A Framework for Sustainability

My first job out of college was with a startup in real estate development. Kalu Yala (www.kaluyala.com) had embarked on a mission to build the world's most sustainable city from ground up in the rainforests of Panama. Their approach is to unite experts from every domain and together build an adaptable and scalable model for sustainable development. Their focus on 'the city' as a model planet encompasses every domain and sector of a society with shared resources and interdependent livelihoods. I was intrigued by the grandeur of their mission and impressed with their open and wholesome approach. My primary focus was figuring out how such a collaborative effort could be enabled. It was clear that what we needed, first and foremost, was the knowledge of the best research and the latest technologies, design principles that could incorporate them, engineering solutions to manifest them, and inhabitants who could understand and appreciate them.

A large part of my work dealt with qualifying what is "most sustainable." I wanted to gather such knowledge for every domain and component of a city, from architecture to renewable energy, farming to waste management, transportation to communal space design, and so on. Five months of research on sustainability led me to a simple realization of a fundamental void in the industry - a definition.

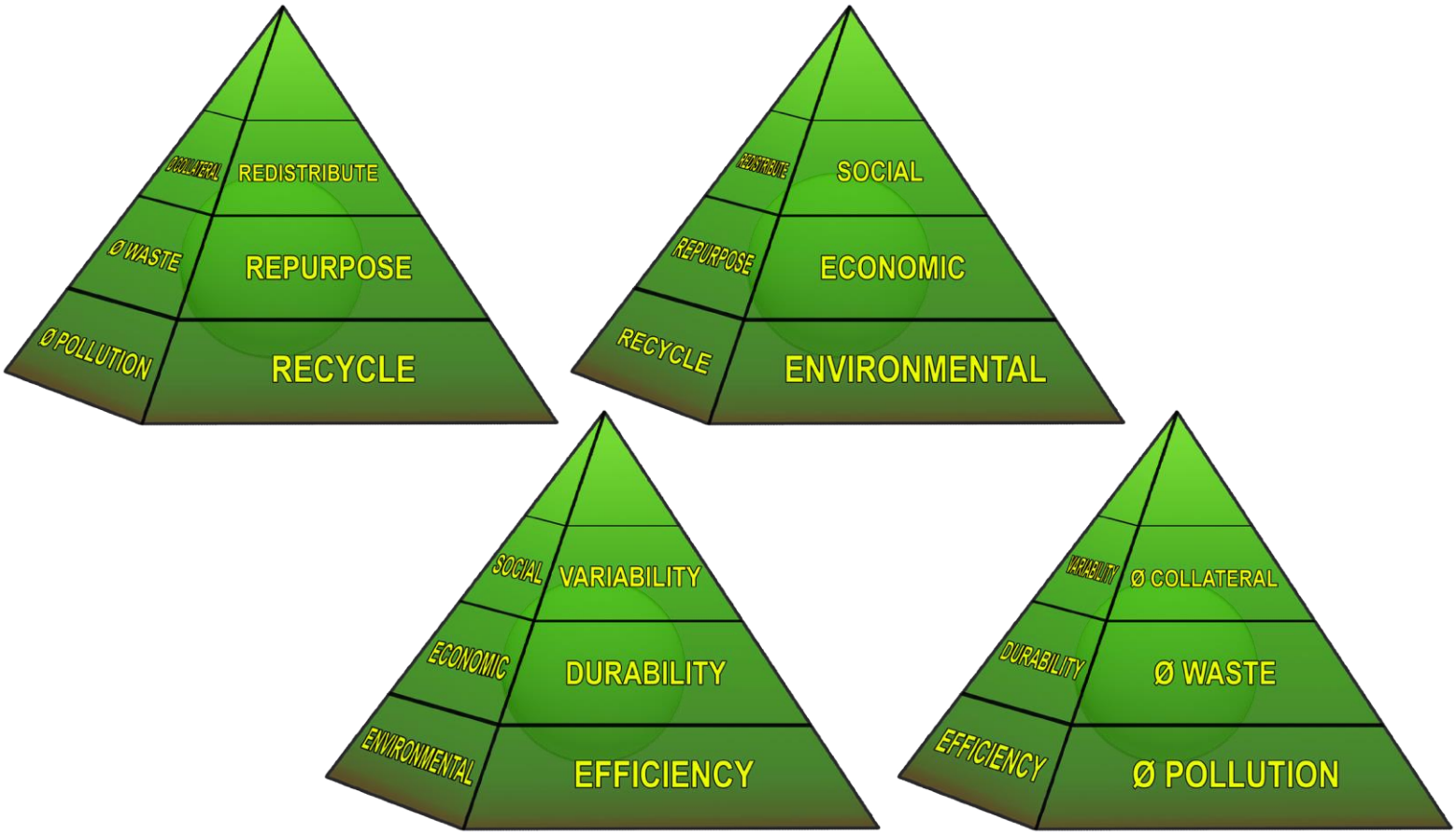
Sustainability as a concept was born out of unsustainability. It wasn't until we became aware of the damages we've inflicted on the environment that the UN acknowledged the need to widen our considerations in our business practices and put forth a definition for sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." While it provides some political direction, it does not define what is sustainable. Many businesses nowadays engage in some form sustainability; nobody wants to be unsustainable, but what exactly are we striving for? What differentiates a sustainable solution from a marketing outfit? How can businesses and consumers decide what product is more sustainable than another? How can enterprises evaluate their practices for their level of sustainability?

