

Finding The Balance

A person is shown in a meditative pose, sitting cross-legged on a sandy surface. Their head is tilted back, and a spray of small, dark particles or seeds is being released from their mouth, floating upwards into the air. The background is a vast, open landscape with rolling hills under a sky filled with vibrant, wavy bands of orange, yellow, and purple. A small, white, cylindrical object, possibly a water bottle, sits on the ground next to the person.

A DESIGNER'S JOURNEY TOWARDS THE
TRUE PATH TO SUSTAINABILITY

By Samiha Khan



FINDING THE BALANCE

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1 PREFACE


This journal depicts my journey towards understanding the layers of sustainability and the path towards developing my design thinking process. I hope to share the knowledge to upcoming and current designers in the industry. I will be linking knowledge of what has been, to the current events of what is, understanding and digging deeper into the spiritual dimension of sustainability and how this inner essence plays a vital part in the journey towards a sustainable future.

*The Cooperation Council for the Arab States of the Gulf, originally known as the Gulf Cooperation Council, is a regional intergovernmental political and economic union consisting of all Arab states of the Persian Gulf - Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

Growing up in the UAE for the past twenty-one years I have witnessed the astonishing and rapid development of this country, in particular, the city of Dubai. The most modern and progressive city in the Gulf Cooperation Council (GCC)

The UAE has been known for providing its residents a life of safety, comfort, luxury, and opportunity. Home to more expatriates than locals (only 20% of the population of UAE are local.) One may ask how this little country off the coast of the Arabian peninsula managed to reach the heights of its rapid rise in development?

To have begun my journey as a designer in a modern, futuristic, and fast paced city like Dubai is a unique and exhilarating opportunity I was privileged to have. I started off just like a lot of other young designers; ready to delve into the world of interior design. Full of hope and passion with this dream to design luxurious spaces for the people of Dubai. However, once my journey began I found myself left with a feeling of dissatisfaction. I began to question what meaning and utility my work has on the users? A rule I was taught while completing my undergraduate degree was “when designing a space, the first thing you must think about is the user. How will they use this space? How will they expect to feel in this space? What is this space to them?” As a designer our top priority is to deliver what the client wants and what will achieve the best experience for the end user without thinking of the negative effects on the environment. How do these lengthy design processes impact our planet? Yet my work in Dubai seemed like a contradiction of suiting the needs of the elite few, who took many things for granted, while largely negatively impacting the environment and



“People are usually afraid of change because they fear the unknown. But the single greatest constant of history is that everything changes.”

- Yuval Noah Harari, Homo Deus: A History of Tomorrow”



inadvertently the needs of the less fortunate public, through appeasing the needs of the elite few that I designed for.

Initially, I was consumed with the beginning of my career, not giving much thought to the holistic impact of my work. However once I started working, to be specific, once I started working on a millionaire's mansion, I found myself looking for the answers to a lot of questions I had not really questioned before. Questions like how does my work impact people as a whole community? What about people who don't have it all, who cares for them? Who is making their living conditions better? As a designer, how can I work towards creating better living environments for people who need it? Is my work for the few, indirectly damaging the livelihoods for the many, through the negation of environmental considerations?

Previously, I had just accepted the designer to client dynamic. It's easy to get reigned in by what the norm is and to ignore things that matter, but how do we pull out of it? How do we grow out of this cycle we have grown accustomed to? What really baffles me is the amount of effort and time we put in to designing spaces and furniture and concepts for people who have it all, people who do not value the effort put in.

People who will build something, not be happy with it and then deconstruct it and build something new (a wasteful habit). It seemed as if no one was taking into account the negative effects of their actions, the waste of energy, resources, and even money.

Over the years the importance and effects of deviating from economic growth and focusing on environmental and social problems has been alerted time and time again since the 70s, however, powerful entities have not given enough thought or attention towards it. Right now, the concept of sustainability is on the rise, this is mostly because of how the effects of rising problems are now being seen, felt, and have become inevitable. Yet, the reality of facilitating institutional sustainable frameworks still eludes many.

Along with ways realizing the problems and pinpointing where and how we need to fix them, we need to make a shift towards developing an inner feeling towards sustainability towards real implementation. Sustainability is such a critical issue for us to take lightly, ignore, and rush. Designers have a power to



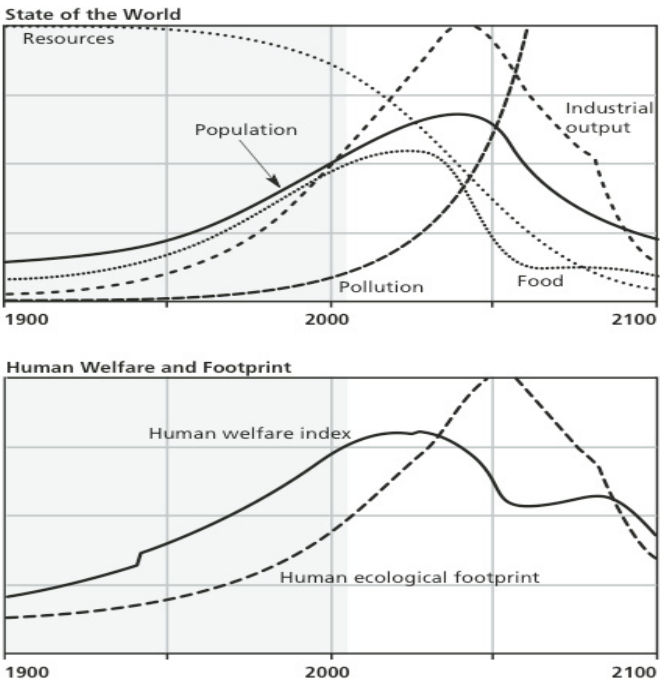
create change. While knowing the scientific account, looking at quantitative data, graphs, and figures may not be enough to compel humanity into action, a calling to spirituality may need to come in to ignite action. Spirituality is the inner sense, it's the intangible feeling that creates strive within the soul.

2 THE AWAKEING

From the 70s through to the 90s, there have been organizations and individuals that have shed light on the urgency to change our habitual habits. For example, in 1972, a book titled “Limits to growth,” was first published. Limits to growth featured an analysis rooted in system dynamics theory and a computer model called “world 3,” which generated twelve different scenarios that showcased environmental and economic outcomes of world development from the 1900s to the 2100s. These outcomes showcased a positive growth in the global economic sector and a negative trend in the environment. During the time the book was published, the scarcity of world’s resources wasn’t an issue, by the 1990s this was no longer the case. The situation had worsened and the world was no longer in a capacity to exponentially grow without consideration of scarcity in global resources. This is when the Club of Rome (authors of Limits to growth) published their second environmental edition called “Beyond the limits”. (Donella Meadows A Synopsis: Limits to Growth: The 30-Year Update)

“Beyond the limits” aimed at shifting the globe back into a more sustainable realm. It showed how the planet was already

in overshoot, meaning that the world’s resources were depleting faster than they could be restored. The world was leading towards global environmental and economic collapse. The world 3 model was a play of how different systems could change. It kept a track of stocks such as population, industrial capital, persistent pollutants and cultivated land. The stocks changed due to factors such as births, deaths, investments, depreciation, pollution generation and assimilation, land erosion, land development and land removed for urban and industrial uses^(enter footnote). The scenarios did not take into account the military sectors draining resources and capital, wars that killed people and destroyed capital, waste lands or generated pollution, ethnic strife, corruption, natural disasters, nuclear accidents, and epidemics. The world 3 model focused on the most predominant possibilities of the “real” world. All 12 scenarios generated by the world 3 model resulted in an eventual collapse. (Donella Meadows A Synopsis: Limits to Growth: The 30-Year Update)



The most relatable scenario that we are currently facing is Scenario 2 known as the “business as usual”. This scenario relates to an abundance of nonrenewable resources. “The graph shows that advances in resource extraction technologies are capable of postponing the onset of increasing extraction costs. Industry can grow 20 years longer. Population peaks at 80 billion in 2040, at much higher consumption levels. Pollution levels soar (outside the graph) depressing land yields and requiring huge investments in agricultural recovery. The population finally declines because of food shortages and negative health effects from pollution.” (Donella Meadows, A Synopsis: Limits to Growth: The 30-Year Update)

Technology has been a driver towards development of human capabilities. However, even though technological innovation has helped us reach new heights in sectors like healthcare, education and construction, It has also had adverse effects on the world. Technology has been used as a tool towards serving the goals of corporations through means of exploitation of nature. The rampant use of natural resources combined with technological advances has allowed for corporations

to increase production at rates never seen before. In doing so, technology has made the rich richer, without giving any consideration for the long term effects of developing economies and markets that further destroy the environment. In turn, widening the economic class gap between the rich and the poor, and increasing short term gain. This strive for short term gain, whether it’s an act of greed or an act of financial gain, it’s an addictive act that has become the norm. Society works towards

