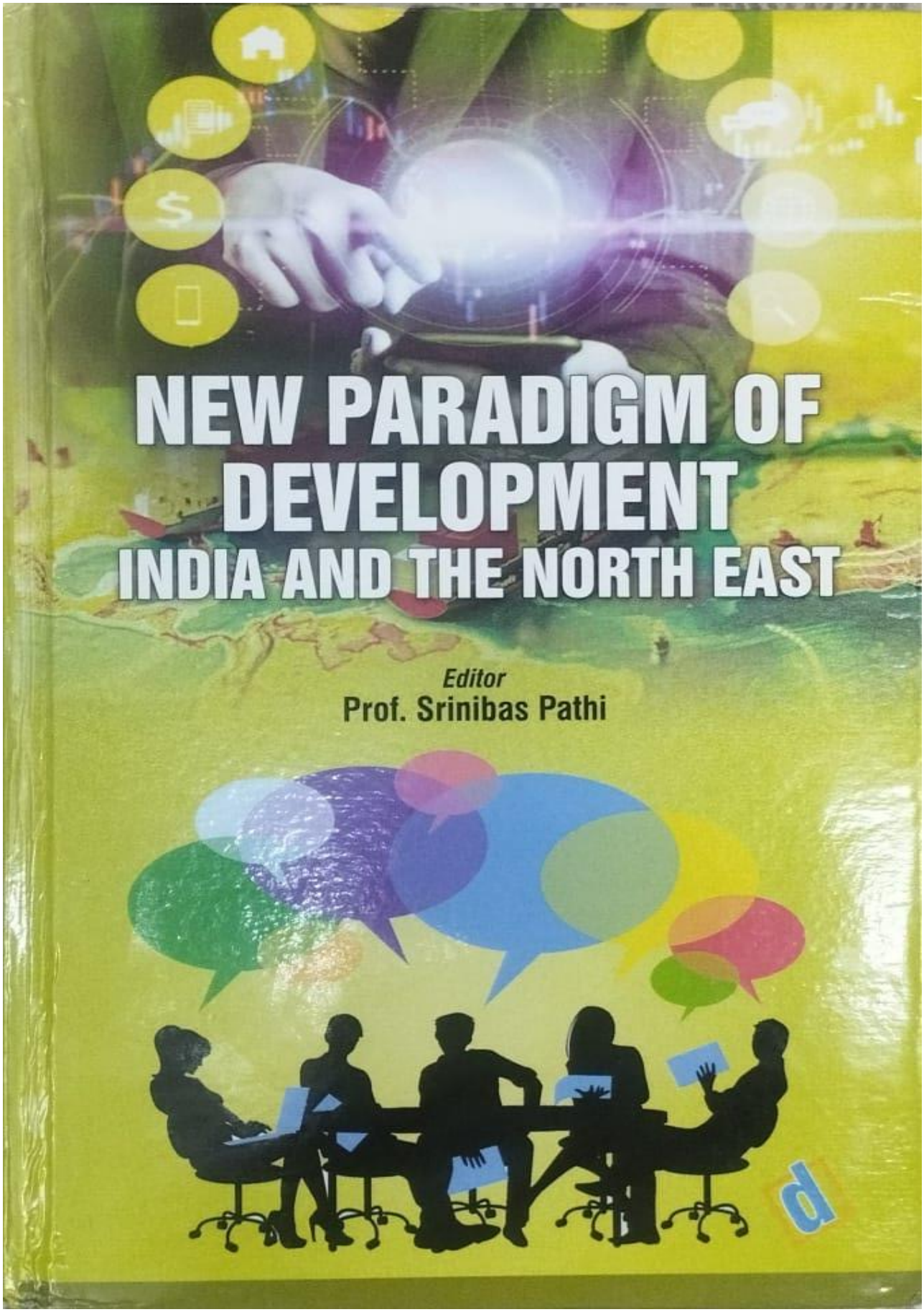
NEW PARADIGM OF DEVELOPMENT
INDIA AND THE NORTH EAST
Editor
Prof. Srinibas Pathi

New Paradigm of Development

India and the North East

(Under G20 University Connect Hub Initiative)

Srinibas Pathi
Editor

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Ph. 0120-4270027, 4273334
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info@dominantbooks.com

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Chapter 03

Empowerment of Political Leadership to Achieve Sustainable Development Goals: Application of Artificial Intelligence and Community Intelligence

