


THEY WOULD
SEND YOU THE
BILL

IF THEY COULD.

Irma Vesterlund

 Middlesex university



PATTERN OF OPPRESSION

In all processes there is waste, instant, and eventual. COLONISATION. Wasted lives are created

in the process, the waste is the people taking the CLIMATE CHANGE. Minorities and

and natives have been oppressed for centuries and now ENVIRONMENTAL INJUSTICE

the same communities deal with the consequences of a climate change they didn't contribute to. In Tuvalu,

the small group of inhabitants are losing their way of life because of the climate changes caused by our

inaction. The Tuvaluans have been forced to find local solutions to global problems by changing their

building techniques and way of life to deal with the rising sea level.

Our ability to deal with crisis is connected to our underlying conditions. In many cases the western societies have climate change but laid the

foundations for coping conditions that the consequences after a flood are managed by the rich and poor and women

although communities might be affected by flooding, they have different conditions to prevent a

vastly different conditions to prevent a

In the Nairobi slum Kibera floods are a common occurrence but the conditions dictated by years of colonialism

leave the local community without resources and recognition to deal with the consequences.

Movement as a response to environmental change has been a human coping mechanism throughout

history. Moving in search for resources have been made harder in modern times due to city borders

and urban development. In the past, movement is more restrained by changes in the environment

In Scandinavia, the Sami people have been affected by legal debates about their lands and on top of that

they are now facing the consequences of raising temperature and the effects has on their reindeer's

grazing grounds. With the changes to their nomadic lifestyle the traditional building structures used when

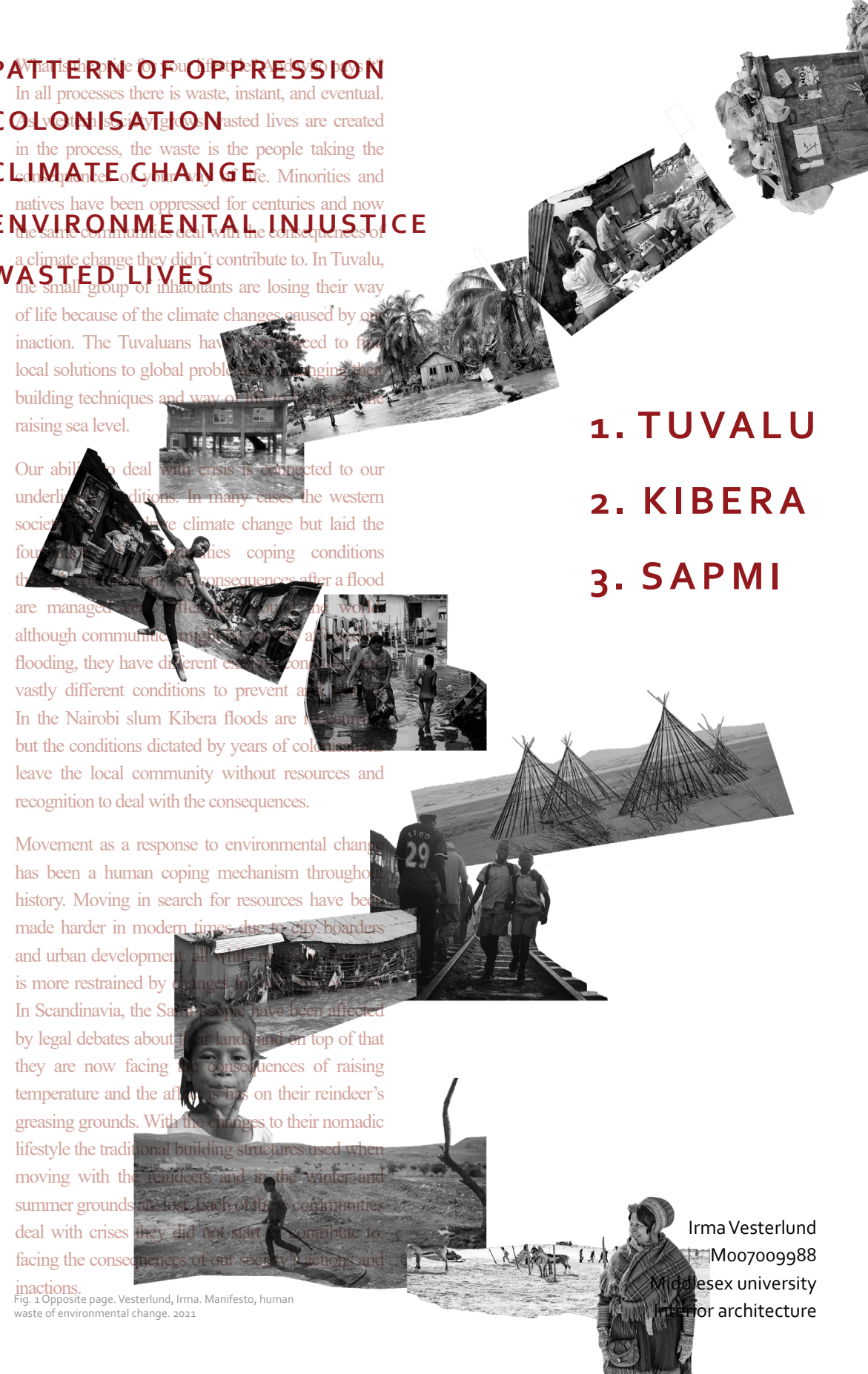
moving with the reindeer and in the winter and summer grounds are lost. Each of these communities

deal with crises they did not start to contribute to, facing the consequences of our society's actions and

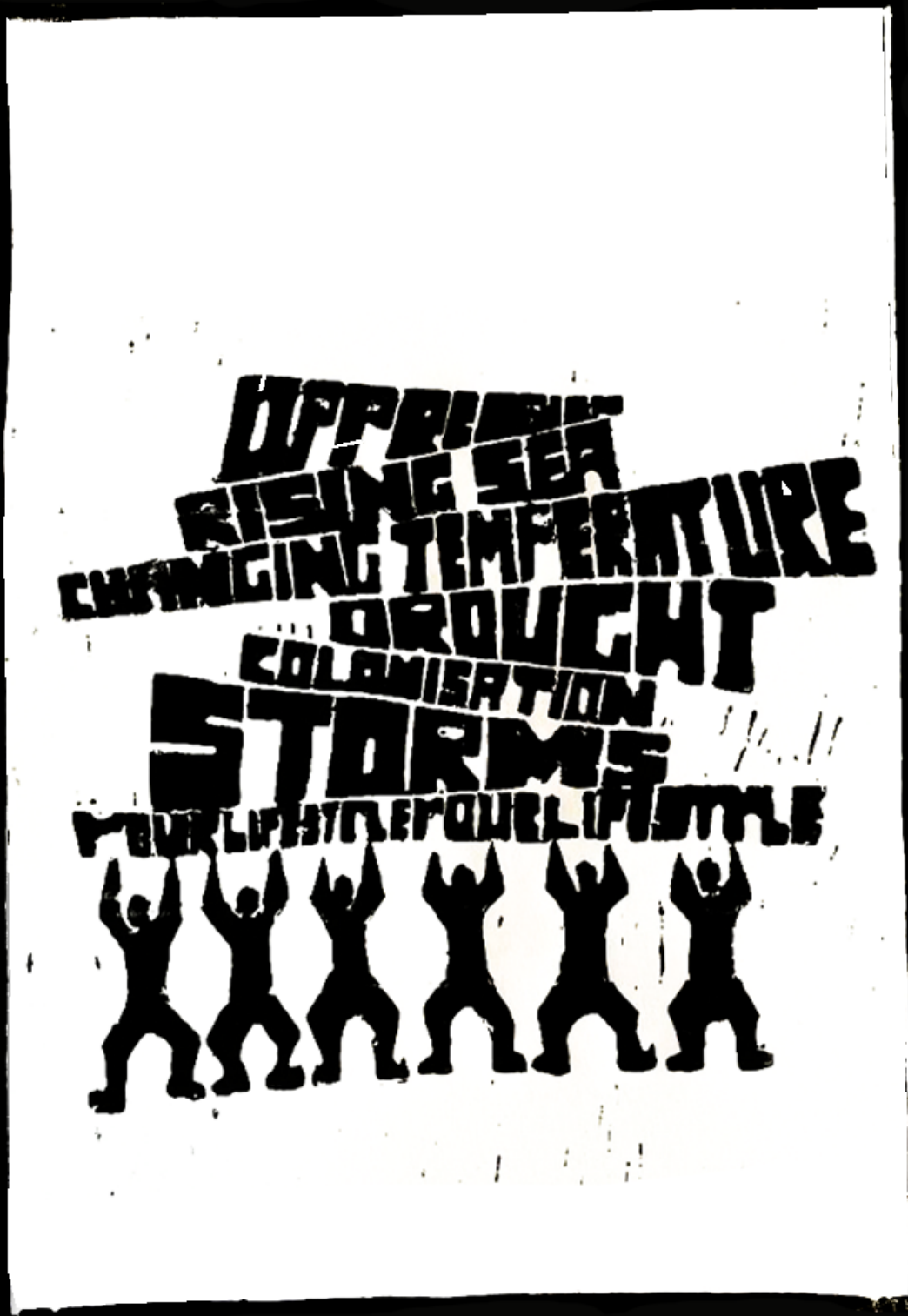
inactions.