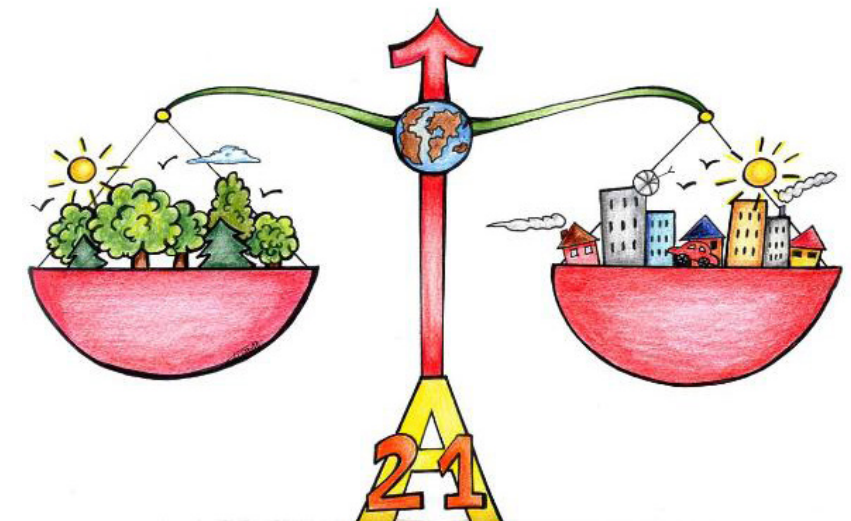
creating a better life on earth while they are on it, but what happens when we have passed on? What about the future generations? This ideology may be heightened since people tend to not dig deeper or find purpose in their actions. They focus on the now, and care for the surface level results. This is probably the same reason why we have drifted further from nature and our roots, and become more elevated with our own creations. In turn, resulting in major wicked problems like biodiversity loss, exploitation of natural resources, climate change, exponential population growth, industrial growth and a global increase in poverty.



The Brundtland report, titled: “ Our common future”, published by the United Nations World Commission on Environment and Development (WCED), in 1987, sparked awareness of the importance of all environmental, social and economic effects caused by rapid growth of the energy, agriculture, and trade industries globally. “These are not separate crises: an environmental crisis, a development crisis, an energy crisis. They are all one.”- (WCED, Our Common Future) This awareness was essential for non-governmental and governmental organizations to take initiatives towards increasing attention to the impacts of the growing global economy on environments. Rather than just being aware of these effects it was time for countries to become concerned and take proper action towards these problems. National security was a top priority for countries around the globe, as military expenditures exceeded \$1trillion globally (Our common future: Brundtland report). In some countries this attribution of military funds was taking a large portion of the Gross National Productions(GNP)

away from sectors that could have otherwise contributed to the increase of social welfare. However, many people fail to realize how the damage of ecosystems and environments is also affecting the “safety” of these countries. Natural disasters are known to rampantly deplete government funding and resources. The damages of climate change are felt among poorer communities. The solution to avoid this conundrum is to advocate for a campaign that focuses on improving economic growth in conjunction with sustainable growth that allows for the protection of natural environments, and safeguards are communities for posterity. (Our common future: Brundtland report) “The ability to anticipate and prevent

environmental damage requires that the ecological dimensions of policy be considered at the same time as the economic, trade, energy, agricultural, and other dimensions. They should be considered on the same agendas and in the same national and international institutions.” (Section 4,point 38, WCED, 1987)



Following Our common future, Agenda 21 known as the Rio Declaration on Environment and Development, signed by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, 3 to 14 June 1992 was a major turning point for the world. It set guidelines and a framework for serious action to take place. It was organized into four sections. The first section addressed the social and economic dimensions which directly referred towards reducing poverty, particularly in developing countries, adapting consumer patterns, promoting better healthcare, working towards a more sustainable population and sustainable ideas

implemented in decision making processes. The second section focused on the conservation and management of resources for development which included atmospheric protection, deforestation, protecting fragile environments, conserving biodiversity, controlling pollution levels, and managing biotech and radioactive wastes. The third section referred to strengthening the role of major groups such as the youth and children, women NGO's, local authorities, business and workers and indigenous people, communities and farmers. The fourth section addressed the means of implementation in the fields of science,



Millennium Development Goals




The UN's sustainable development goals and Millennium Development Goals act as a great base for designers to think about what type of sustainable problems they would like to combat through design solutions. If explored further, they also provide a good perception of various problems they can bring awareness to for their clients and target consumers.

3 HUMANITY VS KNOWLEDGE

They say Knowledge is power. Undoubtedly it definitely is, as Israelmore Ayivor famously said “Knowledge is Power, Power provides Information; Information leads to Education, Education breeds Wisdom; Wisdom is Liberation. People are not liberated because of lack of knowledge.” But along with knowledge what about our purpose and duties as human beings on this planet? We’re not alone living on a one species earth. We’re part of the ecosystem enabling us to be alive and survive. Humanity has steered away from itself and instead of being part of this cohesive flow of finding our purpose and place in nature, we have become the top predators of nature. We’re living in a real life monopoly game, where there will be only one winner at the end of the day. How do we work towards interconnecting knowledge with just being human? When a person passes on, their physical remains are left on earth. Leading me towards the question, if the tangible parts of a human are all left behind, what about the intangible attributes that make us human? Where do feelings come from? Where does a human being’s drive come from? These questions all lead me to one place only which is, the soul. Nature and all it’s elements are pure. I would definitely say their souls are pure. The snake that bit a little boy, the lion that hunts the zebra, the plant that grows beautifully in my living room, the tree that’s lived for over 120

years, and the dog that just won’t stop tugging on his master’s slipper. They all have life in them and they all have pure souls. Our cognitive abilities may nourish our minds but what effect do they have on our soul? As human beings, how do we maintain that balance between learning beyond limits, yet continuously purifying the soul?





The Earth Charter sets principles and values in order to manifest a peaceful and sustainable global society. Four areas are broken down into a total of sixteen essential principles for every human being to live by. When reading these sixteen principles, I was inspired by the idea that these principles should be spread to children at an early age.

1. Respect Earth and life in all its diversity.

2. Care for the community of life with understanding, compassion, and love.

3. Build democratic societies that are just participatory, sustainable and peaceful.

4. Secure Earth's bounty and beauty for present and future generations.

5. Protect and restore the integrity of Earth's ecological systems, with special concern for biological diversity and the natural processes that sustain life.

6. Prevent harm as the best method of environmental protection and, when knowledge is limited, apply a precautionary approach.

7. Adopt patterns of production, consumption and reproduction that safeguard Earth's regenerative capacities, human rights, and community well-being.

8. Advance the study of ecological sustainability and promote the open exchange and wide application of the knowledge acquired.

9. Eradicate poverty as an ethical, social, and environmental imperative.

10. Ensure that economic activities and institutions at all levels promote human development in an equitable and sustainable manner.

11. Affirm gender equality and equity as prerequisites to sustainable development and ensure universal access to education, healthcare, and economic opportunity.

12. Uphold the right of all, without discrimination, to a natural and social environment supportive of human dignity, bodily health, and spiritual wellbeing, with special attention to the rights of indigenous peoples and minorities.

13. Strengthen democratic institutions at all levels, and provide transparency and accountability in governance, inclusive participation in decision making, and access to justice.

14. Integrate into formal education and life-long learning the knowledge, values and skills needed for a sustainable way of life.

The Earth charter further goes into detail in breaking down each value into an even clearer explanation of how we can practice each value. If we were to truly be aware of all these values and apply them to every aspect of our work and life balance and ensure that our children abide by these principles, the world might just be a much safer and prosperous environment for not only the human being presently on it but for future generations to come.



“We simply can’t live on the new earth as if it were the old earth – we’ve foreclosed that option.”

– Bill McKibben

4 DESIGNER’S REALM

As a designer, I think I can speak for all designers when I say that every time I design a space, I feel as if a part of me goes into it. It is what makes our designs unique. As designers we have the power to create, we are the enactors, and in some way, we have the power to control what consumers want. Consumerism is the reason designers are losing their power. Instead of defining what consumers want, we design space in accordance to their wants and needs, regardless of how harmful the consequences are. Our designs, along with technological innovations, have enabled corporations to create harmful and unsustainable creations worldwide. I believe an interior designer is in part responsible for this damage. Every time I designed something, exceptionally luxurious, using expensive materials and a high amount of material wastage for the design, to be made or specified at a low cost, the harmful materials needed for these projects negate the beauty of the design and end up damaging the environment. How do we pull away from this habit, how do we enrich our ways of design thinking and processing in order to create low impact and sustainable designs, deviating from a linear economy to a more circular one.

