75th Anniversary of the United Nations
FEZANA SUPPORTS THE SDGS OF THE UN

Contents

WINTER 2020 Guest Editor Farishta Dinshaw
Beyond the Kitchen:How Zarthushti's Contribute to the Food and Beverage Sector

Fall-Paiz   1389 AY 3758 Z
Mehr- Avan – Adar   1389 AY (Fasli)
Ardebehesht – Khordad – Tir   1390 AY (Shenhai)
Khordad - Tir – Amordad   1390 AY (Kadimi)

SPRING 2021

ZARATHUSHTRA'S GATHAS IN THE CONTEMPORARY WORLD. GUEST EDITORS KEKI DADACHANJI & JAMSHID GOSHTASBI

SUNMOKSHA:
EMPOWERING LIVES, CATALYZING SUSTAINABLE DEVELOPMENT

Ashok Das and Farrokh Mistree

Preamble

"We are resolved to free the human race from the tyranny of poverty and want to heal and secure our planet. We are determined to take the bold and transformative steps which are urgently needed to shift the world onto a sustainable and resilient path. As we embark on this collective journey, we pledge that no one will be left behind. The 17 Sustainable Development Goals and 169 targets which we are announcing today demonstrate the scale and ambition of this new Universal Agenda."[1]

SunMoksha is a social enterprise established to improve the quality of life of people at the bottom of the socioeconomic pyramid (BOP) by developing Smart Villages based on "PURA", **P**rovisioning **U**rban Amenities for **R**ural **A**reas, a model proposed by Late Dr. APJ Kalam[2]. A *Smart PURA Village* moves the villagers up the value chain to improve the socioeconomic status of its citizens leading to *'Gram Swar*aj'[3] or '*Sustainable Communities'*. In response to the '*Universal Agenda*', SunMoksha has created solutions to foster development that is anchored in the three pillars of sustainable development, namely, People, Planet and Profit/Progress. In this article, we highlight a systematic and organized deployment of SDGs to ensure that the interventions move a BOP community up the value chain to achieve *Gram Swaraj*.

1. Sustainable Development and Zoroastrianism[4]

The great strength of the Zoroastrian faith is that it enjoins the caring of the physical world not merely to seek spiritual salvation, but because human beings, as the purposeful creation of Ahura Mazda, are seen as the natural motivators or overseers of the Seven Creations, namely, sky, water, earth, plants, animals, humans and fire. As the only conscious creation, humans have the ultimate task of caring for the universe. The faith endorses the caring of Seven Creations, as part of a symbiotic relationship. Zoroastrianism sees the physical world as a natural matrix of Seven Creations in which life and growth are interdependent if harmony and perfection are to be the final goal. This goal is to be achieved by recreating the primeval unity of a perfect world, unpolluted and unsullied, as was first conceived by Ahura Mazda, the Wise Lord. *Empowering Lives and Catalyzing Sustainable Development* is one small effort at interdependent and sustainable development.

2. The Sustainable Development Goals for Communities at the BOP

In 2015, the United Nations Member States adopted 17 Sustainable Development Goals (SDGs), to be achieved by 2030 (**Figure 1**). The attainment of the 17 SDGs, collectively are expected to end poverty and other deprivations through strategies that improve health and education, reduce inequality, and spur economic growth. Effort around the world has been invested in achieving SDGs 1, 2, 3, 4, 5, and 10 (**Figure 1**) through the adoption of interventions that are short-term and not sustainable in the long term.