K Gireesan

Anand J Kulkarni

Abstract

Transhumanism aims to 'enhance the physical, emotional, and cognitive capacities of humans, thus opening up new possibilities and horizons of experience' (Ossiannilsson, 2019). It may be viewed as thinking, visualizing, simulating, and projecting about the future. Transhumanism as a philosophy coupled with artificial intelligence technologies could be a force multiplier in several domains including leadership. Evolving models could gainfully use techniques of Artificial Intelligence for imagination, creativity, visualization, and simulation of styles, responses, decisions, and actions as well as their virtual projection. In this article, the authors advocate that applying the philosophy of 'Transhumanism', layered with the tools and techniques of 'Artificial Intelligence' could significantly contribute to the empowerment of 'Political Leadership'. Visualization and simulation exercises could be widely used for capacity-building of the political leadership. The authors visualize that empowerment

of political leadership could be made more effective by the application of artificial intelligence (technology-centric, technology-friendly, and technology-driven) and community intelligence (community-centric, community-friendly, and community-driven). By gathering realistic inputs from the field by using community intelligence through the application of participatory methods and internet/electronic networks for governance and development, as well as the incorporation of dynamic simulation models using artificial intelligence, the decision-making skills of political leadership could be enhanced. It is visualized that this will lead to realise the Sustainable Development Goals earlier than anticipated. And, the empowered political leadership could effectively use artificial intelligence and community intelligence to make comprehensive, holistic, and intelligent decisions with the active participation of key stakeholders, leading to the growth and development of smart cities and villages thus contributing towards nation-building.

Keywords: Transhumanism, Artificial Intelligence, Community Intelligence, Participatory Methods, Capacity Building, Empowerment, Political Leadership, Good Governance, Vibrant Democracy, Sustainable Development Goals, Nation-building.

BACKGROUND

The world is now passing through the most technologically advanced age in human history and civilization. Computers and the internet brought the world to the doorstep of the fourth industrial revolution. Alan Turing (1912-1954), the British mathematician, who laid the foundation for Computer Science, made a prophetic comment about the birth of thinking machines, more than seven decades ago in 1951. To quote Alan Turing: "If a machine can think, it might think more intelligently than we do, and then where should we be?"

The word 'Humanism' denotes a way of thinking that emphasizes the importance of human agency in defining the path of history. 'Transhumanism' refers to the possibility of enhancing human life efficiently and effectively with the help of science and technology. It can be viewed as the use of science and technology to transform humans in different work settings. Julian Huxley popularised the term 'Transhumanism' in his article 'New Bottles for New Wine' published in the year 1957. According to Huxley, "humankind will transcend itself, not just sporadically, but in its entirety, as humanity. Man remains man, but transcending himself, by realizing new possibilities of and for his human nature" (Huxley, 1957).

Human nature evolved along with the modernization of science and technology. When the human species is fast adapting to a technology-driven evolution with the arrival of Artificial Intelligence (AI), it is very much imperative to discuss the concepts of 'Transhumanism' and 'Political Leadership' as they could result in positive impacts on the growth and development of society, state and the nation.

Another philosopher, Max More, mentioned that "Transhumanism is a class of philosophies that seek to guide us towards a post-human condition that includes a respect for reason and science, a commitment to progress, and valuing of human existence in this world rather than in some super-natural afterlife" (More, 1990). It is known that human life could be improvised by the incorporation of adequate and relevant technology that was evolved.

Transhumanists believe that "human nature can evolve through the application of science to increase the life span, intellectual and physical abilities, even emotional control" (Bostrom, 2007). And transhumanists do not consider human nature as an end in itself, but as something that gets evolved in a dynamic manner. Transhumanism aims to "enhance the physical, emotional, and cognitive capacities of humans, thus opening up new possibilities and horizons of experience" (Ossiannilsson, 2019). Transhumanism can be viewed as a way of thinking, visualizing, simulating, and projecting about the future with adequate and relevant inputs from the past.

According to Novak, "The tools of transhumanism include technologies such as genetic engineering, IVF, cloning, germline therapy, artificial intelligence, as well as the complete merging of machines and humans" (Novak, 2019). According to him, Transhumanists aim to achieve a divine wisdom that surpasses the capabilities of even the most intelligent humans today. It is reported that "Transhumanism engineers the long-standing goal of perfection and our intrinsic propensity to surpass limits, expressing the modernist ambition to rule the world" (John and Nair, 2022).