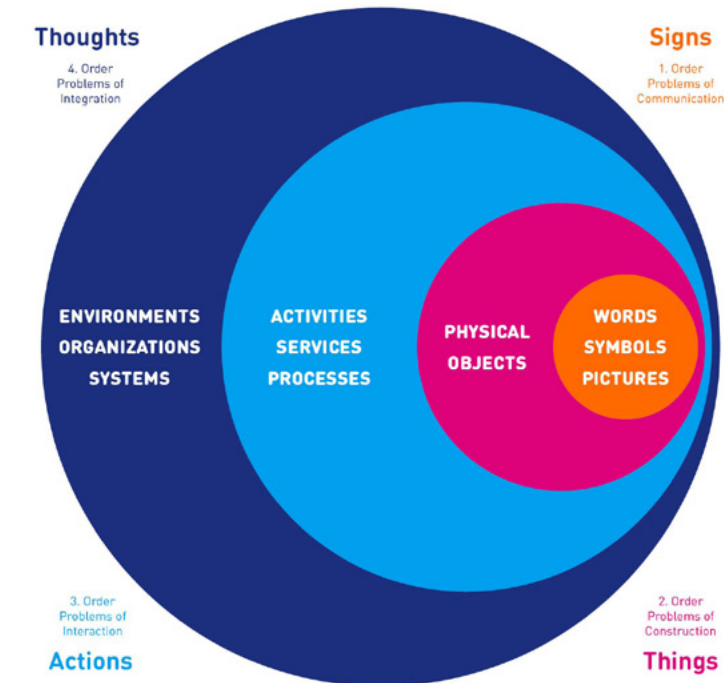
In our first class, Professor Scott Boylston told us “Design is part of Sustainability. Sustainability is not part of design.” This idea resonated with me because sustainability is not just a type of design, it should be a mantra of design. It should become a key value and aspect of every type of design. Sustainability is the whole and design is a part of the whole.

In Margolin’s article two models of development refers to multiple designers who brought up the need for interconnecting design with problem solving, in order to push designers towards designing useful solutions addressing real world social, ecological and economic problems.

More than forty years ago, Victor Papanek took designers to task, in order to make them rethink their purpose as designers. His approach ventured towards the concept of socially responsible design, as explained in his book *Design for the Real World*. However, he did not set a standard operating procedure as to how designers can enact this social responsibility, in way of design thinking, but he did address different types of social products designers can create.

In 1992, Richard Buchanan published a book called “wicked problems in design thinking,” where he addressed the complexities of design and formulated them into four domains of design.

Four Orders of Design



The first one relates to symbolic and visual communications, which is everything graphic related to marketing. Second, is the concept of material objects, the product itself. The third domain focuses on activities and organized services, which refer to the aspects of interactions. The fourth domain encompasses the idea of complex systems or environments for living, working, playing and learning, referring to large systems like businesses, organizations, government and educational institutions. Understanding these four domains of design can be used as a helpful tool to really direct the overall design process from concept to completion. Tony Golsby-Smith analyzed these four domains and shed light on how the fourth domain can be used to address the current (1996) world situation. Manifesting all four domains of design in order to tackle larger world problems as part of design solutions to these issues.

The way to address these issues is by looking at the world as one large model or system and then looking at the problems individually to facility design solutions and tools.

Victor Margolin refers to the two models of development as “The Expansion Model” and “The Sustainability Model.” Both models are in constant collision with each other because the sustainability model looks at the world as a system of ecological checks and balances that consist of finite resources,

“There are two discrete metabolisms on the planet. The first is the biological metabolism, or biosphere – the cycles of nature. The second is the technical metabolism - the cycles of industry, including the harvesting of technical materials from natural places. With the right design, all of the products and materials manufactured by industry will safely feed these two metabolisms, providing nourishment for something new.”

- (McDonough and Braungart, 2002, p.104)

John Ehrenfeld talks about how society tends to be drawn towards self-destruction, he then argues that we tend to get caught up with everything going on around us; getting consumed by the world and all it has to offer, which detaches us from genuine self-realization. He believes design can help nurture the act of being mindful and aware of our places, our actions and our dreams. Ehrenfeld uses the term “presencing” to explain the way design shapes human experience. “Presencing is an experience in which an awareness of the worldly context of the action shows itself to the actor” (Sustainability In Design, 2008, p.153) He then addresses how design can correlate with consumer behavior and give people more mindful and meaningful options to choose from. (Handbook of Design for Sustainability, Ch.4, Developing theories for sustainable Design, Dennis P Moore)

Designers have the power to generate change. Design is a part of the world of Sustainability, and this world of sustainability only opens more opportunities for designers to achieve new levels of creativity and innovation. It is time for designers to become the ambassadors for change. As designers we need to find a balance between the two models, using concepts like Buchanan’s four domains of design work towards producing a circular economy and connecting it with the idea of presencing.

This idea of presencing highly resonates with Spirituality. In order for us to be spiritually elevated we must continuously be aware of our actions and look for that deeper meaning. Spirituality requires letting go of our ego. As a designer, if I feel like if I kept this idea of making sure my designs can really speak to people on a deeper level rather than just emit a wow factor, I could achieve a more impactful response.

A personal example I would use would be the city I live in, Dubai. Dubai is ostentatious, and it’s full of beautiful environments, whether it’s a tall tower, the most aesthetically pleasing restaurant, or even the most iconic looking hotel. I may be wowed as

soon as I see any of these features or visit these glamorous sites, but it’s hard for me to connect to any of these places these days. I may have an initial reaction to the moment of awe, but that moment passes and I don’t ever think about it again. However, upon visiting the beautiful Chalet island of Kenya, I happened to connect to the island on a deeper level. It wasn’t luxurious and it wasn’t made to perfection. The island had chalets made with simple wood, cement and with straw like roofs, and the beauty of its natural environment lay perfect within all its imperfections. Although I went there only once in my life, it stayed with me in a way no man-made luxurious place ever would. I think the reason for this is because, when we are surrounded by man-made luxuries, we tend to lose the realness within ourselves. Thus creating a complexity that results in the lack of genuine connections built with people and nature.

It is now time for designers and design projects to make people come back to a natural focus, intertwined with their cultural roots, that once was so dependent on nature and the environment. Human culture must reconnect with nature.

THREE INNOVATIONS FRAMEWORK

In order to work towards producing designs for a more circular economy there are various design tools and ways of thinking to reframe our mindset towards design. The Triple bottom line depicts how Sustainability interconnects the needs of society, the economy, and the environment. The triple bottom line refers to the concept of a monthly statement which implies the three areas cannot always be positive or negative. However, we still have to take the social, economic and environmental effects into consideration when designing in order to reach a level of sustainability.



OKALA'S ECO DESIGN WHEEL

There are several design tools that can help achieve sustainability when designing a product like conducting a full life cycle assessment of a product. Okala's Eco Design wheel is a useful way of breaking down each product. It helps the designer assess what level of impact the product has reached. It has 7 stages: innovation, low impact materials, optimized manufacturing, efficient distribution, low -impact use, optimized product life time, optimized end of life. Green design is achieved when aspects of the product are optimized for environmental performance (i.e, the use of recyclable materials), however green designs aren't as effective as they usually just focus on one or a few materials. Eco design is when the full life cycle is taken into consideration, each material and its impact and part in the design process. When a product accounts for every stage of Okala's Eco design wheel, it can be regarded as "Eco-friendly".

FORM OF INNOVATION

MIND

Telling new stories
Visualizing new values in action
Making new habits meaningful
Celebrating marginalized cultures
Enabling perceptual leaps from 'what is' to 'what could be'

MATTER

Resource productivity
Circular economy + LCA
Alternative materials
Cradle to cradle
Renewable energy
Service and flow

SOCIETY

Participatory, inclusive + equitable
Harmonizing the parts with the whole
Addressing power asymmetries
Empowering local assets
Exploratory + iterative
Amplifying alternative cultures

FORM OF WELLBEING

PEOPLE

PLANET

PROSPERITY

PROCESS

In reference to the triple bottom line, a product is considered sustainable when social aspects are also considered, thinking about how people are affected by the design of this product. Designers need to focus on the society, the economy and the environment in order to reach sustainability.

The three innovations framework is based on this concept enabling designers to connect the form of innovation with the form of wellbeing. The three innovations framework interconnects mind, matter and society with people, planet and prosperity. Mind relates to how we can use technology and innovation as a reflection of our world view to create designs and solutions with meaning

by thinking about how we can urge people towards adopting new and more sustainable habits. Matter refers to the way we can design products that stay in the loop of recycling. This can be made easier by conducting a life cycle assessment using tools such as Okala's Eco design wheel or designing products to achieve cradle to cradle standards.

Society refers to how we can create an atmosphere that suits the needs of its users without harming the environment or affecting the cost point. The three innovations framework is a useful tool to design anything. When we design, the process is constantly adapting and different problems may arise. The three innovation framework helps solve problems along the process and any small intervention can lead to another potential.

Cradle to Cradle Certified™ is a globally recognized measure of safer, more sustainable products made for the circular economy. Product designers, manufacturers and brands around the world rely on the Cradle to Cradle Certified Product Standard as a transformative pathway for designing and making products with a positive impact on people and planet.