SunMoksha is a social enterprise focused on improving the quality of life of people at the BOP. It has taken a systematic and organized approach to addressing the SDG, as summarized in **Figure 2**. It has devised a strategic plan and a systematic and organized method that others can emulate. *SDG-8, Decent Work and Economic Growth,* is adopted as the primary goal for SunMoksha's Value Propositions. *Value Propositions* are sustainable solutions (or intelligent assets) to create opportunities for employment and entrepreneurship for the community's economic growth. Once people gain economic strength, they can take care of their basic needs such as food, water, education, and health. The outcome of implementing *SDG-8* directly affects *SDG-1* and *SDG-2*. Since poverty is one of the main reasons for poor health and education, *SDG-3* and *SDG-4* are achieved in succession, once people have achieved a minimum level of economic strength. As SunMoksha's interventions are inclusive, and targeted to provide economic opportunities for the community at large, the inequities are reduced (*SDG-10*). Attention is paid to ensure reduction in the gender gap (*SDG-5*) by creating opportunities for women empowerment. The outcomes eventually lead, over the years, to development of sustainable communities (*SDG-11*) and brings peace and justice in the society (*SDG-16*).

Figure 1: United Nations' Sustainable Development Goals[5]

Figure 2: SunMoksha's Development Strategy Anchored in SDGs

3. SunMoksha's Value Propositions for Rural Development

India's rural economy revolves around agriculture. However, this often does not provide enough income to people at the BOP. Significant effort is required to move the farmers up the value chain from farm to fork, or, pre- to post-harvesting, to bring about economic growth (SDG-8), as shown in **Figure 3**. The agricultural economy, in turn, revolves around the nexus of food, water, and energy. SunMoksha has developed smart solutions, or value propositions,
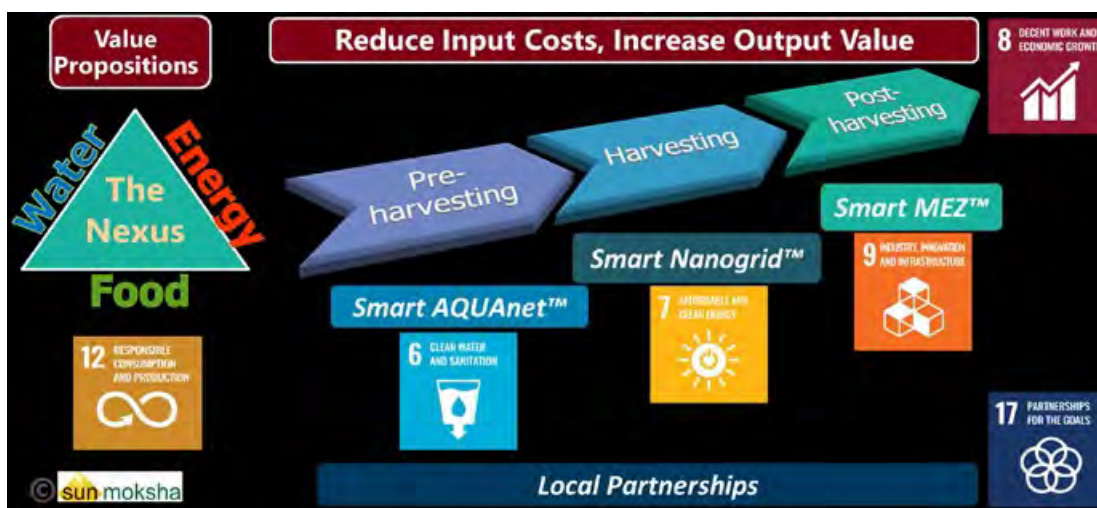

Figure 3: Smart Solutions to Move the Farmers up the Value Chain

in energy and water that 'aid' in addressing 'food' production, as well as, interventions that provide livelihood and economic strength to the farmers. It enables sustainable food production (SDG-12) by aiding the entire value chain from pre- to post-harvesting, to reduce input costs and increase output value, and move the farmers up the value chain. SunMoksha's solutions, *Smart AQUAnet™* for sustainable water, *Smart Nanogrid™* for sustainable energy and *Smart Micro-Economic Zone* (*Smart MEZ™*) for sustainable rural livelihood are anchored in SDG-5, 6 and 9 respectively. Over time, it continues to develop new solutions and assets as the development starts to bring in changes and creates new demands by the communities, such as food processing units, cold rooms, retail outlets, etc.