Fig. 1 Opposite page. Vesterlund, Irma. Manifesto, human waste of environmental change. 2021

1. TUVALU
2. KIBERA
3. SAPMI



Irma Vesterlund
 M007009988
 Middlesex university
 Interior architecture



PAGE 6-7
PAGE 8-9
PAGE 10-17
PAGE 18-23
PAGE 24-31
PAGE 32-35
PAGE 36-37
PAGE 38

ABSTRACT
INTRODUCTION
TUVALU
KIBERA
SAPMI
CONCLUSION
BIBLIOGRAPHY
LIST OF
ILLUSTRATIONS

CONTENT

Fig 2. Opposite page. Vesterlund, Irma. The weight of your lifestyle. Block print in ink. 2021

ABSTRACT

What is the price for your lifestyle? And who pays it? In all processes there is waste, instant, and eventual. As western society grows wasted lives are created in the process. The waste are the people taking the consequences of your way of life, minorities and natives have been oppressed for centuries - now the same communities deal with the consequences of a climate change they didn't contribute to. In the pacific island nation, Tuvalu, the small group of inhabitants are losing their way of life because of the climate changes caused by our inaction.¹ The Tuvaluans have been forced to find local solutions to global problems by changing their building techniques and way of life to deal with the raising sea level.

Our ability to deal with crisis is connected to our underlining conditions. In many cases the western society not only drive climate change but laid the foundation of communities coping conditions through colonisation. The consequences after a flood are managed very differently around the world, although communities might be equally affected by flooding, they have different existing condition, and vastly different conditions to prevent and rebuild. In the Nairobi slum Kibera floods are reoccurring but the conditions dictated by years of colonisations leave the local community without resources and recognition to deal with the consequences.

Movement as a response to environmental change has been a human coping mechanism throughout history. Moving in search for resources have been made harder in modern times due to city boarders and urban development, all while nomadic societies is more restrained by changes in their environment. In Sapmi, Scandinavia, the Sami people have been affected by legal debates about their lands and on top of that they are now facing the consequences of raising temperature and the affect is has on their reindeer's greasing grounds. With the changes to their nomadic lifestyle the traditional building structures used when moving with the reindeers and in the winter and summer grounds are lost. Each of these communities deal with crises they did not start or contribute to, facing the consequences of our society's actions and inactions.

This essay will look at the environmental injustice the communities in Tuvalu, Kibera and Sapmi are facing. They have been forced to modify their way of life to live and adapt to the changes of their environment that are caused by emissions in western society.

¹ The green gas emissions from the western world is causing global temperature raises which lead to sea level raise. As a result; Tuvalu is risking becoming the first sunken nation: forcing the inhabitants to adapt their way of life to pre-long their life on the islands as long as possible.



Fig 3. Opposite page. Vesterlund, Irma. Weeping. Block print in ink. 2021

INTRODUCTION



Fig. 4: Vesterlund, Irma. Locations on the world map. Illustration. 2021

“For something to be created, something else must be considered waste.”¹ As we created the ‘new world’ through oppression and colonisation, waste grew in form of people. The western population took what was not theirs to take without any consideration of the consequences of the native inhabitants, demanding to be recognised as superior by the local population. All humans live with a need of recognition, a concept named by the Greeks as Thymos. Thymos is a permanent part of human nature, it is found both in individual identities and the collective identity of a community or nation. Francis Fukuyama coined two new relating terms, Isothymia and Megalothymia, to reflect on what recognition means to us and how the desire for recognition influences our society.² For some people that need is Isothymia, the desire to be recognised on equal basis. But for some the need is Megalothymia, the desire to be recognised as superior, and that is what modern western society is built upon. Through our need for Megalothymia western society have driven injustice to its brim and created foundations for societies all over the world. As the climate is changing it is these very societies who will take the hardest hits because of the foundation and existing conditions laid out for them. Meanwhile these societies and communities are fighting to be recognised as equals.

There is a consensus among 97% of worlds scientists that the change in greenhouse levels is a result of human activities.³ Yet the communities who will be hit hardest are the communities that contribute the least to global emissions. The island nations in the pacific are responsible for less than 1% of the global greenhouse gas emissions.⁴ Yet they are forced to find local solutions to the climate crisis they never created, looking at the new building techniques in Tuvalu responding the monthly floods is an example of that.

The impact of climate change is felt differently depending on our underlying economic and social

conditions.⁵ Climate changes tend to multiply existing stressors which is where our existing conditions play their role. In the mega slum Kibera, Nairobi, the residents face recurring floods as the river running through the compound overflows. There the residents live in poverty, often without electricity, sewers, and access to clean water. Kibera as a community has the deal with these existing conditions to adapt and prevent, and to rebuild and rehabilitate after these floods. Not only are the climate changes caused by us and our lifestyle but so are the existing conditions the residents live - as it was the UK that laid the foundation to the unofficial settlement during the colonisation of Kenya. The colonisation laid a foundation of environmental racism that still lives on today. Flooding do not discriminate however, only we do; floods happen everywhere. Examples of flooding by river like in Kibera can be found on multiple locations in the western world, in Europe we can see floods in UK and the Netherlands as examples and although these areas might be equally hit by disaster their resources to cope with it is hugely different from what is seen in Kibera.

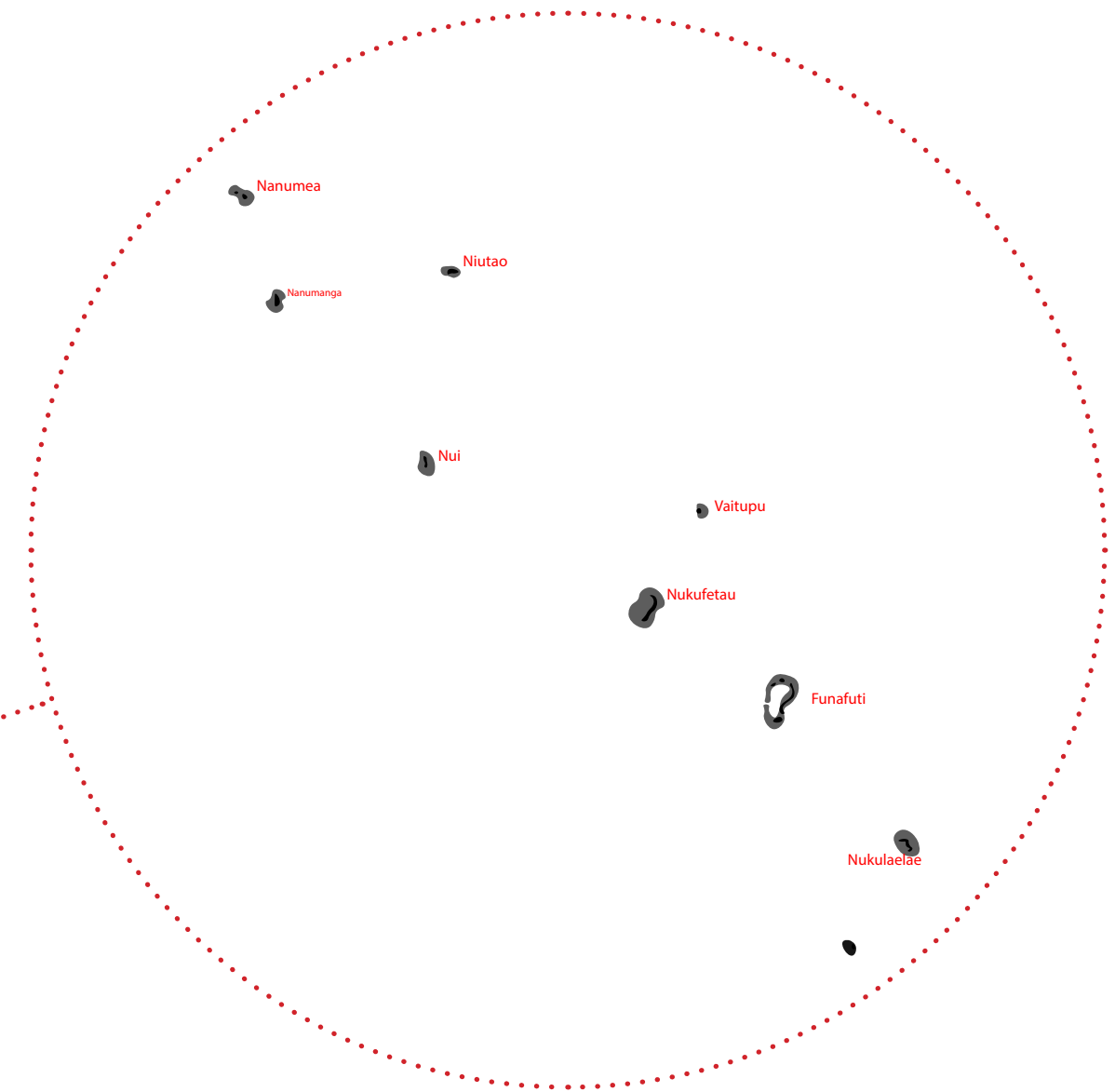
The number of residents in Kibera is growing, largely because of the rural migration, sometimes caused by drought due to climate change.⁶ Movement in response to climate change is a human coping mechanism and the number of environmental refugees is steadily raising. Environmental changes can also have the opposite effect, where a nomadic community becomes static as their travel for resources becomes pointless. One example of this is the native people of Scandinavia, whom have been living a life on the move, following their reindeers. As societies change, the Scandinavian people and governments have oppressed them and forced them discard their way of life and now changes in the environment caused by us have become another weight against them, causing them to lose their reindeers and with them, much of their culture and way of life. Each of these people inhabiting these communities are once again treated as waste.

