

Leveraging Technology for Development:

Democratization of Technology

By Debnath Shaw

Technology is an important factor for global development. Development is a core issue for the Global South, many of whose members are being left behind in achieving their Sustainable Development Goals (SDGs). The key factors behind this unequal state of affairs are technology, finance and information. Thomas Friedman has argued, that the era of globalisation has been characterized by democratization of technology, finance and information (The World is Flat, 2004). However, with the pace of globalization slowing down, particularly since the Covid pandemic, democratization of technology too has taken a hit.

Democratization of technology refers to the process by which access to technology progressively become more easily available to more people at reasonable cost. Historically, the printing press is the earliest recorded instance of technology opening new frontiers of knowledge dissemination, leading to empowerment of a greater number of people. Since the mid-1990s, the internet has been the prime vehicle of universal democratization of knowledge and information.

The effects of democratization of technology have been dramatic, more so with digitization. New technologies and improved user experiences have empowered those outside of the technology industry to access and use technological products and services. In India, think - UPI, mobile banking WhatsApp, X, etc, - tools being used regularly by the country's 900 million mobile phones users, mostly connected to the internet, including a vast user base in rural areas. The 'open source' model allows users to participate directly in development of software. Upgrades in communication technology have made the globe more interconnected than ever.

Democratization of technology has helped 'the last person in the queue' to access public services with ease and reduced corruption, get timely access to relief when hit by natural disasters, and useful and reliable information allowing meaningful participation in the democratic process. It has made markets more broad-based and diversified and consumers are able to use

complex technological products without the guidance of qualified professionals. Such job categories have taken a hit, a situation whose downward spiral is being perpetrated by developments in artificial intelligence and machine learning technology.

However, we should not lose sight of the challenges faced by democratization of technology, which is hampered by the slow pace of digitization and infrastructure gaps, particularly in developing countries. Gender and social inequities restricting access to and use of technology, and the data divide, too needs to be addressed. Cyber security and data privacy concerns are felt at all levels. What is comforting is that both governments and technology-driven companies are addressing these concerns, while moving ahead with their programmes to harness technology for the benefit of the masses.

In India, the democratization of technology is manifested in some remarkable programmes which have changed the lives of millions. The prime example is the Digital Public Infrastructure (DPI), part of the 'India Stack', which operates digital identification, payments and data management. The Common Service Centres (CSC) are the access points for delivery of government to citizen (G2C) e-services, within reach of citizens by creating nation-wide physical service delivery ICT infrastructure. The Namo Drone Didi initiative has many goals, including addressing gender inequality issues, empowerment and pride among women, modernization of agricultural practices, and substantial income to the rural women folk. The two hundred thousand Aayushman Aarogya Mandirs in India's villages directly connect health centres with the best hospitals and modern technology, bringing professional medical expertise and services, largely concentrated in urban areas, to rural India. The India AI Mission or 'AI for All' is aimed at the democratization of the benefits of AI across all strata of society.

A key issue, particularly for the Global South, which has been pursued vigorously by India, is the growing gap between developed and developing countries in the access and endogenous production and development of climate technologies. This has been a key constraint on collective progress in global efforts to achieve sustainable development and effective climate action under UNFCCC and the Paris Agreement. Developing countries view technology transfer and capacity building as the key to reducing the technology and wealth gap. Both climate mitigation and adaption require huge funding transfers from

developed countries as per past commitments. Unfortunately, even at COP29 in Baku last year, the level of funding pledged was nowhere near the level required to achieve set goals. There have been repeated calls for enhanced international cooperation arrangements, through reform of existing WTO mandated trade rules, to permit developing countries to protect emerging green industries through tariffs, subsidies and public procurement.

The ray of hope in the horizon is that industries driven by frontier technologies like blockchain, drones, gene editing, nano technology, electric vehicles, solar and wind energy and green hydrogen could create a market of over \$ 9.5 billion by 2030 (UNCTAD estimate). Some developing and emerging economies like India have made important policy changes to seize some of the opportunities in these sectors. It is hoped that with increasing democratization of technology and effective partnership between developed and developing countries, mankind's development goals will be reached sooner than later.

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