as well. As Kripa and Nirvita wanted to try out, artists can come in and use their own techniques and explore using the material of textile cut-outs. As time was limited when I was in Nepal, the project got a larger quantity than quality. I did different projects, but all of them could have been elaborated more. It would be interesting to continue the work on our collaborative piece spending more time on it by adding more layers to it. Further, the piece could be exhibited at galleries and with it there could be an agenda of bringing awareness to the abundance of textile waste.



Picture 57, from the left: Lash, Kripa, Santosh, Nirvita and Promise.

I travelled back to Norway, and I left the country with an eye-opening experience of how different Nepal was compared to how I thought it would be. I was told beforehand to take care of my belongings and was under the impression that I would come to a poor place. What I came to was a rich place in values and traditions and I did not feel unsafe at all. I now feel that I had a wrong impression of Nepal, as it has a more active and positive community than I could think of. Their openness and willingness to contribute to projects were beyond my expectations. It must be said that I did place myself in conditions with people from the more educated side of Nepal, and my experience would have been different if I were actively going to places with poorer conditions. Also, my experience comes from staying there for six weeks and I do believe it is very different to live there when you have to go around the bureaucracy of things. But overall, seeing with my own eyes what was happening on the other side of the world was a great experience to realize how, of course, things are different, but more the realization of how similar things are.

AFTER

I created this piece, where I printed out the right section of the Skeleton and glued it to a wooden plate. I used textiles and thread to continue the illustration.



finding solutions

After ending the collaborative project in Kathmandu, I took some of the textile pieces with me back to Norway. As previously shown, post-consumer waste is sent to countries like Ghana and to the Kantomanto market, where most of the clothes end up in landfills. Now I was taking pre-consumer waste with me back to Norway, not to be dumped, but to investigate the possibilities for them to become a product. The goal was to find a product that could become an export to Nepal. The first discovery was that the leftover cut-outs very easily could become scarves. The pictures below show different versions of this.



My initial idea was to combine the pieces into one fabric to be used again to cut patterns and create clothing. The biggest obstacle to this idea was the production. The leftover cut-outs are in irregular sizes and of different materials, and how to combine these in the best way was what I began investigating.

The first investigation I did was combining the leftover cut-outs without further cutting them. I used quite some time to combine the pieces in a way that seemed aesthetic and suitable. The biggest challenge was how all the pieces were of different shapes and therefore it became a difficult puzzle. I used two days to create the piece in picture 58.



Picture 58, investigation 1, textile pieces combined.

The next investigation was where I tried to be as efficient as possible in combining the pieces by not paying attention to the arrangement. The idea was to use myself as an experiment for how it would be to sit at a sewing studio and work efficiently. I placed the textile pieces to my left, grabbed a piece and sewed it onto the next. In one hour I made the piece in picture 60. It did not become a square, but a random rope. It requires more attention in the combining of the pieces to arrange them more systematically.



Picture 59, is me trying the method of sewing efficiently.



Picture 60, the outcome after investigation 2.

The third investigation was to focus on each fabric piece. They often came in a long size with random strings going in different directions, as shown in picture 61. With this investigation I cut and sew each fabric to become a larger surface, then combining the larger surfaces to each other. This technique created a more organized pattern and made it easier to sew the final pieces as a larger surface. The outcome is seen in picture 63. However, it still required effort and time in the initial stage to create the individual pieces.



Picture 61 and 62, the irregular piece, cut and sewn into a larger surface.



Picture 63, the outcome after investigation 3.

All of the investigations required puzzling and thinking of how to arrange them, and it was difficult to find a way to make the process effective. Another disadvantage is that the fabric ends up being of different types of materials, which requires different washing methods if it were to end up becoming a garment. Also, the amount of sewing required between each piece reduces the overall quality of the garment. Because of this, I left the idea of combining the cut-outs into a fabric.



Picture 64, investigation 1, 2, and 3.

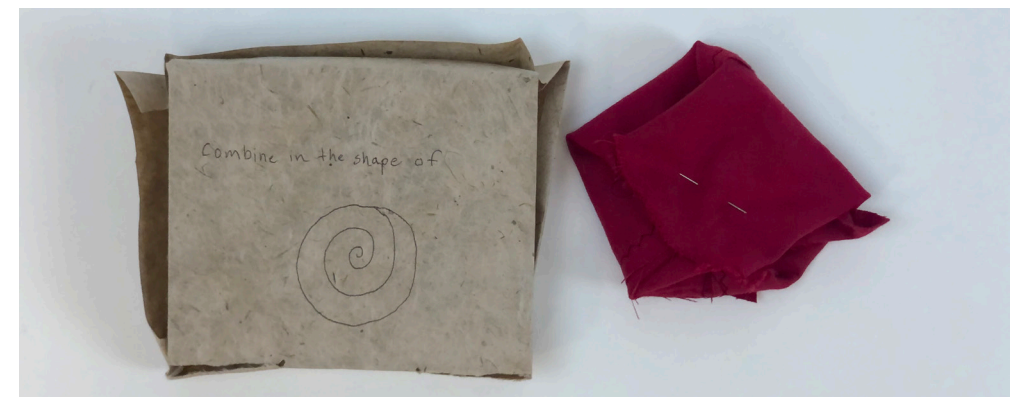
PuzzleT

As it felt like puzzling when combining the pieces, the next idea I thought of was to use the leftover cut-outs to become a new way of puzzling. The name of the product is **PuzzleT**.

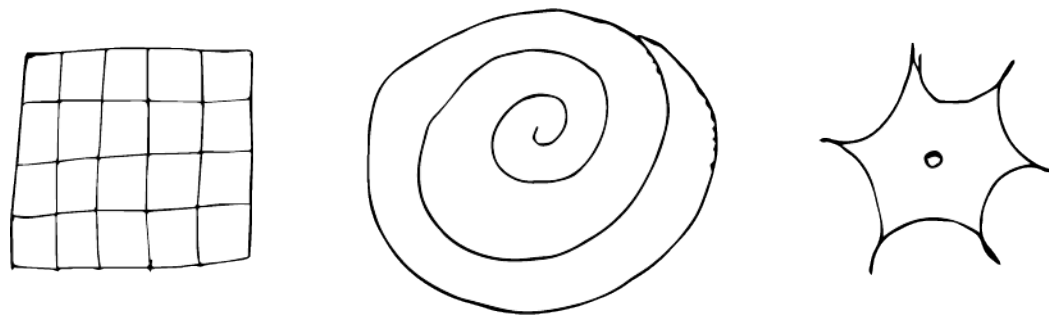
The customer gets a surface, the puzzle pieces, thread, needle, and it all comes in a package made from traditional Nepali Lokta paper. (Kathmandu Valley co., n.d) The form of the puzzle will either be in spiral, sun, or criss-cross pattern.



Picture 65, showing the surface, puzzle pieces, needle and thread, and package.



Picture 66, this puzzle will be in the form of a spiral. To the right the puzzle pieces and thread is packed into the surface.



The illustration of a criss-cross, spiral or sun is given to the customer, but it is up to them in what order they want to arrange the puzzle pieces to form the illustration.