1 Bauman, Z. (2004) Wasted lives. Cambridge; Politely press p.21
2 Fukuyama, F. (2018) Identity. London: Profile books Ltd p.xiii
3 McAdam, J. (2012) Climate change, forced migration, and international law. Oxford: Oxford University Press. P. 2
4 McAdam, J. (2012) Climate change, forced migration, and international law. Oxford: Oxford University Press. P. 19

5 McAdam, J. (2012) Climate change, forced migration, and international law. Oxford: Oxford University Press. P. 4
6 Davis, M. (2007) Planet of slums. London: Verso. P. 16



TUVALU



Nanumea

Nanumanga

Niutao

Nui

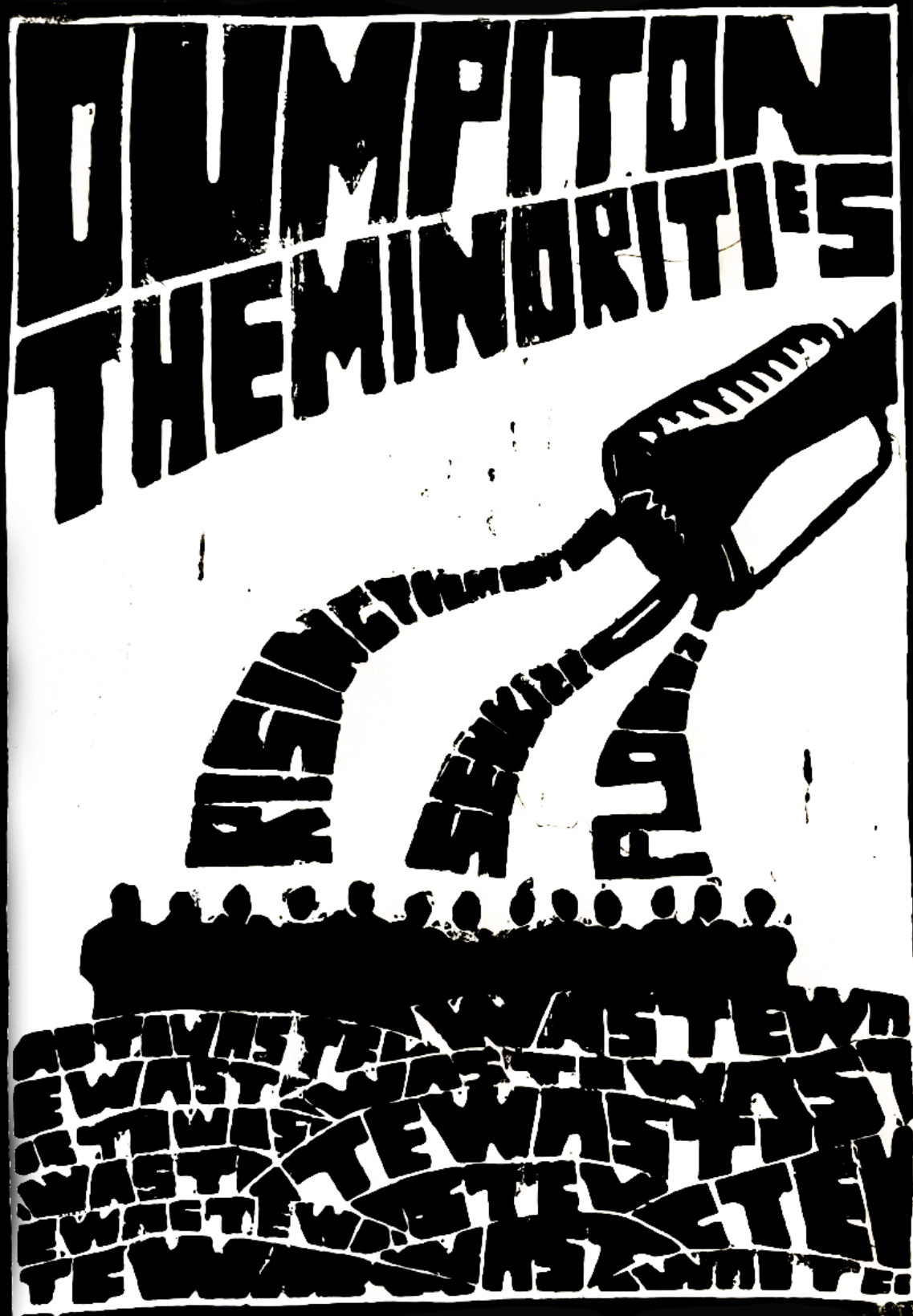
Vaitupu

Nukufetau

Funafuti

Nukulaeae

Fig. 5: Vesterlund, Irma. Movement of Tuvaluans. Illustration. 2021



TUVALU

LOCAL SOLUTIONS TO A GLOBAL PROBLEM

Tuvalu is a small island nation in the Pacific Ocean (fig.5). The main atoll island, Funafuti - the largest in the group, is small enough to walk the entire distance in less than two hours. The island nation and its inhabitants have been a topic of discussion in the last years, due to its qualification as a sinking nation. In the next decades, the islands will be uninhabitable, and all the islanders will be without a home, lose their community and be forced to relocate.

Tuvalu was colonised by the UK in 1916 and served as a sovereign state until its independence in 1978.⁷ Before that it was used as an airbase for the alliance in WW2, and waste and pollution are still found on the island, left behind when the British and Americans left decades ago.⁸ This waste is found all over the island in broken cars, rusting waste from the war and the borrow holes - from where the alliance borrowed soil from to lay the foundation for their airstrip and other facilities they needed in their war efforts. The borrow holes take up an estimate of half the landmass of Funafuti and during floods the seawater comes up through the holes, flooding the island from within and forcing the residents of the island to build around them.

“Remedies (of the war) are still all over the island. Things that have been done. And we have tried to get those things back, how many years now? And they are still like that”⁹ – Sir Tauripi Lauti, First prime minister of Tuvalu after the independence.

The responsible nations have refused to take care of

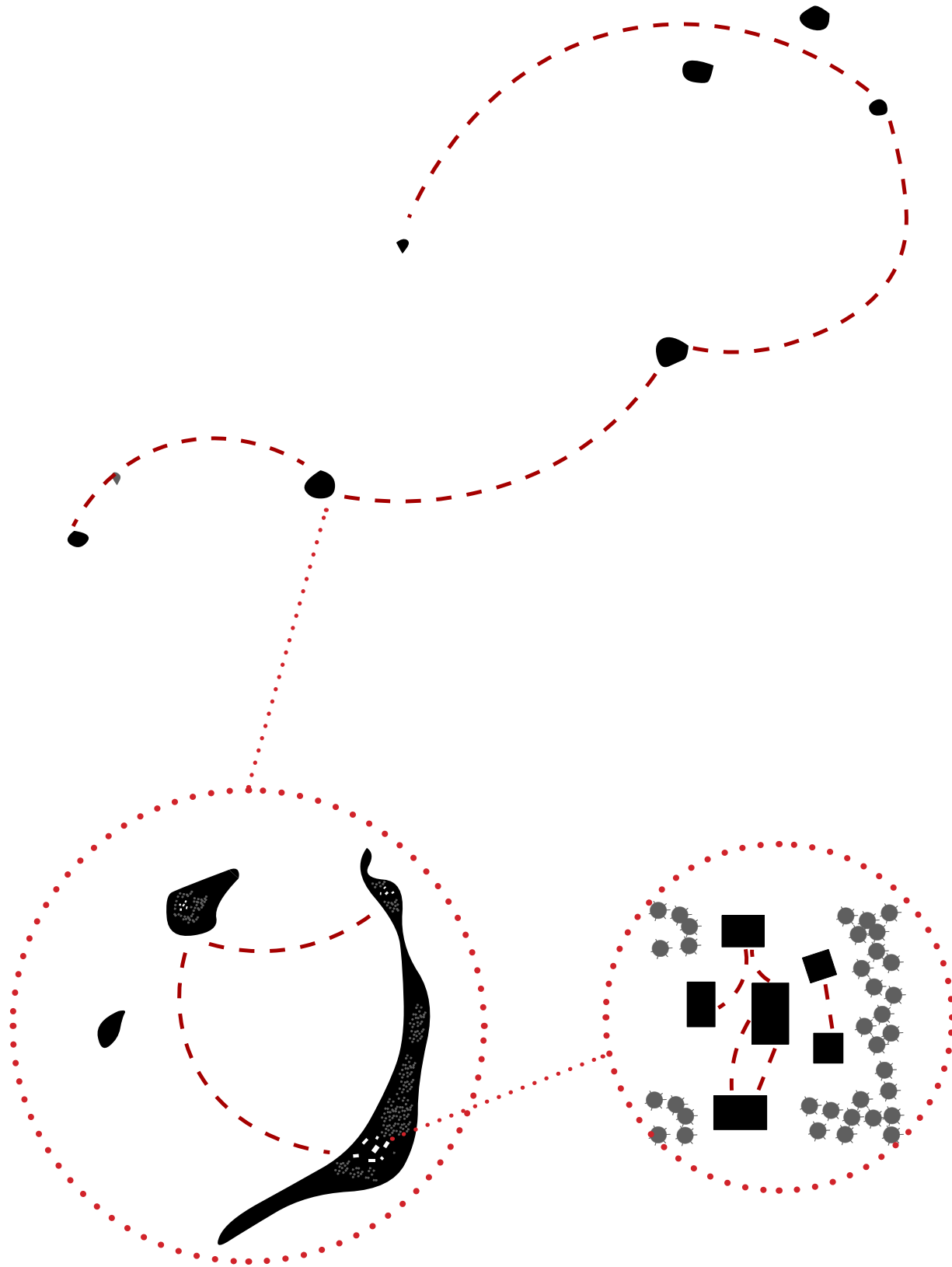
⁷ McAdam, J. (2012) Climate change, forced migration, and international law. Oxford: Oxford University Press. P. 2
⁸ McAdam, J. (2012) Climate change, forced migration, and international law. Oxford: Oxford University Press. P. 19
⁹ Le Gallie, G. et al. (2014) The Disappearing of Tuvalu: Trouble In Paradise. San Francisco, California, USA: Kanopy Streaming.