Political Leaders in all spheres of Government are expected to take the lead role in bringing growth and development in their respective areas of jurisdiction. In case of elected functionaries from the Panchayat (Local Government) to the Parliament, each one of them is expected to contribute towards the holistic growth and development of the constituency s/he represents.

In a democratic system, the elected functionaries/political leadership form the 'cutting edge' for transforming social change, economic development, *etc.* And, the term 'cutting edge' does not refer to technology as much as it refers to human-being. However, the fourth industrial revolution brought significant changes in the way the political leadership thinks, conceives, plans, speaks, acts, performs, reacts, and responds. This signifies the importance of the 'industrial revolution' that supplements (does not supplant or replace) the 'social revolution' in the learning, re-learning, unlearning, defining, re-defining, and refining while dealing with the empowerment of political leadership. Empowerment can be viewed as any act meant for 'creating, enabling and supporting to take part in the nation-building as subjects rather than as objects' (Gireesan, 2012). In the development scenario, it may be viewed as transforming the mindset of a beneficiary (object) to that of an

informed citizen/leader (subject) who could play a significant role in the process by bringing development and welfare of the citizens and contributing to achieve sustainable development goals.

AI is a branch of computer science that creates hardware/machines and software capable of performing tasks that require human intelligence like learning, reasoning, problem-solving, decision-making, *etc.* It is powerful as it enables machines to be able to think and act in a way that mimics human intelligence. There are various approaches and techniques in AI, including machine learning, deep learning, natural language processing, computer vision, and robotics. These technologies could be used in different sectors and areas, for diverse applications.

AI is a potent general-purpose technology. It is a fact that "the progress in future could be rapid with the application of AI in various walks of life" (Dafoe, 2017). The opportunities to apply AI in socio-economic-political domains include agriculture, banking, crime prevention, cyber security, disaster management, education, energy, environmental protection, healthcare, housing, logistics and supply chain, social media, transportation, water and sanitation, waste management, *etc.* Here, some of these sectors/areas have been mentioned in the alphabetical order, only for ease of presentation and not necessarily in order of priority.

It is said that 'AI-related technologies and public open data, when combined, can reshape the existing political paradigms, opening up scope for more diffused patterns of political participation, beyond voting' (Savaget, et.al. 2019). Here, the word 'public data' refers to data gathered from the citizens of a specified area. Adopting scientific methods for data collection from the community, blended with other techniques, could result in the gathering of community intelligence (CI). Thus, along with the application of AI, understanding and incorporating CI becomes significant to political leadership. In this context, this article analyses the scope and application of AI and CI towards the empowerment of political leadership in order to realize Sustainable Development Goals (SDG) with pace, accuracy, and reach.

Before highlighting the scope of Artificial Intelligence aiming at empowerment of political leadership, its application in two different contexts and diverse geographical settings, is mentioned here. The application of AI was brought forward from two different contexts - one from the judiciary and another from traditional folklore. In terms of geographical settings, the first one is reported from Punjab, one of the Indian States from the Northern region, whereas the second one is reported from Assam, the largest State in North-East India.

APPLICATION OF ARTIFICIAL INTELLIGENCE BY THE JUDICIARY

As the application of AI continues to grow all over the world, it is significant to mention about its usage by the judiciary in India, probably for the first time. As reported in a leading daily on 28 March 2023, the Punjab and Haryana High Court,

sought the response of ChatGPT in the bail plea of a murder accused, in order to assess the worldwide view from the AI Chatbot. The case is about the alleged murder of Ramandeep Singh at Shimlapuri in Ludhiana District of Punjab that happened on 2 June 2020 (The Hindu, 2023 [a]).

The High Court's comment came in response to the petition for bail filed by the accused, who has a criminal record in the past. Justice Anoop Chitkara, in his order, commented that, "When the offence is heinous and the crime is brutal, cruelty become one of the factors in granting or refusing bail. The impact of individuals who act with cruelty is devastating not only for those whom the direct harm and pain is inflicted but also on a systemic level. Cruel individuals contribute to sustain the greater deficiencies of society like gender, economic and social inequalities" (Jaswinder v. State of Punjab, 2023). The Judge, in his order, stated that to further assess the worldwide view on bail when the assault was laced with cruelty, the use of AI has been made, as the platform could handle large volume of data.