CASE STUDY I – THE STUDENT HOTEL

(THE GOOD PLASTIC COMPANY)



“A new project by The Good Plastic Company is embodied in The Student Hotel in Delft, with interior surfaces and furniture made from recycled plastic waste. Each panel is made from a single type of plastic so it can be easily recycled, keeping it from ending up in landfill, the oceans, or incinerators, and extending the use of this valuable material indefinitely. The result is a haven that represents travelling and living with a conscience. The striking interior design is the result of a successful collaboration between the industry-leading and award-winning hybrid hospitality brand, interior designer The Invisible Party , sustainable material manufacturer The Good Plastic Company and professional construction studio Fiction Factory “ (.green designs, Instagram)

“The foyer of the growing chain’s newest location is clad in distinctive bespoke-patterned plastic sheets made from refrigerators, spools and single-use cutlery. The panelling is 100% recycled and easily recyclable, extending indefinitely the economic life of the polystyrene from which it is made. It serves as strong visible evidence of the hotel’s commitment to sustainability and supporting circular economy principles in its design.” (.green designs, Instagram)

“The Good Plastic Company is a mission-driven company founded in 2018 in Amsterdam with the aspirational goal of incorporating recycled plastic into the circular economy in as many countries as possible. The company’s construction and décor panels are high quality and have the lowest ecological footprint possible. The company worked with sustainable construction company Fiction Factory on this project.” (.green designs, Instagram)



“The TSH Delft experience starts upon entering the large open lobby, this is the heart of the hotel, the place where you can meet people, relax and where events can also be organized in post-COVID times. What immediately stands out are the colorful plastic panels, made from, among other things, used refrigerators and disposable cutlery. Nice-to-know: the plastic can be completely recycled. The furniture has been developed in a circular manner, all screws and bolts can be easily removed and ready for recycling.”(The Student Hotel, The Good Plastic Company)

“We are immensely proud to be part of this sustainable concept. Hotels with an eco-conscious, circular philosophy are our future. Younger generations make increasingly conscious choices in consuming goods and services. Staying in a hotel that contributes to the circular economy and that uses using locally supplied goods in its interior design embodies values that are shared by the modern people who will be its honoured guests. A new way of travelling, and a new way of making an impact!” (The Student Hotel, The Good Plastic Company)

ANALYSIS

The Student Hotel project is an example of a company making an effort in order to achieve sustainable design goals. The fact that the space is for students this immediately combats not only applying sustainable design practices but it also educates the younger generation. This will cause the youth to ask questions and become more aware of the way they live. It also acts as a positive influence to follow for new designers in the industry. It shows them that it is possible to design a beautiful space that is sustainable yet also acts as a fully functional design for its users. It can inspire designers to make a shift towards their design ideas and design thinking. The Student Hotel is a simple project that makes a big statement.



SYSTEMS

We may now have the tools to design for sustainable requirements but as designers how can we become part of the big ideas? We live in a complicated world full of growing wicked problems that are all really interconnected systems within this one large system called Earth.

In her book “Thinking In Systems” Donella Meadows explains how we can use systems thinking to understand how these complex systems work, pinpoint problems and come up with solutions via a more holistic approach.

The textbook definition of a system is “A set of things working together as parts of a mechanism or an interconnecting network; a complex whole.” Meadows explains how systems are comprised of different elements such as stocks and flows and feedback loops.

Stocks and flows help us to understand how a system behaves. A stock is an observable or quantifiable aspect of a system, e.g. population size or inventory levels. Stock levels rise when inflow > outflow and drop when inflow < outflow. Stock levels stay constant when inflow = outflow. (Book Summary - Thinking In Systems: A Primer)

- A feedback loop is formed when a change in stock affects the inflow/outflow for that stock, i.e. it triggers a process to increase, decrease or maintain the stock level. A balancing loop is goal-seeking. For example, a thermostat regulates temperature—it warms up a room if it gets too cold, and cools it down if it gets too hot. Such loops bring stability but also resist change. A reinforcing loop amplifies an existing effect to trigger a virtuous or vicious cycle. For example, the more people catch a virus the faster it spreads, or the more you save the faster your bank balance grows from the compound interest. Such loops bring exponential growth but can also cause things to spin out of control and collapse. (Book Summary - Thinking In Systems: A Primer)

When looking at the world’s system, in order for the world to develop and function normally it is a requisite for there to be at least one reinforcing feedback loop to achieve growth. However, it is also necessary to have a balancing loop in order to maintain that growth. This is because the world is a finite environment with non-renewable resources being stock limited and renewable ones being flow-limited. Similarly, our lives can also be seen as a finite element. In order for us to get ahead in life, we engage and come across a variety of external opportunities. This gives us a reinforcing feedback loop between ourselves and life’s opportunities. However, we also have set backs and lulls in our lives which can be seen as balancing feedback loops. Nothing in this world can exponentially grow forever, even the most successful business will reach a maximum or a lull in the future. (Donella Meadows, Thinking In Systems)

Systems have the need to be organized not only for stability or to achieve productivity, but also because they need to instill resilience. Systems have the ability to self organize and create new structures within themselves in order to learn, diversify and complexify. Hierarchical systems grow from the bottom to the top. The top deck elements of the hierarchy control the requirements of the lower layers. (Donella Meadows, Thinking In Systems, P.190)

Meadows has identified common trends in systems that can tend to be problematic defined as “System Traps. She goes on further to define each trap as a systemic issue, and the ways out of these traps. The eight traps are classified as “Policy Resistance”, “The Tragedy of the Commons”, “Drift to Low Performance”, “Escalation”, “Success to the Successful”, “Shifting the Burden to the Intervenor”, “Rule Beating” and “Seeking the wrong Goal.” The Traps are further explained on the right.

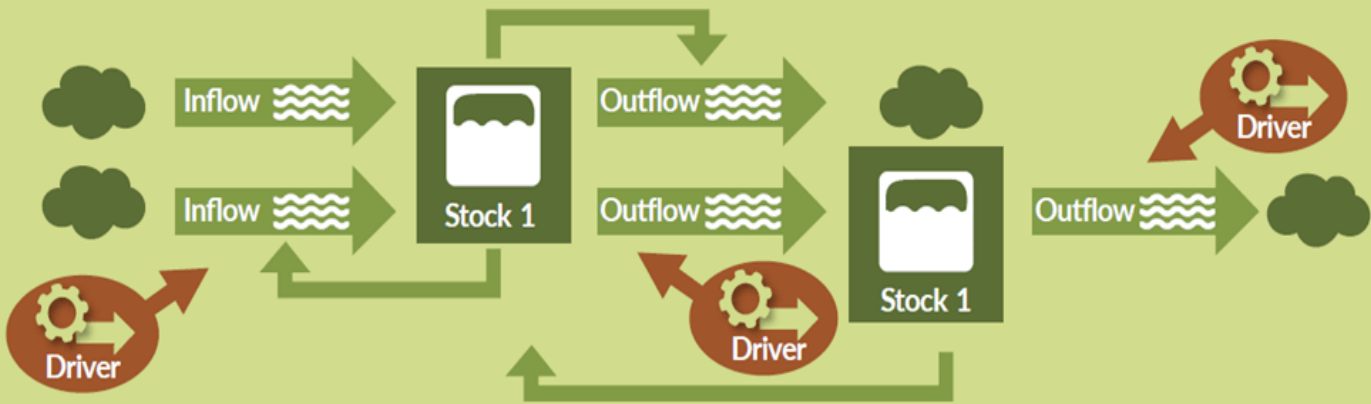
1. Policy resistance: The inherent resistance of the establishment to allow changes to affect the system. People would rather live with a flawed system that is familiar than to allow changes that might cause uncertainty and instability. Such resistance can cause inevitable collapse to be more dramatic, sometime even catastrophic. (Bytepawn, Marton-Trencseni, 5 Jan 2016, Systems thinking and system traps) The way out of the trap is to let go to bring in all actors and to use this effort towards seeking more satisfactory ways to achieve the goals. To figure out a better way for all actors to come to an understanding and work towards a solution. (Donella Meadows, Thinking In Systems) Example: People Retaliating against wearing masks.

2. The tragedy of commons: When there is a common shared resource, every user is benefitting from its use, but shares the cost of its abuse with everyone else. This leads to an overuse of the resource, eroding it until it becomes unavailable to anyone. The way out is to educate the users and make them understand the results of abusing this resource. Also, strengthen the resource by controlling access to the resource so the burden can be shifted to the user itself. (Donella Meadows, Thinking In Systems) Example: The exploitation of the world’s limited non-renewable resources.

3. Drift to low performance: The allowance of standards to be influenced by negative actions in the past which sets up a reinforcing feedback loop of eroding goals and in turn sending the system towards a drift to low performance. The way out is to keep performance high and on the right track rather than letting it be discouraged by past performance. Switch the drift towards high performance. (Donella Meadows, Thinking In Systems) Example: A history of corruption amongst political actors.

4. Escalation: This trap occurs when the state of one stock is continuously trying to surpass the other and vice versa. This causes a reinforcing feedback loop carrying the system into an arms race, a wealth race, a smear campaign, escalating loudness and escalating violence. Exponential escalation leading to extremes very quickly. This will lead to collapse by any one of the parties because growth cannot go on forever. The way out would be to not enter it in the first place to win in the future.

Parts of a System: an Example



READINGGRAPHICS
Ideas Come Alive

If caught in such a system, one can choose not to compete in order to interrupt the reinforcing loop. Or one can negotiate a new system with balancing loops to control the escalation. Example: Two businesses competing to grow their empire, they will eventually collapse because there is a limit to the levels of success they can reach.

