SYMBIOSIS UNEARTHED

regeneratively transforming postwar flats into healthy urban communities

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Architectural Engineering studio 23/24

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Drawing that decipts the inbalance of humans and other living beings because of modern, capitalist, colonialist behaviour
Image by author

Humans have created an anthropogenic way of living. 'The human', as an individual and as a species, often considers itself more important than others. Whether 'the other' is an animal, a piece of land, or a minority, they are commonly dominated, exploited, or neglected. The consequences of this behaviour are visible in many different ways in modernity. It can be seen in the way we exploit, overconsume, and discriminate. Habitats are destroyed and (agricultural) lands are being exploited more and more in the name of consumption. This results in environments that are unhealthy, or even unliveable for some species. Whilst modernity is hurting entire ecosystems, the places where humans live, cities, are generally unhealthy. Cities tend to be hotter than surrounding areas, have bad air quality, and lack unpaved areas and plants. The way that Western society is shaped encourages destructive practices. Schinkel and van Reekum adequately express it like this: "Modernity is collective self-limitation to planetary plunder."[1]
Letting go of the current anthropocentric worldview, and understanding that the human is a part of the Earth could offer a solution to our harmful patterns. Indigenous communities, from now and before, proof that it is possible for all living beings to sustain each other without any exploitation. Adopting this symbiotic way of being, which means showing reciprocity and gratefulness to every being, will show regenerative effects. By allowing the soil to become more biodiverse, all living beings in the ecosystem can start getting healthier.
This project focuses on a kind of place that urgently needs to be tackled: postwar neighbourhoods. The maintenance of Dutch postwar neighbourhoods has often lagged behind in the past decades, so the buildings are currently in need of renovation. Additionally, postwar neighbourhoods are generally repetitive, unpersonal, and urban areas that could be improved, but at the same time they show great potential because of the open configuration and the large amount of green. Instead of demolishing the flats, which is a popular approach nowadays, I would like to propose a transformation of a postwar 'stempel' in Amsterdam Nieuw-West.
The goal of the design is to create a symbiotic, healthy ecosystem within the urban fabric, which offers a closed material cycle for the required building parts. The regenerated stempel should offer a healthy environment for all living beings, and allows the inhabitants to feel connected to the place. This symbiotic community is meant to invoke a deep respect for other (human and non-human) beings, and the resources that the ecosystem provides.

"Moderniteit is collectieve zelfbeperking tot planetaire plundering."

"Modernity is collective self-limitation to planetary plunder."

[1] Willem Schinkel and Rogier Van Reekum, *Theorie van de Kraal: Kapitaal - ras - fascisme* (Boom, 2019).

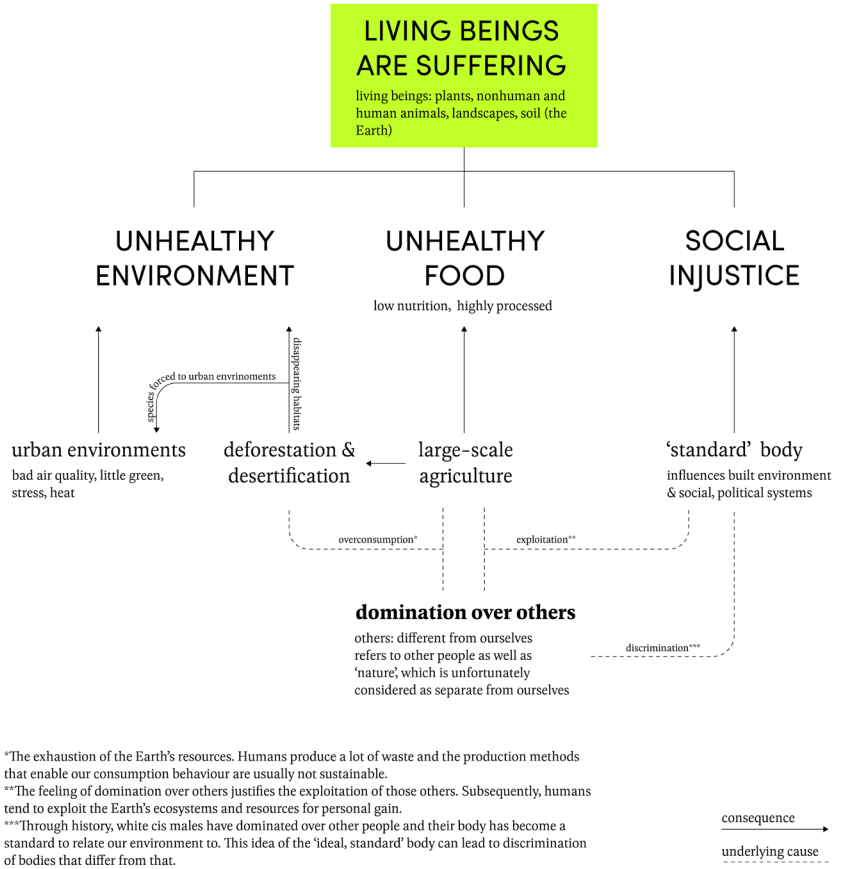


Diagram that shows causes and consequences of modernity
Image by author

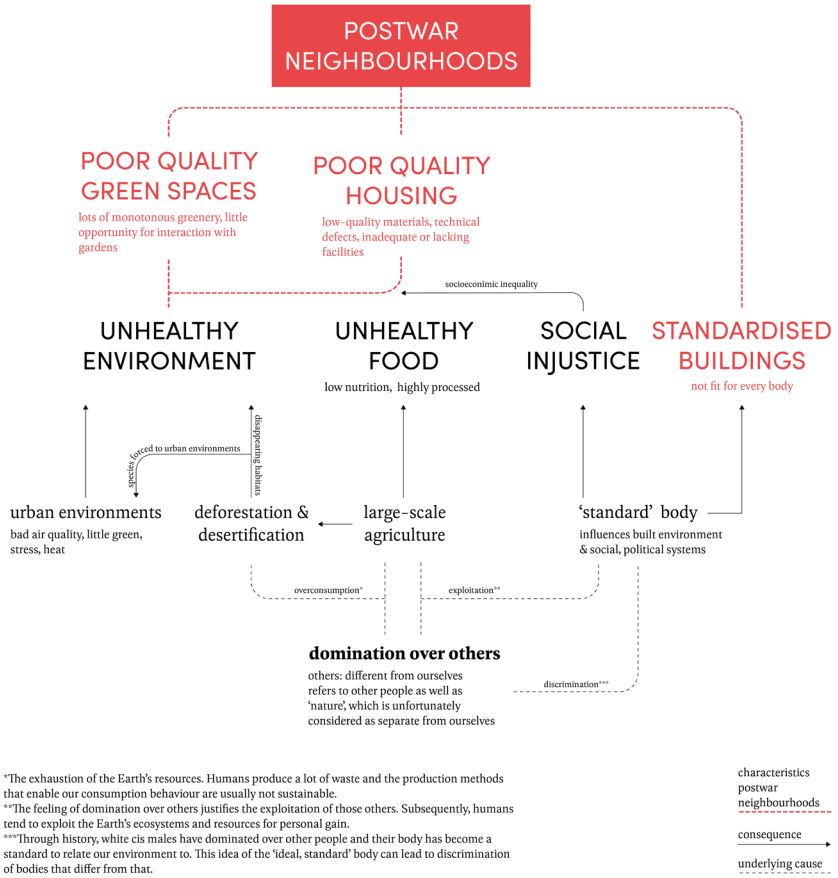
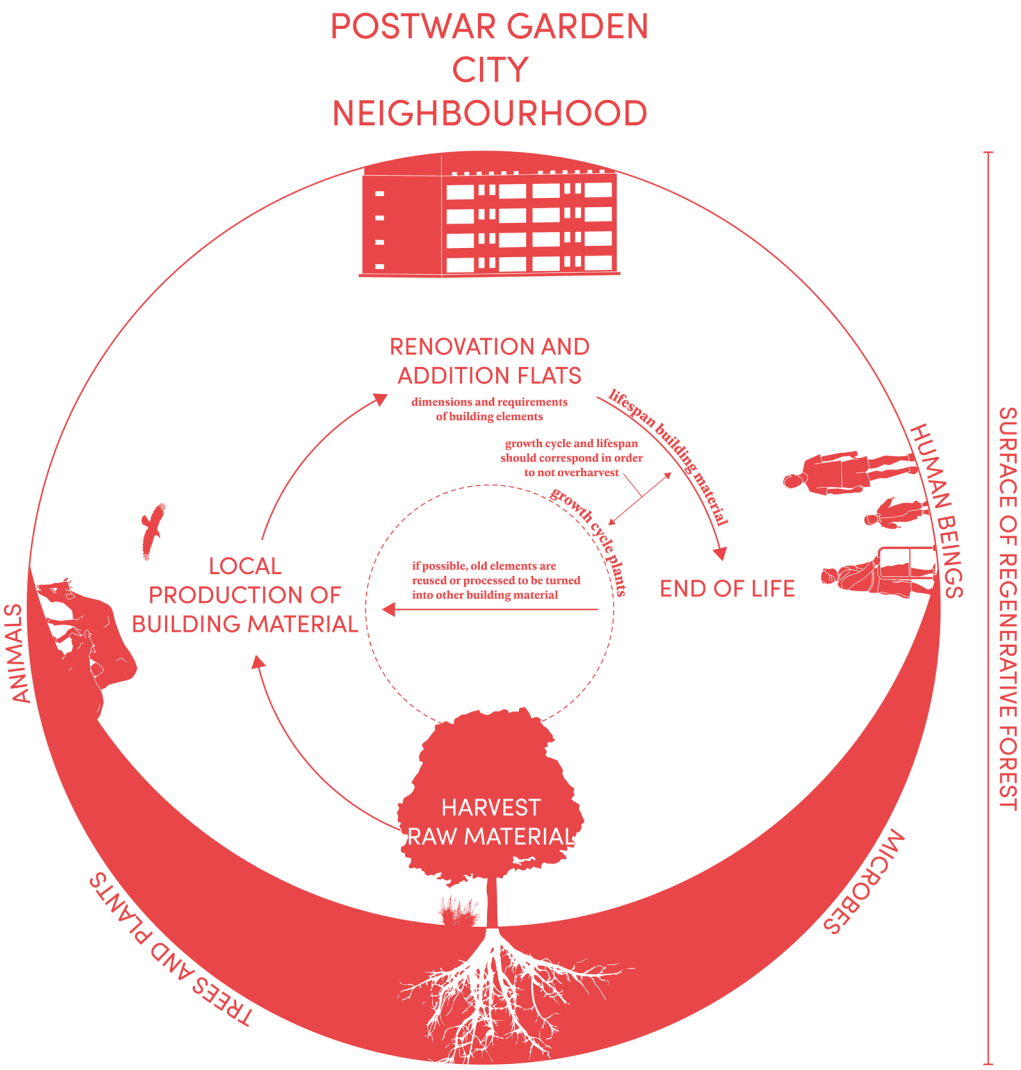