SunMoksha's *Smart Nanogrid™* provides 'energy' through renewable and sustainable energy solutions associated with *SDG-7*. Its *Smart AQUAnet™* interjects an intelligent solution into the community to address water utilization and conservation efficiently, especially by improving agricultural irrigation systems. Water is a key resource and a daunting challenge for sustainable development, directly connecting *SDG-6* to community development. SunMoksha's initiative to develop '*Smart Micro-Economic Zone (MEZ)*' helps achieve *SDG-9* in a community by building the required infrastructure to support sustainable growth and provide opportunities to innovate solutions that work in the real world. SunMoksha's rules of engagement are anchored in *SDG-17*. It develops partnerships with the local organizations and stakeholder, and engages with the local community and civic bodies to ensure long-term impact of the value propositions developed for the community.

4. The E³ – P³ – VP Construct for Sustainable Socioeconomic Development.

SunMoksha's approach to sustainable socioeconomic development is shown in **Figure 4**. Its development strategy is anchored in three principles (E³) – Entrepreneurship (employment), Education (skills) and Empowerment (of individuals and communities), with available local resources as inputs. Education here includes skills and knowledge necessary for the people to take care of their needs. Employment and Education, together with SunMoksha's *Value Propositions (SDG-8)*, leads to Empowerment of the communities to self-learn and create jobs on their own. The value propositions developed and deployed take into account the three drivers of sustainable development (P³), namely, environment (planet), economics (profit/progress) and society (people), that are anchored in *SDG-13, 14 and 15*. SunMoksha creates an ecosystem of interventions that empower the communities to move forward on the development path bringing peace in the society.
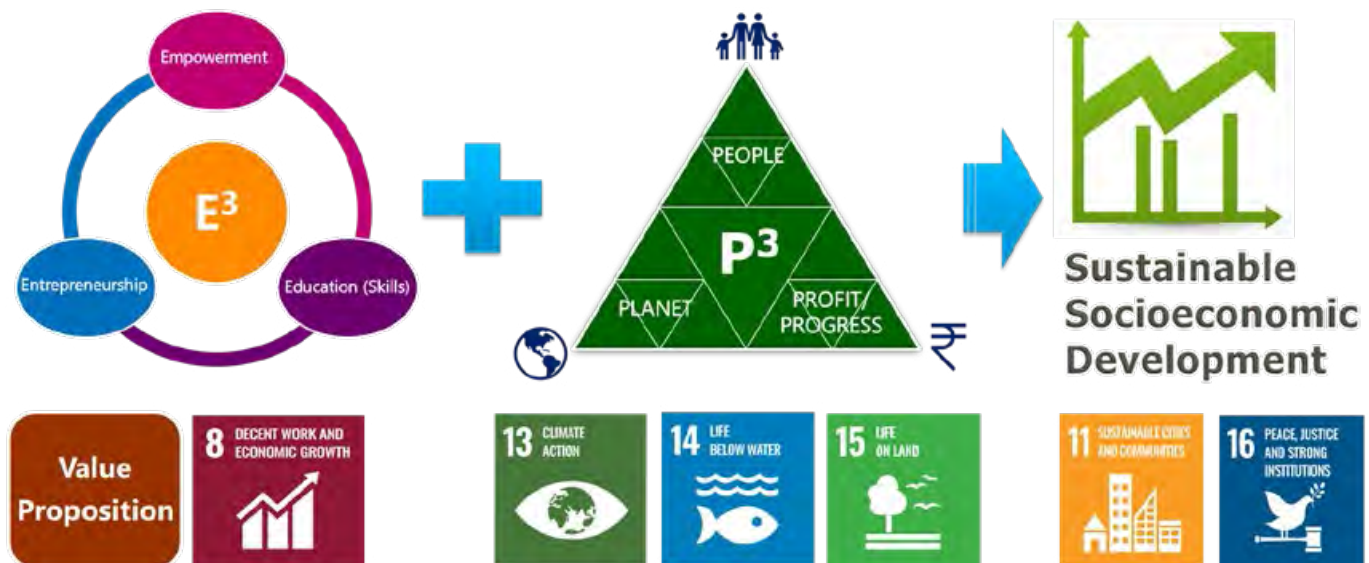

Figure 4: The E³ – P³ Construct for Sustainable Socioeconomic Development.