The grand vision of sustainability, which intertwines a broad spectrum of efforts, has a unique quality of unity without congruence; as though everyone involved is traveling towards the same beacon without a shared perception of what it is. I believe that sustainability, first and foremost, has to be defined in a way that implies what is not sustainable. To be an economy, it needs an exchange currency - a standard rate of value attribution; a framework that helps unite sustainability efforts based on a shared understanding of the vision.

I approached this dilemma by aggregating different vantage points on sustainability and distilled them down to their lowest common denominators - core values that are common to most ideologies, initiatives, and policies in this space. I found that we tend to speak about sustainability from 4 unique perspectives: as a matter of systemic balance, as an effort from the end-user, as a methodology for business, and as a measure of end- results. I noticed that each perspective consists of three attributes, and they are neither reducible further nor sufficient on their own, but together add up to what is sustainable. I discovered a thematic alignment in this matrix of 12 that makes it appear wholesome in utmost simplicity. And surprisingly, I found that this scheme yields a succinct and potent definition for sustainability. To the extent of my experience, I haven't found another interpretation or approach whose claims and expectations were unfulfilled by this framework.

Nonetheless, these are just partial observations from an independent study; nothing more than a raw interpretation of my findings. It's simply how I made sense of this convoluted topic. My intention for this semantic framework is to help develop a wide range of industry-specific standards that are fundamentally rooted in a shared evaluative model of sustainability.

Sustainability is the ability to reloop systemic value creation with minimal detriment.



This is the sustainability pyramid - a matrix of 12 attributes contained within 4 perspectives - that act as a sift for evaluating a product or practice (symbolized by the sphere within) for its sustainability.

I believe that together in synergy, they provide a semantic framework that could help in analyzing systems and individual components to attain sustainability thresholds.

Self-preservation is the first law of nature and sustainability is its measure.
Sustainability is a cause; sustainable progress is the effect.

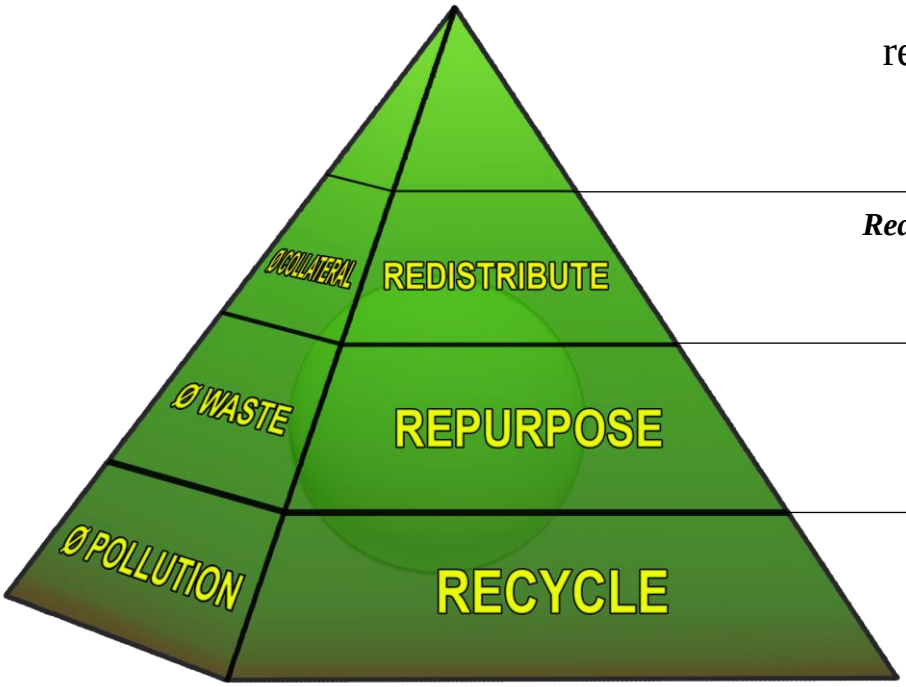
If achieving wholesome sustainability for the planet is the ultimate quest, our activities must be anchored by a primed and collectively accepted definition of what is sustainable.