Diagram that shows causes and consequences of modernity and the relation to Dutch postwar Garden City neighbourhoods
Image by author



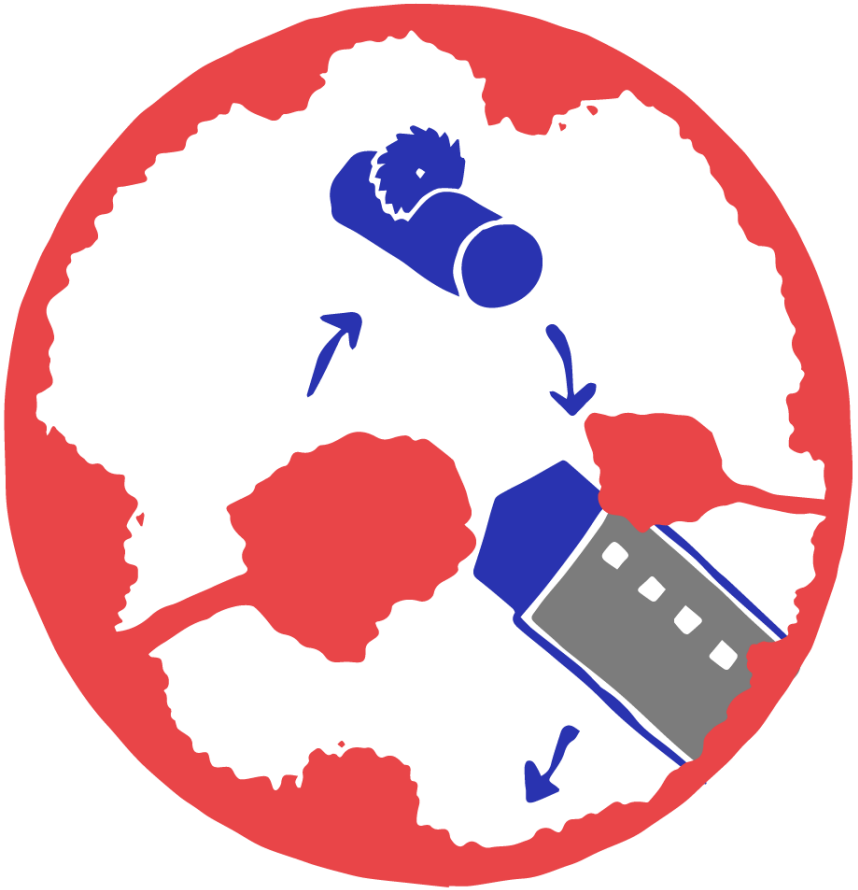
Visualisation of symbiotic ecosystem within postwar Garden City neighbourhood
Image by author

Impression of a symbiotic, regenerative communiy in a postwar neighbourhood in the Netherlands
Image by author

SYMBIOTIC, REGENERATIVE COMMUNITY

This project aims to design an environment where an symbiotic, regenerative community could thrive. A community like this entails all living beings, from trees, to bees, to humans. The living environment should be healthy for all of these beings. A healthy ecosystem can provide all sorts of valuable products, like food, wool, and wood. Instead of considering these resources as a commodity, humans should appreciate them as gifts, and show gratefulness in return. Imagining a living environment like this requires ideological, wishful thinking compared to the urban environments that we currently live in, and drastic changes will need to be made. Therefore, Symbiosis Unearthed proposes quite a drastic, new way of living.

I envision a symbiotic, regenerative community in an urban forest. Postwar Garden City neighbourhoods in the Netherlands offer a lot of space for planting forests, and the outdated buildings can be tackled at the same time.



Design concept diagram that decipts the use of local wood for the renovation of postwar flats
Image by author

DESIGN APPROACH

The context of postwar Garden City neighbourhoods offers a lot of green space to plant a regenerative forest. Whilst providing a comfortable, healthy living environment, the forest is constantly producing wood. Wood is a very valuable product that is very suitable for building. This gift of local wood presents the opportunity to provide the building materials for the needed renovation of postwar flats in these neighbourhoods. Harvesting, processing, and building within the neighbourhood reduces transport emissions, prevents the exhaustion of land, and offers job opportunities for locals. Additionally, being surrounded by local wood helps people to feel a connection with the landscape, and the resources it provides. It is very important that the forest is not considered as production grounds. The goal of the regenerative forest is not to produce wood, it is simply meant to be, replenish the soil, and offer a healthy environment for all living beings.
Within this project the colour **red** is used to show **Oikos** (all that lives), and **blue** is used to display (local) **Material**.

Van Eesteren. *Algemeen Uitbreidingsplan van Amsterdam.* 1934. Gemeente Amsterdam Stadsarchief. https://archief.amsterdam/beeldbank/detail/e62d2005-d01a-b141-04c0-b7b55f4b98fb?mode=gallery&switch=1.

ALGEMEEN UITBREIDINGSPLAN VAN AMSTERDAM

The map to the left shows Het Algemeen Uitbreidingsplan van Amsterdam by Cornelis van Eesteren from 1934. Van Eesteren designed a great expansion plan for the capitol of the Netherlands with the Garden City as his inspiration. The plan was realised in the 1950's and -60's, and the new neighbourhoods together are now called the Westelijke Tuinsteden. This is an area with a large body of water (Sloterplas), and with a lot of similar flats, positioned in repetitive configurations. In between these configurations, called *stempels* in Dutch, there is a lot of open space. This space is partly unpaved, but the green is usually quite monotonous.

GREEN IN WESTELIJKE TUINSTEDEN

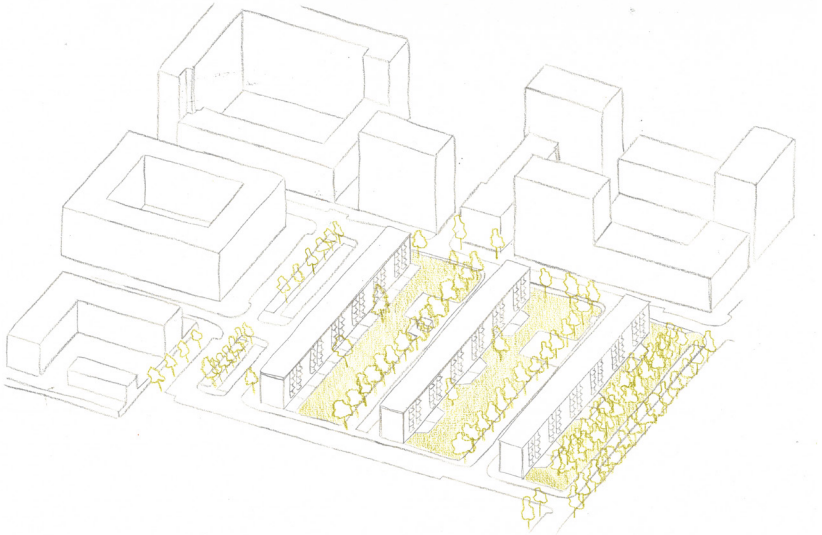
Postwar Garden City neighbourhoods generally contain a lot of green space, and are usually located on the edge of cities. Therefore, this type of neighbourhood offers a perfect context for a healthy living environment in urban context. I see great potential in these neighbourhoods to become thriving, biodiverse places, if the green spaces are managed in a different way.