5. Success to the Successful: The notion that success will give advantage to those that have already succeeded, thus limiting the “losers” ability to win in the future. “The rich get richer!”. (Bytepawn, Marton-Trencseni, 5 Jan 2016, Systems thinking and system traps) The way out would be to diversify in order for the ones who are losing the competition to exit and start a new one. Reduce the advantage of the strong players and increasing the advantage of the weakest ones. Instill policies that create rewards for success that aren’t biased in the next round of competition. (Donella Meadows, Thinking In Systems)

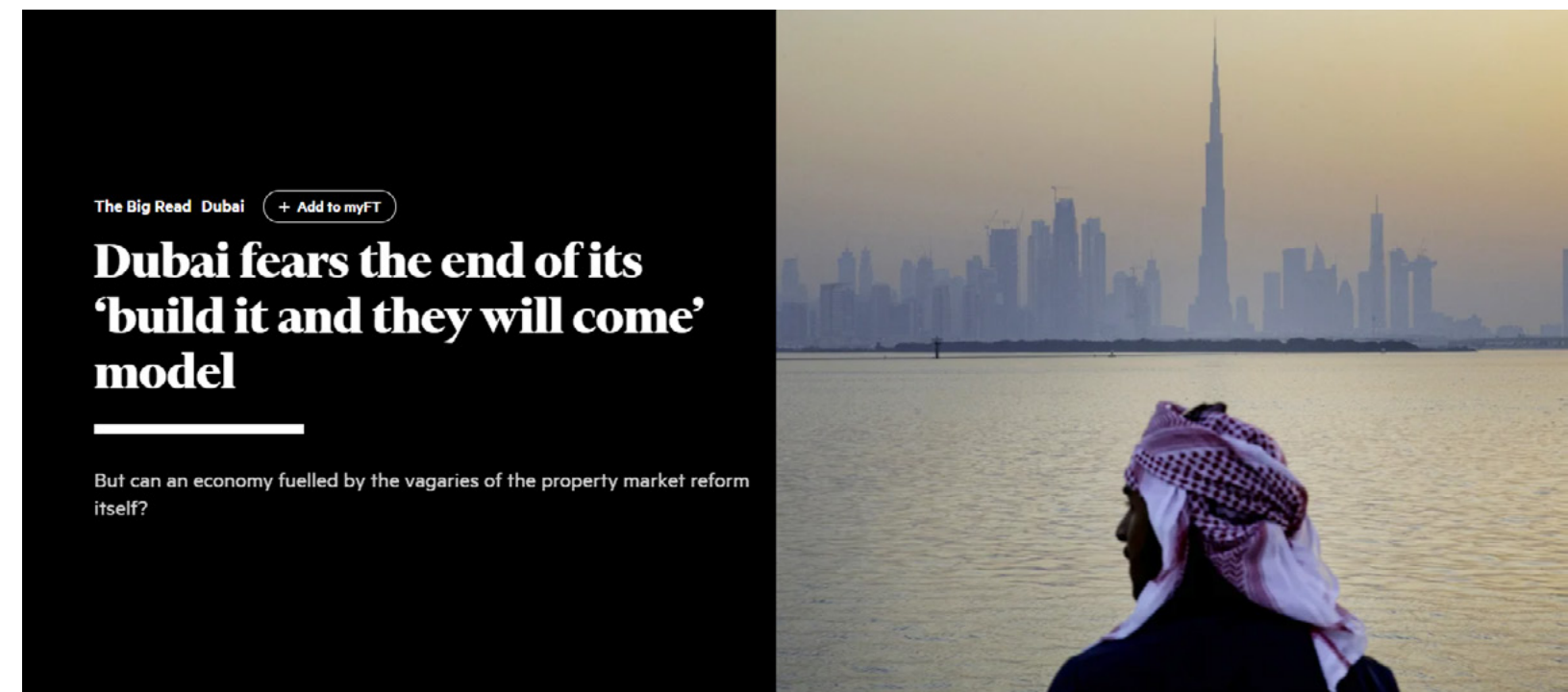
6. Shifting the burden of the intervenor: Notion that risk is shifted to someone else, while success is reaped by the actor. ((Bytepawn, Marton-Trencseni, 5 Jan 2016, Systems thinking and system traps) The way out would simply be not to get into it in the first place or if one is the intervenor to find a way to break the cycle and enhance the system’s own ability to solve its problems and then remove yourself from the system. (Donella Meadows, Thinking In Systems)

Example: “Venture capitalists and hedge fund managers work under a model where they get a nice base salary, a nice bonus if their fund performs well, but there is no downside for them. Turnaround times are on the order of 10 years, so there’s little historic data on fund manager’s performance.” ((Bytepawn, Marton-Trencseni, 5 Jan 2016, Systems thinking and system traps)

7. Rule beating: The notion that rules, or laws, are ignored, broken or skirted. The cause of rule breaking is usually related to the fact that these rules are perceived as unjust or not flexible enough regarding real life issues. (Bytepawn, Marton-Trencseni, 5 Jan 2016, Systems thinking and system traps) The way out is to design or redesign rules to release activity not in the direction of beating rules but in the direction of achieving the purpose of the rules. (Donella Meadows, Thinking In systems)

8. Seeking wrong goals: Sometime goals change. Many systems suffer from the fact that original goal don’t make any sense in the current context, or never did. Pursuit of wrong goals will cause the system pursue these goals, capturing wrong or insignificant metrics, leaving the illusion of progress, while heading toward system collapse. (Bytepawn, Marton-Trencseni, 5 Jan 2016, Systems thinking and system traps) The way out would be to specify indicators and goals that reflect the real welfare of the system. (Donella Meadows, Thinking In Systems) Example: When a person helps another with the thought that they will receive a greater favor or

CASE STUDY II



“The shimmering Palace Residences apartment blocks will look out through palm trees, across calm creek waters lapping in from the Gulf towards what developers boast will be the world’s tallest structure. The futuristic, rocket-shaped Dubai Creek Tower will be a “notch” higher than the Burj Khalifa, the current holder of that title, just down the road. Off-plan sales of the Palace Residences were launched in January, with one-bedroom flats on the market for Dh1m (\$272,000), generating “significant demand”. The plan is for the 6 sq km Dubai Creek Harbour to eventually house 200,000 residents.” (Kerr Dubai fears the end of its ‘build

“The project is a classic example of the “build it and they will come” development model that has served the rulers of Dubai well for the past four decades: carve out a space in the desert or on land reclaimed from the sea; build bigger and better luxury residences; offer top-class amenities; and sit back as wealthy



expatriates snap them up. Yet even as construction sites inch ever deeper into dusty desert districts, there are signs the skyline remains dotted with dozens of cranes, but amid a second downturn in a decade many stand idle. Construction on Dubai Creek Tower began more than two years ago, but only its foundations have been laid and no completion date has been set. Property prices are down

by at least 25 per cent since 2014; real estate developers are trimming their headcounts and delaying payments to suppliers; parents speak of falling numbers at their children’s schools. Growth in gross domestic product decelerated to 1.9 per cent last year, the emirate’s slowest rate of expansion since 2010.” (Kerr Dubai fears the end of its ‘build it and they will come’ model)



“The entire business model needs a radical reset,” says one company executive, who believes distress among the city state’s corporates will deepen this year. “Costs are too high to sustain these levels of activity.” (Kerr Dubai fears the end of its ‘build it and they will come’ model)

“It is not the first time Dubai has been urged to change or that its brash business model has been questioned. Founded on open trade, international connectivity and agor-getting attitude, the city-state was swept up in the global financial crisis a decade ago, and at one stage was at risk of becoming the first sovereign default of the crisis. It weathered the storm, thanks largely to a \$20bn bailout from its big brother Abu Dhabi, the UAE’s oil-rich capital and by far the wealthiest member of the seven-strong federation. The lifeline exposed both Dubai’s oversized dependence on credit— in 2009 it was saddled with \$109bn of debt, equivalent to 130 per cent of GDP —and the opaque nature of a system where the lines between the



Render of Dubai’s new future skyline showing what will be the world’s tallest tower surpassing the current tallest tower, Dubai’s very own Burj Khalifa

government and state-related entities are poorly defined.” (Kerr Dubai fears the end of its ‘build it and they will come’ model)

“The regional turmoil, triggered by the 2011 Arab spring, offered Dubai an opportunity to leverage its reputation as one of the Middle East’s most liberal and open societies to become a haven for those fleeing civil wars or their local taxman. Although Dubai has negligible energy resources, its role as a petrodollar recycling hub means its fortunes have long swung in tandem with its larger oil-exporting neighbours. So rising oil prices after the Arab spring helped the city-state. “(Kerr Dubai fears the end of its ‘build it and they will come’ model)

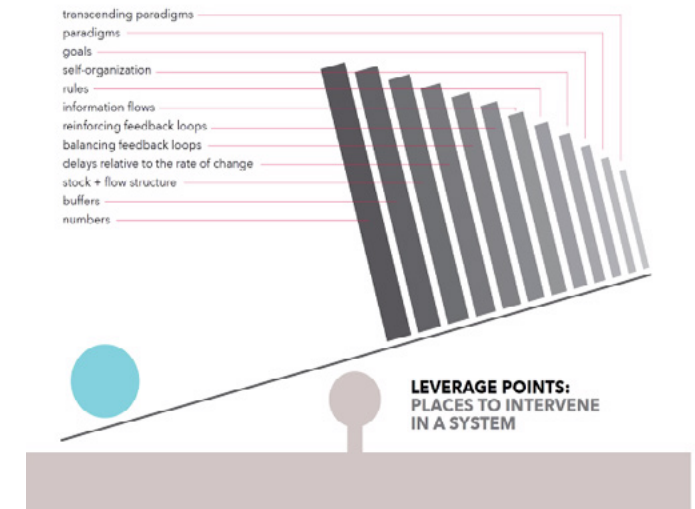
ANALYSIS

The following case study depicts how UAE is caught in an Escalation trap of its own. Dated from just last year 2019. Unfortunately, the situation has only worsened as property development continued on into the year 2020. The UAE expected a surplus of investors due to their success of winning the EXPO 2020. However, the seem to have already developed properties in surplus even with regards to the expecting reigning in of expats and investors. The emergence of COVID – 19 only pushed this trap in to further collapse devaluing existing and upcoming properties especially in Dubai.



