

Activity for a Planting Trust: Greener Future

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ABSTRACT

“Planting-Hope” is an ultimate online destination for an exquisite collection of vibrant and diverse plants. Our website offers a seamless platform where plant enthusiasts, gardeners, and nature lovers can explore, purchase, and nurture a wide range of plants from the comfort of their homes. In our application, we believe that every living space deserves a touch of nature's beauty. With our carefully curated selection, we provide an extensive variety of indoor and outdoor plants, including flowering plants, and much more. Whether you're a seasoned gardener or a beginner, we have the perfect plant to suit your style, preferences, and skill level. Our user-friendly interface ensures a delightful browsing experience, allowing you to effortlessly navigate through our extensive catalog.

Keywords: Planting, Nurturing, Sustainability, Environment.

Introduction

Last year's deadly floods in Pakistan were a grim example of the escalating climate disasters around the world. The floods forced 33 million people to flee their homes, claimed 1,600 lives, destroyed over 2 million houses, and left hundreds of villages uninhabitable. According to the International Panel on Climate Change (IPCC) Sixth Assessment Report, more than 40% of the global population is highly vulnerable to climate change-related disasters based on their location or the circumstances in which they live. And people living in low- and middle-income countries (LMICs) that are considered “climate hotspots” are particularly vulnerable due to poverty, poor infrastructure, and low capacity for response. As wildfires, droughts, storms, and heatwaves increase in intensity and frequency across the planet, countries need to take urgent action. However, despite the urgency, the world is falling short of meeting the Paris Agreement goals of limiting the global temperature rise to 1.5 degrees Celsius. The IPCC has warned that even if effective actions are put in place to meet this goal, there is a locked-in level of planetary degradation that is now irreversible. The resulting harm from a warmer planet will disproportionately impact vulnerable populations in LMICs. In Pakistan's example, it ranks eighth in countries most susceptible to long-term climate risk, despite being responsible for less than 1% of global greenhouse gas emissions.

Loss and damage refers to the irreversible consequences of climate change that humans cannot mitigate against or adapt to, such as coastal degradation and melting glaciers. Future projections of loss and damage depend on the extent of global efforts to mitigate and adapt to climate change. Some estimates suggest that costs could be anywhere between \$290 billion and \$580 billion by 2030, and more than \$1 trillion by Conference (COP27), country delegates agreed to direct loss and damage funding to those countries most affected by climate disasters. However, the global community still needs to determine the mechanisms to mobilize this funding. COP28 later this year will mark the conclusion of the first global stocktake to adopt policies that support climate action, including formal channels for loss and damage funding. These efforts reflect the growing recognition of the urgent need to address the disproportionate impacts of climate change on

the most vulnerable communities, particularly those LMICs that are least responsible for causing climate change but are the most affected by it. From the IPCC: “The global stocktake is a critical turning point when it comes to efforts to address climate change – it’s a moment to take a long, hard look at the state of our planet and chart a better course for the future. The global stocktake enables countries and other stakeholders to see where they’re collectively making progress toward meeting the goals of the Paris Agreement – and where they’re not. It’s like taking inventory. It means looking at everything related to where the world stands on climate action and support, identifying the gaps, and working together to agree on solutions pathways (to 2030 and beyond).” Given the urgency of the climate crisis and the narrowing window of opportunity for action, what role does digital technology need to play to maximize progress on climate goals? This paper examines the implications, both the opportunities and the risks, of leveraging climate funding for digital public infrastructure (DPI) and offers commentary on important variables that need to be considered

How Digital Transformation Can Help

DPI is a collection of foundational digital systems similar to physical infrastructure. In the same way that highways and bridges are critical economic enablers, DPI is made up of applications and software systems that facilitate public- and private-sector innovation, fuel balanced growth, and empower people and small businesses. The global discourse on the DPI agenda is running concurrent to the dialog on the climate crisis, and there is a valid intersection between both agendas that needs to be further explored. At the UN General Assembly last year, progress was made on digital cooperation when countries committed to sharing technology and funders committed to investing in a more sustainable world,⁶ of which climate is a critical component. Left unchecked, climate change can negatively impact the economic and social well-being of societies, and threaten the long-term viability of the planet,^{7,8} and digital can play a role in beneficial climate intervention. On the surface, climate action and DPI are separate goals—one pressing for a more livable and sustainable planet and the other driving towards an inclusive, digitally enabled society. The twin transition can leverage commonalities to concurrently move towards a low-carbon, climate-resilient future, and a digital future where technologies and innovation are leveraged to achieve sustainable development goals. Proponents of the twin transition appreciate that digital transformation offers an immense promise to drive gains in climate action by optimizing costs, improving transparency, maximizing benefits, and strengthening resilience. The twin transition is an important concept in the discourse around sustainable development as it provides a framework for understanding the interplay between two key drivers of change and the need to manage the trade-offs between them. The climate agenda’s primary goal is decarbonization since carbon dioxide emissions and other greenhouse gases are the main drivers of global warming. Keeping the goal of the twin transition in mind, the next wave of DPI should support, rather than undermine, the shift to a low carbon economy in two ways:

1. Greening of digital: Designing technology so that its lifecycle impacts on the environment are more sustainable, such as through powering data centers with renewable energy.
2. Greening by digital: Harnessing the power of digital technology to achieve sustainability goals, such as by using digital technology to monitor and manage smart grid systems. Due to the limits on development financing, funding allocated to LMICs can be used to target a twin transition, leveraging the common goals of digital and climate at the critical juncture of the global stocktake. While targeting funding to climate alone can be beneficial, the single most compelling reason to invest in digital technology in service of climate is to prevent mounting

uncoordinated disaster debt assistance to low and middle-income countries, and instead use DPI to help channel scarce resources toward resiliency, moving away from reactionary funding models to proactive investments. If designed and managed well, DPI can be a means to accelerate progress on climate goals by mitigating, adapting, and overcoming the threats of climate change. On the other hand, the negative implications of DPI on the climate are not well-studied, and it is important to prioritize climate safeguards in the design and use of digital infrastructure. The twin transition agenda can intentionally push for climate safeguards in digital through positive governance models, key partnerships, and consideration for decarbonization.