1 : 50.000

Map of Westelijke Tuinsteden of Amsterdam with unpaved area in red.
Image by author

PORTIEKFLATS

Within the Westelijke Tuinsteden of Amsterdam I aimed to find a set of flats from the postwar period that were in dire need of renovation, because I noticed that many postwar flats are being demolished nowadays. The demolition of buildings contributes to so much material waste, which is especially shameful if the parts of the building are still sufficient.
Three flats on the Martini van Geffenstraat & Van Suchtelen van de Haarestraat (see photos in chapter 1.1 of the visual booklet) in the Osdorp-Oost area offered a perfect site for my project, as they are currently in need of renovation, and the owning housing corporation is actually planning to demolish them. The owners of the flats currently experience a lot of problems from these buildings, and the public space surrounding the buildings is not very comfortable either. A drastic renovation could improve the apartments, the public space, and prevent waste of materials. Additionally, the housing shortage could be partly alleviated by adding more apartments on top of the existing flats.



Isometric drawing of project site, regarding three portiekflats on the Martini van Geffenstraat & Van Suchtelen van de Haarestraat in Amsterdam.
Image by author

BAKSTEEN MONTAGE BOUW

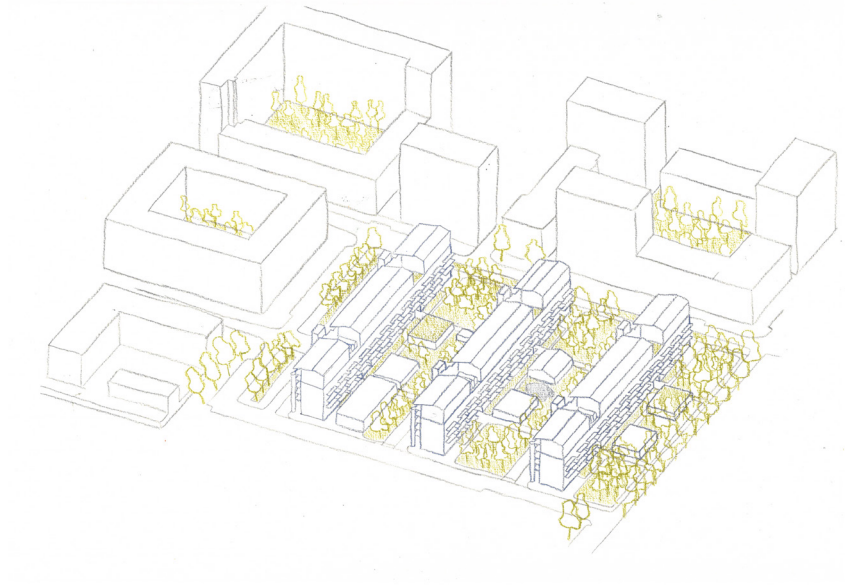
The three project site flats were built in the 1950's with a standardised system called Baksteen Montage Bouw, a postwar large-scale building system, which used prefab floor- and wall elements from concrete. Brick façade elements of with a half-storey height were also prefabricated. The photo below shows a fragment of a project site flat, in which the outlines of the prefabricated brick elements can be distinguished.

Nona Storm Dalman, façade of portiekflat at Martini van Geffenstraat Amsterdam, December 30, 2024, unpublished personal photo.

REGENERATIVE FOREST DESIGN

In the thematic research called 'Renewing Postwar Portiekflats' a renovation solution for the project site flats is proposed. Along with the quantities of required wood for the renovation design comes a proposal for the composition of a local, regenerative forest, that could provide the needed materials. The tree species for this forest were chosen based on the soil type of the project site location. The Oikos poster offers a section of the regenerative forest of the project along with extensive elaboration about the trees, building parts, and the ecosystem.

Diagram that decipts postwar housing within a regenerative forest ecosystem. Image by author

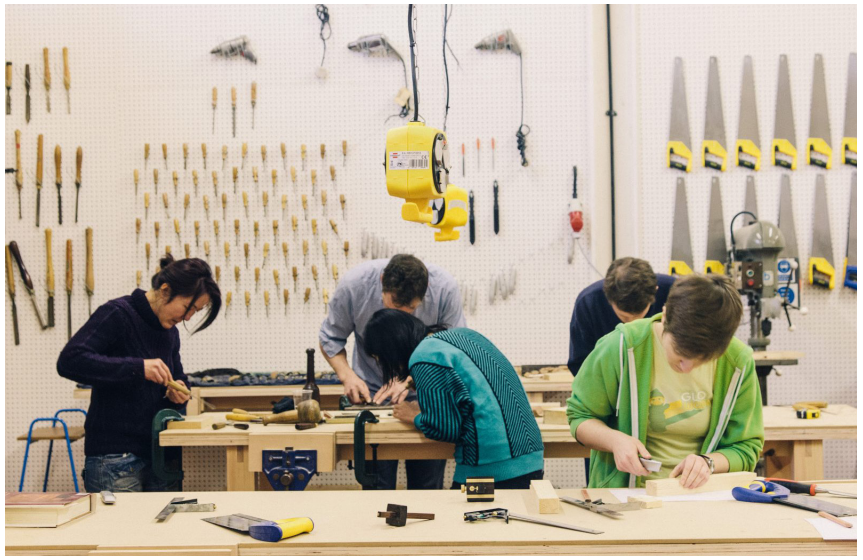


Isometric drawing of design proposal including the surrounding landscape that is transformed into a regenerative forest. Image by author

LOCAL WOOD WORKSHOP

Besides aiming to use local wood for the renovation of the portiekflats, I wanted to provide the possibility in my project to process the wood locally as well. A local wood workshop offers jobs for locals, and can also function as a community workshop, where people can work on personal projects, or take workshops. A workshop within the project site offers the space to produce the needed building elements for the renovation, and it forms a social base for the community that connects people with each other, and with the land.

Firstly, two successful wood workshops are presented. Blackhorse Studio in London is a very good example of a place that feeds the community, and Buurman is a circular wood workshop, that mainly works with trees from their own city.



"Blackhorse Workshop", Assemble, 2014, geraadpleegd 21 februari 2024, https://assemblestudio.co.uk/projects/blackhorse-workshop.

BLACKHORSE STUDIO - LONDON

A fully equipped public access wood and metal workshop.
They offer bookable workbenches and courses. Incomes from the store support the workshop. The workshop also contains a café that functions as a community space and sells vegetarian and vegan food on a sliding price scale.[2]

[2] Blackhorse Workshop, "Blackhorse Workshop," October 10, 2022, accessed February 21, 2024, https://www.blackhorseworkshop.co.uk/.

"Buurman Rotterdam Circulaire Winkel en Houtwerkplaats.", Buurman Rotterdam, geraadpleegd 16 april 2024, https://www.buurmanrotterdam.nl/missie.

BUURMAN - ROTTERDAM

Buurman is a wood workshop and a circular woodstore. They offer several workshops related to working with wood. Anyone can come to the store to get affordable boards, rough or planed, from local city trees. With this concept the organisation contributes to a circular economy in Rotterdam, gives purpose to city trees that have to be taken down, and provides affordable resources for individual consumers.[3]

[3] "Buurman Rotterdam Circulaire Winkel en Houtwerkplaats.," Buurman Rotterdam, accessed April 16, 2024, https://www.buurmanrotterdam.nl/.

VISIT BUURMAN ROTTERDAM

On the 25th of April 2024 I visited the Buurman wood workshop in Rotterdam. One of the employees agreed to answer my questions about the processing of local wood, and the functioning of a wood workshop.

Questions for Buurman:
1. Which machines are necessary for processing a trunk into elements for building (like beams and shingles?)

2. How much space is need for this machinery?

3. What is the needed height for a wood workshop?

4. In what form do you store the wood?

5. How do you store the wood (before and after drying?)

6. How much space do you use for storing the wood?

7. In what kind of pieces do you usually saw the wood? And does this depend on the kind of wood/size of the trunk?

8. What do you do with your residual wood flows?

9. Which kind of trees come in a lot? And do you know why?

WOOD PROCESSING STEPS

The information that was required at the Buurman wood workshop, is summarised in a set of wood processing steps; from trunk to building element.

1. Growth
2. Harvest
The tree should ideally be harvested once the trunk has reached a diameter of 60 cm. Sometimes trees become available for wood workshops because of sickness or storm. The trunk pieces usually have a length of 2,5-4 meters.
3. Sawing
The acquired trunk needs to be sawn into quarters or big boards.