SunMoksha's development model is a multistage process as shown in **Figure 5**. It begins with identifying value propositions or interventions through smart technologies and assets that provide access to essential services and create livelihood opportunities. By embracing the concept of sustainability, sustainable value propositions are developed that are robust technical solutions and business models that can be rapidly deployed and scaled up in the villages, especially for the under-served and un-served communities. These value propositions are anchored in the E^3-P^3 construct. The creation of livelihood and enterprise activities through sustainable resources, in turn, creates an ecosystem for development for improved quality of life. At the initial stages, the rate of employment and skills they learn is low when compared to higher stages. The interventions and smart solutions change as the community moves up the value chain. The development takes place over several years, or even over a few generations. At some stage the community becomes sustainable as in *Gram Swaraj*.

5. Closing Remarks

SunMoksha's goal as a social enterprise is to improve the quality of life of people at the BOP. Its principles and constructs are anchored in socioeconomic progress (SGD8) to empower the rural community to take care of their basic needs (SDG-1-4), that helps reduce inequalities in the community (SDG-5,10). It has developed value propositions and intelligent energy and water solutions (SGD-6,7,9) to catalyze economic growth within the Food-Water-Energy Nexus. It is not only targeted to increase food production with reduced input costs, but also add value to the produce to increase the income of the farmers. It partners with the local community and stakeholders (SDG-17) to ensure
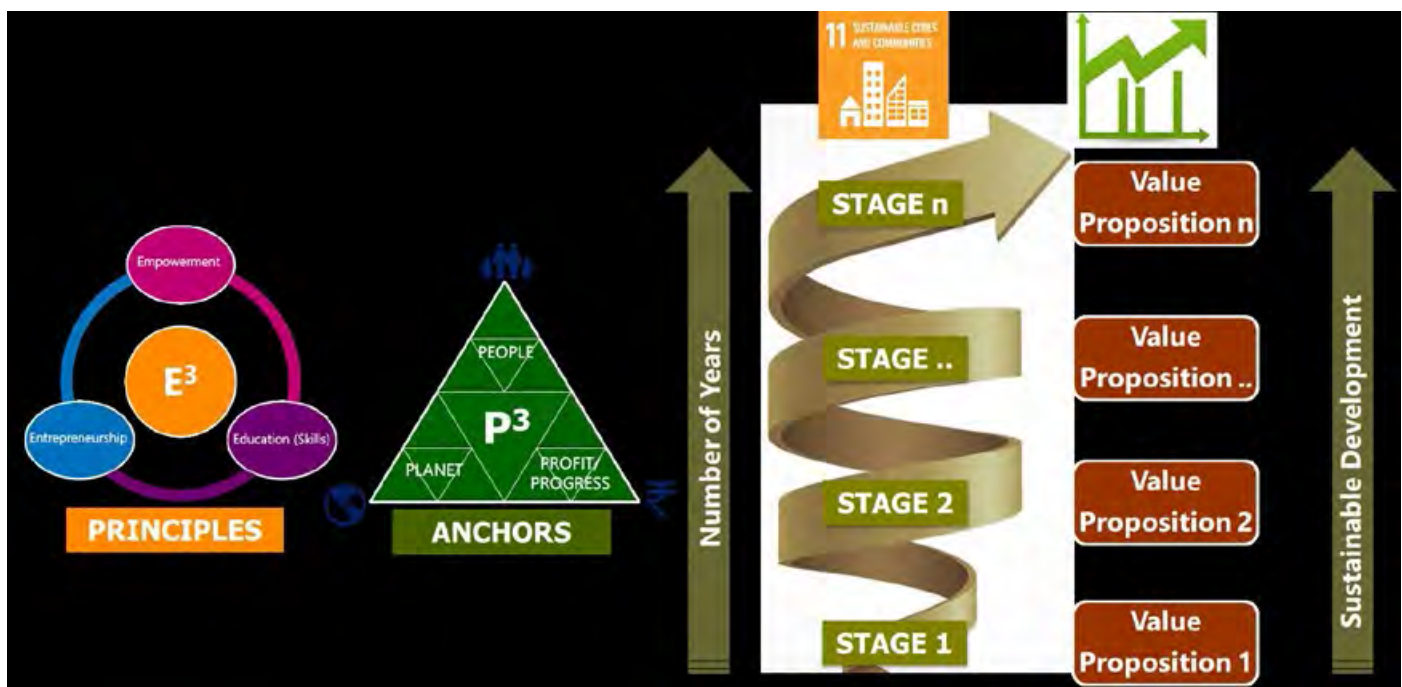