According to the order, a question was put forth to the ChatGPT as: "What is the jurisprudence on bail when the assailants assaulted with cruelty?" In this context, it is very interesting to go through the answer given by the ChatGPT. The AI Chatbot responded as: "The jurisprudence on bail for cases where the assailants have assaulted with cruelty will depend on the specific circumstances of the case and the laws and regulations of the jurisdiction where the case is being tried. However, in general, if the assailants have been charged with a violent crime that involves cruelty such as murder, aggravated assault, or torture, they may be considered a danger to the community and a flight risk. In such cases, the Judge may be *less inclined to grant bail or may set the bail amount very high* (emphasis added) to ensure that the defendant appears in court and does not pose a risk to public safety" (Jaswinder v. State of Punjab, 2023).

Given the worldwide view on bail pleas of murder accused provided by the ChatGPT, the Judge dismissed the bail plea. However, the Judge made amply clear that "Any reference to ChatGPT and any observation made hereinabove is neither an expression of opinion on the merits of the case nor shall the trial Court advert to these comments. This reference is only intended to present a broader picture on bail jurisprudence, where cruelty is a factor" (Jaswinder v. State of Punjab, 2023). After considering all these aspects, the Court rejected the request for bail for the accused.

USAGE OF ARTIFICIAL INTELLIGENCE IN THE FOLKLORE

Here, the application of AI in the Assamese folklore, as reported by a leading daily on 23 March 2023, will be discussed. More than a decade ago, Pranavjyoti Deka, a noted author from Assam, brought out a bi-lingual thesaurus in Assamese literature. In that document, one chapter described about 60 types of ghosts and spirits of Assamese folklore out of which most of them were evil and some of them were

benevolent. Drawing extensively from this document, Chinmoy Barma, a noted film maker, made a digital shape to some of these spirits through AI-driven software (The Hindu, 2023 [b]).

Out of these several ghosts and spirits digitally captured by Chinmoy, *Bira* is one of the most dangerous ones, as per the belief of many from Assam. It is believed that the delirium of a person possessed with the Bira, ends only after the priest or tantric drives the spirit with special rituals and chants. *Jokhini* was another spirit digitally developed by Chinmoy Barma. *Jokhini* is believed to haunt pregnant women to steal the foetus in their womb itself. *Ghorapak*, which is a part horse part human creature, is another most featured spirit in Assamese folklore. According to the artist, one of the important limitations of the AI platform is that the images created do not get an Assamese and localised look, as they appear to provide 'bollywood-like images'. (The Hindu, 2023 [b]) It is a delicate question as to explore the application of AI shall be ethical to perpetuate the non-rationale and unscientific objects like ghosts from the traditional folklore by going ahead with its digitalisation.

ARTIFICIAL INTELLIGENCE AND POLITICAL LEADERSHIP

Multi-disciplinary approach for the growth and development of the society by integration of diverse domains such as Humanities, Social Sciences, Computer Sciences and Technology is yet to get the requisite attention and application. It is in this context that the domains of Artificial Intelligence, Management, and Leadership, with a thrust on Political Leadership, need to be examined. One of the important objectives of AI is "to create value for society that is populated by humans; the end users always must be humans. That means, AI must act, think, read and produce outcomes in a social context" (Wharton, 2020).

The concepts of Management and Leadership differ from one another significantly. The Management, in any work setting, provides the platform to work in a stable, professional and systematic manner. Hence, it is viewed more as a system to maintain the status quo. On the contrary, Leadership is about negotiating with change. It has the responsibility to take decisions that is valuable to give direction to deal with the issues and challenges that come with the change. From this, one could infer that AI will be extremely important and beneficial to Management while its contributions to Leadership are more subjective and contextual.

Whether the abilities such as creativity, to think proactively, to apply ethics, to represent values and norms, to care for humans, to apply the moral compass in decision making, to deal with ambiguities, *etc.* be enthused with the application of AI ? At the same time, it is noted that "AI technologies are radically altering how we govern ourselves, interact with each other, and sustain society" (Keskin and Kiggins, 2021).

It is viewed that the local government institution can utilize AI "to improve efficiency, enhance service delivery and support informed, data-driven decision making. From

helping to spotlight the best use for resource allocation to providing citizens with constant, tailored customer support, or helping to optimize infrastructure management like waste management, energy consumption, and transportation networks" (LGiU, 2024). At the same time, the application of AI raises important ethical and societal questions about the impact now and will have in the future as well on the automation of jobs, privacy, security, and the future of human-machine interactions.