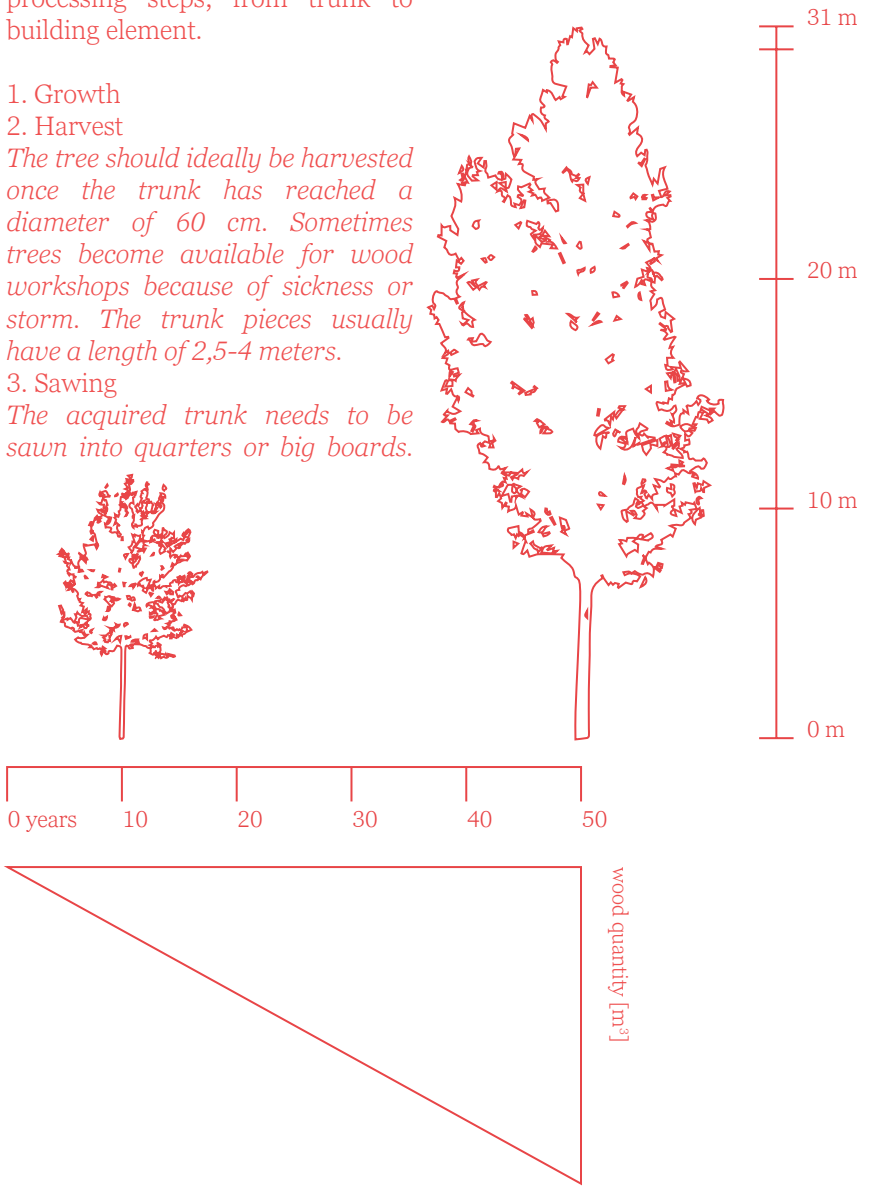


Diagram that decipts the growth of a tree through time.
Image by author

A mobile handsaw can be used for this. The trunk sawing can be made into a community activity.

4. Drying

Natural wood drying can take up to two years. The pieces of wood need to be assembled very neatly, so the pieces do not bend. If drying is done one site a temporary shed needs to be constructed, as it is not desirable to dry wood in the open air.

5. Woodwork

Once the wood has dried, it is ready to be processed into building parts. The local wood workshop would need the following equipment to be able to do this, and to give workshops:

- two-/foursided planing machine
- sliding table saw
- crosscut saw
- circular saw
- forklift truck
- smaller equipment (like drills)
- ear and eye protection

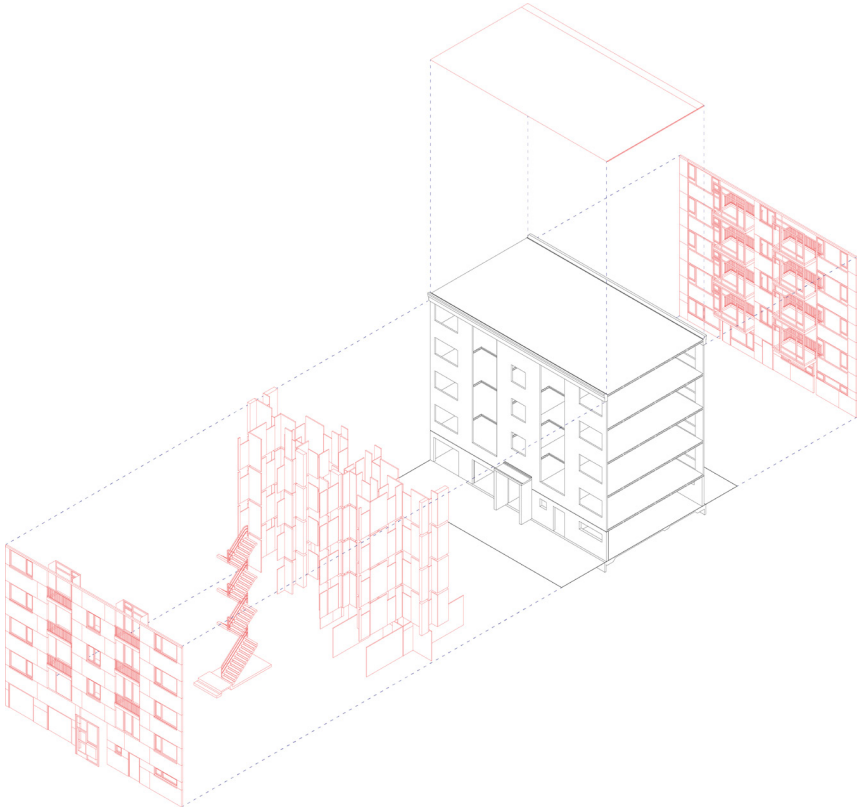
6. Storage

The wood workshop needs storage space for the wood that is not directly processed. The photo on the right shows storage units at Buurman. The wood workshop design of this project can be viewed on pages 21 and 29 of the visual booklet.

Nona Storm Dalman, storage solution at Buurman Rotterdam, April 25, 2024, unpublished personal photo.

REMOVED MATERIALS

Different building parts of the portiekflats have to be removed to make the new design possible. My aim for the project was to maintain or reuse as much material as possible from the existing flats. Page 47 of the visual booklet gives an overview of the removed materials. The diagram also shows if and how the materials are repurposed in the project.



Exploded view isometric of a segment of a project site portiekflat, removaed parts are shown in red
Image by author

USE OF LOCAL WOOD

The Material poster gives an overview of the building parts that make up the required building element for the renovation. Tree species have unique characteristics, which make them suitable for specific building parts. The poster shows which trees from the local regenerative forest could be used for which parts. The pattern that a tree trunk is sawn in has a lot of influence on the performance of wooden parts as well. The suitable sawing patterns are also provided on the Material poster.

ALNUS GLUTINOSA (BLACK ALDER)

Characteristics:	lightly coloured, heavy, flexible, hard wood with a beautiful grain and silky shine; very sustainable under water and in the ground
Applications:	pile, structure (beams or roundwood), gutter, interior door, panelling, furniture
Exterior use:	No
	Additionally, the bark, seed heads and galls can be processed into black ink/colouring. The bark also contains elements that can treat throat problems.

"Black Alder Texture ID5402," CadNav, accessed April 18, 2024, https://www.cadnav.com/textures/5402.html.

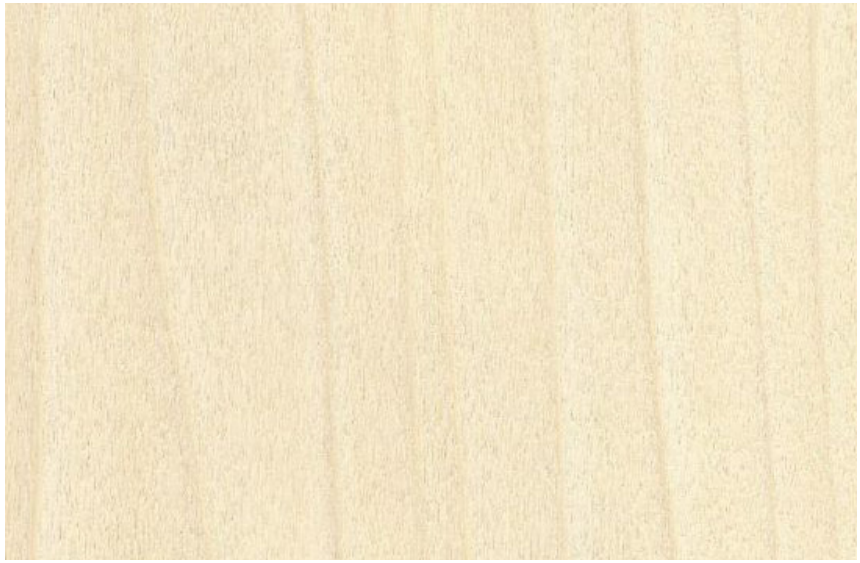
FRAXINUS EXCELSIOR (ASH)

Characteristics:	lightly coloured, heavy, flexible, hard wood with a beautiful grain and silky shine
Applications:	structure (beams or roundwood), flooring, exterior and interior window frame, interior door, stairs, panelling, furniture, veneer (from heartwood after 40 years); the thin, straight sticks after pollarding can be used for a variety of products
Exterior use:	No; possible after lamination or thermal modification
Treatment:	Saw immediately after harvesting to avoid splitting.

"Ash," Architextures, accessed April 18, 2024, https://architextures.org/textures/730.

POPULUS (POPLAR)

Characteristics:	lightly coloured, fine, soft, odourless, flexible wood; wood barely moves with humidity changes
Applications:	structure (beams or roundwood), flooring, interior window frame, panelling, furniture, veneer, small products like: matches, paper, kitchen products, clogs
Exterior use:	No; possible after lamination or thermal modification
	Additionally, the Poplar offers good charcoal and the resin can be used as an external medicin. Young bark and leaves can be turned into yellow/ green colouring.



Tutum, "Houtsoorten Detail," Houtbedrijf Van Laer, accessed April 18, 2024, https://www.houtbedrijfvanlaer.be/Fineer/VL-34/Populier.