The different areas to intervene in a system are defined as “Leverage Points” These leverage points relate to Numbers, buffers, stock and flow structures, delays, balancing feedback loops, reinforcing feedback loops, information flows, rules, self-organization, goals, paradigms and transcending paradigms. These leverage points have been listed in order from weakest to strongest.

Mindset is derived from paradigms. The mindset that sets goals, structure, rules delays and parameters. Spirituality directly affects your mindset and can change the paradigm. Once a human being has resonated with the deepest meaning towards their purpose, this idea then drives their goal. Transcending Paradigms are the strongest leverage point in a system because they are the belief in the realization that no paradigm is sincere. “that every one, including the one that sweetly shapes your own worldview, is a tremendously limited understanding of an immense and amazing universe that is far beyond human comprehension.” And as Meadows suggests, if a human being fails to find a purpose then why not “listen to the universe.” (Donella Meadows, Thinking In Systems, P.164 - 165)



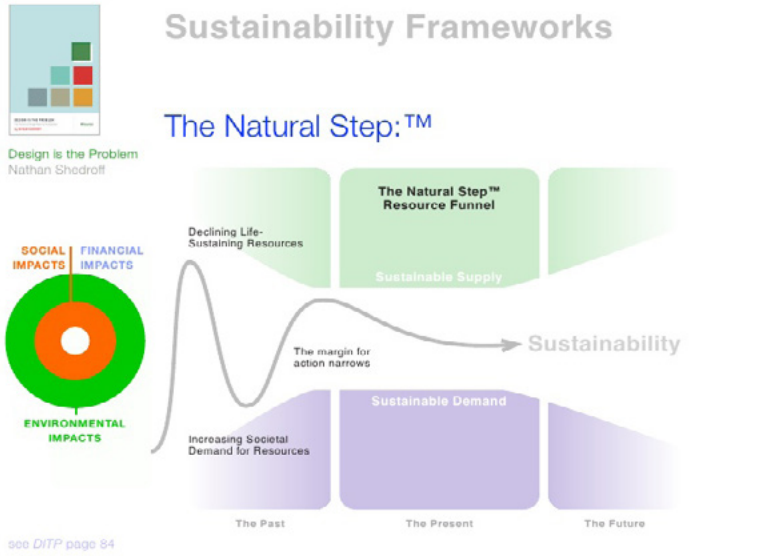
“In the end it seems that mastery has less to do with pushing leverage points than it does with strategically, profoundly, madly, letting go and dancing with the system.” - Donella Meadows.

5 A NEW PERSPECTIVE

The Natural step approach is a 5 step framework that is known as the framework for sustainable strategic development. (FSSD) This approach really helps in organizing the design thinking process and design tools.



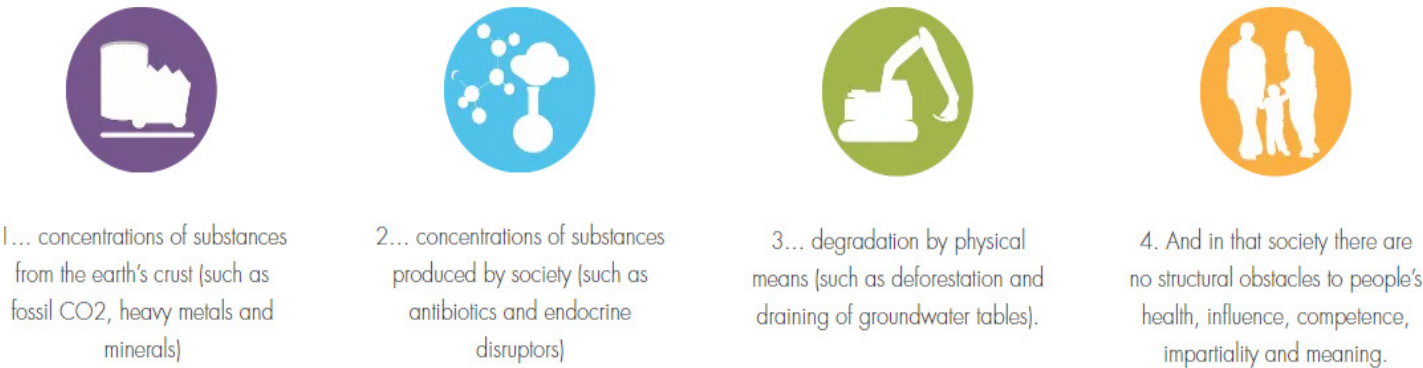
Step 1 refers to the purview of the system we are looking at. An example would be the earth as our system and all of us components within it. This is where the funnel metaphor comes in. The funnel metaphor depicts the notion that we are part of a system with an increasing demand of depleting natural resources and ecosystem requirements. This is due to the wicked problems of exponential growth in population and consumption patterns. The closing in of the funnel represents the outcome of this notion which is an increase in social, environmental and economic pressures.



The second step, Success, is categorized into four principles that act as a guide to achieve true success on the path to sustainability.

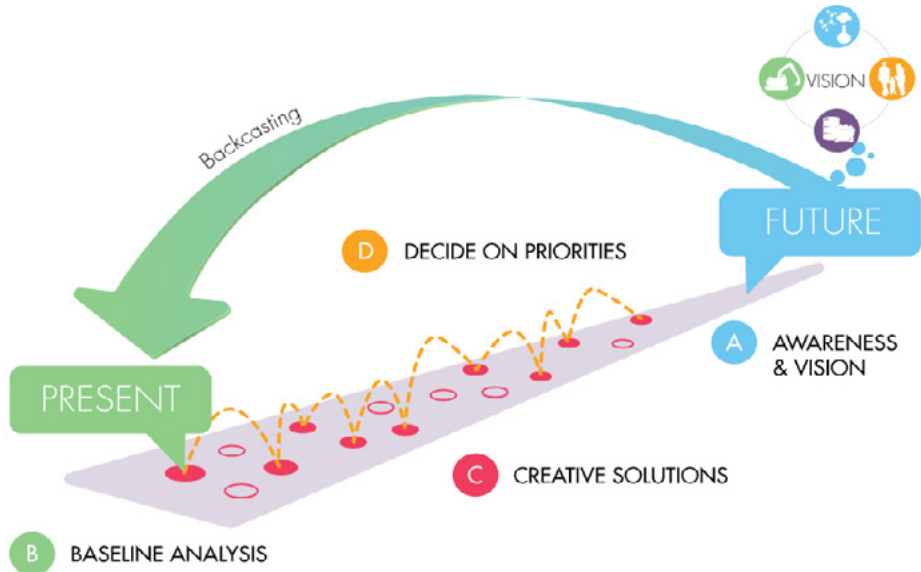
Designers need to make a shift towards adopting these principles because they portray a clear understanding and direction on this path to a prosperous sustainable future. With time, what seems to be unknown

turns into a conscious effort and then proceeds further to become an unconscious effort. Ideas that are just naturally ingrained in us. If we were to design spaces, products with these principles in place, how different would industries seem?



The next step is the implementation of strategic guidelines within organizations for them to work towards their sustainable journey. This step would require implementing the “backcasting” strategy. Using the 4 principles as the basis of purpose, organizations can create the vision for their future and when that vision seems as sustainable as possible they can start “backcasting” to the present to devise a plan of action towards their vision. *backasting and ABCD planning

Backcasting follows the ABCD way of planning. A being awareness of how to define sustainability, what it means for everyone, all businesses and organizations, society and the Earth. B is the baseline assessment which is where we use the four principles to perform a “gap analysis” and pinpoint where the flows and impacts of the organization are most unsustainable. This allows companies to realize their detrimental sustainability problems, their business plans, and strategic opportunities to change. C refers to the Creative Solutions that can be devised now that the gap between the



vision and the present state has been identified. This will inherently bring us closer to the envisioned goal and a sustainable solution (a product, service or organization) for the company. And finally, the last step in devising a plan. “What do we need to do, and when should we do it? What are the first steps and low hanging fruit that will bring quicker benefits and what needs longer term planning?” (Our Approach:

The Natural Step Framework) With the help of important questions, the most flexible and beneficial path towards the envisioned sustainable goal can be created.

