Abstract

The Amazon Rainforest, known as 'the lungs of the Earth,' has been under threat for decades. There has been a domino effect of global insecurities caused by the extraction of resources through human interventions, including industrial activity and large-scale agriculture. With new data and research showing the rising levels of environmental degradation, the international community has joined together under a unified goal to combat environmental insecurity. From locals and governments to the private and public sectors, stakeholders across industries have pledged to devote their time and resources to creating more climate-friendly regulations, innovation, and action plans. A congruent part of creating a more sustainable world comes from scientific research and technological advancements. While innovation is generally seen to be tied to economic patterns, it can also be used for the objective of human growth. Under the latter objective, innovation has the potential to play an intrinsic role in resolving environmental insecurity. However, the effects of innovation in the shape of emerging technologies will vary depending on how an actor understands the meaning of innovation.

As sources of innovation continue to evolve, there is a need to investigate the long- and short-term impacts of innovation on sustainability and, more importantly, understand the cause and effects of innovation through the perspective of various levels of stakeholders. As such, this dissertation seeks to explore the relationship between innovation and sustainable practices. The objective of this dissertation is to explain how sources of innovation shape sustainable practices as a means to combat environmental insecurity. Using the case of Artificial Intelligence (AI), this dissertation inquires about the research question: 'what are the impacts of innovation in terms of sustainability? More specifically, how have emerging technologies altered sustainable practices in relation to deforestation in the Brazilian Amazon Rainforest?

In a comparative, exploratory case study, the analysis investigates the case of Artificial Intelligence through a Social Construction of Technology (SCOT) framework. The first part aims to understand the evolution of Artificial Intelligence and how its meaning has changed over time, while the second part looks at the case of AI implemented into the development projects to combat deforestation launched by the Amazon Institute of People and the Environment's (Imazon). Expanding on the evidence found in the analysis, the discussion will discuss a second, broader question: what is considered "effectiveness" in terms of sustainable development practices? Looking at AI through the lens of the environment and the SCOT theory provides a useful angle for understanding the implementation of innovation and the misaligned

motives of actors. As such, the measure of "effectiveness" related to the implementation of sustainable technology is subjective. Furthermore, technology operations and development aimed at improving sustainability continue to prioritize economic outputs. The dissertation findings explore how effective change towards sustainability does necessarily work just through cross-collaboration. Rather, there needs to be more insight from minority groups most affected by environmental insecurity. As such, the dissertation expands on the need for a paradigm shift away from the capitalist system that is currently ruling the world.