Treatment:	Saw into big planks immediately after harvest to dry and process further after the wood has dried.
Lifespan:	outside: 20 years unprotected from rain, 25-35 years protected from rain

FRAXINUS EXCELSIOR (ASH)

Characteristics:	lightly coloured, heavy, flexible, hard wood with a beautiful grain and silky shine
Applications:	structure (beams or roundwood), flooring, exterior and interior window frame, interior door, stairs, panelling, furniture, veneer (from heartwood after 40 years); the thin, straight sticks after pollarding can be used for a variety of products
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Treatment:	Saw immediately after harvesting to avoid splitting.

"Ash," Architextures, accessed April 18, 2024, https://architextures.org/textures/730.

INSPIRATION

Many things have inspired my project throughout the graduation year. I kept a personal journal in which I summarised books, described experiences, and collected inspiring projects.
The following chapters contains four of those inspiring things: three interviews, and one architectural project. The three people that I interviewed inspired me greatly to continue with the project, and offered me valuable information about regenerative landscapes, postwar flats, and social housing. Lastly, a description of the architectural project De Kasbah by Piet Blom is given. This special social housing project has a friendly, social character, which inspired me to create a warm and uncommon design.

IR. B. CHOPARD - 29.11.2023

Bonnie Chopard is an architect and landscape architect. Her work mainly concerns regenerative design, and it relates to topics like nature inclusivity, and local, biobased materials.

Notes of interview (in Dutch)[4]

(The content of the interview is visually summarized in the image on page x)

Ik introduceer mijn doelstellingen en Bonnie zei: "Tuurlijk is dat mogelijk, dat moet!"

Er zijn heel veel hergroeibare materialen. In MDF platen bv. zitten veel giftige stoffen, OGB platen zijn een goed alternatief, daar gebruiken ze zetmeel als bindmiddel. Ze is dus altijd opzoek naar duurzamere, gezondere materialen.

Zij is vooral veel met landschapsprojecten bezig.

Ze was bij een congres in Wageningen over transitie voor de bosbouw. Nu is het vaak met clearfelling, maar daar wordt veel mee kapot gemaakt. Selective cutting en natural management, daarmee kan je het ecosysteem van de bossen voeden en regeneratief zijn.

De eerste stap is dat architecten bewust worden van de biobased materialen, maar de stap daarna is: hoe wordt dat dan geteeld? Je wil geen monocultuur van biobased materialen. "Dan heb je de volgende BBB."

Building Balance van Jan-Willem van de Groep en Nienke Binnendijk. Ze willen de biobased economie boosten en opschalen.

Hopelijk gaan de regeneratieve boeren bouwmaterialen ook oppakken als een gewas in hun ecosysteem. Bonnie kent nog geen boeren die dat zo doen. Daarom zou mijn afstuderen een manifest kunnen worden. Ze kan me dus ook nog geen plekken aanraden om te bezoeken.

Bonnie heeft contact met Jannemarie de Jonge, Rijksadviseur van de Fysieke Leefomgeving. Bonnie is eerste spreker voor de levenden bij de zoöp HNI. Als coöperatie kan je ervoor kiezen om zoöperatie te worden, dan krijg je een spreker voor de levenden toegewezen.

De Delta zou zo'n rijk ecosysteem kunnen zijn, maar we zitten nu onder een lat. "Het moet echt anders."

Er is een landgoed in Maarn (118 ha), dat wordt nu onderhouden met clearfelling. Er is iemand mee bezig om dat onderhoud te veranderen.

In Oud-Pekela is een boer (Albert Dun), die is overgegaan op hennep voor de bouw. Maar het is wel een monocultuur en hij gebruikt wel machines, dus goed voor de bodem is het niet.

Het zou het best zijn als je met een landschapsarchitect zou samenwerken voor je afstuderen. Hoe ziet dat er dan echt uit? Misschien is strokenlandbouw een uitkomst? Daarbij worden veel verschillende gewassen verbouwd, maar blijft het oogsten simpel.

Hennep kan je best vaak per jaar oogsten (3-4 keer?)

Orga Architects, de partner zegt altijd al dat je biobased moet bouwen en dat doet hij ook. Hij heeft mooie informatiesheets etc.

Duurzaamheid gaat over neutrale impact, maar wat voor een boodschap hebben jonge mensen daaraan? Wie wil daaraan werken? Als mens wil je een positieve impact hebben, we kunnen een nuttige soort zijn. Een positieve impact is zinvol, daar wil je je leven aan wijden.

Bodemzicht is een interessant voedselbos. Maar er zijn nog niet echt regeneratieve boeren voor biobased bouwmaterialen.

Leuk om te bekijken: ehab sayed, engelse-egyptische architect die werkt met mycellium. Zij voeden strengen op die vervuiling in de bodem of plastic opruimen. Je kan mycellium ook mengen met vezels bv. en dan in een mal stoppen. Als je het dan verhit, gaat het mycellium dood, maar dan heb je een soort piepschuim. Biohm.co.uk

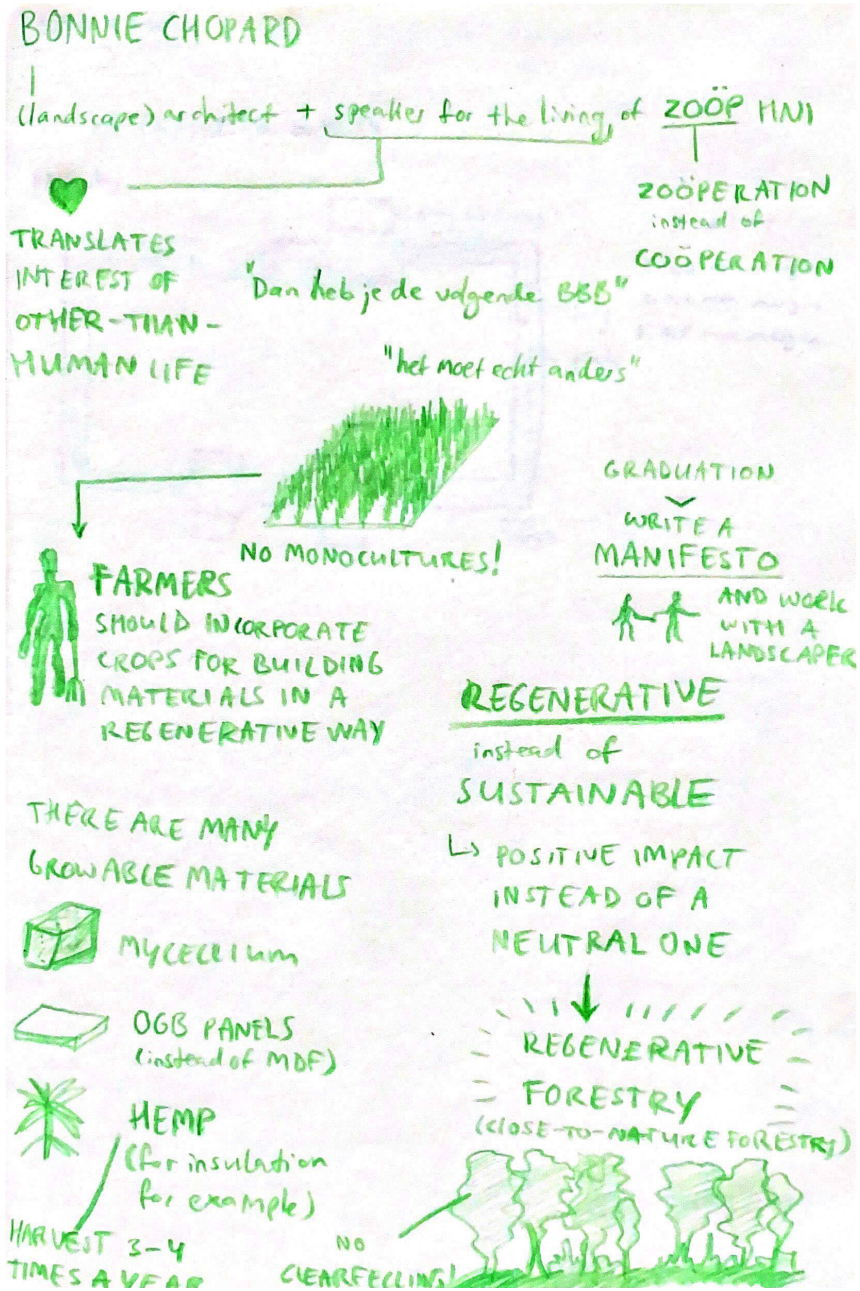
Er is ook een bedrijfje in Nederland, die met mycellium werkt, ze gaat dat nog voor me opzoeken.

Ze is bij de Politeknik in Zwitserland begonnen en in 1996 afgestudeerd met een 3-generatie woning met hout.

Relevance of interview

The interview with Chopard was luckily quite early in my graduation process. I am very greatful for her hopeful and positive thoughts on regenerating land and building with biobased materials in the Netherlands. Before talking to her I doubted the relevance and feasibility of my ambitions, but Chopard's encouraging words motivated me to create a ideological project, and to consider it as a manifesto to regenerate our cities into healthy living environments.

[x] ir. B. Chopard, interview by author, online interview, November 29, 2023.



Visualisation of interview with ir. B. Chopard. (Image by author)

PELLE POIESZ - 14.12.2023

Pelle Poiesz is one of the founders of the architecture firm hp architecten in Rotterdam. hp architecten has designed and renovated social housing, and has also worked specifically with portiekflats.

