

## Sustainable Human Development: A Necessary Paradigm Shift

Sam Ayele

Philosophy of Science



These are two images I took on a walk around my neighborhood in San Jose, California. When I first looked at the sky, I was amazed by the sunset's vivid beauty because I've never seen anything like it before. Then, I was struck by realizing fear because I've *never* seen anything like this before. My phone's camera could not capture the colorful intensity that seemed more fitting for a scene in a dystopian movie series. Since the 1980s, scientists have been warning us about the looming effects of environmental change. In 2019, we're finally starting to see them manifest, from the polar vortex in the East Coast, to unprecedented heatwaves in France, to California wildfires that cause these heartbreakingly beautiful sunsets. How did we get to this point? Why do we not care about this enough? What can we do to make it right? Or is it too late for us? Climate change and sustainable human development researchers are trying to answer these questions from all sorts of different angles. The study of

human development did not emerge from the environmental issues we face today, however. In fact, it's been a study of philosophy and economics ever since the Ancient Greeks. A more modern and influential human development philosopher was Adam Smith, the Scottish father of economics and capitalism. His ideas of free markets and the invisible lending hand gave birth to classical economics which eventually evolved into neoclassical economics. Neoclassical economics is the way our global economy is currently running. However, it's core assumption of supply and demand is leading to unnecessary waste, human rights violations, and drastic damage to our Earth. If we want to keep studying human development and economics, we need to fix this crisis by switching to sustainable human development. However, sustainable development calls for the dismantlement of neoclassical economics.

Sustainability is defined as meeting the needs of today's society without sacrificing resources for the needs of tomorrow's. This criteria of human development has never been so important than our generation. In fact, it is so crucial, another branch of social, natural, and economic science has started to form with sustainability as it's core organizing principle: sustainable development. Sustainable development relies on three pillars that uphold its central values: environmental protection, social welfare and development, and economic sustainability. As the world population is estimated to grow from 7 billion to 9 billion by 2050, there are going to be less and less natural resources for everyone to consume. Sustainable development recognizes that the environment is not an inexhaustible resource and seeks to protect and ration what is left of it. However, the distribution of resources should be equitable. We live in a globalized society and it's our responsibility to make sure everyone around the world has the same civil liberties and standard of living as us, that is where the social pillar comes in. Finally, sustainability development promises economic sustainability, making sure all humans meet their financial and survival needs without the risk of depleting precious resources. In 2015, the UN

set 17 sustainable development goals for all nations to adhere to. Some key goals included ending all forms of poverty, responsibly producing and consuming goods, and halting biodiversity loss and climate change. These 17 goals are hoped to be achieved in the year 2030. However, our current economic structure is proving to be an obstacle in achieving these on time.

In order for sustainable development to come about, natural science, social science, and economic science must stand in accordance with each other. Although economics is under the umbrella of social science, the study of production, distribution, and consumption of goods and services has taken a life of its own. Before it was a science, however, economics was just a philosophy of human capabilities. In 1776, Adam Smith published his famous book *The Wealth of Nations*. In it, he proposed a new economic theory in which an individual can act on his own self-interest and end up benefiting the greater good. This idea grew as the industrial revolution ushered in a new era of living and functioning. However, competing economic theories like Marxism and events like the Great Depression challenged and tinkered classical economics as society changed. Today, we use what is called neoclassical economics, taking ideas of individual behavior from classical economics and combining them with Keynesian economics which looks at the performance of the economy as a whole. As businesses start to grow and globalize their organization, the way we measure economic growth and prosperity has started to overpower the other two pillars needed in sustainable development.

We can model neoclassical economics using Imre Lakatos' idea of research programs. Its core idea is that the consumer is ultimately in charge of the prices they pay for a good or service through the law of supply and demand. If there is enough demand for a certain good or service, a seller is willing to pay the cost of production to provide it. This theory relies on three central protective belt assumptions. The first is that humans are capable of making rational

choices between several outcomes. Rational choice theory uses an individualism framework to explain economic behavior. The totality of all economic behavior is based on the sum of all individual, rational agents making decisions based on their own preferences and incentives. The second assumption is that consumers will maximize their utility while sellers will maximize their profits. For supply and demand to work properly, both sides of the market will need to benefit in some way. In a voluntary exchange, the consumer will only give up money if they deem the product or service to be valuable enough. At the other end, the seller is trying to make maximum profit. If the cost of production for an item is high, a seller will not accept a low offer in exchange. These two forces working at the same time should create an equilibrium that benefits both the consumer and seller. Finally, the last assumption in neoclassical economics is that all agents act independently and with perfect information. In order for a rational agent to gauge value for a product, they will need to know all of the other market prices, how much utility it brings to them, what would be the cost of not purchasing it, and many other full and relevant information. These are the three assumptions that make up a fair neoclassical economic structure, but how do they play out in real life?