Picture 67, the puzzle pieces for the spiral, the sun and the criss-cross from left to right.

The puzzle pieces are cut so that the leftover cut-outs from the pieces for the spiral makes the pieces for the sun. The criss-cross is made from long strings, which I experienced often comes from tailors.

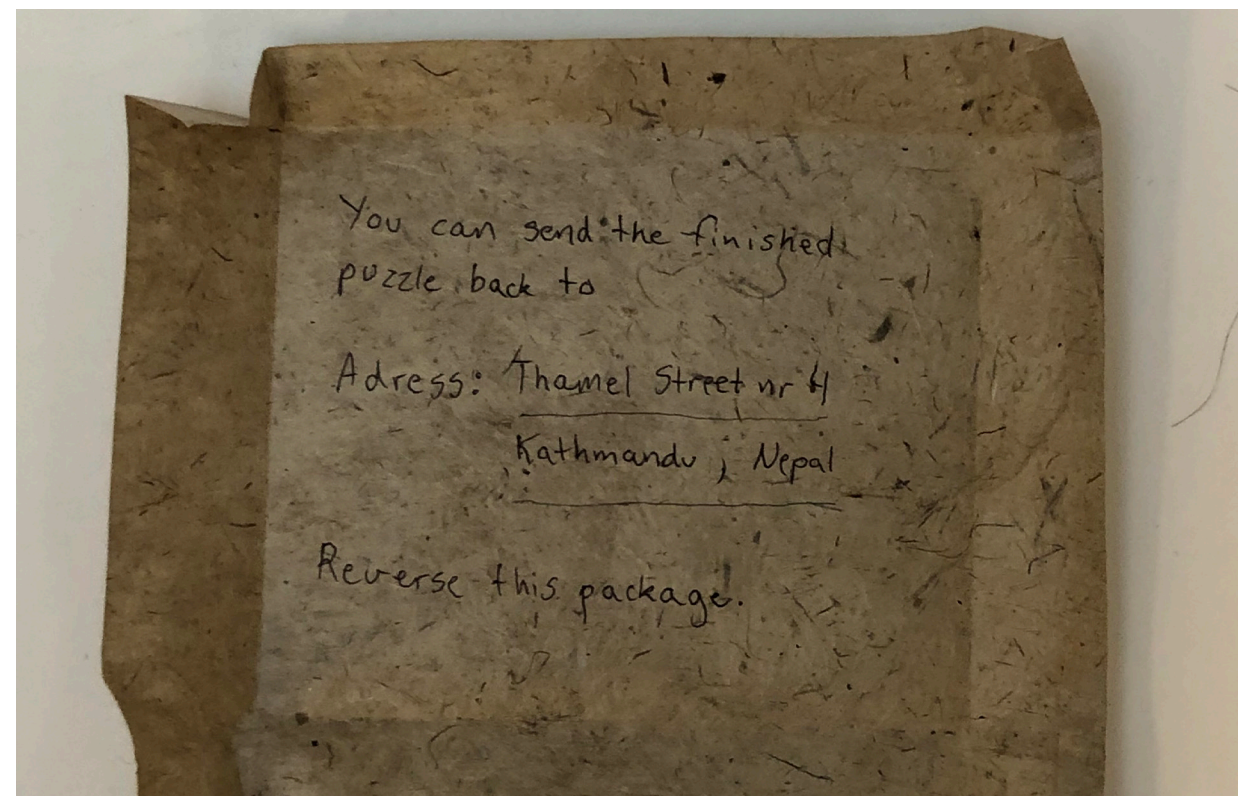


Picture 68, shows the puzzle pieces for the spiral becoming the pieces for the sun..



Picture 69, the finished puzzle of criss-cross, spiral and sun from left to right.

On the inside of the package is the address back to the production brand. The package can be flipped inside-out, and the customer can send back the finished puzzle. With the finished puzzles the production brand will create a combined piece out of all the puzzles they receive. This can be shown at exhibitions as an awareness campaign for the abundance of textile waste. To give options to the customer on what to do with the finished puzzle is thought of as a way to avoid the puzzle becoming waste again.



Picture 70, the inside of the package showing the address back to the production house.

design of organization



Picture 71, shows how the combination of the puzzles and illustrates the beginning of combining puzzles from different costumers.

However, it is still a question if customers will be interested in this type of product. A disadvantage with it is that the sewing of the pieces is not as easy as placing puzzle pieces together. It might end up in frustration for the customer if they struggle with the sewing, and that can result in a bad reputation for the product. The idea needs to be tested with a user group to find if this is a problem or not, and if overall there is any interest in this product.

The next thought in the process became design of an organization that would specialize in handling the textile waste created by tailors and create product out of these, for example PuzzleT. Illustration 2 shows the structure of the organization. The organization consists of five parts: center, out, in, currently, future. Each group has its own task.

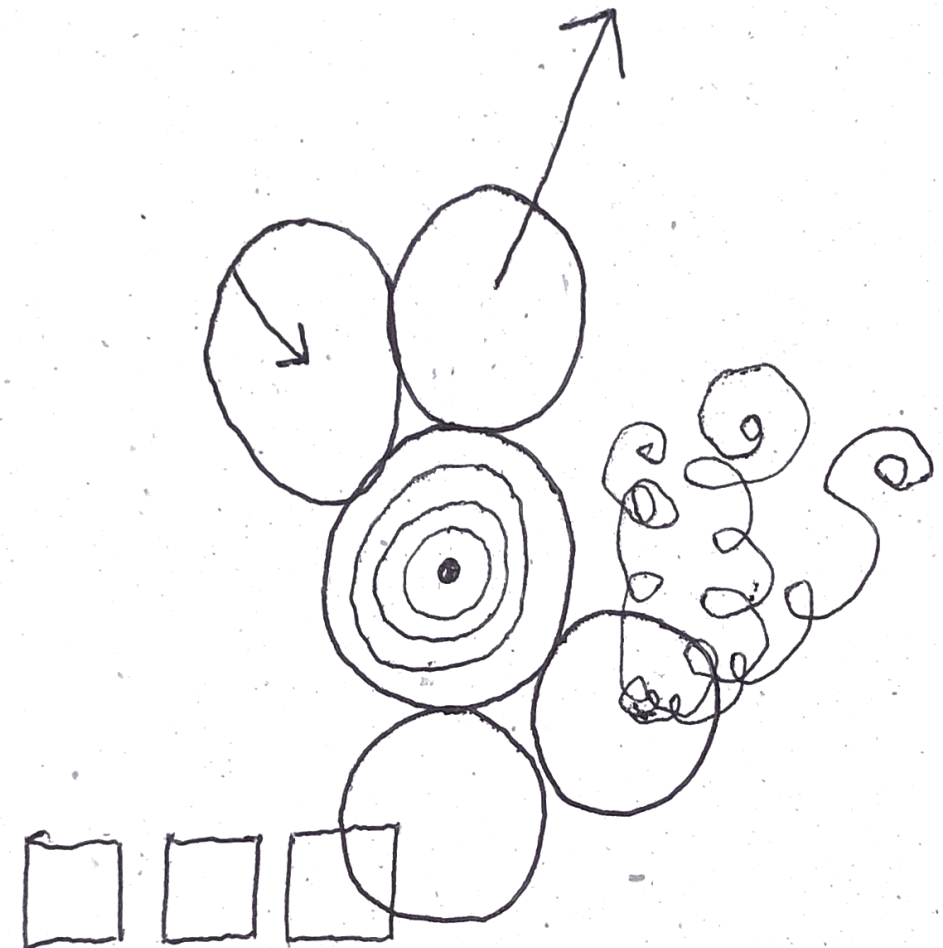
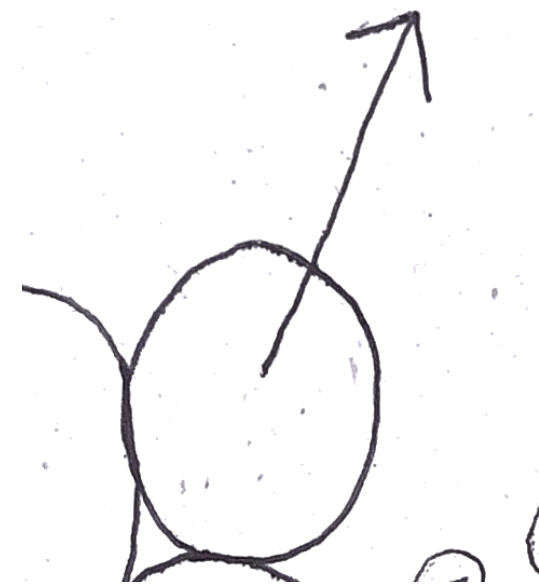