Notes of interview (in Dutch)[5]

(The content of the interview is visually summarized in the image on page x.)

Ik vertel eerst kort over mijn onderzoek.

Er zijn mensen die al hun hele leven in één zo'n flat wonen, ook meerdere generaties. En die kwamen er toen op het meest optimistische moment wonen, was toen heel nieuw. Er zijn toentertijd ook veel flats gebouwd voor specifieke doelgroepen, zoals leraren.

Als je het hebt over een regeneratief bos is de plek het belangrijkst, waar kan je dat doen? Kerckebosch in Zeist is een mooi voorbeeld, is een renovatie/nieuwbouw project midden in het bos. In de vorige eeuw werden er veel tehuizen gebouwd voor bepaalde groepen mensen 'buiten de maatschappij' op meer afgelegen plekken, en vaak ook in bossen, misschien is dat interessant voor mij.

Misschien is het interessant om op zoek te gaan naar portiekflats die wel goed werken en waar dat dan aan ligt. Heeft veel met het groen te maken, maar ook met de functie van de plint.

Naoorlogse portiekflats zijn vaak niet geschikt om oud te worden door de beperkte toegankelijkheid.

SUM van TU Delft is ook specifiek bezig met het optoppen van naoorlogse portiekflats.

Bij hp architecten zijn ze momenteel bezig met het renoveren van een 3-tal flats, samen met HA-HA Design & Development. Ze besloten de gebouwen af te breken en de fundering te laten staan, dan heb je meer vrijheid en hoef je geen palen o.i.d. toe te voegen. En je omarmt zo wel de vorm van de stempel. Er kunnen met deze methode 2 extra lagen toegevoegd worden. De portiekontsluiting is best wel privé, er is geen mogelijkheid om meer contact te maken, daarom hebben ze gekozen voor entree met gezamenlijke woonkamer erbij, waar iedereen langs komt.

Pelle laat mij hun pitch voor dat project in Schiedam zien. Groen en parkeren worden gecombineerd in hun project.

Een oud-student van Pelle had het voedselbos (Utopia eiland) op de Floriade ontworpen.

[x] Pelle Poiesz, interview by author, Rotterdam, December 12, 2023.

Hp doet ook een project met monumentale bomen in Amsterdam. Dat zijn vooral bomen tussen 100 en 150 jaar oud.

Misschien kan mijn doel zijn om gezonde gebouwen te ontwerpen voor mensen, en hoe doe je dat dan? Dat kan verschillende antwoorden krijgen.

"Jouw onderwerp gaat niet alleen maar over flats, ook niet alleen maar over bomen, ook niet alleen maar over het oogsten van materialen, het gaat over veel meer."

De symbiotische stad, interessant.

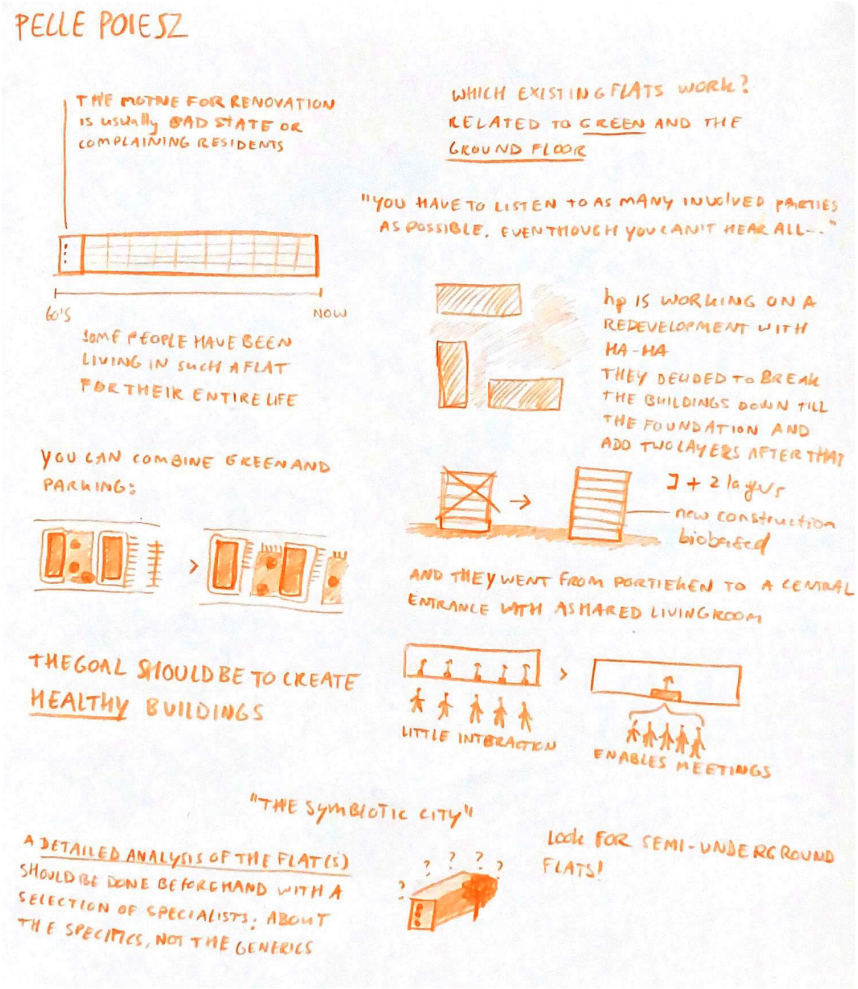
Pelle heeft veel contact met corporaties en ontwikkelaars om die opgaven beter te begrijpen. Vaak is de aanleiding dat het gebouw slecht is en de bewoners klagen. Het zou heel waardevol zijn als je met elkaar even een gedetailleerde analyse doet van de gebouwen om de echte, dringende problemen en kansen vast te leggen. Dat zijn vaak hele specifieke dingen en geen generieke. Kijk bijvoorbeeld naar de bomen die er al staan.

"Je moet echt luisteren naar je plek, luisteren naar het gebouw, luisteren naar het groen, luisteren naar de mensen, luisteren naar de beestjes, luisteren naar de gemeente met ambities, luisteren naar visionairen op het bouwgebied, luisteren naar visionairen op het plantgebied, en dan kan je puzzelstukjes gaan vinden."

Ik zou op zoek moeten gaan naar flats die halfverdiept zijn en die lekker dichtbij zijn.

Relevance of interview

In 2021 I was an intern at HP architecten, so I was already familiar with their work and expertise on postwar flats. Consequently, I was very interested in talking to Poiesz about my graduation project. He explained to me how they approach renovation projects like this in their firm, which was very helpful. Additionally, he introduced multiple interesting design choices that can improve the use of the flat. Lastly, Poiesz emphasized the uniqueness of every project and the importance of considering specifics of every site. This was a very helpful comment for my project, because before this interview I was mainly focusing on the similarities of all portiekflats.



Visualisation of interview with Pelle Poiesz. (Image by author)

PROF.DR.IR. M.G. ELSINGA - 14.12.2023

Marja Elsinga is professor of Housing Institutions and Governance at the MBE master track and she is a member of the Raad van Commissarissen of housing corporation Ymere.

Notes of interview (in Dutch)[6]

(The content of the interview is visually summarized in the image on page x)

Frank Faastal, afstuderen met bio-based materialen optoppen. Kijken hoe je lokaal kan bouwen. Hij liep stage bij Smits Vastgoedzorg. De conclusie was dat de materialen nog veel te duur zijn op dit moment en dat er nog te veel onzekerheid is over hoe de materialen zich in de toekomst gaan gedragen. Het is absoluut nog geen gemeengoed.

Marja is meer van het beleid en het geld, optoppen is vaak een middel om de exploitatie rond te krijgen. Geld is op dit moment een hele belangrijke bottleneck als het gaat om dit soort investeringen.

Nona: "Is geld ook de grootste reden dat die gebouwen vaak gesloopt worden?" Het is een kwestie van geld, maar niet alleen. Het beeld is ook dat die gebouwen erg gehorig zijn en niet meer van deze tijd. Laten we gewoon schoon schip maken en opnieuw beginnen. Sommige mensen hebben een onderbuikgevoel voor sloop. Maar er zijn ook steeds meer mensen die het als erfgoed zien en vinden dat we er zuinig mee moeten zijn. Daarbij wordt er gezocht naar manieren om de gebouwen bio-based te verduurzamen.

Ze vindt het leuk dat ik een onderwerp kies dat relevant en aan het opkomen is, maar nog niet dominant in de bouwwereld.

Als mensen die investeren in vastgoed ergens een hekel aan hebben, is het onzekerheid. Daarom werken ze niet graag met nieuwe materialen. Het zou mooi zijn als mensen dit goed gaan uitzoeken, maar ook als iemand in het vastgoed een keer zou zeggen: leuk, dit gaan we doen!

Het rvc van Ymere is een toezichthoudend orgaan, het is de bedoeling dat ze een beetje op afstand blijft.

Nona: "Heeft u weleens contact met andere woningcorporaties, of krijgt u daar iets van mee? Zit er veel verschil in hoe de verschillende corporaties omgaan met dit soort projecten?" Er zit wel veel verschil tussen, ook afhankelijk van in welk deel van het land je zit. Eigen Haard bv. heeft net een nieuwe bestuurder, het maakt best veel uit wie de bestuurder is voor de visie. Ze denkt dat ze wel vergelijkbaar zijn met Eigen Haard als het gaat om de overweging sloop of renovatie.