AI could play a significant role in engaging the community effectively to contribute to the democratic process. It is noted that the "AI-supported approach would allow for greater citizen participation in community decision-making by making fact-based public debate more accessible to the lay public" (Havrda, 2020). It is viewed that "AI-based technologies can be major drivers pulling civil society close to public administration by allowing citizens to tackle stable and predictable problems for which large volumes of data are relatively easy to collect" (Savaget, et al., 2019). Such efforts have the latent potential to empower political leadership by incorporating AI in the right manner and context.

Modern technological advancements, from the internet in the past to Artificial Intelligence in the present times, are becoming part of the Governments. Be it in politics, bureaucracy, judiciary, or media, AI could contribute significantly to address changes in the system with its inputs "to transform the society, the economy, and the politics, along with the use of computer vision, natural language processing, and sentiment analysis" (Efthymiou, et al., 2020).

Joe Mariani of Deloitte Center for Government Insights, in a written testimony before the United States House of Representatives Select Committee on the Modernisation of Congress, indicated the ways in which AI could contribute towards smarter legislation. It was highlighted that 'AI could contribute as a *Microscope* (emphasis added) to assess the impact of existing legislation and as a *Simulator* (emphasis added) to test the potential impacts of future legislation' (Mariani, 2022).

While analyzing AI as a microscope, the author viewed that the Machine Learning (ML) models could find patterns in the outcomes of the programs/schemes that may not be visible to humans. It could also say what outcomes are likely to produce and among which community/groups these outcomes are likely to occur. While examining AI as a simulator, the author commented that these simulations are designed to capture the dynamics of complex systems. The author comments that 'implementing AI in the legislative process can seem like a seismic transformation, but the shift is possible with the right commitment and investment' (Mariani, 2022). It showed that AI is a powerful tool for the assessments and simulations which could support the legislatures in the process of legislative making by providing relevant inputs on the impact of the existing legislation as well as the potential impacts of future legislation.

AI FOR EMPOWERMENT OF POLITICAL LEADERSHIP

AI could effectively contribute to the empowerment of political leadership in many ways. Techniques of AI could be gainfully used by evolving models for creative imagination, innovative projection, smart visualisation as well as simulation of styles, responses, actions and decisions. Such models could be effectively used for the empowerment of political leadership. For example, in the program organized for the capacity building of political leadership, sessions could be included for decision-making on critical situations, which include visualisation exercises and simulation practices on decision making.

Two hypothetical situations are discussed here to emphasize the importance of visualisation exercises and simulation practices by incorporating AI. The first one is 'Unification of princely states' that was taken up in India by the First Cabinet of Government of India, headed by Jawaharlal Nehru as the Prime Minister and Sardar Vallabhbhai Patel as the Home Minister. It is a well-documented fact that how Sardar Vallabhbhai Patel, the 'Iron Man of India', used his skills of communication, negotiation as well as leadership skills could advocate, convince, navigate, pressurise and even force the hundreds of princely states to join the Union of India, to the present-day Bharat. In that mammoth task, he was ably supported by Vappala Pankunny Menon in his capacity as the Home Secretary and Patel's henchman. Looking back, none could ignore the power of negotiation and strong leadership skills of Patel and Menon in the process of integration of princely states into the Indian Republic.

Indian Parliament had to go through very difficult experiences during 2013 - 2014 dealing with the bifurcation of the undivided Andhra Pradesh State into two, Telangana and Andhra Pradesh. The impact of that bifurcation and its varying impact are still live and its associated issues are yet to be resolved completely even after several decades. Its impact on the community, political leadership, bureaucracy as well as the socio-economic-political eco system still needs lot of analysis and interpretations. When one looks at that issue from the standpoint of a political analyst, the Indian National Congress (INC), once a dominant ruling party in the unified Andhra Pradesh, was the greatest loser in the exercise, despite taking the lead role in the bifurcation.

