

Rethinking about Indigenous Technology

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IN the famous article “Technology for Mankind” (learnt in schools), author Jacob Bronowski describes the beginning and gradual development of technology as part of the daily needs of human life. The journey started with discovering fire, making weapons by sharpening wood and stones, digging holes, etc. Ancient technology made a giant leap by discovering wheels for carrying goods easily. Therefore, the fundamental aim of technology was to find nature-based solutions to day-to-day problems and develop a scientific understanding of the workings of nature.

From that point in time, technology has made tremendous advancements and created machines of diverse nature to solve problems and expand the frontier of life. This gradual shift towards machine-based solutions has added many dimensions to human life, based on which man has become increasingly different from other creatures. However, age-old technologies are also prevailing and active in numerous fields, popularly called Indigenous (native) technologies.

Indigenous technology, linked directly to indigenous knowledge since the beginning of time, has always been an integral part of human societies. The fundamental concepts of indigenous knowledge can and should underpin the development and role of technology in multiple ways, guiding them in their interactions with the environment and ensuring their survival within specific cultural contexts. This traditional knowledge and expertise passed down through generations, offer unique perspectives and alternative ways of understanding the world. These concepts could be considered as the identities of indigenous technology similar to the 3R rule related to the waste management system.

(i) Relation: refers to the understanding that all things are related or connected. One action can impact many others, similar to the fundamental scientific concept of “cause and effect”.

(ii) Reciprocity: embracing reciprocity ensures the benefits of using the technology that does not come at the expense of others, including people, plants, animals and the environment.

(iii) Reflexivity: involves the constant cycle of learning and listening that underpins knowledge creation and transfer for indigenous people and cultures. It is also seen as an important element of research and development in technology.

However, indigenous knowledge and technology refer to the grounding of knowledge in the land they originate and belong to. This makes the knowledge contextual and specific to a certain group. Understanding the specifics of that certain group is crucial for gaining access to the knowledge. That is why the term ‘indigenous’ is used to elucidate the nature of this knowledge and technology.

We can understand the concept with several examples regarding agriculture, food, water harvesting, medicine house building technology, etc. all that have been sustained within different communities worldwide for thousands of years. Until now, those techniques have been used in various ways parallel to modern technologies. From this angle, indigenous technology could be considered the cultural heritage of a country or a community; at the same time, it connects different indigenous communities with similar practices to achieve similar benefits for society.

In India, over thousands of years, we have inherited numerous indigenous technologies, including the terracotta, unique metal alloys for coins and utensils, natural dyes, crop harvesting (*gola*), fishing hook, organic (compost) fertiliser, lime-turmeric mixture (native anti-inflammatory treatment), weaving loom, potters’ wheel, etc. which are spread over our daily life from point to point. We regularly modify these technologies and use them parallel to modern machine-based technologies. For example, we are still fond of handloom woven clothes, naturally dyed dresses (*batik* and tie & dye), handmade musical instruments like flutes, single-string (*ektara*), etc.

These technologies were never patented; they have connected communities and cultures, denying the boundary of time and place. For example, the walls of the soil houses in our villages are made of half bamboo, coated with a mixture of soil and cow dung to make them smooth and germ-free. In African countries, similar houses are built on the same basic technology but with some differences, such as materials. This is how indigenous technologies connect communities across the globe.