the waste or compensate for the troubles it has caused and the Tuvaluans who have limited waste control on the islands are forced to leave the waste as it is, polluting the island they call paradise.

Apart from the waste and colonisation we could also be held accountable for the consequences of climate change the residents of Tuvalu face in their daily life. The raising sea level in the world is not a new revelation, nor is the cause of the problem. The raise in greenhouse gas is changing the temperature of earth and causing the ice of the worlds glaciers to melt. The estimate of how much the sea will raise is inadequate, according to FNs report in 2011, the best-case scenario is a minimum rise of 1m in 100 years, that would be if we all emissions in the world ends today.¹⁰ In Tuvalu, with its main island only two meters above sea level, this means that much of its land mass will soon be under water. But the small island nation will become inhabitable before it ‘sinks’, and the residents already face the consequences of climate change. Tuvalu is expected to be uninhabitable if the sea rise is more than 20-40cm, meaning that even with the best-case scenario the inhabitants of Tuvalu will lose their home.¹¹ The raising sea and floods through storms destroy their houses and contaminates their drinking water. Each household on Funafuti now has a rainwater tank to collect drinking water and already in October 2011 the government sent out a state of emergency due to severe water shortage to its neighboring nations, asking for support.¹²

¹⁰ När havet kommer (2018) P3 Dystopia [Podcast]. 11 May. Available at: Spotify (Accessed: 211026).
¹¹ När havet kommer (2018) P3 Dystopia [Podcast]. 11 May. Available at: Spotify (Accessed: 211026).
¹² Le Gallie, G. et al. (2014) The Disappearing of Tuvalu: Trouble In Paradise. San Francisco, California, USA: Kanopy Streaming.

Fig. 6: Vesterlund, Irma. Dump it on the minorities. Block print in ink. 2021



Atoll hopping

The traditional way of life in Tuvalu is a mobile one (fig.7). The fragility of the environment on the atolls made the residents move around between the islands search for the right resources for life. While on the atolls the residents lived in family communes, moving between different buildings they shared together. Even these buildings were flexible, adaptable to the environment, as the weather changed the walls were raised up and the roofs were taken off to allow the winds to blow without taking the homes with it (fig. 8). The new influences of modern societies have made this old way of life tougher. The Tuvaluans still live in flexible communities but modern country borders make moving to search for resources harder. The fact remains that all the islands have similar dying conditions and the only option that remains is to move away from the pacific. The inhabitants of the pacific island nations are said to have a very strong bond with their land, “in some cases they are

inseparable.”¹³ Yet every day the Tuvaluans move closer to the day they will be forced to leave to ensure their survival. Some live with the knowledge of their imminent demise and are preparing for the life of the next generation in another place on the planet.

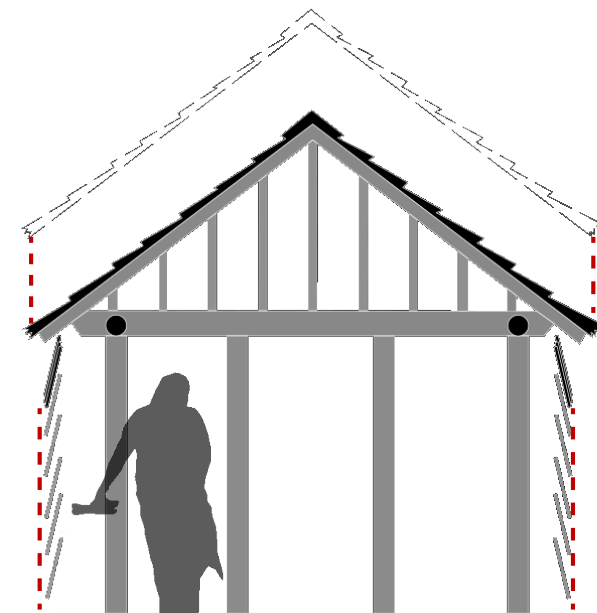
“I just want to earn money, for the kids, for them to leave. But for me, I really want to die here.”¹⁴ Taakua, age 44

At the UN climate congress of 2009, the vote to keep the global warming limit to 2 degrees was almost unanimous, Tuvalu alone did not agree.¹⁵ Two degrees warmer in the world would mean a certain demise in Tuvalu. After two days of negotiations Tuvalu had to fold and sign on to their own downfall. Now it is just a matter of waiting for the time when the Island nation is no longer inhabitable. Some people have already

Fig. 7: Opposite page. Vesterlund, Irma. Atoll hopping. Illustration. 2021 With information from: Yarina, L. Niuatui, L. (2020) 'Fluid Vernacular', The site magazine, Vernacular. Available at: <https://www.thesitemagazine.com/read/fluid-vernacular> (Accessed: 211029).

¹³ McAdam, J. (2012) Climate change, forced migration, and international law. Oxford: Oxford University Press. P. 125
¹⁴ Thule Tuvalu - Investigating Climate Change (2016). San Francisco, California, USA: Perry Street Advisors.
¹⁵ Thule Tuvalu - Investigating Climate Change (2016). San Francisco, California, USA: Perry Street Advisors.

Fig. 8: Vesterlund, Irma. Mobile living. Illustration. 2021 With information from: Yarina, L. Niuatui, L. (2020) 'Fluid Vernacular', The site magazine, Vernacular. Available at: <https://www.thesitemagazine.com/read/fluid-vernacular> (Accessed: 211029).



migrated to other nations, mainly to nearby New Zealand, but other Tuvaluans are not ready to leave.

“Most people from Funafuti move to New Zealand. But I reckon, Tuvalu is better. When you wake up in new Zealand you go by time, ‘8 o’clock I suppose to be at the office’. But back in Tuvalu it’s a simple life. You don’t go to work, but still, you have food, you just go down to the sea. It’s a good life.”¹⁶ – Tuvaluan man

This way of life works in Tuvalu, only 30 percent of the population are employed, two-thirds of them by the government.¹⁷ This might cause problems where the residents would ever move elsewhere, were they need to work to eat. But on Tuvalu the residents have always survived on their own accords by catching fish in the sea and eating the fruit and crops which grow on the island. Climate change has made this harder, many of the national crops no longer grow due to the high salt levels in the ground, caused by the raising sea water.¹⁸ This forces the population to rely heavier on imported food, and with that face the consequences of the imported waste that comes with it.

Adapting the architecture

For the people who have decided to stay in Tuvalu they are forced to find local solutions to the global problem. One of these solutions is to build the houses that can withstand the changing environment. Tuvalu’s vernacular structures, seen before the colonisation of the island nation, were mobile and adaptable to function with the atoll’s sensitive ecosystem (fig.9). The structure was made from a post and beam construction with a thatched roof and coral-rock foundation.¹⁹ The construction materials were old locally sourced, the beams were made from coconut trees and the string holding them together was made from dried coconut husk.²⁰ The roofs were dismantlable and taken off during storms and all living structures were built without walls.