Figure 5: The E3-P3-VP Construct for Sustainable Socioeconomic Development Resulting in Sustainable Communities.

long-term sustainable development. SunMoksha's value propositions have been developed within the within the E^3-P^3 construct, keeping people, planet and progress (SGD-13-16) and women-centric opportunities (SGD-5) that leads to sustainable socioeconomic development of communities (SDG-11) and brings peace and justice in the society (*SDG-16*). SunMoksha's approach to *Empowering Lives and Catalyzing Sustainable Development* in invoking the 17 SDGs in a systematic and organized manner is illustrated in **Figure 6.** SunMoksha's value propositions, or smart solutions, are anchored in the P^3 construct, to catalyze economic development. This, in turn, empowers the community to take care of their basic needs such as food, water, education, and health, and reduces inequalities. The cycle repeats as the community moves up the value chain in a systematic and organized manner, eventually leading to development of sustainable communities. For details, please visit https://sunmoksha.com.

Figure 6: Empowering Lives and Catalysing Sustainable Development the SunMoksha Way

Acknowledgement

References

1. Transforming our world: the 2030 Agenda for Sustainable Development. https://sdgs.un.org/2030agenda
2. Target 3 Billion: PURA – Innovative Solutions towards Sustainable Development; A.P.J. Abdul Kalam & and Srijan Pal Singh; Penguin Books, December 2011.
3. Village Swaraj, M. K. Gandhi, Navajivan Publishing House, Ahmedabad, December 1962.
4. Adapted from statement prepared by the Athornan Education Trust and Zoroastrian Studies. https://www.interfaithsustain.com/zoroastrian-statement-on-the-environment/
5. The 17 goals https://sdgs.un.org/goals

Ashok K. Das, PhD [das@sumnoksha.com]
Ashok is the founder CEO of SunMoksha, a company focused on access to energy for socioeconomic development of rural hinterland. He has hands-on experience in working on rural socioeconomic development with state-of-the-art technology interventions, such as smart microgrids, IoT, renewable energy, smart irrigation, that have received several awards and accolades. Prior to founding SunMoksha, Ashok worked for semiconductor equipment manufacturer Applied Materials in the Bay Area, California, for a decade, then the India Operations of a fab automation start-up Aquest Systems in Bangalore and Bay Area. Ashok has a B.Tech. from IIT Kanpur and Ph.D. from University of Southern California, Los Angeles.

Farrokh Mistree, PhD [farrokh.mistree@ou.edu]
Farrokh holds the L.A. Comp chair at the University of Oklahoma, He has co-authored two textbooks, four research monographs and more than 400 technical papers dealing with the integrated realization of systems. Farrokh was named the ASME Ruth and Joel Spira Outstanding Engineering Design Educator in 2011. In 2012 he was recognized as a Distinguished Alumnus of the Indian Institute of Technology, Kharagpur, India. In 2012, he received the Life Time Achievement Award from the International Society for Agile Manufacturing, Lafayette, Louisiana. Since 2016, Ashok and Farrokh have taught together, mentored students and co-authored several papers. Farrokh is a member of SunMoksha's Advisory Board.