On a hypothetical scenario, let us assume that how such a conflicting situation might have been handled by Sardar Vallabhbhai Patel, if he was alive. Probably, the collective wisdom and experiences of several leaders of INC such as Sushil Kumar Shinde, the then Home Minister as the Chairperson of the Reorganisation Committee, with P Chidambaram, the then Finance Minister; Ghulam Nabi Azad, the then Health Minister; Jairam Ramesh, the then Rural Development Minister; and V Narayanaswamy, the Minister in the PMO could not bring an amicable and 'win-win situation' in the bifurcation process. One could find the range of issues and

inequitable distribution of resources in the process as well as the negative impact of the decision affecting more on the residual Andhra Pradesh (*Seemandhra*), even after several years. Incidentally, petitions in this regard by around 31 litigants are still before the Constitution bench of Supreme Court of India, awaiting their disposal, in the year 2023.

By applying the concept of Transhumanism and supported by the technology of AI, it is very much possible to imagine, visualise and re-create the scenario of Unified Andhra Pradesh bifurcation through the perspectives of Sardar Patel. One need not have even an iota of doubt that Sardar Patel would have handled the whole process much more effectively and efficiently. Recreating Sardar Patel and simulating his attributes, competencies, skills and values practised by him during the negotiation of unification of princely states, along with blending the socio-economic-political dimensions of the present time, the decision-making skills of the political leadership in 2013-2014 may have been largely benefited. And, it is expected that AI could contribute significantly in such a scenario.

Another hypothetical situation also has been put forward here. India has been facing number of small and big communal conflicts, some of which have resulted in even loss of human life. For example, communal riots broke out across India during the Ram Navami celebrations in March 2023. Instances of riots were reported from Bihar, New Delhi, Gujarat, Maharashtra and West Bengal, where the ruling and opposition parties blame each other for the violence. One could apply the concept of Transhumanism here to handle the situation, with the application of AI. It is imperative to imagine, visualise and re-create the scenario of the recent communal riots in the background of 'Noakhali riots' of West Bengal that occurred during the dawn of Independent India. One might recall that Mahatma Gandhi was engaged in resolving the communal conflict at Noakhali, while the swearing in ceremony of the first native Union Government of India was happening. There is no doubt that Gandhiji would have been able to handle the communal riots more effectively and tactfully. Effectively and efficiently integrating the attributes, competencies, skills and values followed by Gandhiji in finding solutions to a number of communal riots, by the application of Artificial intelligence where simulation models could be effectively used, the decision-making skills of the political leadership in the present times might have benefited significantly.

PARTICIPATORY METHODS AND POLITICAL LEADERSHIP

The participatory method is a collection of approaches, tools, attitudes, and behaviour to enable and empower the leadership by bringing the 'real' nature of the needs, concerns, issues, problems and priorities of the local community. Robert Chambers used the term Rapid Rural Appraisal (RRA) to highlight the techniques that could bring about a 'reversal of learning' that denotes learning directly from rural people (Chambers, 1980). It helps to present, share, analyze, and enhance the

knowledge of life and living conditions as well as to plan, act, monitor, evaluate, reflect, and scale up community action. The message of 'Putting People First' forms the core value behind the application of participatory methods in developmental projects (Cernea, 1985). The application of participatory methods in development studies, initiatives, and interventions enabled the poor and marginalized sections to analyze their reality, which is quite significant. This helped the leadership to plan and execute the 'right' initiatives and interventions, with the participation of the local community. Thus, it is viewed that participatory methods aim at community ownership, community leadership, and community empowerment.

Participatory methods denote a common term representing different methods such as participatory rural appraisal (PRA), participatory urban appraisal (PUA), or participatory learning and action (PLA). It noted that a 'distinctive part of PRA has been shared visual representations and analysis by local people, such as modeling on the ground or paper; estimating, scoring and ranking with seeds, stones, sticks or shapes; Venn diagramming; etc.' (Chambers, 1994).

According to a team of researchers, PRA methods could be grouped under three headings such as 'visualized analyses; interviewing & sampling methods; and, group & team dynamics methods' (Cornwall, Guijit and Wellbourn, 1993). Some of the most widely used participatory methods are Resource mapping, Social mapping, Mobility mapping, Daily activity clock, Seasonal calendar, Trend analysis, Wealth ranking, Venn diagram, Pair-wise ranking, Matrix ranking, Livelihood analysis, SWOT analysis, etc.' (Narayanaswamy, 2009).

