Traditional Indian Technologies &Skills: Vikshit Bharat

Prof Archana Sawshilya
Aditi Mahavidyalaya, University of Delhi

***Abstract*—GDP of any country has to be weighed in terms of inclusiveness of the growth process and the quality of life. Participation of the wider population in the growth process remains the litmus test for vikashit Bharat. Modern tech-driven industries by their very nature lean too heavily on large doses of capital. There is also a corresponding reduction in manpower requirement. On the contrary, traditional industries, are suitable for lower scale of production, require less capital and can be customized to local conditions. It is worth exploring possibilities in different areas of the economy of reviving traditional practices and technologies to carve out a balanced and sustainable future. Sustainable agriculture, accessible Energy solutions,holistic health care and Accessible Energy solutions can only ensure Vikashit Bharat. Policymakers have to walk the extra mile to turn things around. Sector specific traditional technology/ craft promotion and supportive policy framework will be critical.**

***Index Terms*—vikshit bharat, Sustainable Agriculture, Energy solutions, Holistic health care**

I. INTRODUCTION

The Sankalp of vikshit Bharat resonates with the people of India. It is a vision by our Prime Minister Narendra Modi ,who aimed at making Bharat a developed country by 2047 ,when India will celebrate its 100th years of Independence .It is believed that our nation will achieve a $30 trillion economy ,concrete houses ,and piped water facility to every citizens of India .Women farmers will be empowered with drones, Jan Aaushidi will be accessible to all by increasing the number of Jan Aushadhi Kendra . Last but not the least adopting green and sustainable growth policies are on the priority list. Needless to say, vision of Vikshit Bharat 2047 is to overcome the colonial legacy, strengthening its geopolitical position and enhancing Indias diplomatic relations with other countries of the world. Adodoption of modern technologies and development of relevant skill sets will be critical to realize the goal of Vikashit Bharat. Together, they will hold the key to rapid expansion of India's GDP - so very essential to be counted as a Developed Economy. But mere expansion of GDP may not result in the desired Development goals, which can purely be weighed only in terms of inclusiveness of the growth process and the quality of life and such growth ensures for the marginalized sections of the society. Hence, participation of the wider population in the growth process will remain the ultimate litmus test for Vikashit Bharat. "Learning by doing", upgradation of skills and learning of related skills, will play a critical role in growth of labour productivity and rise of real wages of those already employed

Modern technologies, despite their adverse impact on the environment in many cases, have by and large proven the test for their worth in terms of productivity. Mass production and rapidly declining 'unit cost of production' is their forte. But for a country of India's size and diversity these technologies cannot be the only 'Choice' that the country needs to lean on. Many practices/ technologies that have served individual and community needs effectively through our civilizational history can very well complement the modern technologies to meet the challenges we face today.

Modern tech-driven industries by their very nature lean too heavily on large doses of capital. There is also a corresponding reduction in manpower requirement. This can effectively result in largescale unemployment in a

country of 140 crore population and exclude a sizeable section of the population from the growth process. On the contrary, traditional industries, are suitable for lower scale of production, require less capital and can be customized to local conditions. But biggest strength of traditional industries is their ability to create largescale employment opportunities and does t require migration of people to urban/ industrial centers. Arvind Virmani in his paper has highlighted the vision of the economy for another 25 years, while comparing past with the presen the has shown how India's GDP growth and per capita GDP growth have

risen since 1980s, when India turned its orientation from socialist to market economy. However, the employment data is more limited and disjointed showing a declining worker population ratio (WPR) from 1983 to 2017.

Affordability and accessibility of products and services are critical issues as far as quality of life is concerned. Many of the modern gadgets and services don't just cost high but are available only in urban and semi urban locations. Large sections of the population neither can afford nor access them.
It is worth exploring possibilities in different areas of the economy of reviving traditional practices and technologies to carve out a balanced and sustainable future.

II. SUSTAINABLE AGRICULTURE

Livelihood of nearly 50% of the population is still dependent on agriculture. Use of high yielding varieties are clearly the most visible symbol of modern technology today. Drone based pesticide spraying, soil analysis and crop monitoring may be getting highlighted in the media regularly because of the novelty factor, but their penetration level is still very low. While there is no denying the fact that these modern practices need to be introduced quickly to usher in rapid growth in productivity, it is equally important to look upto traditional practices of crop rotation, organic farming, watershed management more actively to pave the way for sustainable agriculture to mitigate the challenge of climate change.