Illustration 2, structure of organization.



CENTER

This resembles the head of the organization who oversees the economy and has an overview of the operations.



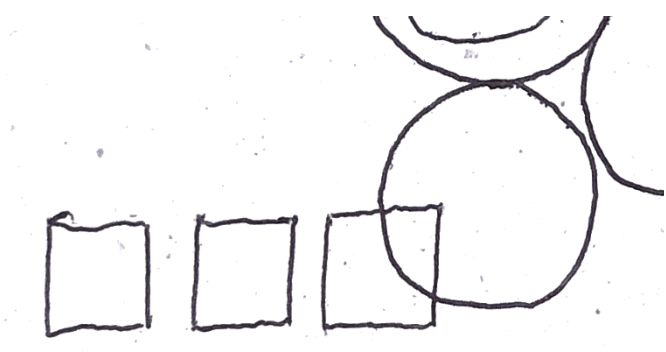
OUT

This group is in contact with the tailors and runs the logistics of transporting the waste from the tailors to a production house.



IN

This group manages the production of the textile waste. They sort out the waste and arrange them according to what is needed by the CURRENTLY group.



CURRENTLY

This group is in control of the production of the current products. The products can be PuzzleT, textiles for festivals, and arrangement of workshops with costumers.



FUTURE

This is the innovation group who looks for new products and uses of the textile waste.

In accordance with the circular system created by The Great Recover, the organization will go in a loop where material goes to production which goes to a brand who delivers the piece to the costumer. The flow will be as illustration 3:

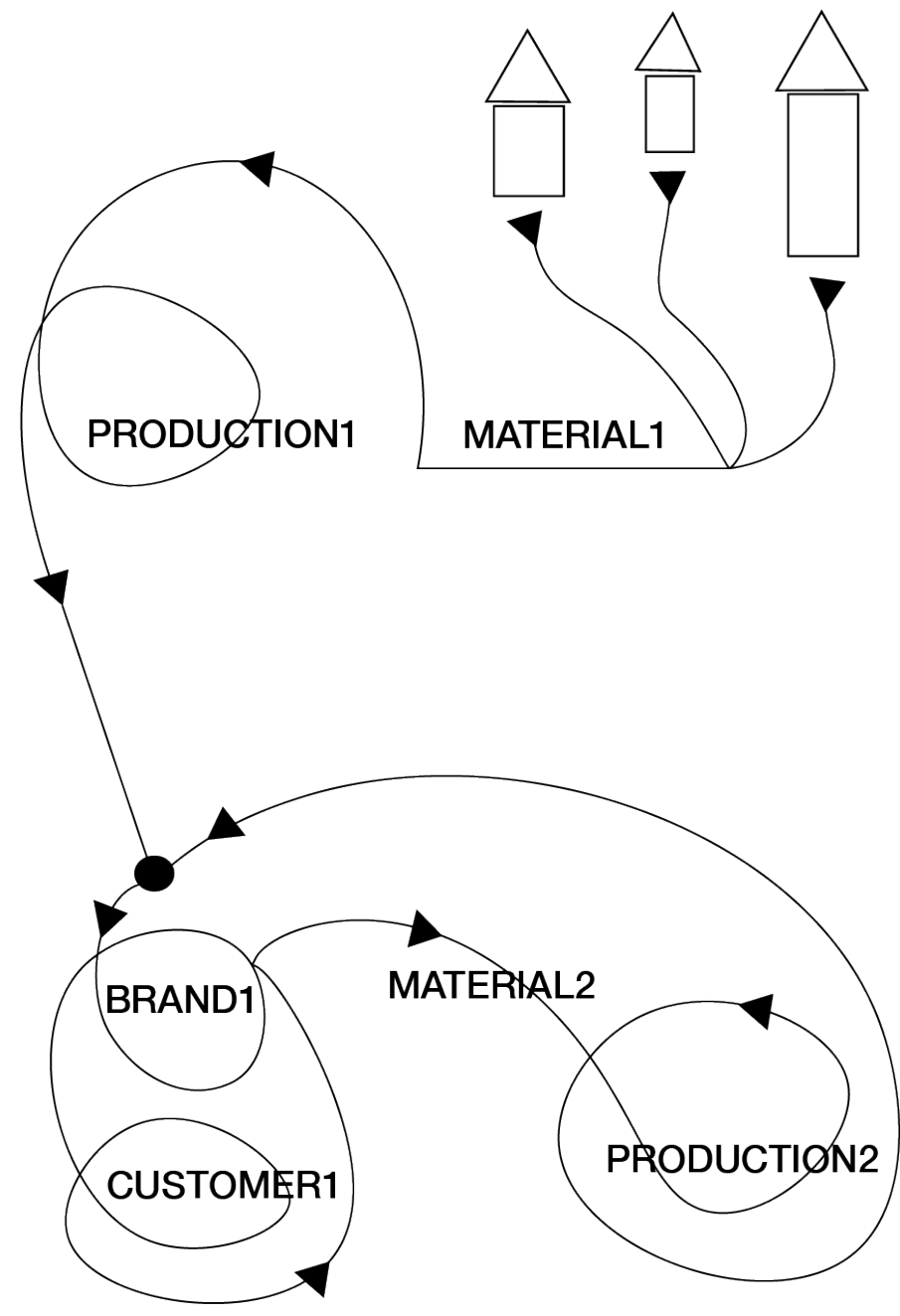


Illustration 3

The houses illustrate different tailors and the material from them goes into production 1. Production 1 delivers the material to brand 1 who creates a wanted outcome to costumer 1. The costumers send back the material when they are finished with it back to brand 1, who then sends the material to production 2. The production 2 handles the material so that it can be sent back to brand 1 again. In this way a loop is created and no textile goes to waste.