EXAMPLE OF BACKCASTING



SUSTAINABLE ENVIRONMENT AND INFRASTRUCTURE

The UAE Government wants to ensure sustainable development while preserving the environment, and to achieve a perfect balance between economic and social development

To do that, the UAE Vision 2021 National Agenda focuses on improving the quality of air, preserving water resources, increasing the contribution of clean energy and implementing green growth plans.

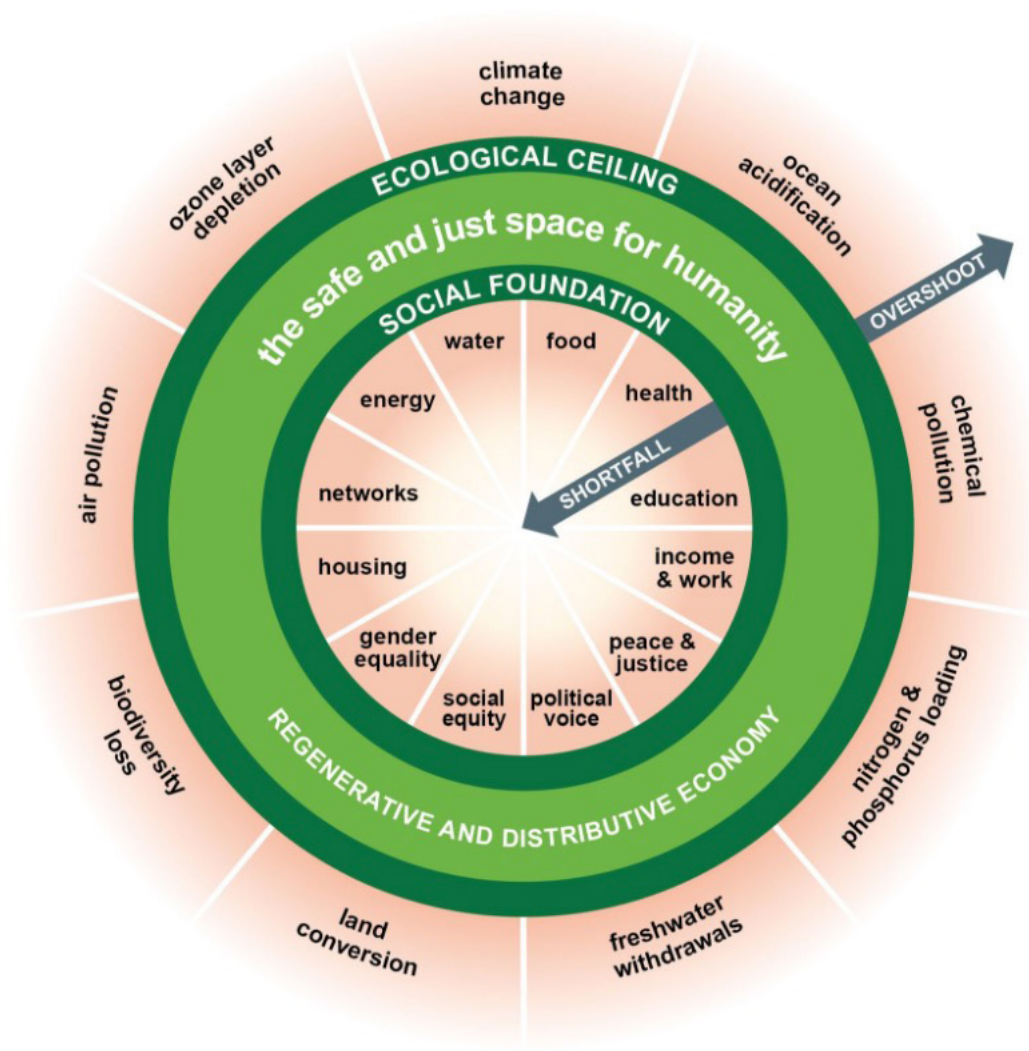
Also, the National Agenda highlights the importance of infrastructure and aims for the UAE to be among the best in the world in the quality of airports, ports, road infrastructure, and electricity. And leading telecommunications infrastructure will allow the UAE to become a forerunner in the provision of Smart services.

Finally, seeking to further improve the quality of life of its citizens, the Agenda has set a target to provide suitable housing for eligible UAE nationals within a record timeframe.

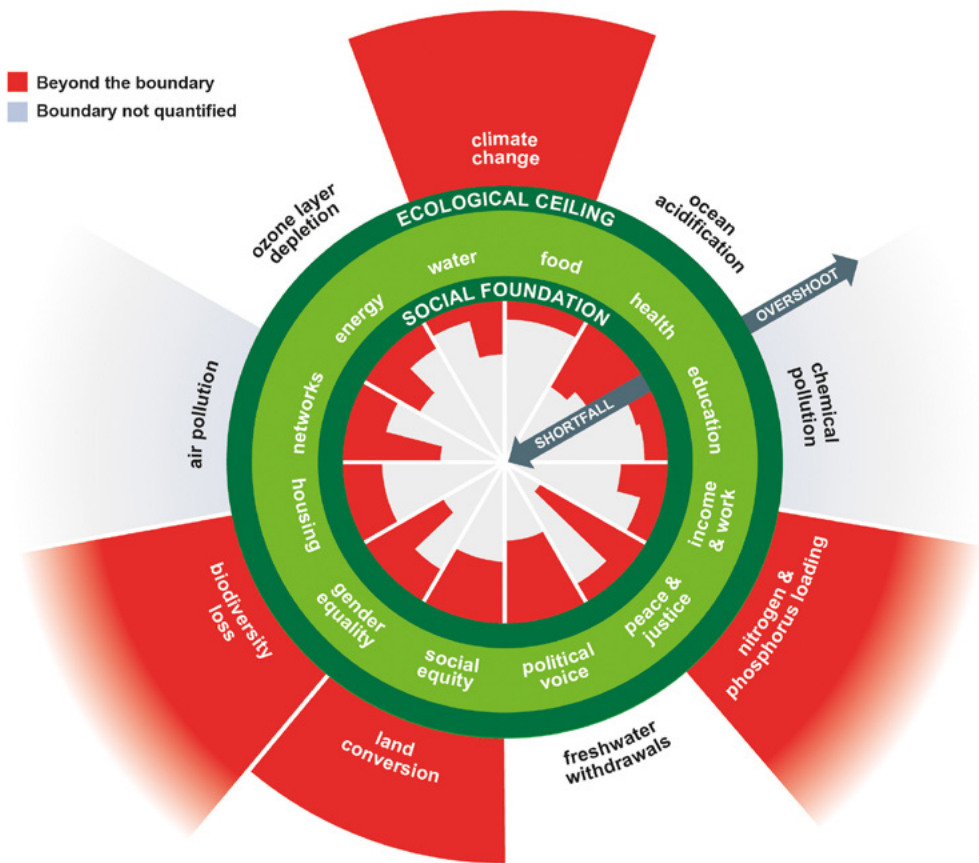
This is an example of how UAE is using the concept of backcasting in order to achieve a greater goal. They set the vision for their project and now they will work towards via their own systematic process

THE DOUGHNUT

Kate Raworth’s theory of looking at the world as a doughnut instills a new perspective of how countries need to change the way they look at the global economies. Economists have set old and flawed theories that current and future economists are still following. The big idea behind success being growth needs to change. However, the world has evolved and the needs of survival of both humanity and the ecosystem have changed. They have heightened. The doughnut is a new way for the world to shift towards “sustainable” economics in the twenty-first century.



The doughnut depicts 21 essential factors to focus on yet the only factor that drives economies is success and growth. Now let’s have a look at how much we love growth.



It’s appalling to see how one factor can affect so many others. The rapid growth of economies around the world has led us into this state of selfish oblivion. We turn a blind eye to problems that are simply too wicked to pay attention to. Humans make mistakes everyday, economists are humans. Economists have commonly made Gross domestic product (GDP) the ultimate measure for the success of a country’s economy. However, increasing GDP has only led the world into further turmoil.

Economics was not always about making more money and becoming wealthier. In fact, the word economy derives from a

Greek word that means “the art of managing a household”. It was based upon understanding how to make the best use of limited resources. It was in the 18th century when this idea was shifted by economists who changed their focus more towards science, enabling a quantifiable value to this art. By the 19th century, economists changed the focus entirely towards examining laws of economic life. They changed the whole purpose of what economics initially was; leading to the development of the dangerous obsession known as “growth”. By the end of the 20th century, the economic order was obsessed with measuring the amount of wealth each nation was making via the infamous measure of GDP.

GDP does not tell or show the whole story behind a nation's success. It does not take into account all the negative impacts this GDP has. It's an addiction that runs the path to success for every ruler. Economies have to make a change from being linear economies to circular ones.