The houses were spatially inhabited with objects, the sleeping structures where only occupied with mats for sitting and sleeping.²¹ During the colonisation the traditional building materials were replaced with imported western materials (fig.9). With this new way of constructing the Tuvaluans are not only importing their food but they are now also relying on importing materials for the construction of homes and other buildings. Most of the traditional homes were destroyed when the island nation was bombed during WWII, a result of the alliance using the island nation as an airbase. The new structure includes some of the old traditions, but the dismantlable thatch roof have been replaced by a flat thin roof that is easily dragged away in storms, and many of the new homes are now built with walls.²² The Tuvaluan homes are ground floor structures which are easily destroyed by strong winds and floods.²³ The new construction methods have been introduced to allow the inhabitants to live with the reoccurring floods on the islands. The new methods rely heavily on imported materials, the houses are built up on concrete plinths, lifting the living space above ground and allowing the sea water to flow below during the monthly floods.²⁴ The space on the inside is still the traditional Tuvaluan way of life. Here the residents live in a shared community. The families share their sleeping space, no doors are ever locked and at night the community gathers to play ball in the countries only airfield. They have taken the consequences made by us and implemented them in their own way of life, this solution is in no way a permanent one, it does not change the fact that the sea is steadily raising and will continue to do so, the incoming water is always present.

16 Le Gallic, G. et al. (2014) *The Disappearing of Tuvalu: Trouble In Paradise*. San Francisco, California, USA: Kanopy Streaming.
 17 McAdam, J. (2012) *Climate change, forced migration, and international law*. Oxford: Oxford University Press. P. 125
 18 Le Gallic, G. et al. (2014) *The Disappearing of Tuvalu: Trouble In Paradise*. San Francisco, California, USA: Kanopy Streaming.
 19 Yarina, L. Niuatui, L. (2020) ‘Fluid Vernacular’, *The site magazine, Vernacular*. Available at: <https://www.thesitemagazine.com/read/fluid-vernacular> (Accessed: 211029).
 20 Yarina, L. Niuatui, L. (2020) ‘Fluid Vernacular’, *The site magazine, Vernacular*. Available at: <https://www.thesitemagazine.com/read/fluid-vernacular> (Accessed: 211029).

21 Yarina, L. Niuatui, L. (2020) ‘Fluid Vernacular’, *The site magazine, Vernacular*. Available at: <https://www.thesitemagazine.com/read/fluid-vernacular> (Accessed: 211029).
 22 Yarina, L. Niuatui, L. (2020) ‘Fluid Vernacular’, *The site magazine, Vernacular*. Available at: <https://www.thesitemagazine.com/read/fluid-vernacular> (Accessed: 211029).
 23 Veran, C. (2020) ‘Rising Seas Have No Regard for Sovereignty: An Interview with Seve Paeniu of Tuvalu’, *Cultural survival (44-1 Crossing False Borders: Indigenous Movement and Forced Migration)*, March.
 24 Veran, C. (2020) ‘Rising Seas Have No Regard for Sovereignty: An Interview with Seve Paeniu of Tuvalu’, *Cultural survival (44-1 Crossing False Borders: Indigenous Movement and Forced Migration)*, March.

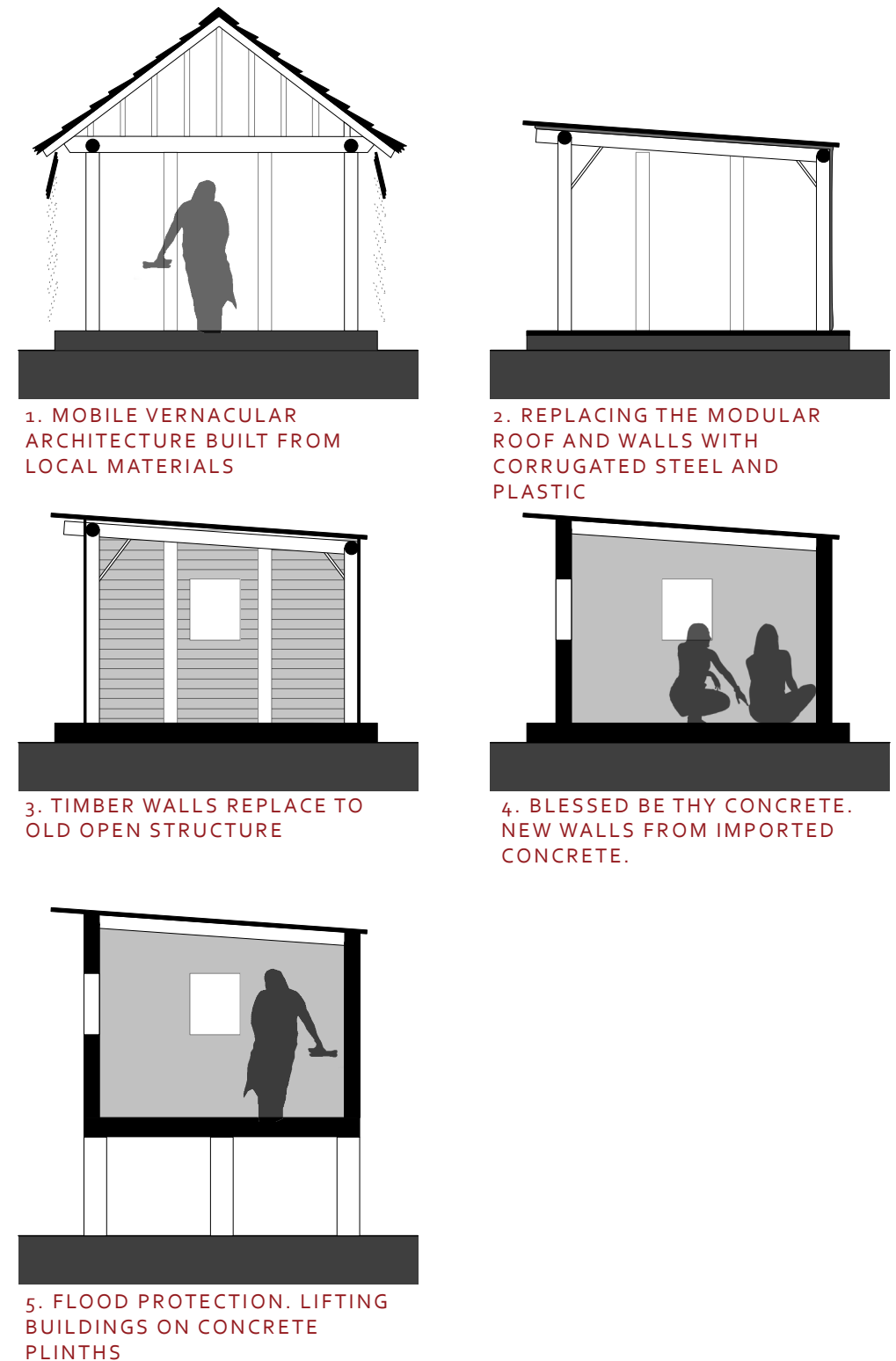


Fig. 9: Vesterlund, Irma. Changes in Tuvaluan architecture. Illustration. 2021



Fig.10 Vesterlund, Irma. Location of Kibera. Illustration. 2021



KIBERA

PREVENT AND REBUILD – THESE ARE YOUR CONDITIONS

Nairobi was founded by British colonial officers and was intended to be a home for Europeans in Kenya. The native people was segregated by law and Africans could only live at the edge of the city in informal settlements.²⁵ The start of today's Kibera came when African soldiers serving the interest of the British colonial army was assigned the area.²⁶ Kibera is the largest slum in Africa with approximately 2.5 million dwellers, it has grown in what used to be the outskirts of Nairobi, Kenya, along the Muntuine river (fig.10). In May 2021 four people drowned in a flash flood, caused by a heavy downpour, as they were trying to cross the river.²⁷

Kenya gained its independence from the British in 1963. The natives were prohibited to own or rent urban properties in ex-British colonies, Africans were considered only temporary sojourners and where unable to leasehold property.²⁸ The urban workers ended up in unauthorised housing and the squatting culture was born. In the 1970s wealthy outsiders discovered that the squatting in Nairobi was creating a profitable business, people started building unauthorised housing on government ground and rented it illegally. The risk paid off since

now demolition orders were given and returns on the investment was high. 85% of Kenya's population growth between 1989 and 1999 was absorbed in the densely packed slums of Nairobi.²⁹

Like in the case of the four deaths in May 2021, parts of the slums is frequently flooded after downpours by the Muntuine river. In *Environmental justice, concept, evidence, and politics* Gordon Walker states that those with resources, status and recognition are less vulnerable and better equipped to deal with the consequences of floods.³⁰ All of which is scarce in Kibera where still today the homes are considered unofficial and the residents renting the sheds have no official recognition as tenants. The informality of the Kibera dwellings also mean that they have no right to aid or resources to rebuild when their homes are destroyed.

Fragile architecture

The sheds in Kibera are already fragile to the environment, and as they are destroyed the residents are forced to re-build in the same way they were first constructed, with whatever they can get their hands on. The sheds are often built form mud walls, corrugated tin roofs or any other material that can be salvaged in the area (fig.12). The result of salvaged **building method is fragile homes, easily swept away**

25 Davis, M. (2007) Planet of slums. London: Verso. P.52

26 Davis, M. (2007) Planet of slums. London: Verso. P.35

27 Ombati, C. (2021) 'Four killed in Kibra floods as heavy rains pound Nairobi', Star news, 14 May. Available at: <https://www.the-star.co.ke/news/2021-05-14-four-killed-in-kibra-floods-as-heavy-rains-pound-nairobi/> (Accessed: 211113).