The loop can be in different shapes. For example as illustration 4. Here the material continues from production 2 to brand 2, and then circulates around from customer 2 to production 3 to customer 3. The color on the diagram indicates sections and these are isolated from each other, meaning they don't know what is going on in the other areas. They only receive the material from the previous section. This is to limit the amount of information each section has to take care of. The CENTER oversees the transfer of the material between the sections.

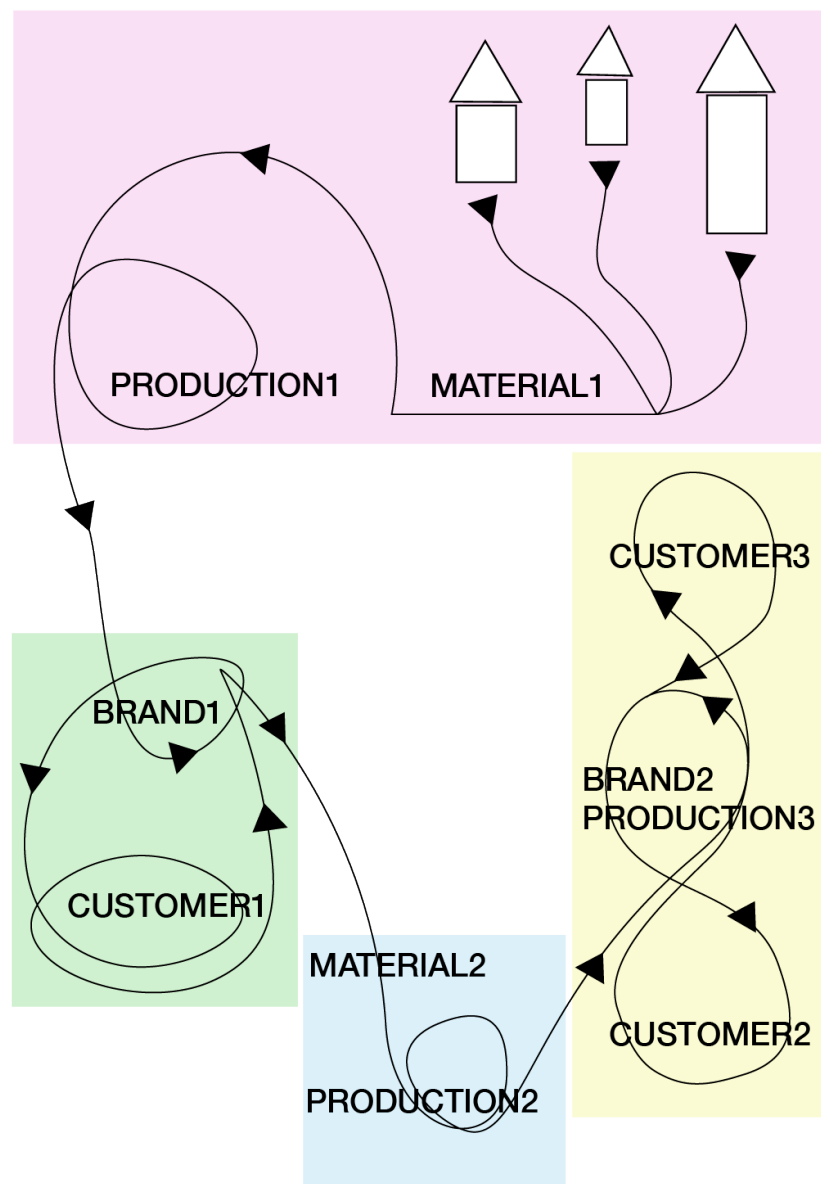


Illustration 4

In this way the CENTER can have a more binary role, meaning the decisions they oversee can have a clear yes or no answer. That is why it is possible to include computer logistics into the CENTER group. A way to do this is by measuring the weight of the material in flow and to use this as a reference point for how much material goes in and out of each section. This will help to keep track of the material and controlling if there are areas where material goes to waste.

I noticed in Nepal how they use textiles for decorations at events. When I visited Bhaktapur, for example, I came across this overhanging fabric shown in picture 72. This indicated that there was an event happening there. Leftover cut-outs from tailors can be used for these purposes, and as this fabric is used for a set period of time, they can be returned to the brand when the event is over and be used again for a different event.



Picture 72, fabric used as decoration.

Illustration 5 shows how the loop will be when the product is fabric as decoration for events. This illustration shows where the groups in the organization will be located. After an event is over the fabric is delivered back to the CURRENTLY group and more leftover cut-outs can be added to the piece, then used again for a different event.