By carrying out resource mapping in an area, the present status of natural resources and physical resources could be identified, and, analyzed by the political leadership. These maps shall include water bodies, farming lands, forest lands, grazing lands, barren lands, marsh lands, educational facilities, health institutions, public distribution system (PDS) facilities, markets, religious places, roads, bridges, bus stops, cemeteries/burial grounds, *etc.* Analysis of the status of natural resources such as water bodies, forest cover, barren land, *etc.* could lead to the formulation of appropriate strategies for their rejuvenation, with the active involvement and participation of the local community. Mapping physical resources could lead to the identification of non-performing assets/under-utilized resources in the study area. This could lead to optimal utilization of physical resources and sharing of facilities for diverse objectives, thus limiting the need for creation of additional infrastructure. It needs no emphasis to highlight that creation of multi-purpose facilities or utilization of same building by Primary School, *Anganawadi* (Child care centre), Youth Club, Training Centre for the women's groups, *etc.* on a 'time sharing basis' could be a boost towards contributing towards SDGs.

The social map helps the political leadership to learn about social and economic differences among families, groups, and communities. From the social map, the

demographic features of the population and social positioning of diverse communities in the locality could be identified. Analysis of social maps followed by interactions with the community helps us to identify the invisible patterns of 'untouchability' or 'not so social' practices among the different communities, and address them strategically.

Mobility mapping could bring out the cultural, organizational, and geographical aspects of mobility of an individual, a group, or a community. This can be used to compare and contrast the mobility patterns of different demographic segments of society like young men and women. It enables us to draw inferences about gender perspectives and gender differences prevalent in society that may not be easily visible and easy to capture by use of conventional tools like questionnaire/interview schedule.

Seasonal Calendar is a tool used to explore the seasonal changes and trends in livelihood patterns, human diseases, livestock diseases, income, expenditure, credit, migration, rainfall, crop sequences, pest attacks, agricultural and non-agricultural workload, availability of fruits/vegetables, *etc*. This tool could be used effectively in the Mahatma Gandhi National Rural Employment Guarantee Scheme where the activities under this scheme could be scientifically planned in tune with the agricultural practices, resulting in optimization of resources.

Trend Analysis is a time-related method that helps to analyze the changes and trends in the life of an individual, family, institution, systems, practices, and community. It can be used to explore temporal dimensions with a focus on change in diverse domains and areas. It could highlight the changes in customs and practices; changes in land use patterns, cropping patterns, and agricultural practices; changes in livelihood patterns and migration; changes in teaching-learning practices, *etc*. This could also bring out the gravity of migration from rural to urban areas in lean seasons and vice versa.

Wealth ranking is a people-centric method based on locally evolved criteria, as the nature of economic resources varies from one area to the other, and from one community to another. For example, the size of land ownership, availability of irrigation facilities, type of house, possession of livestock, availability of motor vehicles, possession of household gadgets, monthly income from property, monthly remittances from family members, *etc*. could be considered in the formulation of wealth ranking. Categorization of households in a locality by application of wealth ranking could help us to identify priority households for various development and welfare programs in a participatory manner.

Application of the participatory method in the preparation of beneficiary lists for scholarships to eligible students also could be considered. It is submitted that the application of the participatory method in beneficiary selection makes the process more transparent, unbiased, and conflict-free.

APPLICATION OF COMMUNITY INTELLIGENCE FOR EMPOWERMENT OF POLITICAL LEADERSHIP

Application of participatory methods in seeking and gathering vital inputs from the local community could contribute significantly to streamline the 'process of decision-making by the political leadership by blending political expediency, economic rationality, scientific inputs and spatial considerations' (Gireesan, 2016). Data gathered from the local community by application of participatory methods added with the public data collected from multiple sources and diverse ICT tools when made available for decision-making could be viewed as 'Community Intelligence (CI)'.

Generally, CI has been used in the domains of military intelligence and neighbourhood policing, which is considered closer to human intelligence (humint). According to Thomas (2016), it is the 'information acquired directly or indirectly from a variety of sources, including the community, which when processed is used to understand issues affecting a community, to reduce the level of uncertainty and to provide opportunities to achieve particular objectives'. While comparing with military intelligence, Hagerty (2012) viewed CI as 'the information that informs us on the needs, wants, intentions, and directions of a community'. In the framework of a smart city, it is viewed as "emergence of communities where leaders and stakeholders use the Internet and electronic networks to form partnerships capable for driving innovations and bringing new social and economic value, bridging/ connecting the physical, human and digital divide" (Gurick and Felger, 2021).