28 Davis, M. (2007) Planet of slums. London: Verso. P.35

29 Davis, M. (2007) Planet of slums. London: Verso. P.18

30 Walker, G. (2012) *Environmental justice concepts, evidence and politics*. London: Routledge. P. 135

as the new flood hits. Apart of the fragile living structures, the residents also have a limited access to functioning sewers and drainage - further extending the likelihood of flooding during heavy downpours.

The environmental justice around flooding have mainly been researched in developed countries, what is measured is which areas are more likely to be flooded and how well the people living in the area are likely to be coping with the consequences.³¹ This justice was measured in New Orleans after Katrina, were it was found that though areas of the city was hit the same the areas with mainly the poor inhabitants had a longer and harder recovery period.³² The research on justice between nations is limited and evidence of inequality in relationship to flooding are few.³³ However, evidence that our underlying conditions effects our ability to cope can be found and underlying conditions can be compared, and we can also find patterns of how a country can have effect another's existing conditions through colonisation and oppression. The British founded the informal settlements in Kibera through their segregation laws and the people living here today still live unrecognised in illegal dwellings. In Defining environmental justice David Schlosberg writes that "lack of recognition leads to distributional inequality, exclusion, and devastated communities".³⁴ The pattern of unrecognition that started during the colonisation control the environmental inequality of today.

Inequality in preventing and rebuilding

The patterns of inequality can also be seen when we compare the lack of flood preventions in Kibera how we in the western societies prevent flooding. In *Design for Flooding Architecture, Landscape, and Urban Design for Resilience to Climate Change* it is

31 Walker, G. (2012) Environmental justice concepts, evidence and politics. London: Routledge. P.135

32 Walker, G. (2012) Environmental justice concepts, evidence and politics. London: Routledge. P.146

33 Walker, G. (2012) Environmental justice concepts, evidence and politics. London: Routledge. P.128

34 Schlosberg, D. (2009) Defining environmental justice: theories, movements, and nature. Oxford: Oxford University Press. P.79

stated that flood resilient design includes prevention - by relocating buildings and community infrastructure, and mitigation - by raising buildings above flood level, engineering structures to resist water or using materials that are impermeable to water damage.³⁵ In West Yorkshire, an area in UK particularly hard hit by floods during heavy downpours when the river Calder and Rochdale canal overflows, the government have announced founding to mitigate by raising and strengthen river walls, make surface drain improvement, and introduce glass panels on the canal side to protect from overflowing.³⁶ In the Netherlands the government haven been working for decades with flood prevention and have recently implemented new strategies of prevention and mitigation. In 2021 they have started giving more space for the river to overflow by relocating houses and creating catchment areas.³⁷ The \$2.7 million project began in 2007 and shows an example of what preventions a country can do with more resources.³⁸ All these interventions are put in perspective when compared against the background of the non-existing flood prevention of Kibera, where the preventions are much needed but the funding and resources are lacking.

With these inequalities in living the consequences of environmental change, like with colonisation we distance ourselves, hide behind our privilege and focus on the problems the climate change might cause us in the future rather than the consequences it has for other people today. Through time climate discussions between scientists, politicians and others in power have been led by white men. White men in a room discussing the future of the planet, just

35 Watson, D. and Adams, M. (2010) Design for Flooding Architecture, Landscape, and Urban Design for Resilience to Climate Change. 1st edn. Hoboken: John Wiley & Sons, Incorporated. P.135

36 ITV (2021) 'Flood defence funding announced for Hebden Bridge and Lincolnshire Coast', ITV, 29 July. Available at: <https://www.itv.com/news/calendar/2021-07-29/funding-announced-to-protect-hebden-bridge-and-lincolnshire-coast-from-floods> (Accessed: 211113).

37 Erdbrink, T (2021) 'To avoid river flooding, go with the flow the Dutch say' The New York Times, 7 September Available at: <https://www.nytimes.com/2021/09/07/world/europe/dutch-rivers-flood-control.html> (Accessed: 211119)

38 Erdbrink, T (2021) 'To avoid river flooding, go with the flow the Dutch say' The New York Times, 7 September Available at: <https://www.nytimes.com/2021/09/07/world/europe/dutch-rivers-flood-control.html> (Accessed: 211119)

as the white men drove the colonisation that led to a world of inequality. In *The end of Man* Jonna Zylinska discusses the work *The God species* by Mark Lynas. Lynas is an apophony of the solutionist approach, he believes that man can beat nature at its own game, that if we embrace science and give up on the fantasies of an uncontaminated future it is only a matter of time and technical invention before man has found a solution to the climate crisis.³⁹ Zylinska calls his approach a way of "one in which humans can be proud of their achievements rather than lose too much sleep over their side effects."⁴⁰ The problem with Lynas approach, other than the obvious misogyny mentioned by Zylinska, is that some people in the world will not have time to wait for tomorrow. For some the climate causes so many problems that technical innovations on the other side of the world will not help them in their lifetime. Not only is the environment hitting us differently around the world, but the technical innovations are unevenly

39 Zylinska, J. (2018) *The end of man: a feminist counterapocalypse*. Minneapolis: University of Minnesota Press. P. 21

40 Zylinska, J. (2018) *The end of man: a feminist counterapocalypse*. Minneapolis: University of Minnesota Press. P. 222

spread. The prevention and rebuilding our resources in western society allow us could only be dreamt of in Kibera. The opposite of Lynas approach would be the tactics repeatedly advocated by Greta Thunberg, the only option she sees is to reach zero gas emissions. In 2018 Greta spoke on Parliament square in London about the inequality regarding the climate and reaching the Paris agreement; "That means that rich countries must get down to zero emissions, within twelve to six years, so that people in poorer countries can heighten their standard of living by building some of the infrastructure that we have already built."⁴¹ According to her the climate crisis is black and white, we already have all the facts of how to stop the crisis, the answer she says is in stopping emissions not in inventing new solutions. Or as she says, "We live in a strange world, where we think we can buy and build our way out of a crisis that has been created by buying and building things."⁴²

41 Thunberg, G. (2019) *No one is too small to make a difference*. London: Penguin Books p. 9

42 Thunberg, G. (2019) *No one is too small to make a difference*. London: Penguin Books p. 42

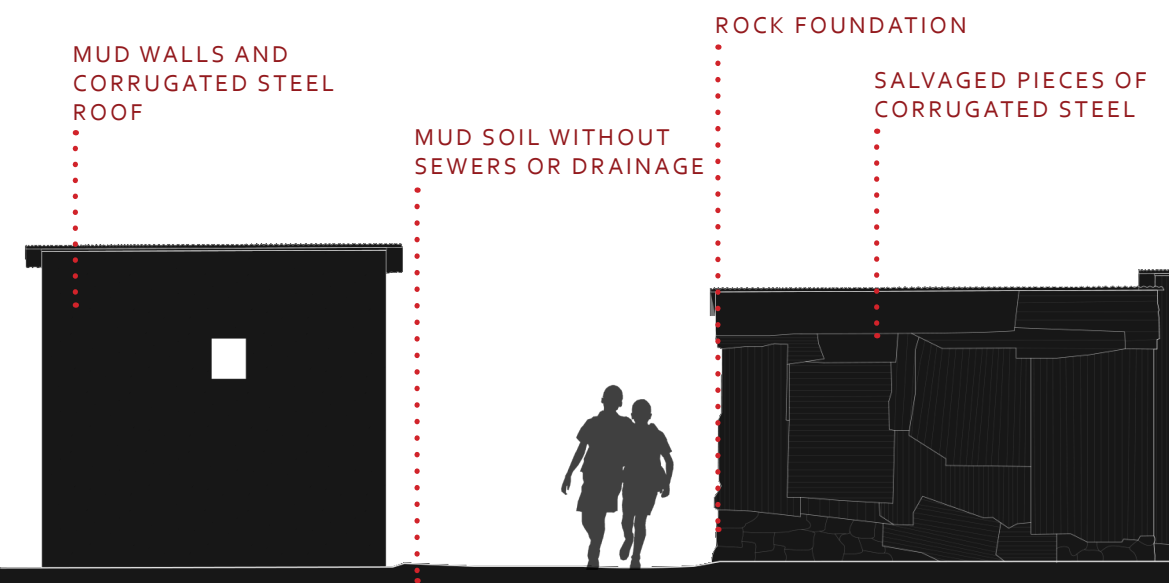


Fig.12. Vesterlund, Irma. Illustration of the Kibera sheds. Built from mud and salvaged materials.

SAPMI

LOSING COMMUNITY AND BECOMING STATIC

The north of Scandinavia, an area known as Sapmi, has been home to the only recognised indigenous group in Europe, the Sami, people for centuries (fig.14).⁴³ Traditionally the Sami have made a living centred around their reindeers, they eat their flesh, used their bodies as building materials and developed a nomadic lifestyle following the movement of the herds through the seasons. Today, only 10% of the Sami population are involved with reindeers, the limitations of modern society and the assimilation by the Scandinavian governments have put restraints on the Sami people's lifestyle and they are now put under further restriction by the raising temperature, forcing them away from their nomadic traditions.