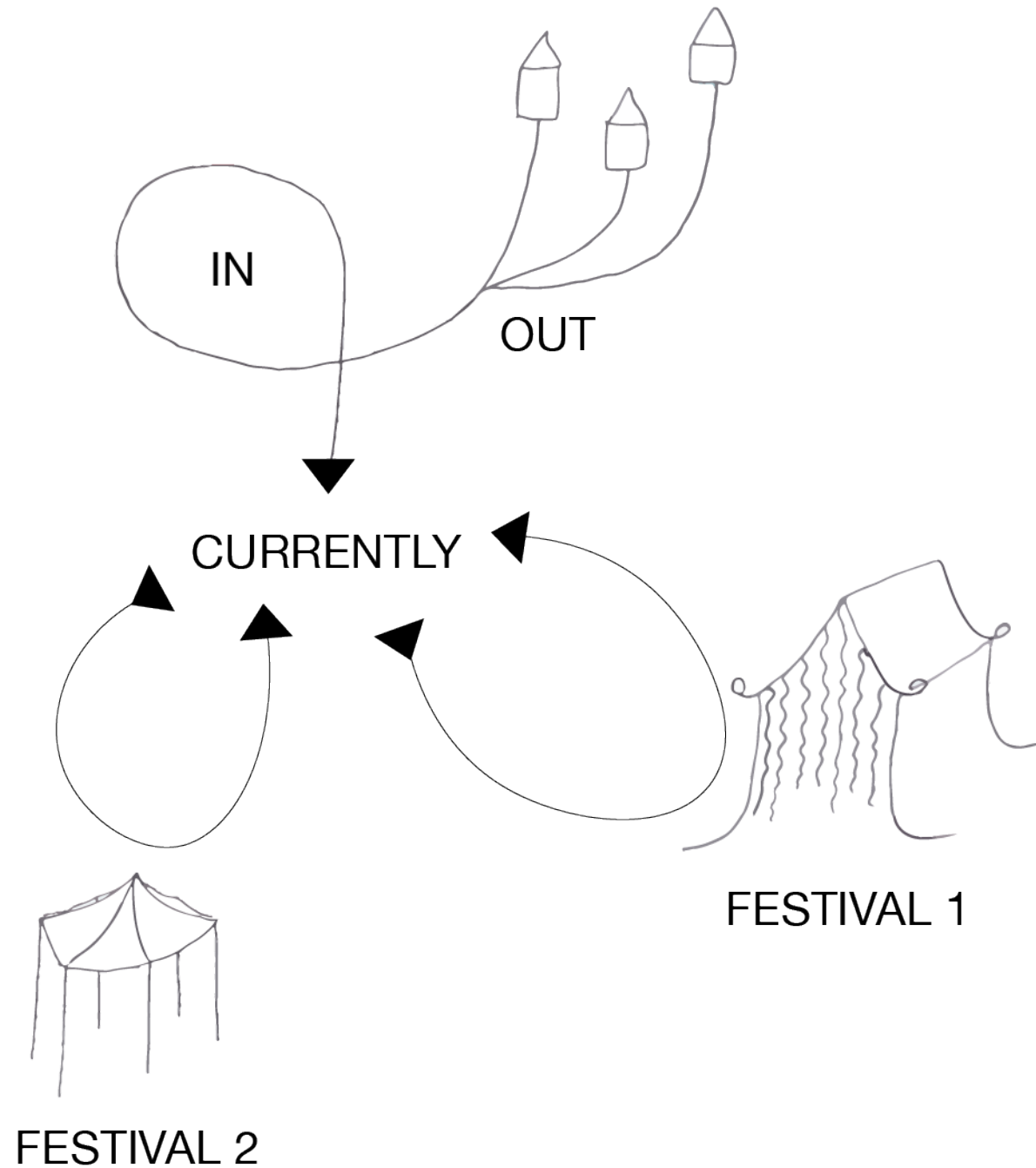


Illustration 5, how the loop will be if the product is fabric for events.

combining pre-and post-consumer waste

Another product that the CURRENTLY group can do is to organize workshops where participants use leftover cut-outs to upcycle old garments they have at home. In this way, pre-and post-consumer waste is combined to form a new product. The reason why customers will create the upcycled pieces themselves is to increase the value of the garment. My thought is that if the customers are their own creators, then they will appreciate the outcome more and therefore not through the garments away. I explored this idea of combining pre-and post-consumer waste with a sweater I had gotten secondhand at a flea market, a dress I got from Katja that her mom did not want to use, and a shirt I found for free at a thrift store in Helsinki. The pictures present the outcome.

Before



After





Before



After



After



Before

However, this idea requires customers to be interested in the activity of sewing clothes and it might require a creative mindset from them. The workshop needs to be tested to see if there is any interest in it.

This idea of an organization is a very hypothetical solution at the moment. I have tried to come up with ideas for a product, and the next would be to hear feedback on any of them. I believe the idea of using the cut-outs as fabric for decoration at events is the most applicable solution, as it is specific to Nepal and has an easier loop created.



Picture 73, art with textile and acrylic paint.

In the end, I also explored using textile waste for knitting and art. The art piece in picture 73 is out of textile waste and acrylic paint on top. The knitting in picture 74 is made from strings of textile and normal yarn.



Picture 74, knitting with textile and yarn.

concluding thoughts

This project has worked towards the Sustainable Development Goals. According to goal number 12: responsible production and consumption, the concepts presented are actively contributing to reducing textile waste. Reusing textile waste is also working toward goal number 14: Reducing marine pollution. The production of new textiles is the second responsible contributor to freshwater pollution due to chemicals used in the production. (Gaonkar, 2021) Reusing already-made textiles reduces this pollution. The design of the organization is working towards goal 8, by using creativity and innovation to create job opportunities. By placing myself in Nepal, I have been working towards goal number 17, Global Partnership for Sustainable Development. Throughout the project, it is aimed towards inclusion by participating in activities in Nepal and in the work with local artists in the collaborative project. This works towards goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

I began the process by being influenced by art, with CircaArt collaborating with Dalai Lama. I continued this thread with a collaborative project in Nepal where we reused leftovers from tailors in an art piece. When coming back to Norway I continued exploring how to use textile waste in art. My interest in using waste in art is the value aspect associated with art. Upcycling means when an item is upgraded to a higher value, and I wanted to explore if the waste could become as valuable as art. This is also to point out the somewhat absurd view there is when something is regarded as waste compared to when something is regarded as art. What qualifies an object as art, and how much effort needs to be put into the textile waste to become art, is a question of interest, but will not be elaborated further.

I focused on both pre-and post-consumer waste. Before going to Nepal my concern was post-consumer waste and I worked on the problem by establishing “MEND-dag”, where students could come and fix their clothes together. When arriving in Nepal, I experienced after working with Upcycle Nepal, talking to GMIN, and seeing the leftover cut-outs generated by tailors, that the other factor of textile waste was pre-consumer waste. While in Norway, I did not have pre-consumer waste in my mind because the talk about textile waste in Norway, and the Nordics in general, is the concern of overproduction and overconsumption. In this way, I noticed how my perception of textile waste changed going from Norway to Nepal, and how important the context is when it comes to what problems are addressed.

The first thing I noticed when taking the taxi from the airport to the hotel in Thamel, was a man sitting outside with a sewing machine helping customers fix something. The number of tailors and sewing machines in eyesight around the city surprised me. In my regard, these tailors are doing an important job, especially when they make clothes fitted to the customer. The clothes they make for the specific customer fulfil the requirement for fit, as described by SIFO as one of the requirements for garments to not be wasted. A tailor is also providing conditions to fulfil the other two requirements:

Intrinsic quality: an easily accessible tailor can help with wear and tear-related issues with the clothing.
Perceived value: when clothing is specifically fitted for you, my impression is that it will be valued more.
A tailor can also provide help to change the garment if the customer is bored with it.

Because of these reasons, the job of a tailor is what is required to reduce post-consumer waste. The job of a tailor in Kathmandu should not be forgotten when the country is developing toward a greater economy. This is why I want to create something out of their pre-consumer waste:

1. to help sustain tailors' work by providing them with more income by buying their waste.
2. to help sustain the environment by reducing textile waste.

After working with Upcycle Nepal and experiencing how they run a business by upcycling jeans into handbags, I wanted to explore a design of an organization where the material is the leftover cut-outs from tailors. Using the circular system from The Great Recovery Group, I hypothesize how the organization will be run in a loop from material to production to brand to customer, with the aim of the waste not becoming waste again. The idea seems good in my head, but the work in action is expected to take a different form. This is because of what Vassao describes in his text on: “Design and Politics: Metadesign for social change” (2017) , about low-level and high-level of meaning.