Amsterdam heeft in het beleid ook hele duidelijke doelen om bio-based te bouwen.

Nona: "Wat is volgens u de kwaliteit van deze typologie? Waarom zouden we het moeten behouden of waarom niet?" Gehorigheid is een heel groot probleem, slecht geïsoleerd. Vaak 3- of 4-kamerwoningen, maar hele kleine kamertjes, kleine keuken. Dus kortom sloop vanwege gehorigheid en niet meer van deze tijd (qua keuken en douche.) Als je het wil renoveren, moet je de keuken en douche vervangen en vaak kamers samenvoegen. En optoppen om het te kunnen betalen.

Nona: "Wat zijn belangrijke doelgroepen?"

In portieketagewoningen juist geen ouderen i.v.m. toegankelijkheid. Meestal 1- of 2-persoons huishoudens.

Nona: "En wat is de behoefte binnen de sociale woningbouw?"

De behoefte is enorm! Starters, jonge mensen. In Amsterdam is de gemiddelde wachttijd 10 jaar. Er is een enorm gebrek aan betaalbare woningen. Je ziet ook dat woningcorporaties er een beetje lui van worden. Er is altijd een rij van mensen, die jouw product willen hebben. Er is altijd heel veel vraag. Er is geen echte concurrentie, omdat er altijd wachtrijen zijn. En die wachtrijen zijn erger dan 10 jaar geleden. Het grootste deel van de wachtrijen zijn jongeren, afgestudeerden die op zoek zijn, tussen 25 en 30 jaar. Je ziet dat ze nu zo veel mogelijk naar hun ouders trekken, omdat ze binnen deze sector niet aan de beurt komen.

Marja: "Hoe is dit in jouw omgeving? Vind je het voor de hand liggend om na je afstuderen een sociale woning te zoeken?"

Eigenlijk niet, omdat ik het gevoel heb dat ik net boven die grens zou zitten. Ik weet het niet, maar dat is een voorgevoel. Het voelt alsof ik in de vrije sector zou moeten huren, wat eigenlijk altijd net duurder is dan je zou willen.

Bij woningcorporaties zie je dat ze enerzijds woningen renoveren en weer in de sociale huur zetten, maar anderzijds zijn er wijkaanpakken. In Nieuw West bijvoorbeeld, zijn er heel veel betaalbare woningen, dan gaan we flats slopen en duurdere terugbouwen, of woningen zodanig upgraden dat ze binnen een duurder segment (middensegment) vallen.

Marja noemt Maxime Spapens,

[x] Prof.dr.ir. M.G. Elsinga, interview by author, Delft, December 12, 2023.

ook student van Stephan. Zij heeft vanuit een project van Ymere een heel mooi plan gemaakt, van een vrij 'saaie' opgave naar een mooi specifiek project, met focus op groen, gezondheid en welzijn. Sociale huurwoningen worden vaak toegewezen aan kwetsbare doelgroepen, statushouders, mensen met gezondheids- of psychische problemen. Deze mensen zijn aangewezen op zorg, dus je zou iets kunnen doen met de organisatie van zorg, een gebouw voor zorg of gezonde woningen. Het is wel goed om iets te verkopen als een verhaal, bv. gezond voor de aarde (bio-based) en gezond voor de mens. Mooi als je dat helemaal zo kan verpakken.

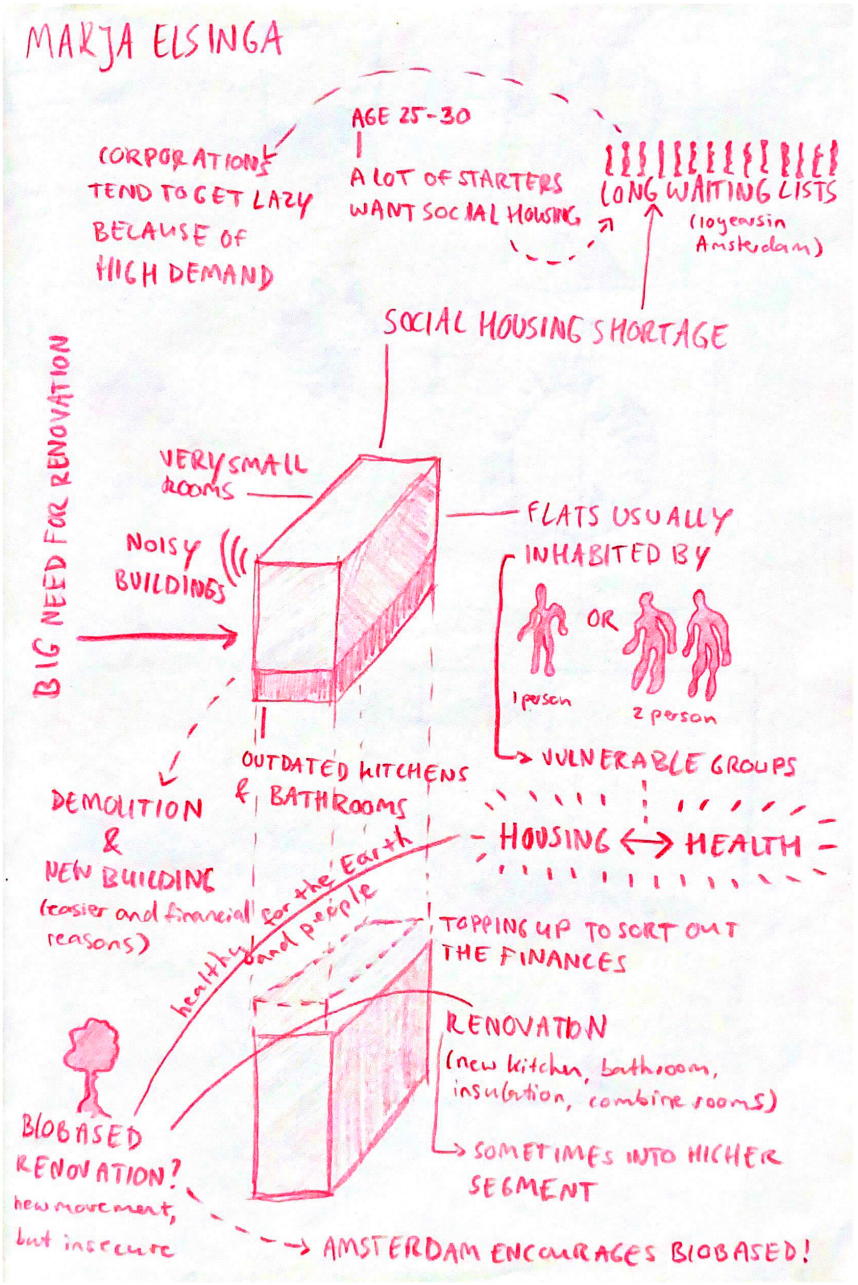
Wonen en gezondheid is helemaal ín. Dat zijn nu verschillende beleidsterreinen, ministerie van Volksgezondheid en Wonen. Je ziet nu dat dat naar elkaar toekomt, gezondheid en wonen is een combinatie die wordt omarmd. Leuk om daarop in te spelen, gezond voor de wereld en gezond voor de mensen.

Als ik iets bij Ymere zou willen, zou ze best contact kunnen opnemen en informatie geven, zoals plattegronden of eventueel een interview met de huismeester van de wijk. Wijkbeheerder, projectleider etc.

We kijken samen naar de kaart van Uitbreidingsplan Amsterdam West (Westelijke Tuinsteden) en vragen ons af waar Schiphol ligt.

Relevance of interview

M. Elsinga introduced multiple relevant facts about the type of housing that I was focusing on, like common target groups and technical issues. Additionally, she confirmed that the renovation of portiekflats is a very urgent and relevant problem at the moment, and that the use of biobased materials for the social housing sector is upcoming. Currently, the implementation of new biobased materials is discouraged in this sector, because it brings insecurities, but further research on biobased materials could stimulate using them in the future.



Visualisation of interview with Prof.ir.dr. M.G. Elsinga. (Image by author)

DE KASBAH - PIET BLOM

On the 16th of March 2024 I visited the residential block De Kasbah in Hengelo with my family. We were given a tour by two men who work at the Piet Blom Museum. De Kasbah was designed by Piet Blom as social housing in 1973 and it still functions as such today.

The structuralist apartment block has a very repetitive character, which is shown in Figure x. Even though the building is constructed of similar elements, the apartments have a lot of variation. The different apartment types offer living possibilities for different kinds of households. The gable roofs offer very spacious living spaces, and the street level of the building block is almost entirely made up of public outside space, because the apartments are located on the upper floors.

Blom designed a building that forces neighbours to live in close proximity to each other. Many roof terraces are connected to several apartments, which means you are completely visible to your neigbours whenever you are using your outside space. Our tour guides explained that inhabitants either love or hate living in De Kasbah with regard to its social, communal character. So, it occasionally happens that people request a new home a short time after they were assigned to De Kasbah. However, some families enjoy De Kasbah so much that they have lived there through multiple generations. On the tour we were told that three generations of one family are living in three different apartments within De Kasbah. I was inspired by unconventionality of Blom's design. The homes that are built nowadays are usually very individualistic, without shared functions or forced interaction with neighbours. This kind of designing avoids annoyance and issues with neighbours, but it also eliminates the opportunity of having valuable, positive contact with other inhabitants. Surely De Kasbah is not suitable for everyone, but no building can be. In a society with different kinds of people, it is important to offer different kinds of living; in the social housing sector as well. De Kasbah showed me that a building with communal concepts, that might be too extreme for some people, can be of great value, and offer people a warm, lifeproof home and community.