Movement in response to environmental and climate change is normative human behaviour. In climate change today, movement is often as a response to crisis - as seen in the movement in modern day Bangladesh, or the or the future movement in Tuvalu do to water shortage. But the human origin comes from a nomadic lifestyle, where the movement came in response to natural environmental change, in search of new resources. Few nomadic societies are left today and for them the environmental changes caused by climate change forces them to become static, instead to forcing movement. In Iraq, the Bedouin community have been forced to start selling

of their camels to afford their nomadic lifestyle, the absent of rain in the area causes food shortage for the camels and the families are forced to cover larger distances in search of grass.⁴⁴ The herds are getting smaller, and it is affecting the Bedouins way of life. The traditionally nomadic Sami people are facing the same future.

With the Sami people of northern Scandinavia, the movement was to follow the reindeer herds as they grazed their summer and winter grounds. The lifestyle of the reindeer people has long faced obstacles from long going legal battle about the land right for the reindeers grazing ground with the Scandinavian governments and local communities. Apart from losing land to farmers and industry, the Sami people have also been subjected to racial biology by the Scandinavian governments and have had their religion, language and culture suppressed.⁴⁵ An estimate of 20,000 Sami lives in Sweden, the country itself fails to recognise their role in colonising Sapmi and the consequences this colonisation have had on the Sami people.⁴⁶ The human rights violations

⁴⁴ Foltyn, S (2021) "There's no rain: Climate change threatens Iraq's Bedouins", Aljazeera, 28 April. Available at: <https://www.aljazeera.com/news/2021/4/28/no-rain-iraqs-bedouin-tribes-affected-by-climate-change> (Accessed: 211113).

⁴⁵ United Nations (2021) The Sámi: We are the natives of this country. Available at: <https://unric.org/en/sami-we-are-the-natives-of-this-country/> (Accessed: 211113).

⁴⁶ Carlsson, N. (2020) 'Revitalizing the Indigenous, integrating into the colonized? The banal colonialism of immigrant integration in Swedish Sápmi', *Ethnic and racial studies*, 43(16), pp. 268-286. doi:10.1080/01419870.2020.1776360.

⁴³ Sapmi overlaps the northern parts of Sweden, Norway, Finland and parts of Russia.

against the Sami by the Swedish government has been ongoing for decades - Sami children were educated in legally segregated boarding schools until 1962, The Swedish State Institute for Race Biology conducted chartering of racial traits by measuring the bodies of Sami adults and children, some were forced sterilised and Sami human remains are still preserved in the government research facilities today.⁴⁷ For all this time the Sami people have been ongoing in their fight to be recognised as equals, with equal rights. The legal battle for the indigenous land is ongoing and as the Sami people struggle with environmental change, they fight battles on multiple fronts. Respected native leader Arthur Manuel has a theory that the only way to get governments to respect indigenous land rights is if continuing to violate native rights carry financial costs to governments and individuals.⁴⁸ Unfortunately for the Sami people much of the land their villages cover is valuable for the Swedish forest industry, and because of the role that play in the lands global export and economy, the government is unlikely to give it up.

On top of the historical oppression the reindeer herders are now facing the consequences of climate change. As the emission continue to raise the temperature of northern Scandinavia is changing. With the raising temperature the snow of the reindeers greasing grounds have changed. What was previously a powdery substance, easy for the reindeer to dig through with their feet to reach the grass bellow is now hard surface, impossible for the reindeers to penetrate on their own.⁴⁹ This have led the reindeer herders to by the necessary nutrients for the reindeers as pellets, and although the revenue is close to none economically the lifestyle becomes more and more expensive.⁵⁰ Many now fears that this generation is

the last of the Sami reindeer people. Much of the Sami culture is connected to the reindeers, they eat the meet, sow clothes and objects from their skin, bones, and horns, all the animal is cherished and used. Traditionally the reindeers also had a significant role in the Sami's living structures.

Transient architecture

The contemporary structures of the Sami culture consist of transient, seasonal, semi-permanent and permanent architecture. When the nomadic lifestyle of following the reindeers dies many of these structures could lose its function and purpose. One of these structures is the Lavvu (fig.15). Traditionally the Lavvu was constructed with reindeers' skins, the skins were sown together with a thread made by reindeer intestines.⁵¹ Lavvus can also be built to be more permanent, built form timber, sourced in the surrounding forest, or any other material picked up in nature. Today, the Lavvus are mainly made with contemporary materials, but with the same appearance and structure. The reindeer's skins still play a role in these contemporary structures, they are still used of the ground of the interior.

The Lavvu is mainly used when the reindeer herd is moving, to provide living space for the herder that move with them. Erika Larsen did an 4 years long study of the Sami people trying to answer "Are there people that can translate natures language?"⁵² She states that she found the answer to this question as she spent time living in the Lavvus with the herders in the arctic, that the herders spent so much time with nature that they could translate the arctics language.⁵³ She tells the story of the contemporary use of the Lavvu, used out in nature when the herders are with their flock, the structure is temporary, easy to take

Herders in Swedish Lapland, Documentary. 11 October. Available at: <https://www.youtube.com/watch?v=hr8uiyDgy7w> (Accessed: 211019).

⁵¹ Emmos, R. (2004) 'An Investigation of Sami Building Structures', Sami Culture. Available at: <https://www.laits.utexas.edu/sami/dieda/anthro/architecture.htm> (Accessed: 211108).

⁵² National Geographic (2014) Erika Larsen: The Reindeer People | Nat Geo Live. 10 march. available at: <https://www.youtube.com/watch?v=bPiKAhhEHXA> (Accessed: 211107).

⁵³ National Geographic (2014) Erika Larsen: The Reindeer People | Nat Geo Live. 10 march. available at: <https://www.youtube.com/watch?v=bPiKAhhEHXA> (Accessed: 211107).

Fig 14. Vesterlund, Irma. Illustration of Sapmi villages. with information from: Sveriges national atlas (2020) Jordbruket. Available at: https://www.rovapystis.net/pdf_kuvat/odlingsgrans.pdf (Accessed: 211108).



⁴⁷ Hartley, E (2016) 'Sami desire for truth and reconciliation process', Politico, 10 January. Available at: <https://www.politico.eu/article/sami-reconciliation-process-sweden-minority-multiculturalism-human-rights-discrimination/> (Accessed: 211113).

⁴⁸ Klein, N. (2015) This changes everything capitalism vs. the climate. UK: Penguin Books. P.368

⁴⁹ Storlöpare, P. (2015) The Last Generation? – Sami Reindeer Herders in Swedish Lapland, Documentary. 11 October. Available at: <https://www.youtube.com/watch?v=hr8uiyDgy7w> (Accessed: 211019).

⁵⁰ Storlöpare, P. (2015) The Last Generation? – Sami Reindeer

down after use and provides shelter from the arctic weather.⁵⁴ She also tells the story of how she began to understand the Sami culture from inside the Lavvu, of how it was the place for telling stories, drinking coffee and eating dry reindeer meat.⁵⁵ As the Sami people becomes more and more static their temporary structures are losing their function and risk extinction. The traditional Lavvu, built from reindeer skin might only occur as a tourist event.

Semi-permanent architecture

The semi-permanent houses of the Sami people are found in the Sami villages. Sapmi is divided into villages, not in the sense that the privilege western society might perceive a village but rather a large open area used by the reindeers and the herders.⁵⁶ Each person owning reindeers have the right to build whatever structures they need anywhere in this village, these structures are often semi-permanent, built from timber, but only used when the land surrounding them is occupied by the reindeers. As the

⁵⁴ National Geographic (2014) Erika Larsen: The Reindeer People | Nat Geo Live. 10 march. available at: <https://www.youtube.com/watch?v=bPiKAhhEHXA> (Accessed: 211107).

⁵⁵ National Geographic (2014) Erika Larsen: The Reindeer People | Nat Geo Live. 10 march. available at: <https://www.youtube.com/watch?v=bPiKAhhEHXA> (Accessed: 211107).

⁵⁶ North regio (2015) Reindeer Herding Area. Available at: <https://nordregio.org/maps/reindeer-herding-area/> (Accessed: 211107).

herds move between the summer and winter grounds the herders move to a different semi-permanent structure.

Both reindeer herding families and Sami people not involved with reindeers live in permanent houses. The Sami people's permanent houses are contemporary houses, mainly timber, traditional to Scandinavia. Many of the non-reindeer hearing families have also sought out the cities, living urban lifestyles, non-distinguishable from the normative Scandinavian life. Traditionally the Sami people are considered reindeer herders and in 1928 when the Swedish government wrote up the law that established Sami land rights, they only recognised the reindeer owning part of the Sami community as Sami. Today when only 10% are involved with reindeer a large part of the population falls outside that area. One of them is Niklas Sarri, his elder relatives where reindeer herders but he is not. He describes how he because of this have struggled with his own cultural identity, "If I don't have reindeers, what am i? Am I Sami?".⁵⁷ This is the future many other now face, what are the Sami without the connection to reindeers?