“The higher the level of formalization, the lower the meaning of what’s being conveyed: informal, or para-formal communication convey lots of meaning, in a very ambiguous manner; while the strictly formal Boolean algebra means literally nothing – only through human interpretation does a computer communicate anything.”(2017, p.147)

As I understand it, you can look at a problem from a zoomed-out perspective, as I have done with the creation of this organization, and connecting the dots seems easy. When I structure the diagram in illustration 5 to go from IN to OUT to CURRENTLY, it is a logical sequence that has a low-level of meaning, and a computer can control it. It is when I zoom into the problem, meaning when I get closer to the actual transition and production of the products, a higher level of meaning occurs because the products are closer to human interactions. These interactions might not have a logical sequence, as the interaction between humans and humans and products and humans, is not always predictable. What fascinates me, and is interesting to further speculate on, is what happens in the transition between low-level and high-level of meaning. To further use the analogy of connecting the dots, what happens in the

low-level of meaning, zoomed-out, computer-generated logistics, when in the zoomed-in, high-level of meaning, closer to humans, an un-logically new connection of dots occurs?

My idea for the organization is wide and complex, but as anything, it must begin in the small. As Kate Fletcher & Mathilda Tham are suggesting in their Earth-Logic Gardening publication, the beginning will be paying attention to the soil. This is what they mean:

«To know the soil is to be able to garden with low energy inputs and without force. It is to take account of local conditions, to appreciate the unique possibilities where you are, and what can be grown there.

Even a beginner gardener will notice that soil is very different from one location to the next. Gardening recognizes that different types of soil demand different measures for growing things.” (Fletcher & Tham, 2023, p. 21)

It begins with defining the place where to do the “gardening”. In this case, the logical place to begin will be in Kathmandu. My six weeks of staying there were not enough to understand the deeper cultural and dynamic happenings going on in the “soil”. If I were to develop this concept further, I would have to place myself there for a longer period. My first action would be to talk to tailors and understand their situation better. How do they regard their own work and how does other regard them? Is there a cultural significance in their work that I don’t know of? Another step will be to test out the idea of creating a fabric for an event. The first event can be for the opening of Upcycle Nepal’s new shop. Even using their textile waste to create the fabric can be a possibility. If this idea works well, then the next steps will be to continue the path, create a production house, and establish leaders for each group of the organization. It will also be continued using the analogy of gardening, as suggested by Fletcher and Tham.

the end

My process has explored ways of reusing textile waste and developed a concept of how an organization can handle the material in a circular system. I have got to understand better the relevance of context when solving a problem. The transformation in my thinking going from Norway to Nepal has had a significant change in the perception of the problem, going from post-consumer waste to pre-consumer waste. I have yet to discover how I will think about this problem when I step out of the master thesis bubble. I wonder where my ideas will go further and what will grow out of my understanding of the world after this investigation. I am curious to see if I will end up in Kathmandu to continue the project. Only time will tell.

reference list

Adams, T. E., & Jones, S. L. H., Ellis, C. (2015) *Autoethnography*, Oxford University Press

Ahiable, K. & Triki, C. (2021, December 8) *Tackling Ghana’s Textile-Waste Challenge*, Tony Blair Institute for Global Change, <https://www.institute.global/insights/climate-and-energy/tackling-ghanas-textile-waste-challenge>.

Arjun P. (2023, April 17) *Forest fires in surrounding districts make Kathmandu world’s most polluted city*. Kathmandu Post <https://kathmandupost.com/climate-environment/2023/04/17/forest-fires-in-surrounding-districts-make-kathmandu-world-s-most-polluted-city>

Bagnoli, A. (2009) *Beyond the standard interview: the use of graphic elicitation and arts-based methods*, University of Cambridge. <https://doi.org/10.1177/1468794109343625>

Bill & Melinda Gates Foundation (2016, January) *An Introduction to Equity-Centered Design*, designthinker-sacademy, <https://www.designthinkersacademy.co.uk/wp-content/uploads/2022/11/introduction-to-equity-centered-design.pdf>

Bokhari (n.d.) *Our story*. Bokhari. <https://bokhari.no/en/about-us/our-story/>

Cohen, D. and Crabtree, B. (2006, July) *Semi-structured Interviews*, Qualitative Research Guidelines Project, <http://www.qualres.org/HomeSemi-3629.html>

Creative reaction lab(2019, September 24) *Redesigners for Justice: the leaders we need for an equitable future*, Medium <https://medium.com/equal-space/redesigners-for-justice-the-leaders-we-need-for-an-equitable-future-d3a73459ba60>

Deleuze, G. & Guattari, F. (1987) *A thousand Plateaus*, Minneapolis: University of Minnesota Press.

Dongen, P., Dekker, Y., & Brouwer, Z. (2021) *Everything starts with a knot: Tying together indigenous crafts and solar design to foster women empowerment*. In IFFTI (Ed.) *Emergent, urgent, incumbent* (pp. 196 – 203)

Ellen MacArthur Foundation (2017) *A New Textiles Economy: Redesigning Fashion’s Future*. https://www.ellenmacarthurfoundation.org/assets/downloads/publications/A-New-Textiles-Economy_Full-Report.pdf

Escobar, A. (2018) *Designs for the pluriverse: Radical Interdependence, Autonomy, and the making of world*. Duke university press.

Evason, N. (2017) *Nepalese Culture*, Cultural Atlas <https://culturalatlas.sbs.com.au/nepalese-culture/nepalese-culture-religion>

Facts and details (2022, February) *Newars and ethnic groups in the Kathmandu Valley*. Facts and details. https://factsanddetails.com/south-asia/Nepal/Ethnic_Groups_and_Minorities_Nepal/entry-7835.html

- Fletcher, K. and Tham, M. (2019). *Earth Logic Fashion Action Research Plan*. London: The J J Charitable Trust.
- Fletcher, K. and Tham, M. (2023). *Earth Logic Gardening: A practical guide to growing ecological, social, cultural and economic change*. Macclesfield and London: Earth Logic Publishing.
- Gaonkar, O. (2021, December). *An overview of toxic chemicals in textiles*. Toxics Link. https://www.researchgate.net/publication/358804949_AN_OVERVIEW_OF_TOXIC_CHEMICALS_IN_TEXTILES
- Government of Nepal (n.d.) *Nepal Profile*, Ministry of Foreign Affairs. <https://mofa.gov.np/nepal-profile-updated/>
- Grassroot movement in Nepal (n.d) *Home*. GMIN. https://www.gmin.us/index.html?fbclid=IwAR1rv-cydj50LwrofH9Pm3vQw8W437cKK_JDV0kzjM2SK2h4gzMsRGG0bXHI
- Grassroot movement in Nepal (2023, April 23) *Upcycling [photography]* Facebook. <https://www.facebook.com/GMIN.Nepal/photos/a.10158548212793597/10159605758953597/>
- His Holiness the 14th Dalai Lama (2023) *The Art of Hope* [5 Colour Silkscreen print on Somerset paper] CircaArt, <https://circa.art/press/press-release-dalai-lama-the-art-of-hope/>
- Ishtiaque, A., Shrestha, M. & Chhetri, N. (2017). *Rapid Urban Growth in the Kathmandu Valley, Nepal: Monitoring Land Use Land Cover Dynamics of a Himalayan City with Landsat Imageries*. *Environments*. 4. 72. DOI: 10.3390/environments4040072.
- Kathleen (2022, October 20) *Nepalese custom outfits: A tailored tradition*, Forestrynepal, <https://www.forestrynepal.org/nepalese-custom-outfits-a-tailored-tradition/>
- Regmi, S. & Adhikary, S. (2016). *Solar Energy Potential in Kathmandu Valley, Nepal*. *Journal of Hydrology and Meteorology*.
- Kathmandu Valley co.(n.d.) *Handmade Nepali Lokta Paper*, Kathmandu Valley co. <https://kathmanduvalleyco.com/lokta-paper/>
- Keitsch, M. (2021, 6. April) *Transdisciplinary Education for a Sustainable Society*, SAMAJ, Cristin <https://app.cristin.no/projects/show.jsf?id=2508531>
- Kendra, K. V. (2019, March 8) *Management of post consumer textile waste*. Textile value chain. <https://textilevaluechain.in/in-depth-analysis/articles/textile-articles/management-of-post-consumer-textile-waste/#:~:text=Post%20Consumer%20Textile%20Waste%3A%20The,as%20post%20consumer%20textile%20waste.>
- Kharel, P. & Bhattarai, P. (2012, December) *Strengthening textiles and clothing sector in South Asia: Nepal report*, South Asia Watch on Trade, Economics and Environment (SAWTEE), Kathmandu
- Kushal, A. (2021, June 21) *Exploring prospects in the textile industry of Nepal*, Samsara Creation, <https://samsaracreation.com.np/uncategorized/exploring-prospects-in-the-textile-industry-of-nepal/>
- Laitala, K. & Klepp, I. G. (2022, October 19) *Review of clothing disposal reasons*. OsloMet <https://uni.oslomet.no/klesforskning/2022/10/19/review-of-clothing-disposal-reasons/>
- Lehman, K. (2017). *Conceptualising the value of artist residencies: A research agenda*. *Cultural Management:*