One important sidenote about De Kasbah is that the apartments are not wheelchair accessible, as all living spaces of the building block are on upper floors. As a result, many people are excluded from living here, which I consider unacceptable for my own designs.

Archangel, *Fly Away in a Robinson R22 Beta*, February 22, 2012, *Flickr*, February 22, 2012, https://www.flickr.com/photos/archangel12/6921528471/.

Nona Storm Dalman, Exterior of window of living room space of apartment in De Kasbah, March 16, 2024, unpublished personal photo.

Nona Storm Dalman, Passage of De Kasbah, March 16, 2024, unpublished personal photo.

RESEARCH AND DESIGN RESULTS

The thematic research paper laid the groundwork for a methodology aimed at establishing the temporal, managerial and spatial framework of a regenerative forest capable of providing the building materials for renovation or new construction projects. In order to create a forest that can thrive on the location, the soil type of the site is firstly analysed. The required building materials for the building project are determined, so that one can calculate how many trees would need to be harvested. To maintain a healthy, regenerative forest, it is important to not overharvest, and specific establishment and management directions are needed for a regenerative forest. Consequently, this information is used to determine the size of the forest and the timespan of the growth and harvest cycle of the trees. This methodology was eventually applied to the transformation of the graduation project site, which offered input for the building and landscape design.

Generally, the research approach gave me useful handles for the design, as it offered specific wood types and a regenerative forest composition. Because of the long timespan of the material flow, the outcomes of the thematic research could not be directly applied to the design. Instead, I concluded that the transformation should be done with existing, local wood, and that a new forest should simultaneously be planted that can provide the used amount of building materials in the future and the required materials for future renovation as well.

At the P2 and P3 evaluation moments my mentors motivated me to really connect the research and the design. After this feedback, I firstly added the step of analysing how a tree trunk is sawn into building parts to my thematic research, which was missing before. Secondly, I looked deeper into the characteristics of the four wood types and the most ideal applications, before appointing the wood types to the different building parts of my design. In retrospect, I am very happy with this feedback, because it made me connect the specifics of the land to the building design, which contributes greatly to my design concept.

At the start of the graduation year, I was determined to combine the practical, hands-on approach of the aE studio with my theoretical, idealistic objectives, but I was also uncertain about the execution. With the help of my mentors, I managed, to some extent, to use quantitative research to support my idealistic design. I learned how to navigate from practical research to my conceptual design goals, and then back to a technical, architectural design.

RESEARCH AND DESIGN IN CONTEXT

1. What is the relation between your graduation project topic, your master track (A, U, BT, LA, MBE), and your master programme (MSc AUBS)?

My graduation project combines the transformation of Dutch postwar flats with a forest and material flow design. The project thus answers an architectural objective by proposing a (technical) building design, and at the same time proposes a landscape design on a larger scale and a project development and renovation schedule. As I am graduating in the Architecture master track, I mainly focused on the building design and surrounding public space.

Nevertheless, the project has diverse facets, which could be the main topic of graduation projects of the Urbanism, Building Technology, Landscape or Management in the Built Environment track.

2. How did your research influence your design/ recommendations and how did the design/recommendations influence your research?

Throughout the design process, I encountered different topics that required further research. To be able to draw the floor plans, I needed to look into specific measurements for social housing apartments, required storage space, and accessibility requirements. I reviewed rules of the municipality of Amsterdam regarding parking spaces for the design of the surrounding public space, and lastly thoroughly researched the building method (Baksteen Montage Bouw) of the existing flats to see if, and how the bricks could be removed.

My research provided different results that influenced the design. Firstly, the four tree types that resulted from the thematic research influenced the composition of the forest design, and the characteristics of the different wood types directed the application of the material for several building parts. Secondly, the thematic research, as well

as information gained from interview conducted at Buurman Rotterdam[7], offered information about the timespan of tree growth and the process of obtaining products from a trunk, which directly influenced the design of the wood workshop in my design, and the project development schedule. Thirdly, and interview with the project developer of Eigen Haard (the housing corporation that owns the flats on my design plot), as well as literature research, informed me greatly about requirements and desires within social housing. For the sake of social safety, I decided to add public functions on the ground floor and create two passageways through each flat. I also used the information about social housing to make the floor plans (wheelchair) accessible.

3. How do you assess the value of your way of working (your approach, your used methods, used methodology)?

Even though, the results of the thematic research proved to be valuable for my design in the end, in hindsight it would have been more efficient to completely finish the building design before carrying out the research, rather than applying it to an irrelevant design.

I aimed to implement as many currently accurate rules from official organisations, like the municipality and housing corporation, as possible in order to propose a realistic design. I applied the specific requirements for storages in apartment building from the 'Bouwbrief'[8] from the municipality of Amsterdam, for instance, in the design by combining a shared bike storage with small storages in the apartments. In other respects, however, the project is very idealistic, and includes interventions that a housing corporation would never be able to implement because of finances.

4. How do you assess the applicability of the design in the Dutch social housing context?

As mentioned above, I interviewed a developer from the Eigen Haard corporation that manages the actual development of my graduation project site. The corporation decided to demolish the buildings and build new apartment buildings on the site, because the renovation of the existing buildings would be very costly, and the number of apartments would be more than doubled with the new construction. I understand and value this decision, because it is a popular location in the area, and the government demands a lot of new houses because of the shortage. So, it is not very likely that my transformation approach would be implemented at the moment. Of course, my project aims to propose an extreme solution to the health and resource issues in our society, and therefore applicability is not the focus of the design. Hopefully, some aspects of my project could be integrated into real developments, like reusing demolished materials or mainly using biobased materials.

5. How do you assess the academic and societal value, scope and implication of your graduation project, including ethical aspects?

The graduation project prioritises both people and the environment by regenerating an urban area into a healthy living environment for human and nonhuman beings. I believe this objective can and should be applied to any project in the built environment. Additionally, the project points out a crucial problem in the building sector, which is the destructive and unsustainable use of resources. The design proposes to appreciate existing buildings more and to aim for a regenerative, circular material flow. Generally, it would be hard to establish a project like this in current times, as it mainly considers external effects of resource extraction instead of the financial side and could therefore be considered an idealistic design.

6. How could further research contribute to this project?

In order to turn this idealistic project into a more realistic one, research into practical implication methods would be valuable. One could research how building and renovating with local wood could be made into a profitable system. In this research a lot of different actors would have to be considered, like housing corporations, inhabitants, the municipality, contractors, wood workers, forest managers, etc. Additionally, sociological research could contribute to the actual application of a project like this. First of all, the effects of local and biobased building materials on people's wellbeing are of importance. And second of all, it would be very valuable to know how people can be motivated to change their ways for a circular, healthy resource system.

[x] "Buurman Rotterdam Circulaire Winkel En Houtwerkplaats.," Buurman Rotterdam, accessed April 10, 2024, https://www.buurmanrotterdam.nl/.

[x] Gemeente Amsterdam, "Bouwbrief: Regels en afspraken bouwen en wonen Amsterdam," Gemeente Amsterdam, March 2015, accessed February 8, 2024, https://www.fietsberaad.nl/getmedia/7e02c7f5-9816-4443-896c-238cc554c421/2015_Gemeenschappelijke-fietsenberging-bij-een-woongebouw-Amsterdam.pdf.aspx?ext=.pdf.

7. How do you assess the value of the transferability of your project results?

The research methodology that was used in the thematic research paper can be widely used. It was essentially designed to be applicable to the renovation of postwar flats, as that is a common typology in the Netherlands. For any building project one could go through the different steps: assessing the soil type and appropriate tree types, analysing the possible applications of these wood types, quantifying the needed building materials for the project, and concluding how big of a regenerative forest would be needed to provide the required building materials. It is important to acknowledge the limitations of this research methodology. Not every area is suitable for planting a forest, and not every building type can be built solely with trees, like a skyscraper.

I would like to express my gratitude to several people, because my graduation project was surely and greatly influenced by them in a positive way. Firstly, I would like to thank my three mentors Engbert van der Zaag, Stephan Verkuijlen, and Mo Smit for their encouraging words and positivity throughout the last year. Their specific feedback from their different expertise was equally helpful for the project. Secondly, I am grateful for the input I received during the different interviews I conducted from ir. B. Chopard, Prof.dr.ir. M.G. Elsinga, Pelle Poiesz, Amber van der Voorn (from Buurman), and Stèphen Roelofsen (from Eigen Haard.) Their knowledge on different subjects has actively contributed to the development of my research and design. Thirdly, several writers have inspired me during this year, which boosted my motivation and love for this project. The list of writers, which is certainly longer because I forgot some pieces, include Robin Wall Kimmerer, Donna Haraway, Willem Schinkel, Rogier van Reekum, Stephanie Anderson, Julia Watson, Rupa Marya, Raj Patel, and Joan Tronto. Lastly, my sincere thanks go out to all the people and beings around me that have shown me time and again that love and care should be my drivers; in life and for this project. Providing more care for our Earth will eventually increase happiness and peace of all.

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