⁵⁷ Repstock, A. (2019) Short documentary: I AM SAMI. 29 June. Available at: <https://youtu.be/-c18XNxFUSY> (accessed: 211024)

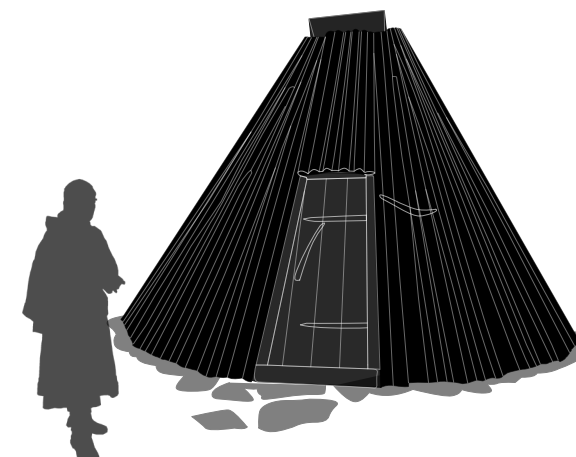
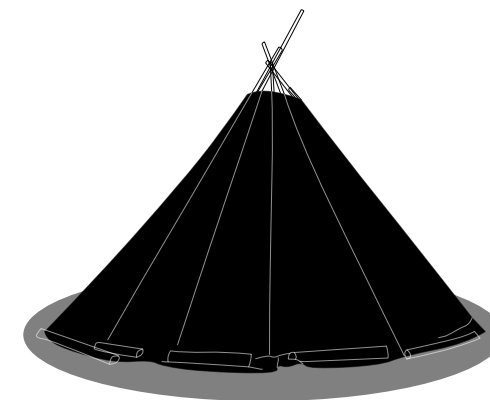
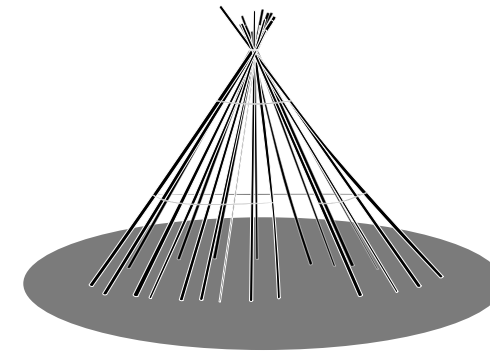


Fig. 15. Vesterlund, Irma. Illustrations of Sami Lavvus. Temporary built from salvaged wood and fabric or more permanent built from salvaged wood.



CONCLUSION

WHAT IS THE PRICE OF OUR LIFESTYLE?

Who should then pay the bill? Who is responsible for the consequences and cost of environmental change that many societies face today? In our reality we worry about the future generation at best. We worry about what might happen when other parts of the world become uninhabitable, will these people invade your space? What happens here in the future? Will we have food shortage? Seasonal floods? What we never consider is that this is already the reality elsewhere. And while we spend our time, eating take out from plastic containers and book our summer holiday abroad, the people in Tuvalu are paddling canoes on what used to be farming grounds. And while we worry more about our national economy than the environment, the people in Kibera worry that they might not only lose their home without any hopes of funding to rebuild but also their life if the downpour is too heavy. Meanwhile we worry about the being late, sitting in a car or bus in rush hour that is spitting out gas in the atmosphere and at the same time in Sapmi an entire is facing preparing to continue a culture for future generations while possibly losing the thing the holds it all together, the reindeer is the core of the Sami culture, and the changing climate brings the end of the herding lifestyle closer every day.

The architectural responses to the environmental changes made by the case studies in this essay is in no way a solution for these communities. The fate of Tuvalu is inevitable, even if the homes protect them from floods they cannot stay if the land cannot provide for them. They new construction techniques

also makes them rely on imported materials which further contribute to the emissions of greenhouse gas. In Kibera the salvaged materials they rebuild from leaves them in the same fragile state as before the flood took the home the first time, and the same event risk repeating itself. In Sapmi the turn towards permanent living structures is a turn away from locally salvaged materials from nature, and towards mass manufactured materials of contemporary Scandinavian architecture. This makes also the Sami have a similar impact on the environment as the rest of Scandinavia's population.

Those of us that recognise that the environmental change was caused by mankind are prepared to say the 'we caused the climate change', but who are we? In *A billion black Anthropocenes or none* Kathryn Yusoff brings this argument up using Sylvia Wynters argument that 'we' is not 'we the collective human race' but rather 'we the privileged part of humanity'.⁵⁸ Yusoff suggest that "modern liberalism is forged through colonial violence", and that the colonial rights of trading people for material value is a way of deeming people as non-human.⁵⁹ As soon as a person is deemed as non-human, they are deemed redundant, deemed as human waste. This is what our world is built on. The patterns of these three case studies shows that the people deemed as waste during the building of the 'new world' and the colonisation are still treated as waste, as non-human. They are not

⁵⁸ Yusoff, K. (2018) *A billion black anthropocenes or none*. Minneapolis: University of Minnesota Press. P.58
⁵⁹ Yusoff, K. (2018) *A billion black anthropocenes or none*. Minneapolis: University of Minnesota Press. P.3

Fig. 16. Opposite page. Vesterlund, Irma. Ignore the alarms. Collage. 2021

“WE ARE
FAILING BUT
WE HAVE
NOT YET
FAILED. WE
CAN STILL
FIX THIS. IT’S
UP TO US.”⁶²

included in the ‘we’ in the cause of climate change, they just suffer the consequences. Just as they were not a part of the ‘we’ as in ‘we the colonisers’. In both these situations they were the non-humans, the less the us, the waste. And they now pay the price of several privileges in our world.

How long should we let these people pay for the life we live? Should it not be enough that the pay for the construction of our society with the price of their own? All three of these communities have faced oppression from us and are forced to live with the traces this oppression has left behind and we throw on new challenges, challenges we are far from ready to face ourselves. These communities become the surplus populations, the collateral casualties of economic process.⁶⁰ In *Wasted Lives* Zigmunt Bauman said that “causes for exclusion may be different, but for those on the receiving end the result feels much the same.”⁶¹ By our inaction to make change for these communities we are deeming them redundant, less than us. We are not prepared to make changes in our own life and society, not prepared to face our own consequences. Instead, we look away, into our possible problems in the future instead the very real problems others face already.

60 Bauman, Z. (2004) *Wasted lives*. Cambridge; Politey press. P.

39

61 Bauman, Z. (2004) *Wasted lives*. Cambridge; Politey press. P.

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62 Thunberg, G. (2019) *No one is too small to make a difference*. London: Penguin Books p. 44

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LIST OF ILLUSTRATION

Fig. 1 Vesterlund, Irma. Manifesto, human waste of environmental change. 2021	p.3
Fig 2. Vesterlund, Irma. The weight of your lifestyle. Block print in ink. 2021	p. 4
Fig 3. Vesterlund, Irma. Weeping. Block print in ink. 2021	p. 7
Fig. 4: Vesterlund, Irma. Locations on the world map. Illustration. 2021	p. 8
Fig. 5: Vesterlund, Irma. Movement of Tuvaluans. Illustration. 2021	pp. 10-11
Fig. 6: Vesterlund, Irma. Dump it on the minorities. Block print in ink. 2021	p. 12
Fig. 7: Opposite page. Vesterlund, Irma. Atoll hopping. Illustration. 2021 With information from: Yarina, L. Niutatui, L. (2020) 'Fluid Vernacular', The site magazine, Vernacular. Available at: https://www.thesitemagazine.com/read/fluid-vernacular (Accessed: 211029).	p. 14
Fig. 8: Vesterlund, Irma. Mobile living. Illustration. 2021 With information from: Yarina, L. Niutatui, L. (2020) 'Fluid Vernacular', The site magazine, Vernacular. Available at: https://www.thesitemagazine.com/read/fluid-vernacular (Accessed: 211029).	p. 15
Fig. 9: Vesterlund, Irma. Changes in Tuvaluan architecture. Illustration. 2021	p. 17
Fig.10 Vesterlund, Irma. Location of Kibera. Illustration. 2021	pp. 18-19
Fig.11 Opposite page. Vesterlund, Irma. Us vs. them. Block print in ink. 2021	p. 20
Fig.12. Vesterlund, Irma. Illustration of the Kibera sheds. Built from mud and salvaged materials.	p. 23
Fig.13. Opposite page. Vesterlund, Irma. Culture. Block print in ink. 2021	p. 24
Fig.14. Previous page. Vesterlund, Irma. Illustration of Sapmi. 2021	pp. 28-29
Fig 15. Vesterlund, Irma. Illustration of Sapmi villages. with information from: Sveriges national atlas (2020) Jordbruket. Available at: https://www.rovapystis.net/pdf_kuvat/odlingsgrans.pdf (Accessed: 211108).	p. 29
Fig. 16. Vesterlund, Irma. Illustrations of Sami Lavvus. Temporary built from salvaged wood and fabric or more permanent built from salvaged wood.	p. 31
Fig. 17. Vesterlund, Irma. Ignore the alarms. Collage. 2021	p. 32