III. SUSTAINABLE AND ACCESSIBLE ENERGY SOLUTIONS

Traditional methods of harnessing renewable sources of energy like solar, wind and biomass can provide effective decentralized energy solutions in far-flung villages located away from grid connectivity. Take the case of water pumping windmills which can pump water from wells, ponds, bore wells for drinking, minor irrigation, salt farming and fish farming. A windmill is capable of pumping water in the range of 1000 to 8000 liters per hour depending on
wind speed and can pump water from depths upto 60 mtrs. * Such mills can be particularly useful in farmlands in remote locations or for that matter ensuring water supply in remote hilly villages which cannot be connected to the grid for cost considerations.

https://energy.vikaspedia.in/viewcontent/energy/energy-production/wind-energy/wind-energy-for-water-pumping%3Flgn%3Den

IV. HOLISTIC HEALTHCARE

Traditional healthcare systems including Ayurveda, Yoga, Naturopathy offer holistic solutions to wellness. The very fact that these systems have sustained through millenniums and have consistently stood the test of
modern science, it makes sense to promote them further. More importantly, they complement the modern medicine and healthcare innovations very well. Besides making healthcare affordable and accessible, integration of traditional therapies and modern medicine can bring down overall all cost of public health expenditure.

V. ACCESSIBLE ENERGY SOLUTIONS

Over the centuries livelihoods are intertwined with traditional crafts like handloom textiles, pottery and metal works. Rapid transition of the economy towards modern tech sectors has gradually robbed these crafts of their importance creating serious challenge to livelihood particularly in the rural hinterland. Reviving these indigenous crafts can not only sustain livelihoods but also foster economic empowerment and cultural pride. India can show case its cultural diversity and heritage through these handcrafted products. This can also help check unsustainable migration from our villages to the cities. Tapping into the employment potential of these traditional crafts through creation of Traditional Craft Centers and dedicated craft markets can help resolve India's unemployment challenge.

VI. CHALLENGES

Given the fact that traditional crafts and technologies are losing their lure in the face of emerging sectors of the economy, policymakers have to walk the extra mile to turn things around. Sector specific traditional technology/ craft promotion and supportive policy framework will be critical.

To revive and promote traditional crafts Government needs to provide financial support to Research and Development to make these crafts assume a more contemporary face. Dedicated Design Centers need to be developed through Government support.

The current set of design centers in the areas like textiles and others need to take their support system deep into the hinterland to reach out more areas and beneficiaries. This will ensure systematic capacity building at the grassroots.

Market linkage has long plagued the traditional crafts. Cooperatives to play an important role in this

Digital connectivity

Physical & digital connectivity, availability of quality education and skills relevant to agriculture & rural economy, and the freedom to use land for nonagricultural purpose, have to play a critical role in this transformation. Digital eco-system for upgrading human resources, structural change, and the transformation of the Indian economy from a lower middle income one to a high income one is the need of the time .Digital teacher (EAcharya), Digital trainer (E-Guru), Digital doctor (E-Vaid), Digital taxman (E-Kautilya) , Digital bureaucrat (E-Chanakya) and Digital judge (E-Manu) are some of the reference points to consider. The telemedicine, e-education, e-skilling and governance systems, with personal human touch are critical for motivation and social learning. They will also combine government and private service providers to complement the strengths and supplement the weakness of each. We have to empower citizens, promote structural transformation of the labour force, and drive inclusive growth. The green economy's role is envisioned to grow over time in urbanization, housing, and transport and to contribute to greening of growth.

Public welfare and Institutional Reforms

Public health requires massive, three levels involvement -national, State, local- systems, for supplying clean drinking water, drainage, collection, transport, treatment and recycling of water and sewage, and collecting, processing & recycling solid waste. India can be considered a developed country only when these are installed and start functioning sustainably. Elimination of the high malnutrition levels in India, Polices and programs related to growth and public welfare [Ending the legacy of Bureaucratic Socialism," } creation of a macroeconomic, and sectoral environment in which private initiative can thrive are critical to sustaining fast growth. and take the entire economy and society forward. The institutional reforms are also essential for growth

VII. NEED FOR A VILLAGE CENTRIC APPROACH

More than 60 percent of India's population still lives in villages. Large sections of the population will continue to live in villages even beyond the year 2047. Hence any plan of action regarding traditional technologies/ crafts will have to keep the rural economy in perspective. Vision of Vikashit Bharat will be incomplete without the development of our remote villages in the hills of Himachal, Uttarakhand and North East or the deep jungles of Jharkhand, Chhattisgarh and Odisha. Many tribal communities still live a life of isolation far removed from the modern gadgets like mobile phone or TV. Creating integrated, self sufficient village economies will be critical to realize the goal of Vikashit Bharat and traditional technologies are going to play an important role in this.

VIII. WAY FORWARD

Remoteness can be a big hindrance to development in a large far-flung country like ours. Sooner or later policymakers will realize the importance of home-grown traditional technologies which can resolve many of today's development challenges. Finally, it's not a question of 'Either or' but Coexistence. Both Modern and traditional technologies can complement each other to improve quality of lives.

Ours is a developed free market economy, an open, plural democracy, in which every citizen is assured of equality of opportunity and assured the support to develop her full potential to the benefit all. Equality of opportunity is driven by an improvement in the average quality of the human capital and its more equal distribution of quality education and the availability & quality of skilling. Improvement in quality of education & skilling at every level, will drive the growth of wages

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