Investigating environmental sustainability implications of private investment processes in ag-tech start-ups - The investing firms' level of engagement with the climate and environment, and their decision-making processes

Ipek Esme - University of Leeds

Iva Bimpli - University of Leeds

The environmental impact of the agriculture industry has been rampant on many levels, being the source of a quarter of all greenhouse gas emissions globally, while contributing to the ecosystem loss at an alarming rate. Governments and international organizations put forward the agriculture technology innovations as a potential solution to the woes of the agriculture industry. Currently, one of the major sources of these technology innovations is ag-tech—agriculture technology start-ups. These start-ups offer numerous solutions in multiple disciplines, ranging from digital decision-making systems to biotechnology; however, their exact ecological impact is still unclear. In 2020 alone, private equity investors poured an astounding $26.1 billion into ag-tech start-ups (Agfunder, 2021), putting these investors in a pivotal role that strongly influence the agriculture industry's impact in the next decade. Consequently, this study aims to look at the potential environmental sustainability implications of these private investment processes in ag-tech start-ups, covering areas including the investing firms' level of engagement with the climate and environment, and how they incorporate these in their decision-making based on the start-up CEOs' experience. Using the fundamental concepts of the Ecological Modernization Theory (Frouws and Mol, 1997; Christoff, 1996; Sarkar, 1990 ; Ulrich, 1979), in particular, Christoff's (1996) weak and strong ecological modernization models, the study first builds four qualitative case studies in specific contexts within the agriculture industry. Subsequently, the findings of elite interviews with CEOs in these particular contexts are presented to fulfil the research aim. Main findings suggest that the potential impact of these technologies is varied and unpredictable; however, the ecological awareness and evaluation criteria of private investors lack a strong basis and depth, therefore inadequate to capture the complexity of the potential consequences. The study concludes that in order to assess the wider environmental and social sustainability implications of these technologies, investors need to employ a more robust framework that considers their particular contexts, if these technologies are to become a part of an effective response to the global environmental crisis.