CI could be viewed as seeking and gathering of needs, concerns, issues, problems and priorities of the diverse sections of the local community as well as mapping of resources of the constituency/area by application of participatory methods and other scientific techniques. Participatory methods, that incorporate participatory mapping tools, participatory ranking techniques and social accountability tools, are very effective in seeking and gathering realistic inputs from the local community. At the same time, Information, Communication and Technology (ICT) tools, could facilitate the collection, collation and analysis of big data from diverse secondary sources such as census reports, study reports, articles in journals, *etc.* CI could cover all those ideas, comments, suggestions, lived experiences, local wisdom, and any other data that is contributed by the community members towards a specific purpose.

The application of participatory methods helps the leadership to present, share, analyze, and enhance the knowledge of life and living conditions as well as to plan, act, monitor, evaluate, reflect, and scale up community action. The application of participatory methods represents a shift from traditional data collection patterns to more inclusive and interactive environments. It involves the active involvement of the local community in the process, encouraging them to contribute their ideas,

perspectives, and experiences during the process. It is expected that by blending the data gathered through participatory methods and supplementing them with the data provided through ICT tools, the decision-making process by the political leadership could be improved and enriched.

ROLE OF POLITICAL LEADERSHIP TOWARDS ACHIEVING SDGS

The SDGs aim to end poverty, hunger, and inequality, take action on climate change, and the environment, improve access to health and education, build strong institutions and partnerships, *etc.* The performance of any State, in seeking to achieve SDGs, depends largely on the capacity, commitment, compassion, efficiency, and effectiveness of the political leadership. Effective leadership can formulate public policies through a participatory process by seeking inputs from all key stakeholders and ensuring their ownership, not merely in the document but also in the process. And they can translate prudent policy into action and ensure good public service delivery for the welfare and development of individual citizens, groups, and, the community. In the process, they ensure active ownership of all key stakeholders including industry, business, and others. The authors highlight that attributes of political leadership influence the effective convergence of programs/schemes, coordination of various institutions, and linkages with multiple state and non-state actors in realizing SDGs well within the time set.

At the same time, none could ignore the fact that today's challenges to the leadership for attaining sustainable development are quite complex in a range of issues, complicated in the process, and needs the conscientious efforts of all stakeholders with devotion and dedication. But, it is easier said than done. The extent and range of issues and problems may demand the leadership "not only bring people together and encourage creative participation, but should help people to embrace a relationship with uncertainty, chaos and emergence" (IISD, 2018). And the leadership should manage the resources effectively and optimally, have focus on long-term goals without any compromise on the values, and principles. And a leader is expected to be a visionary and ethical in decisions and actions. And transformative style of leadership is more suited to realise SDGs with focus and ease. It is viewed that 'this kind of leadership coupled with coordination and participation of all concerned would potentially lead to improvement in economic efficiency, social cohesion and environmental responsibility, the three basic indicators of sustainable development' (IISD, 2018).

CONCLUSION

Towards capacity building of the political leaders in their decision-making skills, one could imagine, visualise and re-create the scenario in the simulation models and exercises designed with the help of AI. This would help to analyse as to how the 'x' leader, who was known for certain unique attributes, competencies, styles,

skills and values of leadership, would have responded, behaved, acted or decided in a similar occasion. At the same time, while applying the simulation model, the degree of variation(s) in the ecosystem and temporal dimensions, should be invariably incorporated for arriving at realistic results. By way of incorporating such dynamic simulation models in the capacity building programmes, the decision-making skills of political leaders could be enhanced significantly.

The authors visualize that empowerment of political leadership could be made more effective by the application of artificial intelligence that is technology-centric, technology-friendly, and technology-driven as well as community intelligence which is community-centric, community-friendly, and community-driven. By gathering realistic inputs from the field by using CI through the application of participatory methods and internet/electronic networks for governance and development, as well as incorporation of dynamic simulation models using AI, the decision-making skills of political leadership could be enhanced. It is visualised that this will lead to realise the SDGs earlier than anticipated. And, the empowered political leadership could effectively use AI and CI to make comprehensive, holistic, and intelligent decisions with the active participation of key stakeholders, leading to the growth and development of smart cities and villages, contributing towards sustainable peace in the society and the nation.

NOTES

1. The word 'Sphere' is suggested here instead of the conventional use of words such as Levels, Tiers and Stratum to indicate different Governments, from the Local Government up to the Union Government. 'Spherical Autonomy' is one of the core principles of decentralization.

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