It demands simplicity where possible & complexity where necessary.
It needs to be challenged, discussed, and recalibrated with case studies, practical insights, and new discoveries.

If we can reach disciplinary agreement on what is sustainable, I believe we'll find connections we couldn't see before and be able to mobilize collaborative efforts with greater efficiency and success.

Sustainability Pyramid

From an **End-User** perspective:



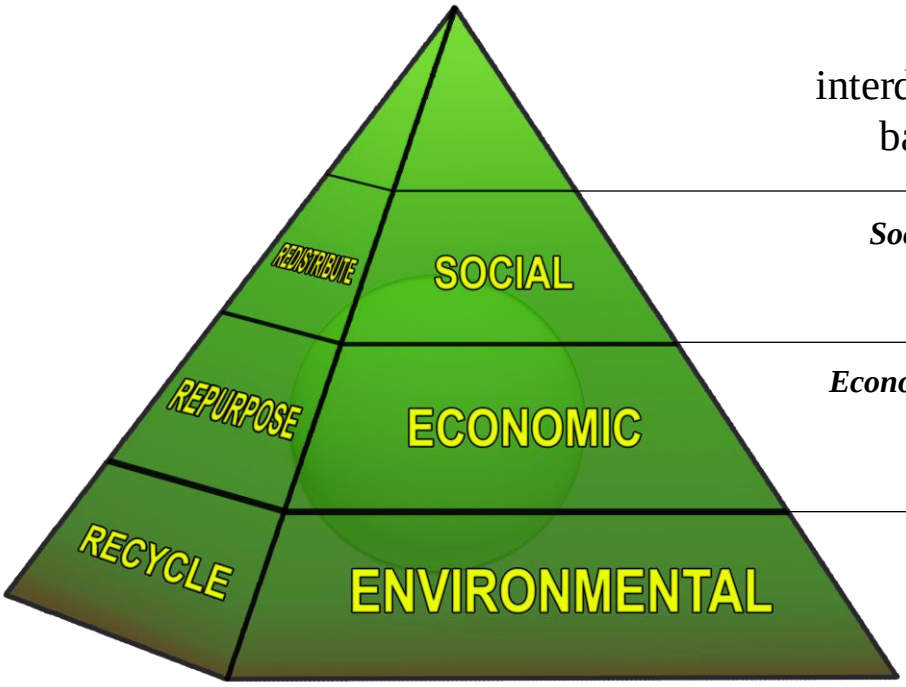
Reinforcing cyclical operations requires circumspective design that allows for social engagement to reloop production cycles.

Redistribution helps meet demand to slow down rates of production and creates social capital for those in need.

Repurposing extends the life and value of a product by forging new ways to use it before is discarded or recycled.

Recycling processes waste into reusable materials by returning used products to a previous stage of the production cycle.

From a **Systemic** perspective:



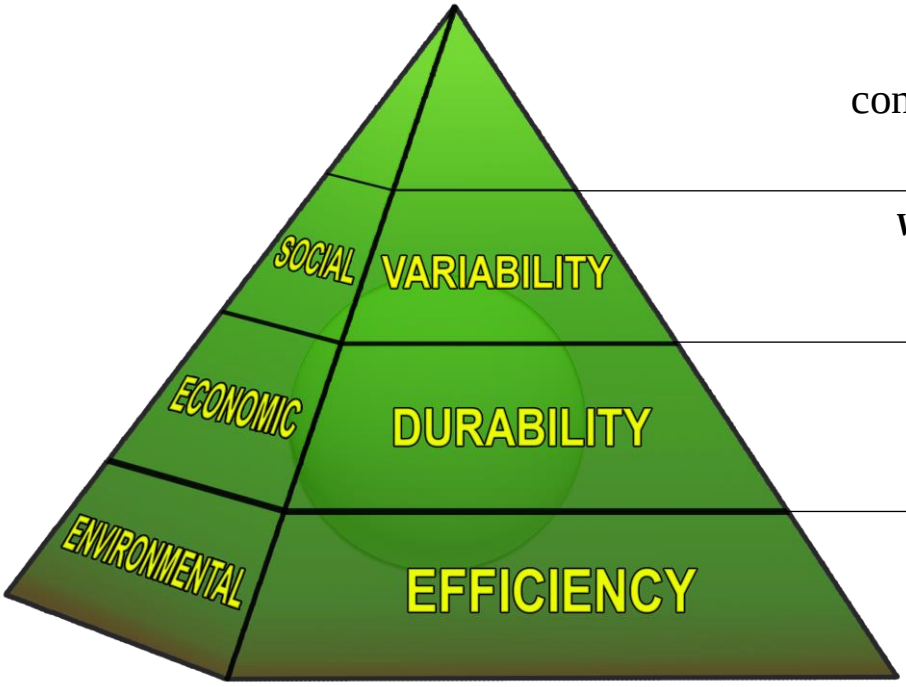
System-wide equilibrium requires interdisciplinary dialogue to maintain a balanced triple bottom line welfare.

Social sustainability is the ability to collectively function for mutual benefit at an equitable level of social well-being.

Economic sustainability is the ability to maintain a supply and demand balance that accounts for social, economic, and environmental capital.

Environmental sustainability is the ability to keep resource depletion rates within the regenerative capacities of their natural ecosystems.

From an **Execution** perspective:



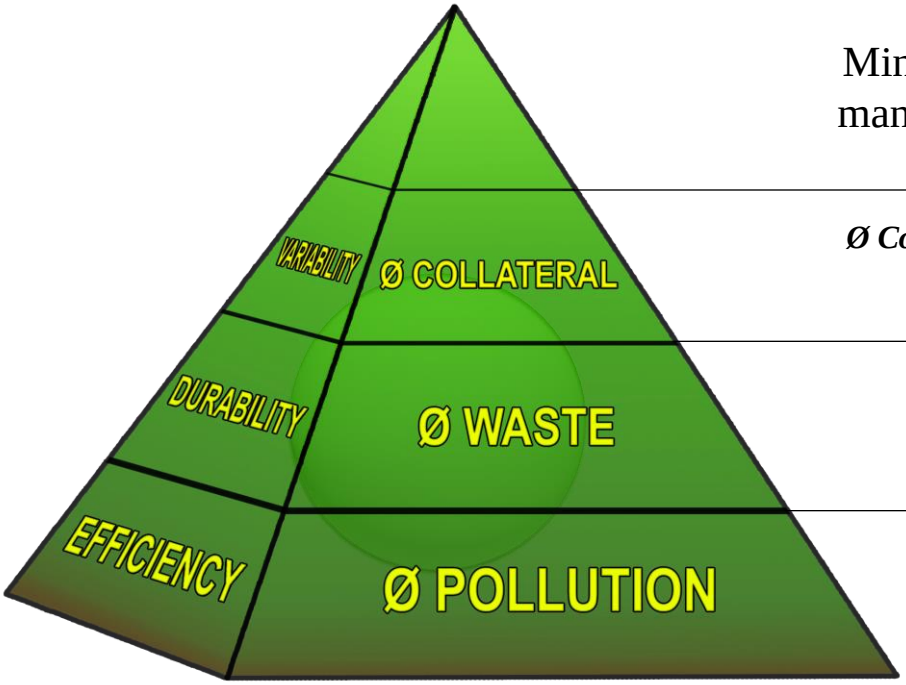
Effective value creation requires contextually conducive practices that encourage quality and versatility.

Variability is the ability to adapt to contextual changes during production or use to increase range of utility.

Durability is the ability to endure the time required to continue production within sustainability thresholds.

Efficiency is the ability to output equal or greater value than the value input for the activity.

From an **End-Result** perspective**:**



Minimal detriment enforces judicious management of resources that prevent harm within their domains.

Ø Collateral enforces the prevention of incidental damage caused by development, production, or consumption.

Ø Waste abstains from linear use of resources whose life cycles are destined to end in waste.

Ø Pollution forbids contaminants in natural environments that cause instability, disorder, or harm to their ecosystem.

Sustainability is the ability to

reloop systemic value creation with minimal detriment.

Make a Model Pyramid