Balancing Opportunities and Challenges

Opportunities

There are clear opportunities for the next stage of national DPI to mitigate the impacts of climate change and support the transition to a low-carbon, sustainable future without building bespoke solutions that lead to duplicated or wasted investments. The ways in which digital was used to respond to the COVID-19 pandemic demonstrate how digital can mitigate large-scale disruptions. The lessons learned in digital from the pandemic can be applied to rising climate disasters around the world. Countries that have foundational DPI such as digital IDs, data exchange, and digital payments have greater digital maturity, which was a key contributor to a country's successful response and resiliency to the pandemic, according to studies. This section will provide four evidence-based examples of how DPI contributed to a country's pandemic response and an overview of how digital use cases can directly support a move towards climate-resilient economies.

1. Digital IDs are a cornerstone to the empowering of people after climate disasters. Digital IDs can improve the human-centered outcomes of climate disasters. For example, countries with digital ID systems in place were able to provide pandemic-response support for 51% of their population, on average. In contrast, countries that did not have an ID system were able to reach only 16% of their citizens.¹¹ National digital IDs that could be verified and authenticated in real time helped save time and costs for governments seeking to reach their citizens. Further advancements in digital IDs could improve inclusion outcomes for the 3.4 billion people who do not yet have a digital ID.¹² For example, the UN High Commissioner for Refugees (UNHCR) estimates that 20 million people will leave their homes every year due to extreme weather events.¹³ When individuals flee dangerous situations, they leave behind important paperwork that can help prove their identities, as well as provide essential access to job opportunities, personal bank accounts, and relief resources allocated by governments and aid agencies. In some cases, without a legal ID, displaced people can also suffer from discrimination and abuse.

2. Data exchange is essential for climate resiliency.

Data exchange is the system that allows stakeholders to publish, access, share, and use data. The pandemic highlighted the need for timely, high-quality, shareable, and standardized data that can help policymakers with their decision-making, contact tracing, and early interventions. With the variations in the way different countries collect and report data, removing the technological barriers can be a key driver for best practices in data sharing and in providing transparency in the methods used to obtain the data

3. Use cases for digital in climate action.

Beyond foundational DPI solutions, there are a multitude of examples where digital technologies can serve climate outcomes by becoming “smarter” through the introduction of traceability, flexibility, and predictability. Digital can help reduce greenhouse gas emissions, improve energy efficiency, and support the development of sustainable development strategies. For the individual, digital can help promote transparency, accountability, and participation in climate action.

Commentary on Twin Transition

Sustainability and digitalization are cross-cutting priorities for many sectors. Coupling both goals in a twin transition can accelerate progress on 1) mitigating the lifecycle impacts of digital technologies and 2) harnessing the power of digital technology to achieve climate goals. However, these benefits need to be balanced with the overarching risk of overcommitment, and it's important to ensure there is an adequate focus on each individual goal without one dominating the other. Ultimately, for the twin transition to be successful, stakeholders need to have ownership of the outcomes. Important variables to consider include the following: Consider the enabling environment for data sharing. Data exchange layers of DPI are particularly relevant in the climate discourse and play a central role in enabling equitable, open, and resilient climate action. However, efforts to improve data sharing cannot be effective without considering the enabling environment. Enabling variables such as clear governance, technical infrastructure, capacity building, and common standards, will become increasingly important as the reliance on data for effective climate mitigation increases. Focus on inclusion. Digitalization is costly, and putting the cost burden on individuals can widen the digital divide. For example, transitioning to renewable sources of energy should be a priority, but for individuals living without electricity, it cannot be achieved without supporting structures that improve access to electricity in the first place. The twin transition should account for the social impact, ensuring that it benefits everyone across the digital divide.

Conclusion

In 2022, Pakistan's floods were one of 42 climate disasters that exceeded \$1 billion in costs.²⁶ As human-induced global warming persists, millions of people face the imminent danger of higher temperatures, rising sea levels, catastrophic weather events, and warming oceans. In 2023, climate-related events persist, and at the time of this paper's writing, tropical cyclone Freddy has devastated the southern African region. The aftermath of the cyclone leaves many people in dire need of assistance, ecosystems in need restoration, and infrastructure in need of repair. Many known impacts of climate change are irreversible, such as coastal degradation and the permanent loss of land due to rising sea levels. And there are many impacts that have yet to be fully understood, including how climate patterns impact the spread of disease, the global food supply, and human migration patterns. What is clear, though, is that vulnerable populations, especially those in low-and middle-income countries, are at particular risk, and there is an unambiguous urgency to address their needs. One of the key promises for digitalization is the ability to break down boundaries between sectors, increase flexibility, and enable integration for whole-of-society benefits, both as core services provided by DPI (such as digital IDs and cash transfers) and value-added innovations in service delivery. Digitalization is a tool which can promote progress on climate goals, leading

to a twin transition for addressing the pressing global challenges of climate change and digital inequality, and for unlocking new opportunities for economic growth and innovation. There are several key drivers of the transition, such as the enabling environment, technological innovations, and public-private partnerships. However, it also poses significant challenges and trade-offs, such as the need to balance short-term costs with long-term benefits, and the risk of exacerbating existing inequalities and vulnerabilities.

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