- Science and Education*. 1. 9–18. https://www.researchgate.net/publication/318418782_Conceptualising_the_value_of_artist_residencies_A_research_agenda
- Leu, S (2023) *Press Release: Dalai Lama, The Art of Hope*. Circa Art <https://circa.art/press/press-release-dalai-lama-the-art-of-hope/>
- Massumi, B. (1995). *The Autonomy of Affect*. *Cultural Critique*, 31, 83–109. <https://doi.org/10.2307/1354446>
- Martin, B., & Hanington, B.M. (2012). *Universal Methods of Design: 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions*. Rockport Publishers.
- New business age (2021, October 3) *Nepali TEXTILE Industry at a Glance*, New business age, <https://www.newbusinessage.com/MagazineArticles/view/2964>
- Nike (n.d.) *Circularity*. Nike Circular Design. <https://www.nikecirculardesign.com/>
- OsloMet (n.d.) *Klesforskning*. OsloMet. <https://uni.oslomet.no/klesforskning/>
- Oxford Reference. (2023, 10 May), *socio-technical system*. <https://www.oxfordreference.com/view/10.1093/oi/authority.20110803100515814>.
- Pandey, A. (2022, March 07) *Hatti Hatti: Fighting for sustainable gender equality in Nepal*. NepalNews. <https://nepalnews.com/s/issues/hatti-hatti-fighting-for-sustainable-gender-equality-in-nepal>
- Peng, J. (2018, May). *Impact of Urbanization on Public Health in Kathmandu Valley, Nepal- A Review*. Juniper Online Journal of Public Health. DOI:10.19080/JOJPH.2018.03.555617
- Potting, J., Hekkert, M., Worrell, E. & Hanemaaijer, A. (2017) *Circular economy: Measuring innovation in the product chain*, PBL Netherlands Environmental Assessment Agency.
- Pradyumna P. K, Proud R. R. & Rose L. E (2023, May 19) *Nepal*, Britannica . <https://www.britannica.com/place/Nepal>
- Ricketts, L. & Skinner, B. (2023, February 14). *Stop Waste Colonialism: Leveraging Extended Producer Responsibility to Catalyze a Justice-led Circular Textiles Economy*. The Or Foundation.
- Rissanen, T. I. (2013). *Zero-waste fashion design: a study at the intersection of cloth, fashion design and pattern cutting* [Doctoral dissertation, University of Technology, Sydney] <http://hdl.handle.net/10453/23384>
- Ross, J. (2004). *Understanding the demographic dividend*. POLICY Project Note. http://www.policyproject.com/pubs/generalreport/Demo_Div.pdf
- RSA(2016, March) *Designing for a circular economy: Lessons from The Great Recovery 2012 - 2016*. <https://www.thersa.org/globalassets/pdfs/reports/the-great-recovery---designing-for-a-circular-economy.pdf> . Royal Society for the encouragement of Arts, Manufactures and Commerce
- Rue, H (2022, October 2) *Nepali Dhaka: The History of the Handcrafted Fabric in Nepal*. Hayden rue. https://haydenrue.com/clothing/nepali-dhaka/?utm_content=cmp-true

Sandin, G. & Peters, G. M. (2017, October 20) *Environmental impact of textile reuse and recycling - A review*, Journal of Cleaner Production 184 (2018) <https://doi.org/10.1016/j.jclepro.2018.02.266>

Shakya, M. (2011) *Bridging the Design Gap: The Case of the Nepali Clothing Industry*, The Journal of Modern Craft, 4:3, 295-310, DOI: 10.2752/174967811X13179748904292

StudioBeta(n.d.) *StudioBeta*. Facebook. <https://www.facebook.com/studiobeta1/>

Textile value chain (2019, October 16) *Nepal textile and apparel industry*, Textile value chain, <https://textilevaluechain.in/in-depth-analysis/textile-market-report/nepal-textile-and-apparel-industry/>

The Or Foundation (2023b) *Frequently Asked Questions, Stop Waste Colonialism*, <https://stopwastecolonialism.org/frequently-asked-questions/#question-5>

UNECE (2018) *Fashion and the SDGs: what role for the UN?* https://unece.org/fileadmin/DAM/RCM_Web-site/RFS2018_Side_event_sustainable_fashion.pdf

UNESCO (2023) *Kathmandu Valley*, UNESCO World Heritage Convention <https://whc.unesco.org/en/list/121/>

UNFPA Nepal (2017, July) *Population Situation Analysis of Nepal (With Respect to Sustainable Development)*. UN-EPA Nepal. <https://nepal.unfpa.org/en/publications/population-situation-analysis-nepal>

United Nations (2022) *Target and indicators, Sustainable Development Goals*. United Nations. <https://sdgs.un.org/goals/goal12>

Upcycle Nepal (n.d.) *REVIVE, sewing soul into fabrics*. UpcycleNepal. <https://upcyclenepal.com/>

Vassão, C. A. (2017, May-August) *Design and Politics: Metadesign for social change*, Strategic Design Research Journal, 10(2): 144-155, https://www.researchgate.net/publication/319568768_Design_and_Politics_Metadesign_for_social_change

Verganti, R. (2017) *Overcrowded: Designing meaningful products in a world awash with ideas*. The MIT press.