There are several ways for countries to get into the safe space of the doughnut but

UAE ANALYSIS

The UAE is a prime example for this addiction to growth. For a country that is not even fifty years old they have achieved increasingly rapid levels of growth in the past 30 years. Dubai is known to be one of the fastest growing cities in the world. Only 1% of the GDP comes from oil. A large percentage of their GDP comes from tourism, which has been a long term goal to reach the title of the world's top tourist destination. "Dubai is credited with developing one of the region's most diversified economies, founded on trade and transportation. It has branched out into tourism, manufacturing and, more recently, finance, but it is still heavily dependent on real estate, which accounts for a quarter to a third of GDP growth." (Kerr Dubai fears the end of its 'build it and they will come' model)

The UAE, in particular Dubai, has emerged into this idea that it has morphed into a self obsessed culture of growth and greed. It thrives on increasing economic growth. This country developed itself without taking into account any of the environmental impacts growth was having on the economy. At the height of its growth, in 2007, the small country, UAE, had the highest ecological footprint in the world, surpassing the United States of America. Dubai has also been previously known as the crane capital of the world. In 2008-2009 Dubai's economy was also hit pretty badly due to the global economic crash. However, they slowly recovered, and by 2014 went

regardless of how it is done, the addiction to infinite economic growth needs to be overcome because our planet is hurting and we must take action in whichever way possible.



Burj Al Arab, a was the first project giving hope to this ambition of being the world's top tourist destination right from 1994

back to being one of the fastest growing economies. In 2013 they won the bid to host the Expo 2020 to boost their economy further.

The UAE is really good at being part of global trends, and they seem to have realized that their development has definitely been an enactor in negatively impacting the planet after people have become more aware of the world's depleting resources. While being on this wild spree of development, the UAE's leaders have made a shift in their direction by focusing on sustainability. In 2012, Sheikh Mohammed launched a green economy initiative called Vision 2021, with the slogan "a green economy for sustainable development." The prompt for this initiative

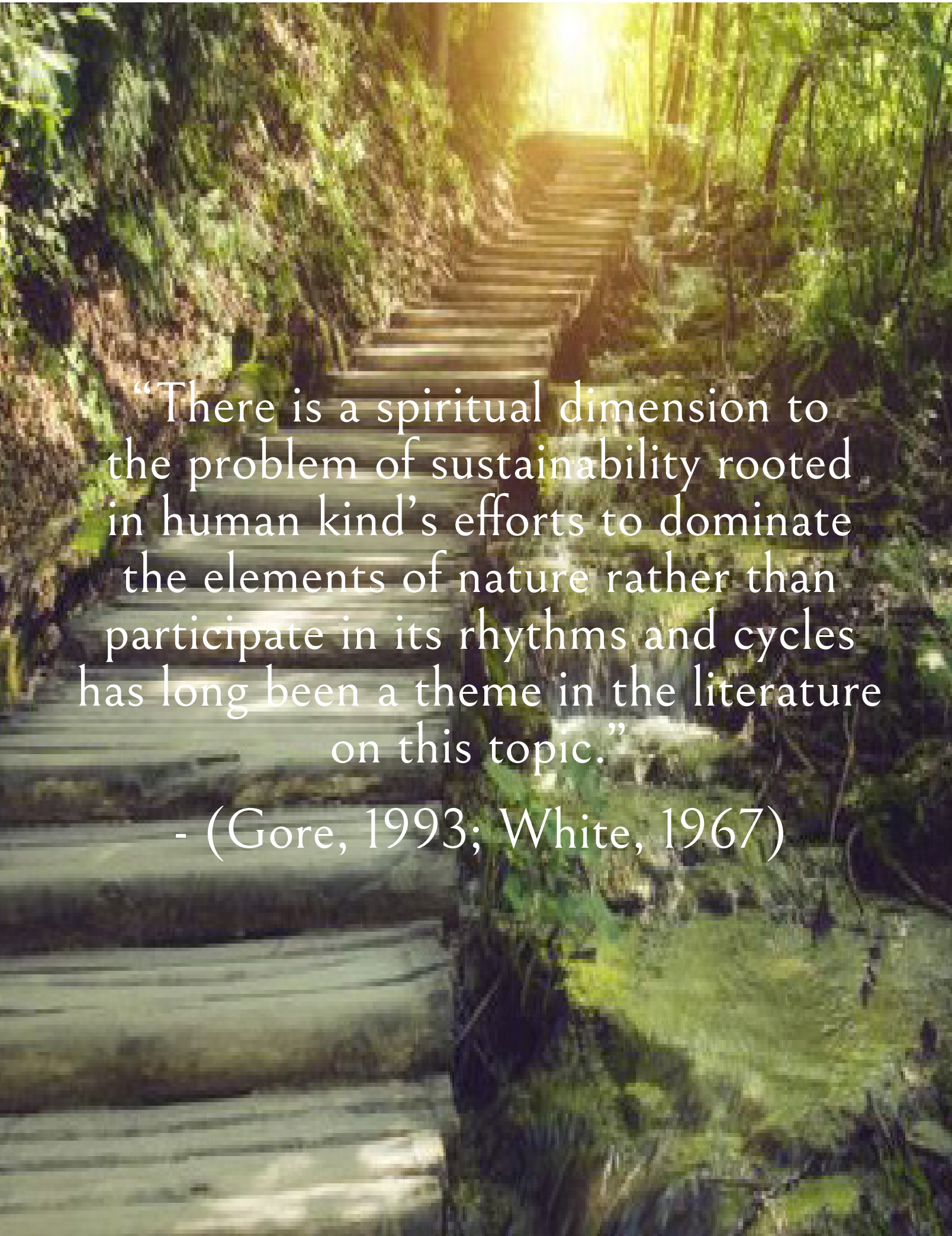
features a lot of words such as "competitiveness, world leader, economic growth" The UAE is making conscious efforts now to achieve The UN's 2030 goals.

The correlation I have noticed is that although the act is good, the intent is not certain. They seem to have an obsession with this concept of being the best, the biggest, the largest, the tallest, the fastest, the highest and so on. It seems like their direction towards sustainable growth of their economy is the same. Their new goal is to be the city with the lowest carbon footprint in the world by 2050.

Although these are all good and positive initiatives it just seems that it's more than just a positive shift towards a more promising future but instead it's just another way to be In the spotlight, to be the best, to encourage more people to come and spend money in the UAE, hence, another way towards an increase in the country's GDP.



Museum of the future. Dubai's latest new iconic building which features the ruler Sheikh Mohammed's scripture on the outer shell of the building.



“There is a spiritual dimension to the problem of sustainability rooted in human kind’s efforts to dominate the elements of nature rather than participate in its rhythms and cycles has long been a theme in the literature on this topic.”

- (Gore, 1993; White, 1967)

6 THE BALANCE

We may now be aware of the negative impacts of growth are on society and the environment. We also may be aware of how to take action as designers and work towards designing for a circular economy. Yet despite this awareness, we are still eluded by the ability to encompass action towards sustainable change. We want to achieve a sustainable life, not just design sustainable “things”. In order for real change to occur we need to dive into the intangible and immaterial dimension of ourselves, this is the spiritual sense.

We have seen, we have heard, we have experienced and now we have understood but going forward how do we manifest this energy into action?

Spirituality hits higher levels of self awareness such as love, empathy, participation, understanding and compassion. Spirituality is everything. It is the replenishing of the soul. In order for us to make a positive “sustainable” impact through our work and our relationships we must drive a spiritual change through connecting our knowledge to our actions. Designers are facilitators and amplifiers of shaping environments and they can facilitate change.

Ecosystems thrive on their own, with a cycle of its own. Each component (plant and animal) of an ecosystem knows its purpose and place within it. Human beings have deviated very far from their nature and their purpose. They have instilled monetary values on even the kindest of relationships like friendships. An example of this would be the Idea of Kitty parties amongst a group of friends. A kitty party is based on a concept that you pay an amount of money every time you meet each other as a group. People are basically

putting a price on their friendships. This essentially leads to making no truly meaningful relationship. If people cannot make meaningful relationships with one another, being entities of the same species then how can they form a meaningful relationship with nature or even themselves? Society’s culture has gone too far from its nature. In Dubai, they have gone so far from themselves that its culture is now defined by their development and what they call “The Dubai Lifestyle” that they have created. The culture is essentially lost.

A sustainable future would require a pull towards the right direction. This pull can only be driven from within. The soul is a human being’s strongest driving force, so why not work towards strengthening it?

7 A SPIRITUAL AWAKENING


Whilst being on my path to sustainability, I have found connections to the process of understanding the spiritual dimension of Islam called Sufism. This brought me to the realization that becoming a designer for Sustainability is a fragment to my path towards cleansing my soul and understanding my purpose on this earth.

The following text is a rewording of excerpts put together from a book very close to my heart called “Sufism”.

Human greatness or human perfection relies on the highest development of our inner and outer qualities and how we use them. There are two sides to everything. An external and an internal side, the value depends on the inside. For example: A box of diamonds. The diamonds on the inside are far more valuable than the box on the outside. However, the box is what protects the diamonds inside. Similarly, our actions are what defines our internal spirit.

Our success in life depends on the amount of knowledge we acquire about the world and the proper use of this knowledge. The more knowledge we obtain, the greater chances we have for success. Knowledge of creation can never be complete without knowledge of the origin and the principles upon which the universe has been created.

To conclude, my view is that to be successful as a designer for sustainability, I think it is important to find that balance between understanding what we now know, using what we have learnt, igniting it with what we feel and then coming together to share this knowledge through design. Sustainability is a selfless act of love towards nature and humanity. This is just the beginning of a promising future for the future generations of life.



I believe a collaborative future is a sustainable one, whereas, a competitive future is just “business-as-usual”.

THE END

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