With the development of experimental behavioral economics, rational choice theory is on its way out. Working with human participants and their preferences shows us that humans are not the perfectly rational beings we think we are. We work with bounded rationality. Whenever we make a decision, we are bounded by the amount of information we are able to gather, the cognitive constraints of our minds, and the amount of time we get to come to a decision. A perfectly rational agent maximizes their utility at all costs. A human, however, just doesn't have the access, effort, or time to always make the best decision. Instead of reaching the optimization that neoclassical economics requires, we settle for satisfaction. Humans are also riddled with cognitive shortcuts called heuristics. One heuristic that shows up in behavioral economics is the

affect heuristic. We tend to make certain decisions based on whether they give us a good or bad feeling, especially when we are short on time. Although this is a deeply rooted evolutionary strategy, it starts to become a bias when thinking on a global scale. When it comes to climate change, it is the lack of affect that fuels our decision making. Apart from the deniers, most Westerners are fully aware of climate change. However, only some take any action to combat its effects. Researchers believe this is because we have not directly felt the consequences of climate change yet. Thinking about problems so distant into the future does not give us the fight or flight response when we get in immediate danger, so we assume it is not a high priority. However, when we do start feeling the effects of climate change, it will be too late to reverse them so this heuristic just might end up killing us. Not only does it delay action, it exacerbates damage we've already done by giving us the green light to continue living the way we do today. A rational agent in neoclassical economics would use backwards induction to reason through a possible action or inaction before they fully commit. This ideal is not reflected in human behavior.

The second central assumption of neoclassical economics is that consumers maximize their utility while sellers maximize their profits. From bounded rationality, we know that it takes a lot of effort and skill to actually maximize utility. It's easier to settle for satisfaction. However, when it comes to profit, there's really no threshold for satisfaction. Businesses can use all sorts of tricks to continue maximizing profit like spiking the price of a high-demand, low-supply drug like Martin Shkreli or more subtle ways of cutting down the cost of production. Thanks to technology and globalization, large corporations can now run their businesses from all over the world. By outsourcing jobs to countries without strong worker's rights, like China or Bangladesh, companies can save millions on wages and labor. These savings can encourage them to lower consumer prices, making the customer think that they are maximizing their utility by buying such

a cheap product. However, consumers do not know what they are buying was made with child labor, unsafe working conditions, unfair wages, or unbearable hours. Another way corporations cut corners is by excessive use of plastic. Plastic is easy to make but hard to get rid of.

Companies use plastic as a cost-effective way to manufacture, protect, and distribute many of their goods. However, once the goods have been consumed, the plastic it came in ends up in our oceans and littered across the Earth. Animals washed up on beaches show proof of damage when tons of plastic waste are found in their stomachs and around their necks. Animals on land also suffer from habitat destruction due to product demand. In 2010, Nestle got into hot water when it was discovered they cleared large amounts of Orangutan habitats to grow palm oil needed for KitKat bars. Although they are now trying to find alternatives to palm oil, it was only after public outrage that they even questioned their business ethics at all. There are many other companies like Nestle that profit at the cost of environmental destruction. If neoclassical economics only demands the maximization of profit and utility, there is nothing standing in the way of exploitation and destruction.

Finally, the last assumption needed for neoclassical economics is acting independently with perfect knowledge. As humans, we know that perfect knowledge is impossible. Even our best intelligence is tainted with some uncertainty. However, acting independently can also have drastic consequences on sustainable development. Tragedy of the commons is a social dilemma witnessed when several individuals act independently when it comes to a shared resource. Their self-interest ends up causing more harm to the common good because they can only live sustainably if they worked together. Although this phenomenon is displayed in almost every situation with a shared resource, a simple example is that of overfishing. Fishing for survival is not inherently bad. However, because of the supply and demand rule, we are fishing so much, the stocks don't have enough time to replenish. According to the World Wildlife

Foundation, we are currently pushing fisheries to their biological limit. If everyone did not act independently and instead worked for the common good, we would have plenty of fish to consume and enough to replenish the supply for tomorrow. Neoclassical capitalism's idea of independence leads to collapse of sustainability.

All three assumptions of a neoclassical economy are not supported by economic sustainability or sustainable development. Its core idea of supply and demand have been shown to lead to idealization of human rationality, human and animal rights violations, and unnecessary production and consumption. The way we run our economy has created an environmental and social crisis. For sustainable development to work, we need to ditch this theoretical framework and adopt a new one. But, where do we go from here? First, we need to invest in better research. Learning how humans actually make decisions through behavioral or neuroeconomics can help greatly in restructuring economics. We could also reevaluate the way we measure our global economy, using something like a Doughnut economic model with planetary and social boundaries for growth or uneconomic growth instead of just GDP. Second, as individuals we need to learn about our biases, work to reduce them, and take action against climate change, even if it doesn't *feel* like it's important. Finally, we need to keep companies and our elected leaders accountable for making sure our tomorrow will be better than what it's projected to be today.

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