Villarrea, C.(2022, Februar 16) *The five elements in Tibetan Buddhism*, Claire Villarreal, <https://www.clairevillarreal.com/post/the-five-elements-in-tibetan-buddhism>

appendix i

Masteroppgave for student Jenny Marie Jakobsen /Master thesis for student Jenny Marie Jakobsen

Gjenbruk av tekstilavfall i Nepal ved bruk av equity-centered design metoder.

Reuse of textile waste in Nepal: An equity-centered design process

Bakgrunn og formål med oppgaven

I faget TPD4500 avsluttet jeg prosjektet med å utforske eget forhold til tekstilavfall. Jeg sydde om skjorter til nye kreasjoner for å gi de ny verdi. Prosjektet fikk navnet 'Litter to value'.

Katja Carmina kontaktet meg angående et mulig samarbeid med henne om avfall i Nepal og vi har bestemt oss for å være sparrepartnere underveis i prosjektet. Formålet med denne masteren vil være å se på tekstilavfall i Nepal og hvordan dette avfallet kan bli til verdi for forskjellige nepalesiske samfunnsaktører ved bruk av equity-centered design metoder, samt andre relevante metoder. Det vil være en fortsettelse av TPD4500 prosjektet 'Litter to value', men situasjonen er nå i et fremmed land og formålet vil derfor også være å se på hvordan prosjektere et 'Litter to value'-prosjekt i en ukjent kulturell kontekst.

Eventuelle samarbeidspartnere

Samarbeid med Katja, og designstudentene som skal til Nepal, i form av støtte og hjelp til hverandres prosjekter.

Forventet tilnærming (metoder og/eller prosess)

Ønsket er å ta i bruk de metodene som egner seg til å designe fra et bottom-up-perspektiv og utforske hvordan designprosjekter mellom kulturer kan initieres. Jeg ønsker å utforske metoder som:

- Equity-centered design approaches
 - Participatory Approaches
 - Transdisciplinary approaches
- Systemtenkning
- Social and/or sustainable entrepreneurship

I tillegg vil de bli sett på teorier innen «decolonizing design».

Prosjekt er tredelt, første del skjer i forkant av avreise, andre del i Nepal, tredje del i etterkant av turen. Delene vil bli delt inn i sekvenser basert på funnene i for eksempel planleggingsfasen, workshopresultater etc.

Første del vil bestå av innhenting av informasjon, planlegging av tiden i Nepal. Ønsket er å få gjennomført en test-workshop som en øvelse for utføring av workshop i Nepal. I annen del som vil forgå i Nepal vil det bli utført en workshop med lokale klesdesignere fra Kathmandu dalen der vi sammen ser på:

- Hvordan tekstilavfall kommer fra forskjellige steder,
- Hva må gjøres for de blir til klær og andre tekstile produkter,

- Hvordan produktene selges og hvordan få mer oppmerksomhet omkring 'Litter to value' ideen i bransjen og mht. andre aktører (konsumenter, lokale myndigheter etc.)

I tillegg skal det gjennomføres observasjoner (autoethnography) and in-depth intervjuer med lokale designere og aktører (for eksempel leverandører av materiale).

Tredje del vil være refleksjon av utført workshop i Nepal, så vel som observasjoner og intervjuer. Resultatene blir sendt til workshopdeltakerne på engelsk for kommentarer og feedback.

En diskusjon omkring fordeler og ulemper med disse metodene og designerens rolle og ansvar i prosjekter med deltakere fra forskjellige kulturelle bakgrunner tas også opp mht. bruk i lignende arbeid av studenter i fremtiden.

For dokumentering av arbeid i prosessen vil det bli skrevet Learning diary og Notion vil bli brukt for planlegging og dokumentering.

Forventede resultater og format

Resultatet vil bli todelt der den ene delen omhandler hvordan et utført equity-centered designprosess fungerer med aktører i en ukjent kulturell kontekst for designeren. Gjennomføringen av workshopen og resultater fra observasjoner og intervjuer vil bli lagt fram som eksempel.

Annen del er undersøkelse av hvordan det konkrete tekstilavfallet kan brukes til i utviklingsland på en måte som vil gi samfunnsaktører både økt verdi av materialet og mer informasjon om bruk av tekstilavfall som ressurs.

Masteroppgaven vil bli skrevet på engelsk.

Opgaven utføres etter "Retningslinjer for masteroppgaver i Industriell design".

Hovedveileder: Martina Keitsch
Biveileder: Brita Fladvad Nielsen

Utleveringsdato: 9. januar 2023

Innleveringsfrist: 29. mai 2023

NTNU, Trondheim, 09.01.23



Martina Keitsch
Veileder



Sara Brinch
Instituttleder

Are you interested in taking part in the research project *Reuse of textile waste in Nepal: an equity-centered design process?*

Purpose of the project

You are invited to participate in a research project where the main purpose is to look at challenges concerning textile waste in Nepal. It is a master's thesis in the Department of Design at the Norwegian University of Science and Technology (NTNU), within the SAMAJ collaboration project. For information about the SAMAJ project see this website: <https://martinkeitsch8.wixsite.com/samaj>

The purpose is to find solutions on how textile waste in Nepal can be used to reduce the amount of textile waste that is incinerated or goes to landfills.

Which institution is responsible for the research project?

Norwegian University of Science and Technology (NTNU).

Why are you being asked to participate?

You are asked to participate because of your relevance within the project frame.

What does participation involve for you?

- Interview: Questions related to your expertise.
- Workshop: Participation in a workshop related to reuse of textile waste.

Participation is voluntary

Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data

We will only use your personal data for the purpose specified here and we will process your personal data in accordance with data protection legislation (the GDPR).

The data will be stored on a personal computer which is looked with a code. The information about you that will be recognizable for others is your name, age, occupation.

What will happen to your personal data at the end of the research project?

The planned end date of the project is 29 of May 2023 and the data will then be deleted. Only relevant data for the project will exist within the delivery of the master thesis.

Your rights

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you

- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?

We will process your personal data based on your consent.

Based on an agreement with Institute for Design at NTNU, The Data Protection Services of Sikt – Norwegian Agency for Shared Services in Education and Research has assessed that the processing of personal data in this project meets requirements in data protection legislation.

Where can I find out more?

If you have questions about the project, or want to exercise your rights, contact:

- Institute of Design, NTNU, via professor Martina Keitsch, martina.keitsch@ntnu.no +4773590119. Supervisor for the project and SAMAJ project leader.
- Jenny Marie Jakobsen, student at Institute of Design, jennymi@ntnu.no, +4795828206

If you have questions about how data protection has been assessed in this project by Sikt, contact:

- email: (personverntjenester@sikt.no) or by telephone: +47 73 98 40 40.

Yours sincerely,
Student
Jenny Marie Jakobsen

Consent form

I have received and understood information about the project *Reuse of textile waste in Nepal: an equity-centered design process* and have been given the opportunity to ask questions. I give consent:

- to participate in interview.
- to participate in workshop.
- for Jenny Marie to give information about me to this project – if applicable I can be recognised by name, age, occupation.

I give consent for my personal data to be processed until the end of the project.

(Signed by participant, date)